CHILDREN'S EDUCATION SOCIETY (Regd.)
THE OXFORD DENTAL COLLEGE
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Titles of the papers published in conference-proceedings edited with name of the author/s

Index

Sl. No.	Publication Type	Publication Title	Author-name	Year
1.	Conference Proceedings	Incidental finding of Metastatic Papillary thyroid carcinoma following neck dissection in Oral squamous cell carcinoma: the clinicopathological and surgical challenges- conference proceedings	Dr. Leeky Mohanty	2017-18
2.	Conference Proceedings	Cancer stem cells in field cancerization of oral squamous cell carcinoma – conference proceedings	Dr. Leeky Mohanty	2017-18

PRINCIPAL
The Oxford Dental College
Bommanahalli, Hosur Road,
Bangalore - 560 068.

6th WORLD CONGRESS

INTERNATIONAL ACADEMY
OF ORAL ONCOLOGY (IAOO)

IAOO 2017

17 - 20 May, 2017

Shangri-La , Bangalore | India

FRONTIERS IN ORAL ONCOLOGY

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HEAD & NECK
JOURNAL FOR THE SCIENCES AND SPECIALTIES OF THE HEAD AND NECK

JULY 2017
VOLUME 39/NUMBER S1

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SCIENTIFIC PROGRAM

PRECONFERENCE SYMPOSIA/WORKSHOPS

17th MAY WEDNESDAY PRECONFERENCE

AOCMF Symposium—Advances in Maxillofacial Reconstruction and Rehabilitation

Venue: Le Meridian Hotel, Bangalore

TIME	AGENDA ITEM	WHO
Module 1 Planning of maxillofacial reconstruction and rehabilitation		
Moderator: M Batstone		
08:00-09:00	Registration	
09:00-09:10	Welcome note & introduction of the faculty	M Kuriakose
09:10-09:20	History and structure of the AO and the AOCMF	G Krishnan
09:20-09:40	Digital planning or maxillofacial reconstruction	Zhigang Cai
09:40-10:00	Planning of dental rehabilitation	PC Jacob
10:00-10:20	Integration of maxillofacial reconstruction and rehabilitation	N Kumar
Module 2 Mandible defects		
Moderator: S Parmar		
10:20-10:50	Assessing mandibular defect, available reintroduction options	G Sanchez
10:50-11:20	Planning mandibular resection and reconstruction	Zhigang Cai
11:20-11:50	Dental implants and rehabilitation, challenges and solutions	M Batstone
11:50-12:20	Case based discussions	S Parmar
12:20-13:20 LUNCH BREAK		
Module 3 Mid face defects		
Moderator: V Kekatpure		
13:20-13:50	Classification, assessment of mid face defects and available reconstruction options.	S Iyer
13:50-14:20	Orbital defect and management.	B Miles
14:20-14:50	Case based discussion	S Iyer
14:50-15:20 EVALUATION AND COFFEE BREAK		
Module 4 Soft tissue defects		
Moderator: S Iyer		
15:20-15:50	Assessment of buccal defect and reconstruction options	Y Anantheswar

15:50-16:20	Assessment of tongue defects, issues with total glossectomy defects	V Kekatpure
16:20-16:50	Skull base reconstruction	B Miles
16:50-17:20	Case based discussion	V Kekatpure

Module 5 Recent advances

Moderator: G Sanchez

17:20-17:50	Tissue engineering for maxillofacial reconstruction	R Kontio

17:50 END OF COURSE

17th MAY, WEDNESDAY PRECONFERENCE

Image Guided Reconstruction- One Stage Functional Jaw Reconstruction- Live Surgical Workshop

Venue: Mazumdar Shaw Medical Centre

Time	**Program**	**Speakers**
09:30- 10:00	Introduction of the case and surgical plan	Vinay V. Kumar
10:00- 10:45	Image guided Maxillofacial reconstruction: how to do	Felix Koch
10:45 to 11:15	**COFFEE/TEA BREAK**	
11:15 to 12:00	Factors influencing timing of reconstruction and rehabilitation	Dennis Rohner
12:00 to 13:00	Live Surgical demonstration of flap harvest, osteotomy and inset	Naveen Hedne
13:00 to 14:00	**LUNCH BREAK**	
14:00 to 14:45	Prosthodontic rehabilitation of mandibular defects	B Srinivasan
14:45 to 15:30	Prosthodontic rehabilitation of maxillary defects	P. C Jacob
15:30 to 16:00	**COFFEE/TEA BREAK**	
16:00 to 17:00	Case Discussions	Panel

17th MAY, WEDNESDAY PRECONFERENCE

Advances in Flap Raising with Human Anatomical Specimens

Venue: MS Ramaiah Advanced Learning Centre, Bangalore 560044

Time	**Program**	**Speakers**
7.30 AM - 8.00 AM	Registration and Briefing, Introduction Faculty, Participants	
MODULE I: Local Flaps	**Lecture and Demonstration**	
8.00 AM - 9.00AM	Submental flap	Rui Fernandes
	Supraclavicular Flap	Robert Lohman
MODULE II: Regional Flap (Only Demonstration with lecture)		
9.00 AM - 9.45 AM	Demonstration	
	Temporalis flap	Rui Fernandes
	Temporoparietal fascial flap	Rui Fernandes
	Nasolabial Flap	Vijay Pillai
9.45 AM -10.00 AM	**COFFEE/TEA BREAK**	
10.00 AM - 11.15 AM	Hands on Exercises Submental and supraclavicular flap	
11.15 AM- 11.45 PM	Pectoralis Major Saidul Islam	
MODULE III: Free Flaps (Soft Tissue)		
11.45 PM-1.00PM	Lecture and Demonstration	
	Anterolateral thigh Flap	Robert Lohman
	Radial forearm flap	Saidul Islam
	Lateral Arm flap	Rui Fernandes
1.00PM -1.30 PM	**LUNCH BREAK**	
1.30 PM - 2.45PM	Hands on Exercises Radial forearm, anterolateral thigh flap	
MODULE IV: Free flaps (Hard Tissue)		
2.45 PM - 4.00 PM	Lecture and Demonstration	
	Free Fibula	Anjan Shah
	DCIA	Prav Praveen
4.00 PM - 5.00 PM	Hands on Exercise Free Fibula Flap	
5.00 PM - 5.30 PM	Lecture and Demonstration	
	Para-scapular flap	Timothy Martin
5.30 PM - 6.00 PM	Discussion/Open House	
6.00 PM	**Adjourn**	

17th MAY, WEDNESDAY PRECONFERENCE

Early detection and Prevention of Oral Cancer

Venue: SHANGRILLA, HALL B

8.00-9.00 AM Registration

9.00-9.10 AM Inauguration

9.10-10.45 AM	**Session 1 Didactic session on oral cancer burden and early detection and prevention of Oral strategies**	
9.10-9.30	Improving effectiveness of continuing education for dental and medical practitioners- role of university	KS Ravindranath
9.30-9.50	Oral cancer disease burden and the need for early detection	S Warnakulasuriya
9.50-10.10	Clinical examination to evaluate oral lesions	MA Kuriakose
10.10-10.30	Diagnostic adjuncts	Ross Kerr
10.30-10.50	Issues and solutions of community level oral cancer early detection program	Rani Desai

10.50-11.20 AM COFFEE/TEA BREAK

11.20-13.50 PM Session 2 Demonstration of Diagnostic Adjuncts

Topic: Demonstration of diagnostic adjuncts (Toluidine blue, Velscope, Vizilite, Cytology); approach will cover different clinical settings such as, general dental practice, dental schools, and Primary Health Care, tertiary centres

Group Discussions (20 delegates each)

13.50-14.50 PM LUNCH BREAK

14.50-16.30 PM Session 3: Oral Potentially Malignant lesions: Diagnosis, Management and Surveillance

Moderators: Mihai Merzianu, Vinay Hazare

Chair: Saman Warnakulasuriya

14.50-15.10	OPMD Natural history and Clinical Evaluation and Management	Ross Kerr
15.10-15.30	OSMF Natural history and Clinical Evaluation	K Ranganthan
15.30-16.00	Pathology	WM Tilakaratne
16.00-16.30	Risk stratification of OPMDs	Luis Monteiro
16.30-16.50	Management	MA Kuriakose
16.50-17.30	Discussion	Moderators: Mihai Merzianu, Vinay Hazare

17th MAY PRECONFERENCE

ORAL CANCER SCIENCE SYMPOSIA

Venue: Indian Institute of Science, Bangalore

8.00-9.00	Registration	
9-11.30	**Session –I EARLY DETECTION AND PREVENTION**	

Moderators: Eva Szabo and Deepak Kademani

9.00-9.20	Introduction	Eva Szabo
9.20-9.35	Imaging in early detection of oral cancer	Petra Wilder Smith
9.35-9.50	Novel Approaches in early Detection and prevention of Oral Cancer	A Gillenwater
9.50-10.05	Aberrant glycosylation as a biomarker for early detection in oral cancer	John Baeten
10.05-10.20	Imaging in early detection of oral cancer	Snehal Patel
10.20-10.35	mTOR inhibitors in Chemoprevention of oral cancer	S Gutkhind
10.35-10.50	Reversal of chemoprevention resistance in oral cancer	A Suresh
10.50-11.30	Panel Discussion	

Moderator Deepak Kademani

Panelists: K Ramdas, S Shastri, Pankaj Chaturvedi, Babu Mathew

11.30 AM -1.30PM LUNCH BREAK/POSTER 11.30am-1.30pm

13.30 -15.30 PM SESSION –II PERSONALIZED MEDICINE

Moderator: Dr Vijay Aggarwal (10 min)

13.30-1.40	Introduction	
13.40-13.55	Designing Personalized medicine based Clinical Trials	S Limaye
13.55-14.05	Biomarkers in Oral Cancer- a Translational Effort	B Banerjee
14.05-14.20	Clinical implications of Integrated Analysis of high throughput data	R Sirdeshmukh
14.20-14.35	Biomarker in the development of therapeutics	S Ching Cheong
14.35-14.50	Therapeutic implications of RBP mediated pathways in oral cancer	V Palaniswamy
14.50-15.05	TGF B pathway in OSMF and Oral Cancer- Therapeutic aspects	P Kondaiah
15.05-15.30	Panel Discussion (25 min)	

Panelists: Pavithran, Binay Panda, Manjunath Ramarao

15.30– 17.45PM SESSION –III CANCER STEM CELL TARGETING

Moderator: Sharmila Bapat

15.30-15.40	Introduction	
15.40-15.55	Notch-1 Signalling in Cancer stem cells: Potential for therapy	Sudhir Krishna
15.55-16.10	Cancer Stem cells in tumor heterogeneity: therapeutic implications	Sharmila Bapat

16.10-16.25	Stem cell Code in Oral Cancer: the CSC shift hypothesis	Tessy Malieckal
16.25-16.50	Normal Vs Cancer Stem cells: Identification of CSC specific targets	Anu Rangarajan
16.50-17.30	Discussion	

Moderator Dr Bapat

Panelists: Bharat Rangarajan, Sewanti Limaye, Govind Babu

IAOO 6th WORLD CONGRESS MAIN SCIENTIFIC PROGRAM 18-20th MAY 2017

18th MAY, THURSDAY

7.30 AM to 8.30 AM

Dr Jatin Shah's Surgical Video Session HALL A

Moderator: Rajendra Toprani

Chairperson: Sameer Kaura, Khabiruddin Ahmed

7.30-7.45	Partial glossectomy and Supraomohyoid neck dissection
7.45-8.00	Marginal Mandibulectomy for carcinoma of the lower gum
8.00-8.15	Mandibulotomy and resection of base of tongue
8.15-8.30	Composite resection, "Commando operation" for carcinoma of lower gum

Instructional Course 1: HALL B

Appropriate Treatment planning in oral cancer K Olsen

Chairperson: Elengkumaran, Md Abu Yusuf Fakir

Instructional Course 2 HALL C

Perforator flap in head and neck reconstruction- technique and indication Yue He

Chairperson: Abhishek Vaidya, Mathan Mohan

Instructional Course 3 **HALL D**

Supra Omo-hyoid Neck Dissection A Hefetz

Chairperson: Subhra Chauhan, Mahmud Hasan

8.30 to 10 AM

Symposia 1 Screening and Early Detection of Oral Cancer **HALL A**

Moderator: Alexander Ross Kerr

Chairperson: Camile Farah, Karpagaselvi

8.30 -8.45	Introduction	
8.45-9.00	Oral cancer screening in high-risk population- why and how	S Warnakulasuriya
9.00-9.15	Optical imaging of oral cancer	Petra Wildersmith
9.15-9.30	Oral Cytology	Ravi Mehrotra
9.30-9.45	Mobile health in oral cancer screening	Praveen Birur

Symposia 2: Targeted therapy and immune modulation approaches **HALL B**

Moderator: Bhuvanesh Singh

Chairperson: Salma Al Sheibani, Ramesh Menon

8.30 to 8.45	Introduction	
8.45 to 9.00	Current status of anti-EGFR treatment	Govind Babu
9.00 -9.15	Immune check-point inhibitors	Sewanti Limaye
9.15 -9.30	Vaccination and immune modulation strategies	Bryan Bell
9.30 – 9.45	Potential novel targets in HNSCC	Bhuvanesh Singh
9.45 -10.00	Discussion	

Proffered paper-1 Clinical Research- I HALL C

Chairperson: Caleb Harris, Kamrul Hassan Tarafder

8.30-8.40 O-66 PDGFRA MRNA IS OVEREXPRESSED IN ORAL SQUAMOUS CELL CARCINOMA (OSCC) PATIENTS COMPARED TO NORMAL SUBJECTS, FURTHER; ITS OVEREXPRESSION IS ASSOCIATED WITH REGIONAL METASTASIS AND REDUCED SURVIVAL IN OSCC, MAKING THE PDGFRA A POTENTIAL NOVEL TARGET Gokavarapu S, Ong S H, Cao W, Zhang P C; Shanghai Ninth People's Hospital, Shanghai, China (Abstract Number- 7)

8.40-8.50 O-67 ESTIMATION OF SERUM MALONDIALDEHYDE IN ORAL CANCER AND PRECANCER Chaurasia A, Patil R, Chole R; King George's Medical University, Lucknow, Uttar-Pradesh, Peoples Dental Academy, Bhopal (Abstract- 21)

8.50-9.00 O-68 SITE SPECIFIC PREVALENCE OF ORAL CANCER AND POTENTIALLY MALIGNANT DISORDERS AMONG JAPANESE CIGARETTE SMOKERS; Nagao T, Fukuta J, Kurita K, Seto K; Department of Oral and Maxillofacial Surgery, Okazaki City Hospital, Institute for Oral and Maxillofacial Surgery, Shin-Yurigaoka Gene Department of Oral and Maxillofacial Surgery, 3School of Dentistry, Aichi-Gakuin University, Southern TOHOKU General Hospital, Oral Cancer Centre (Abstract Number – 47)

9.00-9.10 O-69 A RETROSPECTIVE STUDY ON COMPLIANCE OF HEAD AND NECK SQUAMOUS CELL CARCINOMA PATIENTS IN 2008/2009 TO TUMOR BOARD RECOMMENDATIONS Tan YS, Mueller S, Lee SY, Tan KH, Tan CN, Soo KC, Iyer GN; Yong Loo Lin School of Medicine, National University of Singapore, Singhealth Duke-NUS Head & Neck Centre, Singapore, Division of Surgical Oncology, National Cancer Centre Singapore4 Department of Otolaryngology, Head and Neck Surgery, Central Hospital Bielefeld, Germany (Abstract Number – 77)

9.10-9.20 O-70 PROPOSAL OF A CLASSIFICATION SYSTEM AND RECONSTRUCTION ALGORITHM FOR PATIENTS WITH BUCCAL DEFECTS Kothandaraman S, Shetty V, Kuriakose MA, Hedne N, Pillai V; Department of Head and Neck Oncology, Mazumdar Shaw Medical Center, Narayana Health, Bangalore (Abstract Number – 104)

9.20-9.30 O-71 PROGNOSTIC AND STAGING IMPLICATIONS OF MANDIBULAR CANAL INVASION IN SQUAMOUS CELL CARCINOMA OF THE ORAL CAVITY Okura M; Yanamoto S; Umeda M; Otsuru M; Ota Y; Kurita H; Kamata T; Kirita T; Yamakawa N; Ueda M; Komori T; Hasegawa

T; Aikawa T; and Japan Oral Oncology Group; Osaka University, Osaka, Japan; Unit of Translational Medicine, Nagasaki University Graduate School ofBiomedical Sciences, Nagasaki, Japan, Tokai University School of Medicine, Isehara, Shinshu University School of Medicine, Matsumoto, Nara Medical University, Kashihara, Japan, Hokkaido Cancer Center, Sapporo, Japan; Kobe University Graduate School of Medicine, Kobe, Japan (Abstract Number – 118)

9.30-9.40 O-72 PERFORATOR VASCULAR ANATOMY AND CLINICAL APPLICATION OF THE ANTEROMEDIAL THIGH FLAP FOR HEAD AND NECK RECONSTRUCTION Qi Z; Sun C; Department of Oromaxillofacial-Head and Neck Surgery, Department of Oral and Maxillofacial Surgery, School of Stomatology, China Medical University, Shenyang, Liaoning, 110002, P.R.China (Abstract Number – 121)

9.40-9.50 O-73 EVALUATION OF KI67, HER2/NEU AND CK-OSCAR IMMUNOEXPRESSION IN ORAL PREMALIGNANT AND MALIGNANT LESIONS Bhattacharjee A, Giri S; Silchar Medical College, Molecular and Cell biology Laboratory, 2Department of Life Science & Bioinformatics, Assam University, Silchar (Abstract Number – 132)

9.50-10.00 O-74 INCIDENCE AND PREDICTORS OF TRISMUS AFTER SURGERY IN ORAL CAVITY SQUAMOUS CELL CARCINOMA Anand A, Subramaniam N, Murthy SP, Thankappan K, Iyer S; Amrita Institute of Medical Sciences, Kochi, Kerala (Abstract Number – 137)

Society Symposia 1: EACMFS **HALL D**

Current Hot Topics in Oral Cancer Care – A European Perspective

Chair: Manlio Galie

8.30-8.45	Introduction	
8.45-9.00	Outcome Publication in Head and Neck Cancer – A Quality Improvement Tool	Ian Martin
9.00-9.15	Sarcomas of the Head & Neck: Evolving Surgical Concepts And Outcomes of Treatment	N Kalavrezos
9.15-9.30	Perforator Flaps & Role of the Medial Sural Artery Perforator Flap In Head and Neck Reconstruction	Aakshay Gulati
9.30-9.45	Complications and Pitfalls in Head and Neck Tumor Surgery	Klaus-Dietrich W
9.45-10.00	Resectability in Head and Neck Cancer Surgery: What Are The Boundaries?	Julio Acero

10:00 to 10:30 Keynote 1

Ann Gillenwater: New technology in early detection of oral cancer

Chairperson: Julio Acero, Newell Johnson

10:30 to 11:00 Coffee break with exhibitors

11.00-12.00 PM

Panel 1 Sentinel node mapping **HALL A**

Moderator S J Stoeckli

Chairperson: Ian Martin, Ashok Das

11.00 to 11.05	Introduction	
11.05 to 11.15	Current evidence and future trials – towards level I evidence	Satheesh Prabhu
11.15 to 11.25	Sentinel node mapping – better technology and new tracers	S Sundaram
11.25 to 11.35	Histopathologic work-up – Management of workload and costs	Mihai Merzianu
11.35 to 11.45	Intraoperative sentinel node analysis – towards a one stage procedure	Richard Shaw
11.45 to 12.00	Discussion	

Panel 2 Oral care for cancer patients: Management of morbidities of oral cancer treatment **HALL B**

Moderator: Martin Batstone

Chairperson: N Ravindranathan, Wesley Hicks

11.00-11.05	Introduction	
11.05- 11.15	Dental care, mucositis	Chitta Chowdhury
11.15-11.25	Minimizing post radiation surgical sequele	Shamit Chopra
11.25 – 11.35	Regenerative medicine and progress towards curing Xerostomia	Robert L. Witt
11.35-11.45	Osteo-radionecrosis	Andreas Pabst
11.45-12.00	Discussion	

Proffered Paper Session –II Early Detection and Prevention-I **HALL C**

Chairperson: Zhanglei, Pawan Singhal

11.00-11.10 O-19 DELAY IN DIAGNOSIS OF DIFFERENT POSITIONS OF ORAL CANCER: A PROSPECTIVE STUDY Tao X, Xiaofeng S, Zhigang C; Peking University of Stomatology, Beijing (*Abstract Number – 97*)

11.10-11.20 O-20 ORO-DENTAL SCREENING AND OSTEONECROSIS OF THE JAW IN PATIENTS RECEIVING ANTI-RESORPTIVE MEDICATION – A FOUR YEAR RETROSPECTIVE STUDY AT A TERTIARY CANCER CENTRE, KERALA, INDIA Pramod SS, Thilak SA, Nayak P, Tripathy JP, Balasubramaniam S; Malabar Cancer Center, Thalassery, Kerala(*Abstract No: 185*)

11.20-11.30 O-21 CSC-MEDIATED CHEMOPREVENTIVE MECHANISMS IN TOBACCO/ARECOLINE INDUCED CARCINOGENESIS Surendran S, Wesley H Jr, Suresh A, Kuriakose M A; Roswell Park Cancer Institute, Buffalo, New York (Abstract No: 329)

11.30-11.40 O-22 CANCER STEM CELLS (CSCS) AND ITS FIBROBLAST NICHE DURING ORAL CARCINOGENESIS AND CHEMOPREVENTION Siddappa G, Kulsum S, Sunny SP, Vaidya T,

Ravindra DR, Kuriakose MA, Suresh A; Integrated Head and Neck Oncology Program, MSCTR, Bangalore (Abstract Number – 330)

11.40-11.50 O-23 USING DIAGNOSTIC ERROR FRAMEWORKS TO UNDERSTSAND AND DEFINE THE DIAGNOSTIC INTERVALS IN ORAL CANCER – A SEARCH FOR CONSISTENCY IN CHAOS Ramasamy A, Dr. Subramanian M BA; Balasubramanian K; Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry (Abstract Number – 390)

11.50-12.00 O-24 ETIOLOGIC HETEROGENEITY ACROSSHEAD AND NECK CANCER SUBSITES Tota J; Katki H; Cheung L; GraubardB; K. Chaturvedi A; National Cancer Institute, National Institutes of Health (Abstract No: 286)

Society Symposia 2: Korean Society of oral cancer **HALL D**

Computer based Reconstruction

Moderator: Uk-kyu Kim

11.00-11.20	The efficacy of operator driven Computer assisted reconstruction surgery	Jung-Woo Lee
11.20-11.40	Computer assisted jaw and occlusion reconstruction with Monocortical DCIA flap	Seong-Yong Moon
11.40-12.00	Functional reconstruction of jaw using computer fluid dynamic study	Jong-Ho Lee

12:00 - 13.15 Lunch Time Symposia

Anti EGFR therapy- the current status Biocon	HALL A
Trans-oral Robotic surgery, Sponsored lunch-time symposium Medrobotics	HALL B
Proteocyte Focus group meeting (By invitation only**)**	HALL E

13.15 -14.45 PM

Symposia 3 Maxillofacial Reconstruction **HALL A**

Moderator: Sat Parmar

Chairperson: Julio Acero, Prabha Yadav

13.15 - 13.30 Introduction	
13.30 -13.45 Mandible reconstruction	Gregorio Sanchez Aniceto
13.45 - 14.00 Reconstruction of maxilla	James Brown
14.00 - 14.15 Reconstruction of orbit	Subramania Iyer
14.15 - 14.30 Multi-subunit reconstruction	Brett Miles
14.30 - 14.45 Discussion	

Symposium 4 Personalized medicine in Oral Oncology **HALL B**

Moderator: Nishant Agrawal

Chairperson: Prasad Narayanan, Iain H. McVicar

13.15-13.30	Introduction	
13.30 -13.45	Interpretation of whole genome sequencing data for clinical application	Binay Panda
13.45-14.00	Personalized medicine strategies in oncology- lessons to learn for head and neck cancer treatment.	Sewanti Limaye
14.00-14.15	Development and application of current genomic panels in oncology	Vijay Chandru
14.15-14.30	Adaptive trial strategies in head and neck cancer	Jason Chan
14.30-14.45	Discussion	

Proffered Paper Session –III Management of Neck **HALL C**

Chairperson: Ian Hutchison, Mitali Dandekar

13.15-13.25 O-93 INCIDENCE OF METASTATIC NODES IN LEVEL IIB OF CN0 ORAL SQUAMOUS CELL CARCINOMA Kohler HF, Vaz M B, Kowalski LP; A C Camargo Cancer Center, Sao Paulo, Brazil (Abstract Number – 94)

13.25-13.35 O-94 A DECISION ANALYSIS MODEL FOR ELECTIVE NECK DISSECTION IN PATIENTS WITH CT1-2 CN0 ORAL SQUAMOUS CELL CARCINOMA Kohler HF, Kowalski LP; A C Camargo Cancer Center, Sao Paulo, Brazil (Abstract Number – 95)

13.25-13.45 O-95 INCIDENCE OF OCCULT CONTRALATERAL NODE POSITIVITY IN CENTRAL ORAL CAVITY TUMOURS - ARE WE OVERDOING CONTRALATERAL ELECTIVE NECK DISSECTIONS? Subramaniam N; Murthy S; Anand A; Limbachiya S; Rathod P; Balasubramanian D; Thankappan K; Iyer S; Department of Head and Neck Oncology, Amrita Institute of Medical Science, Kochi, India (Abstract Number – 269)

13.45-13.55 O-96 MANAGEMENT OF NECK DISSECTION IN ORAL SQUAMOUS CELL CARCINOMA: OUR EXPERIENCE AND NEW PERSPECTIVES. Ruiz-Martin I; Sanchez-Aniceto G; Lopez-Fernandez P; Santás Alegret M, Redondo-Alamillos M; Mejia-Nieto M; Gutierrez-Diaz R; Ballestin-Carcavilla C; Tabuenca M.J, Rodriguez-Peralto J.L; Hospital Universitario 12 de Octubre (Abstract Number – 282)

13.55-14.05 O-97 INDICATION OF THE SENTINEL NODE BIOPSY BY THE THICKNESS OF TUMOR IN PATIENTS WITH CN0 TONGUE SQUAMOUS CELL CARCINOMA Hamakawa T; Goda H : Nakashiro K I ; Hamakawa H; Department of Oral and Maxillofacial Surgery, Ehime University, Japan)Abstract Number – 283)

14.05-14.15 O-98 CLINICAL APPLICATION OF BIO-MARKERS FOR DETECTION OF NODAL METASTASIS IN HEAD AND NECK SQUAMOUS CELL CARCINOMA Kothandaraman S, James BL, Raghavan

N, Suresh A, Kuriakose MA; Mazumdar Shaw Medical Center, Narayana Health, Bangalore (Abstract Number – 351)

14.15-14.25 O-99 COMPARISON OF TUMOR VOLUME AND THICKNESS AS PREDICTORS OF NODAL METASTASIS AND SURVIVAL Shetty R, Mair M; Tata Memorial Hospital, Mumbai (Abstract Number- 386)

14.25-14.35 O-100 RELEVANCE OF DIFFERENTIAL EXPRESSION OF P16 IMMUNOCYTOCHEMISTRY ON NECK NODE FNAC IN SQUAMOUS CARCINOMA OF HEAD AND NECK Thanky H, Oza N, Kane S Department of Pathology, Tata Memorial Hospital (Abstract Number- 378)

14.35-14.45 O-101 A RANDOMISED CONTROLLED TRIAL OF INTRAOPERATIVE BRIEF ELECTRICAL STIMULATION VS NO STIMULATION OF SPINAL ACCESSORY NERVE FOR PREVENTION OF SHOULDER DYSFUNCTION AFTER ONCOLOGIC NECK DISSECTION IN ORAL CAVITY SQUAMOUS CELL CARCINOMAS-AN INTERIM REPORT Gundale A, Rajdeep, Vasanthan L, Tirkey AK, Rajinikanth J; Dept of Head and Neck, Christian Medical College, Vellore (Abstract Number – 224)

Society Symposia 3: ASHNO **HALL D**

Advanced oral cancer management

Moderator: Sheng-Po Hao

13.15-13.30	Introduction	Sheng-Po Hao
13.30-13.45	Update and Prospect in Radiotherapy and Immune-stimulating Strategies for advanced Oral Cancer	Kai-Lin Yang
13.45-14.00	Surgical management of advanced oral cancer	Nina Irawati
14.00-14.15	Reconstruction after extensive resection of advanced oral cancer	Yuhsien Lin

14.45 to 15:15 Keynote 2 *Crispian Scully Oration*

Jatin Shah: Shifting Paradigms in Staging of Oral Cancer

Chairpersons: Saman Warnakulasuriya, Luiz Kowalski

15:15 to 15:45 Coffee break with exhibitors and poster viewing

15.45 to 17.00

Symposia 5 Treatment of Oral Leukoplakia **HALL A**

Moderator: Eva Szabo

Chairperson: William Stuart Hislop, Rakesh Katna

15.45 to 15.50 Introduction	
15.50 to 16.05 Biologic basis of chemoprevention	Silvio Gutkind
16.05 to 16.20 Epidemology of oral potentially malignant lesion	Newell Johnson
16.20 to 16.35 Tobacco cessation	Anurag Singh

16.35 to 16.50 Strategies to improve efficacy of chemoprevention Amritha Suresh

16.50 to 17.00 Discussion

15.45 -16.20 Debate 1 Induction chemotherapy for locally advanced oral cancer HALL B

Moderator: Rene Leemans

Chairperson: Zahurul Haq, Siddharth Shah

Speakers: Kumar Prabhash, N Gopalkrishna Iyer

16.20-17.00 Tumor board 1 Oral Dysplasia HALL B

Moderator: K Ranganathan

Chairperson: Khorshed Alom Mojumder, Yogesh More

Speakers: WM Tilakaratne, Mihai Merzianu, Camile S. Farah, Thomas Abraham, K Ramdas

Proffered Paper Session –IV Basic Science -I HALL C

15.45-15.55 O-108 NICOTINE INDUCES LYMPH NODE METASTASIS OF ORAL CANCER CELLS THROUGH EGFR ACTIVATION Ibaragi S; Kodama S; Kuwajima D; Okui T; Yoshioka N; Shimo T; Sasaki A; Department of Oral and Maxillofacial Surgery, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences (Abstract Number – 51)

15.55-16.05 O-109 OVEREXPRESSION HSA-MIR-125A-5P ENHANCES PROLIFERATION, MIGRATION AND INVASION OF HEAD AND NECK SQUAMOUS CELL CARCINOMA CELL LINES BY UPREGULATING CHEMOKINE RECEPTOR TYPE 7 IMPLICATIONS Liu F; Sun C; China Medical University, Shenyang, P.R.China (Abstract Number – 58)

16.05-16.15 O-110 POST-TRANSCRIPTIONAL GENE REGULATION BY RNA-BINDING PROTEINS AND NON-CODING RNAS IN HNSCC Majumder M, Day T, Neskey D, Palanisamy V; Medical University of South Carolina, Charleston, SC, USA (Abstract Number – 300)

16.15-16.25 O-111 CD19+IL-10+ REGULATORY B CELLS AFFECT SURVIVAL OF TONGUE SQUAMOUS CELL CARCINOMA PATIENTS AND INDUCE RESTING CD4+ T CELLS TO CD4+FOXP3+ REGULATORY T CELLS Zhou X, Lao MX, Liang Y, Liao GQ; Department of Oral and Maxillofacial Surgery, Guanghua School of Stomatology, Guangdong Provincial Key Laboratory, Sun Yat-sen University, Guangzhou, China (Abstract Number- 167)

16.25-16.35 O-112 INTENDMENT OF CANCER STEM CELLS IN ORAL CANCER SAnitha; M.R.Ambedkar Dental College, Karnataka (Abstract Number – 116)

16.35-16.45 O-113 TARGETING CANCER STEM CELL TO REVERSE CHEMOTHERAPY RESISTANCE IN ORAL CANCER Kulsum S, Reddy NH, Nandini H, Ravindra DR, Nisheena R, Sujatha D, Ramachandran B, Sagar M, Jayaprakash A, Kuriakose MA, Suresh A; 1Integrated Head and Neck Oncology Research Program, MSCTR, Bangalore (Abstract Number – 357)

16.45-16.55 O-114 CHEMOKINE RECEPTOR 7 ENHANCES CELL CHEMOTAXIS AND MIGRATION OF METASTATIC SQUAMOUS CELL CARCINOMA OF HEAD AND NECK THROUGH ACTIVATION OF MATRIX METALLOPROTEINASE-9. Liu F, Sun C; China Medical University, Shenyang, Liaoning, 110002, P.R.China (Abstract Number – 59)

Society symposia 4 BAOMS/BHANO **HALL D**

Pitfalls and Solutions in maxillofacial reconstruction

Moderator: Mike Fardy

15.45-16.00	The Challenging defect	William Townley
16.00-16.15	The problems around the midface	Prav Praveen
16.15-16.30	The problems of managing osteoradionecrosis	Cyrus Kerawala
16.30-17.00	Case presentations	

17.00- 17.30 Keynote 3: Presidential Address **HALL B**

Luiz Kowalski *Global strategies to improve outcome of oral cancer*

Chairpersons: Linga Gowda, Terrence Day

17.30 -18.30 OPENING CEREMONY **HALL A**

Inaugural Message: *Nobel Laureate Amartya Sen*

Keynote 4: Affordable innovation: Kiran Mazumdar

18.30-19.30 CULTURAL PROGRAM L SUBRAMANIAM **HALL A**

19.30-21.30 GALA DINNER **Shangrila**

19TH MAY FRIDAY

7.30-8.30 AM

Dr Jatin Shah's Surgical Video session: Maxilla, Parotid HALL A

Chairperson: Girish Rao, Suma Nair

7.30-7.45	Posterior maxillectomy for odontogenic tumor
7.45-8.00	Maxillary swing for tumor of the infratemporal fossa
8.00-8.15	Superficial Parotidectomy
8.15-8.30	Excision deep lobe Parotid tumor

Instructional Course 4 HALL B

Korean Society: Robotic Surgery

Chairperson: Leandro Matos, Hong Ju Park

Paper-5 Clinical Research-II HALL C

Chairperson: Ramdas Balakrishna, Ranjan Roy Chowdhury

7.30-7.40 O-130 AWARENESS OF ORAL CANCER IN INDIA - CRY FOR HELP Hashmi S, Rahman T, Khan S; Aligarh Muslim University, India, IDST, MODINAGAR (Abstract Number – 72)

7.40-7.50 O-131 META-ANALYSIS OF THE RETROSPECTIVE STUDIES ON ORAL CANCER ETIOLOGY: ARE WE OVERLOOKING SOMETHING IN THE WHOLE COURSE OF CANCER TREATMENT? Kumar P, Dam A; Chittaranjan National Cancer Institute (Abstract Number – 216)

7.50-8.00 O-132 SUPER THIN SPLIT DERMIS FAT GRAFT Arafat Y; Chandrasekar A; Dept of surgical oncology- Rajiv Gandhi General hospital, Chennai (Abstract Number – 327)

8.00-8.10 O-133 RECONSTRUCTION OF ORO-FACIAL DEFECTS WITH SUBMENTAL ISLAND FLAP Islam MW; Oral and Maxillofacial Surgery Dept, Dhaka Medical College and Hospital, Dhaka, Bangladesh (Abstract Number – 415)

8.10-8.20 O-134 LOCAL FLAPS AND THERE VERSATLITY IN ORAL AND MAXILLOFACIAL RECONSTRUCTION AFTER ABLATIVE CANCER SURGERY Pappachan B; Govt Dental College, Chhattisgarh, India (Abstract Number – 131)

8.20-8.30 O-135 SALIVARY BIOMARKERS -NOVEL TUMOR MARKERS FOR ORAL CANCER CHAPATTI S M.R.AMBEDKAR DENTAL COLLEGE, KARNATAKA, India (Abstract Number – 117)

Instructional Course 5: **HALL D**

Diagnostic Adjuncts in Oral Cancer

8.30-10.00AM

Symposia 6: Surgical margin assessment and its clinical implications **HALL A**

Moderator: Ziv Gil

Chairperson: Tuoyo Okoturo, Ashok Shenoy

8.30-8.45	Introduction	
8.45-9.00	Histological Assessment of Surgical Margins	Ronald Ghossein
9.00-9.15	Molecular markers at surgical margin	Rene Leemans
9.15-9.30	Dysplasia at surgical margin	W M Tilakaratne
9.30-9.45	Clinical implication of surgical margin status	Snehal Patel
9.45-10.00	Discussion	

Symposia 7: Imaging for Oral Cancer **HALL B**

Moderator: Hilda Stambuk

Chairperson: Quazi Rehman, Sajith Babu

8.30-8.45	Introduction	
8.45-9.00	Evaluation of gingiva-buccal carcinoma	Supreeta Arya

9.00-9.15	Evaluation of tongue	Regina Gomes
9.15-9.30	Evaluation maxillofacial skeleton	Venkataramana Bhat
9.30-9.45	PET scan for treatment decision and surveillance	K G Kallur
9.45-10.00	Discussion	

Proffered Paper Session VI Reconstruction-I **HALL C**

Chairperson: Primuharsa Putra, Sandhya Gokavarapu

8.30-8.40 O-39 COMPARISION OF THE OUTCOME OF SUPRAFASCIAL & SUBFASCIAL DISSECTION OF RADIAL FOREARM IN HEAD & NECK RECONSTRUCTION Desai KA, Kumar N, Singhania V, Prabhu A; SDM Craniofacial Unit, SDM College of Dental Science and Hospital, Karnataka (Abstract Number – 49)

8.40-8.50 O-40 COMPUTER ASSISTED JAW AND OCCLUSION RECONSTRUCTION WITH MONO-CORTICAL DCIA FLAP Moon S; Department of Oral and Maxillofacial Surgery, School of Dentistry, Chosun University, Gwangju, South Korea (Abstract Number – 68)

8.50-9.00 O-41 A NEW FRONTIER OF USING 3D PRINTED CUSTOMIZED TITANIUM PLATES IN FIBULA FLAP JAW RECONSTRUCTION Su RY, Yang W, Choi W, Leung M, Curtin J, Du R; Oral and Maxillofacial Surgery, Faculty of Dentistry, University of Hong Kong, 2Institute of Precision Engineering, Chinese University of Hong Kong (Abstract Number – 69)

9.00-9.10 O-42 ANTEROLATERAL THIGH FLAP (ALT) WITH MUSCLE FOR MUCOSAL LINING FOR LARGE T4 BUCCAL TUMOR DEFECTS. Saxena A, Hedne N, Pillai V, Kekatpure V, Kuriakose MA; Department of Head and Neck Oncology, Mazumdar Shaw Medical Center, Narayana Health, Bangalore (Abstract Number – 75)

9.10-9.20 O-43 PECTORALIS MAJOR MYOCUTANEOUS FLAP OR RECONSTRUCTION AFTER ORAL CANCER SURGERY IN INDIAN SCENARIO: OUR EXPERIENCE IN 200 PATIENTS Garg N; Gujarat Cancer Research Institute, Ahmedabad, Gujarat, India (Abstract Number – 85)

9.20-9.30 O-44 USE OF NASOLABIAL FLAP IN ORAL CANCER SURGERY: OUR EXPERIENCE IN 100 PATIENTS.

Bhole M; Department of surgical oncology, Gujarat Cancer and Research Institute Ahmedabad, Gujarat India (Abstract Number – 92)

9.30-9.40 O-45 USE OF TUMOUR TO TONGUE RATIO TO PREDICT THE NEED FOR FREE FLAP RECONSTRUCTION IN CARCINOMA TONGUE. Anand A, Balasubramanian D, Jayasankaran S, Limbachiya S, Iyer S Amrita Institute of Medical Sciences (AIMS), Kochi, Kerala (Abstract Number – 138)

9.40-9.50 O-46 INFRAHYOID FLAP – A RELIABLE OPTION FOR RECONSTRUCTION OF MEDIUM SIZED ANTERIOR ORAL CAVITY DEFECTS. Bhandari AK, Patil B, Chatni SS; Department of head and neck surgical oncology, Department of Surgical oncology, Karnataka Cancer Therapy and Research Institute, Hubli (Abstract Number – 146)

9.50-10.00 O-47 MANDIBULAR RECONSTRUCTION WITH FREE FIBULA FLAP USING COMPUTER-AIDED DESIGN AND PREFABRICATED 3-DEMENTIONAL MODEL Ueda N, Nakao M; Yamakawa N; Yagyuu T; Kirita T; Department of Oral and Maxillofacial Surgery, Nara Medical University, Japan Graduate School of Informatics, Kyoto University, Japan (Abstract Number – 168)

Society symposium 5: Oral Medicine society of Australia **HALL D**

Oral potentially malignant lesions and early detection

8.30-9.15 Epidemiology, change in aetiology, and the role of the microbiome in oral cavity cancer Newell Johnson

9.15-10.00 Patient risk assessment, malignant transformation and the role of optical adjunctive devices for early detection of oral potentially malignant lesions Camile S Farah

10:00 to 10:30 **Keynote 5**

Barbara Wollenberg: Immunotherapy based approaches for treatment of oral cancer

Chairpersons: SS Bapsy, Manlio Galie

10:30 to 11:00 **Coffee break with exhibitors**

11:00 to 12:00

Panel 3: Utility of guidelines in management of oral cancer **HALL A**

Moderator: John Ridge

Chairperson: Umanath Nayak, Sudhir Nair

Panelists: Hisham Mehanna, Sandro Porceddu, Indranil Mallick, Terrence Day

Panel 4: Salivary gland cancer panel **HALL B**

Moderator: Vincent van der Poorten

Chairperson: Musheed Maman, Srijon Mukherjee

Panelists: Sanjoy Chatterjee, Vijay Haribhakthi, James Bonner, Nora Katabi

Proffered Paper Session VII Radiation-Medical Oncology/Clinical research **HALL C**

Chairperson: Rahul Thakkar, Gunjan Shah

11.00-11.10 O-102 ANAEMIA IN CANCER PATIENTS UNDERGOING RADIOTHERAPY AND CHEMOTHERAPY IN National HOSPITAL ABUJA, NIGERIA, ARUAH SC, OYESEGUN R, OGBE O, IGBINOBA F, VITALIS O, ABALU E, MADUKWE J, OKOYE O; National Hospital Abuja, Nigeria, University of Nigeria Teaching Hospital, Enugu (Abstract Number – 19)

11.10-11.20 O-103 THE IMPACT OF PRIMARY TUMOR AND NODE CHARACTERISTICS ON THE TIME TO POSTOPERATIVE RADIOTHERAPY IN ORAL CAVITY SQUAMOUS CELL CARCINOMA Kohler HF, Kowalski LP; A C Camargo Cancer Center, Sao Paulo, Brazil (Abstract Number – 240)

11.20-11.30 O-104 RETROSPECTIVE ANALYSIS OF PALLIATIVE METRONOMIC CHEMOTHERAPY IN HEAD AND NECK CANCER Chandrakanth MV, Noronha V, Joshi A, Patil V, Prabhash K; Department of Medical Oncology , Tata memorial hospital , Mumbai (Abstract Number – 289)

11.30-11.40 O-105 PATTERNS AND DISCORDANCE IN MULTI-MODALITY MANAGEMENT OF HEAD NECK CANCERS: A PRACTICE SURVEY Jain S, Kuriakose MA, Vishnu N, Pillai V, Hedne N; Mazumdar Shaw Medical Center, Narayana Health, Bangalore (Abstract Number – 331)

11.40-11.50 O-106 MORPHOLOGICAL PROGNOSTIC FACTORS IN EARLY STAGE ORAL SQUAMOUS CELL CARCINOMA Dev K, Hoda N, Sabitha ; Kidwai Memorial Institute of Oncology (Abstract Number – 148)

11.50-12.00 O-107 GENE PANEL SEQUENCING IN ORAL SUB MUCOUS FIBROSIS PREDICTION IN ORAL CANCER RISK Reddy SS; Department of Oral Medicine and Radiology, Faculty of Dental Sciences, Ramaiah University Of Applied Sciences, Bangalore (Abstract Number – 191)

Society Symposia 6: AAOMS

Digital planning for maxillofacial Reconstruction

Moderators: Rui Fernandes, D Kademani

Introduction

11.00-11.12	Novel imaging techniques for state of the art facial reconstruction with composite free flaps	Bryan Bell
11.12-11.24	Strategies for optimizing outcomes soft tissue reconstruction of the head and neck	Rui Fernandes
11.24-11.36	Jaw and teeth reconstruction in a day. A new treatment protocol	Josh Lubeck
11.36-11.48	Implant based dental rehabilitation of free flaps. New concepts in staged treatment	Deepak Kademani
11.48-12.00	Future concepts in digital imaging for facial reconstruction. Where will we be in 10 years?	Jose Helman

12:00 to 13.15 LUNCH TIME MEETINGS/SYMPOSIA

IAOO general body meeting (members only) **HALL A**

IMAGINE: Innovations in Healthcare and Oncology: Future is Now **HALL B**

Moderators: Vishal Rao and Jagdish Chaturvedi

13:15 to 14:45

Symposia 8: HPV in oral and oropharynx **HALL A**

Moderator: Anil Chaturvedi

Chairperson: Prathamesh Pai, Shekhar Patil

13.15-13.30	Introduction	
13.30-13.45	Epidemiology of oral HPV infection and HPV-associated oral and oropharyngeal cancers	Laia Alemany
13.45-14.00	Assays for HPV-positive cancers	Devasena A
14.00-14.15	Clinical application of HPV status for treatment decisions	James Bonner
14.15-14.30	Knowns and unknowns of HPV-associated oral/oropharyngeal cancers	Anil Chaturvedi
14.30-14.45	Discussion	

Symposia 9: Maxillofacial rehabilitation **HALL B**

Moderator: Dennis Rohner

Chairperson: Sanjiv Nair, Bipin Varghese

13.15-13.30	Introduction	
13.30-13.45	Image guided planning of dental rehabilitation	Andre Eckardt
13.45-14.00	Osseous consideration	Vinay Kumar
14.00-14.15	Soft tissue consideration	PW Kaemmerer
14.15-14.30	Prosthetic consideration	P C Jacob
14.30-14.45	Discussion	

Proffered Paper Session VIII **Clinical Research-II** **HALL C**

Chairperson: Murad Lala, Pallavi Dubey

13.15 -13.25 O-75 IMMUNOHISTOCHEMICAL EXPRESSION OF UPAR, TISSUE FACTOR AND EGFR: ANALYSIS OF THE POTENTIAL FOR TARGETED MOLECULAR IMAGING AND THERAPY AND PROGNOSTIC VALUE IN OSCC Christensen A; Kiss K; Lelkaitis G; Juhl K; Persson M; Charabi BW; Mortensen J; Forman JL; Sørensen AL; Jensen DH; Kjaer A; von Buchwald C; Department of Otolaryngology, Head & Neck Surgery and Audiology, Department of Clinical Physiology, Nuclear Medicine & PET and Cluster for Molecular Imaging, Department of Pathology, Department of Biostatistics Rigshospitalet, Copenhagen University Hospital, Denmark, Rigshospitalet and University of Copenhagen (Abstract Number – 157)

13.25-13.35 O-76 A PROSPECTIVE STUDY ON REPAIR OF ORAL MUCOSAL DEFECTS IN PRECANCEROUS LESIONS WITH CRYOPRESERVED HUMAN AMNIOTIC MEMBRANE GRAFT Singh AK, Bhusan IK, Mishra N; Face & Braces Clinic, Bhelupur, Varanasi, India, Department of Oral & Maxillofacial Surgery, S C B Dental College & Hospital, Cuttack (Odisha), India (Abstract Number – 162)

13.35-13.45 ODONTOGENIC KERATOCYST- A retrospective DEMOGRAFIC study of over 35 years (Total 139 cases} from an INDIAN DENTAL INSTITUTE WITH IHC OBSERVATIONS Chettiankandy T, Tupkari J, Bafna S, Joshi P, Kumar K; Government Dental College and Hospital, Mumbai, Maharashtra ,India; S.M.B.T. Dental College & Hospital and Post Graduate Research Center, Sangamner, Private Practice

13.45-13.55 O-78 PROGNOSTIC IMPACT OF ORAL SQUAMOUS CELL CARCINOMA ON 295 PATIENTS WITH PATHOLOGICALLY POSITIVE LYMPH NODE METASTASIS: A RETROSPECTIVE MULTICENTER STUDY

Yanamoto S, Takumi H, Michihiro U, Masahiro U; Department of Clinical Oral Oncology, Nagasaki University Graduate School of Biomedical Sciences1, Department of Oral Surgical Oncology, Hokkaido Cancer Center, Department of Oral and Maxillofacial Surgery, Kobe University Graduate School of Medicine (Abstract Number- 182)

13.55-14.05 O-79 THE ROLE OF RETINOIC ACID RECEPTOR IN UNDERSTANDING ORAL CANCER PATHOGENESIS Raghu A.R; Manipal College of Dental Sciences, Manipal University, Manipal, India (Abstract Number 413)

14.05-14.15 O-80 A PREDICTIVE MODEL FOR COMPLICATIONS IN PATIENTS SUBMITTED TO ORAL CANCER TREATMENT Kohler HF, Viegas MA T, Kowalski LP; A C Camargo Cancer Center, Sao Paulo, Brazil (Abstract Number – 243)

14.15-14.25 O-81 WHAT IS THE TRUE INCIDENCE OF SUBMANDIBULAR GLAND INVOLVEMENT IN ORAL CANCER? DETERMINANTS AND IMPLICATIONS FOR TREATMENT Subramaniam N; Murthy S; Anand A; Sivakumaran V; Balasubramanian D; Thankappan K; Iyer S; Department of Head and Neck Oncology, Amrita Institute of Medical Science, Kochi, India (Abstract Number – 251)

14.25-14.35 O-82 BUBR1 AS A POTENTIAL BIOMARKER OF MALIGNANT TRANSFORMATION IN ORAL LEUKOPLAKIAS Monteiro L, Silva PM; Delgado ML; Barbas do Amaral, Warnalulasuryia S, Bousbaa H, Amaral B; CESPU, Instituto de Investigação e Formação Avançada em Ciências e Tecnologias da Saúde, Instituto Universitário de Ciências da Saúde, Rua Central de Gandra, 1317, 4585-116 Gandra PRD, Portugal. Centre for Biomedical Research (CBMR), University of Algarve, Faro 8005-139, Portugal. Departamento Ciências Biomédicas e Medicina, University of Algarve, Faro 8005-139, Portugal. Oral Medicine, King's College London, the WHO Collaborating Centre for Oral Cancer, London, United Kingdom, 5 Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR/CIMAR), Universidade do Porto, Rua dos Bragas 289, 4050-123 Porto, Portugal (Abstract Number – 260)

14.35-14.45 O-83 DO PATIENTS OVER 70 YEARS TOLERATE MAJOR SURGERIES FOR HEAD AND NECK CANCER? AN INSTITUTIONAL AUDIT AND MATCHED PAIR ANALYSIS Subramaniam N; PradeepRK; Balasubramanian D; Thankappan K; Iyer S; Department of Head and Neck Oncology, Amrita Institute of Medical Science, Kochi, India (Abstract Number – 253)

Society symposium 7: IAOMP, IAOMP **HALL D**

Oral Submucous Fibrosis

13.15-13.45	Oral submucous fibrosis - an overview	K Ranganathan
13.45-14.00	Concepts of aetiopathogenesis and malignant transformation of oral submucous fibrosis	Tilakaratne WM
14.00-14.15	Medical management of oral submucous fibrosis	S Warnakulasuriya
14.15-14.30	Surgical management of oral submucous fibrosis	Rajiv Borle
14.30-14.45	Genetics and epigenetics in oral submucous fibrosis	Patturu Kondaiah

14.45 to 15:15 Keynote 6

Pankaj Chaturvedi: Primary prevention of oral cancer

Chairpersons: Rogerio Dedivitis, Ramesh Bilimagga

15:15 to 15:45 Coffee break with exhibitors and poster viewing

15.45-17.00 PM

Symposia 10: Rehabilitation and supportive care **HALL A**

Moderator: Peter Rhys Evans

Chairperson: K S Sabitha, Praveena Gayatri

15.45-15.50	Introduction	
15.50-16.05	Surgical Nuances to minimize sequelae of treatment	Devendra Chaukar
16.05-16.20	Measures to minimize sequelae of RT	Sushmita Ghosa
16.20-16.35	Swallowing rehabilitation	Uttam Sinha
16.35-16.45	Integration of pain and palliation care in clinical care pathway	Nandini Vallath
16.45-17.00	Discussion	

15.45-16.20 Debate 2: Elective neck dissection vs SLN biopsy for clinically N0 neck **HALL B**

Moderator: Cyrus Kerawala

Chairperson: Thomas Abraham, Girish Shetkar

Speakers: Anil D Cruz, Michiel Van den Brekel

16.20-17.00 Tumor Board 2 Loco-regionally advanced oral cancer HALL B

Moderator: Terrence Day

Chairperson: Arvind Krishnamurthy, Suresh Sharma

Speakers: Ian Ganly, Nirav Trivedi, Ian Martin, Kumar Prabash, Vijay Haribhakthi, Aviram Mizrachi

Paper-9 Early detection/prevention-II **HALL C**

Chairperson: Arun Kumar, Chandraskekar Rao Sampathirao

15.45-15.55 O-25 DETECTION OF SECONDARY PATHOLOGY ON STAGING AND FOLLOW UP PET SCANNING IN PATIENTS WITH HEAD AND NECK CANCER Idle M, Kademani D; North Memorial and Hubert Humphrey Cancer Center, Minneapolis, MN, USA (Abstract No – 135)

15.55-16.05 O-26 SUGGESTIONS FOR EARLY DETECTION OF ORAL CANCER-EXPERIENCE FROM A GOVERNMENT BASED SCREENING PROGRAM Ho P, Hsieh K, Yang Y; Department of Oral Hygiene and 2School of Pharmacy, Kaohsiung Medical University, Kaohsiung, Taiwan (Abstract Number – 232)

16.05-16.15 O-27 ORAL ONCOPREVENTION AND TREATMENT BY PHYTOCHEMICALS EMERGING TRENDS IN HEAD AND NECK CANCER Lalitha RM; Department of Oral and Maxillofacial Surgery, MSRUAS, Bangalore (Abstract Number – 119)

16.15-16.25 O-28 ASSESSMENT OF THE TOTAL ANTIOXIDANT CAPACITY AND LEVELS OF VARIOUS OXIDATIVE STRESS BIOMARKERS IN SALIVA OF PATIENTS WITH ORAL CANCER AND LEUKOPLAKIA: A PILOT STUDY Kaczmarzyk T, Babiuch K, Gawlik K, Gosiewska DP, Darczuk D, Kęsek B, Maria GC; Department of Oral Surgery, Institute of Dentistry, Jagiellonian University Medical College, Krakow, Poland, Department of Periodontology and Oral Medicine, Institute of Dentistry, Jagiellonian University Medical College, Krakow, Poland. Department of Clinical Biochemistry; Faculty of Medicine, Jagiellonian University Medical College, Krakow, Poland (Abstract Number – 238)

16.25-16.35 O-29 ORAL SUBMUCOUS FIBROSIS - HISTOPATHOLOGICAL EVALUATION OF EPITHELIAL CHANGES IN A DEFINING LESION OF THE CONNECTIVE TISSUE Mohanty L, Dr. Shenoy S; Department Of Oral and Maxillofacial Pathology, The Oxford Dental College, Bengaluru - 560 068, Karnataka, India (Abstract Number – 241)

16.35-16.45 O-30 ORAL PRE-MALIGNANT AND MALIGNANT LESION DETECTION AMONG INDONESIANS: THE PREVALENCE AND RISK FACTORS Sari EF, McCullough M; Cirillo N; Melbourne Dental School. Faculty of Medicine, Dentistry, and Health Science, The University of Melbourne, Australia (Abstract Number- 325)

16.45-16.55 O-31 ORAL CANCER SCREENING IN LOW RESOURCE SETTING USING PORTABLE OPTICAL COHERENCE TOMOGRAPHY James BL, Heidari E, Sunny S , Ravindra DR, Subhashini AR, Keerthi G, Shubha G, Uma K, Tran Anne, Lam Tracie, Chen Zhongping, Birur P, Suresh A, Kuriakose M A, Wilder-Smith P; Head and Neck Oncology, Mazumdar Shaw Medical Center, Bangalore, India. Integrated Head and Neck Oncology Research Program, MSCTR, Bangalore, India, University of California, Irvine, KLES Institute of Dental Sciences, Bangalore, India (Abstract Number – 354)

Society symposia 8 IAOMS/AOMSI: **HALL D**

Gnathic rehabilitation

Moderator: Saidul Islam, Senthil Murugan

Chairman: Sanjiv Nair

15.45- 16.00	Reconstruction of the Mandible	Anjan Shah
16.00-16.15	Reconstruction of Midface	Rui Fernandes
16.15-16.30	Functional reconstruction with prostheses	Vinay V Kumar
16.30-17.00	Panel discussion	

Moderators: Rui Fernandes, Adithya Murthy, Saidul Islam, Senthil Murugan

Panelists Rahul Thakker, Anjan Shah, Rui Fernandes, Saidul Islam, Senthil Murugan

13.30-17.00 Workshop on re-radiation in oral cancers **HALL E**

17:00 to 17:30 Keynote 7 **HALL A**

Devi Prasad Shetty: Affordable healthcare

Chairpersons: KS Gopinath, Sheng-Po Hao

17:30 to 19.00

Best of clinical papers **HALL B**

Chairperson: Elizabeth Blair, Vincent Gregoire, Richard Shaw

17.30-17.40 O-1 SENTINEL NODE BIOPSY AS A STAGING PROCEDURE IN THE N0 NECK. IS IT SENSITIVE ENOUGH? Hislop WS; Maciver; Wales C; McLellan D; McLaughlin I, McGarvie J; McMahon JD.

West of Scotland Maxillofacial Head and Neck Service, UK, Queen Elizabeth University Hospital, Glasgow, UK, Department of Nuclear Medicine, Crosshouse Hospital, Kilmarnock, Scotland, UK (Abstract Number – 79)

17.40-17.50 O-2 IMPACT OF ORAL PRE-MALIGNANCY AND ITS SEQUELAE ON QUALITY OF LIFE – VALIDATION OF A HEAD AND NECK PRE-CANCERS SPECIFIC QUALITY OF LIFE INSTRUMENT (ERNAKULAM QUALITY OF LIFE QUESTIONNAIRE FOR ORAL PRE-MALIGNANCY, EQOL-OP) Satheeshkumar PS, Mohan M, PS Harris; 1Qassim University, Buraidah, Qassim, KSA, 2Governement Dental College, Kozhikkode, India (Abstract Number – 99)

17.50-18.00 O-3 NOMOGRAM TO PREDICT THE TIME OF RECURRENCE AND OVERALL SURVIVAL IN BUCCAL MUCOSA SQUAMOUS CELL CARCINOMA Mishra A, Pai P, Bal M, Chaturvedi P, Sadhana K; Tata Memorial Hospital Mumbai, India, Advanced centre for Training Research Education in cancer, Kharghar, Navi Mumbai, India (Abstract Number – 279)

18.00-18.10 O-4 TUMOR VISUALIZATION BY FUSION OF CT AND MRI FOR INTEGRATION OF TUMOR MARGINS IN 3D VIRTUAL PLANNING FOR SURGICAL REMOVAL OF ORAL SQUAMOUS CELL

CARCINOMA Joep K; Dorgelo B; Schepers R; Steenbakkers R; Langendijk H; Roodenburg J; Kees P S; Witjes M; Department of Oral & Maxillofacial Surgery, Department of Radiology, Department of Radiotherapy University Medical Center Groningen PO Box 30.001 9700 RB Groningen, the Netherlands (Abstract Number – 314)

18.10-18.20 O-5 CONSISTENTLY DYSREGULATED MICRORNAS DISCOVERABLE IN ORAL SQUAMOUS CELL CARCINOMA PATIENTS' ORAL SWIRLS Yap T, Koo K, Cheng L, Vella L, Hill AF, Reynolds E, Nastri A, Cirillo N, Seers C, McCullough M; Melbourne Dental School, University of Melbourne, Victoria, Australia, Royal Melbourne Hospital, Victoria, Australia, Department of Biochemistry and Genetics, La Trobe Institute for Molecular Science, La Trobe University, Victoria, Australia, The Florey Institute of Neuroscience and Mental Health, Parkville, Victoria, Australia, Oral Health Cooperative Research Centre, Melbourne, Victoria, Australia (Abstract Number – 340)

18.20-18.30 O-6 ROLE OF NACT IN ACHIEVING NEGATIVE MARGINS IN TECHNICALLY UNRESECTABLE BUCCAL MUCOSA TUMOURS Kamrajpuram SP, Patil V, Joshi A; Noronha V; Prabash K; Tata Memorial Hospital, Mumbai, India (Abstract Number – 295)

18.30-18.40 O-7 TUMOR BUDDING AS A PREDICTOR OF LOCOREGIONAL RECURRENCE IN EARLY TONGUE CANCER Yamakawa N; Kirita T; Yamada S; Otsuru M; Department of Oral and Maxillofacial Surgery, School of Medicine, Nara Medical University, Kashihara, Japan, Department of Dentistry and Oral Surgery, Shinshu University School of Medicine, Matsumoto, Japan, Department of Oral and Maxillofacial Surgery, Division of Surgery, Tokai University School of Medicine, Isehara, Japan, Japan Oral Oncology Group (Abstract Number-156)

18.40-18.50 O-8 THE INFLAMMATORY MICROENVIRONMENT AND OSCC: CLINICO-PATHOLOGICAL CORRELATIONS Pannone G; Santoro A; Zannoni GF; Pedicillo MC, Cagiano S, Ionna F, Longo F, Aquino G, Botti G, And Bufo P; Department of Clinical and Experimental Medicine, Institute of Pathological Anatomy, University of Foggia, Foggia, Italy, and National Cancer Institute 'Fondazione G Pascale' Napoli – Italy, Department of Sciences of the Women and Child Health, Operative Unit of Gynecological and Breast Pathology, 'Fondazione Policlinico Agostino Gemelli'-UCSC, Rome, Italy., National Cancer Institute 'Fondazione G.Pascale' Napoli – Italy (Abstract Number – 234)

18.50-19.00 O-9 A PHASE IB NEOADJUVANT TRIAL OF ANTI-OX-40 (MEDI6469) PRIOR TO DEFINITIVE SURGICAL RESECTION IN PATIENTS WITH HEAD AND NECK SQUAMOUS CELL CARCINOMA Bell BR, Leidner R, Duhen R, Koguchi Y, Weinberg A; Providence Cancer Center, Oregon, USA (Abstract Number – 301)

Best of Basic Research papers **HALL C**

Chairperson: P Kondaiah, Nishant Agarwal, Eva Szabo

17.30-17.40 O-10 EGFR DETECTION IN SALIVA AS AN EASY DIAGNOSTIC AND PROGNOSTIC TOOL IN ORAL SQUAMOUS CELL CANCER Piazza C; Alberto P; Laura Z; Elisabetta B; Francesca DB;Chiara R; Pietro, Eliana B; Nausica M; Riccardo M; Franco O; Piero N; Antonella Ri; Department of Otorhinolaryngology - Head and Neck Surgery, University of Brescia, Brescia, Italy, 2"Angelo Nocivelli" Institute of Molecular Medicine, Division of Gynecologic Oncology, University of Brescia, Brescia, Italy (Abstract Number -410)

17.40-17.50 O-11 HIGH-RISK HUMAN PAPILLOMAVIRUS IN ORAL CAVITY SQUAMOUS CELL CARCINOMA Palve V, Jamir B, Krishnan NM, Manisha P, Udita C, Suresh A, Siddappa G, James BL, Kekatpure V, Kuriakose MA and Panda B; Ganit Labs, Bio-IT Centre, Institute of Bioinformatics and Applied Biotechnology, Bangalore, India, Mazumdar Shaw Centre for Translational Cancer Research, Bangalore, India, Mazumdar Shaw Medical Centre, Bangalore, India, 4Strand Life Sciences, Bangalore, India (Abstract Number-406)

17.50-18.00 O-12 CANCER STEM CELLS IN FIELD CANCERIZATION OF ORAL SQUAMOUS CELL CARCINOMA Mohanta S; Ravindra DR; Hedne N; Chavre S; Pillai V; Chauhan S; Naveen BS; Ramakrishnan A; Jacob B; Surendra V; Mohanty L; Muralidharan A; Kekatpure V, Suresh A; Kuriakose MA;DSRG-5, Head and Neck Oncology, Mazumdar Shaw Center for Translational Research, Mazumdar Shaw Medical Centre, Narayana Hrudayalaya, Bangalore, 560099; School of Biosciences and Technology, VIT University, Vellore-632014; Head and Neck Oncology, Mazumdar Shaw Medical Center, Narayana Hrudayalaya, Bangalore, Oxford Dental College, Bangalore (Abstract Number – 343)

18.00-18.10 O-13 DEVELOPMENT OF A DUAL-ANTIGEN PV1 PEPTIDE VACCINE FOR THE TREATMENT OF HEAD AND NECK CANCERS Fong C Y, Chai S J, Gan C P, Pua K C, Lim PVH, Lau S H, Thomas A, Rahman ZAA, Ponniah S, Patel V, Cheong SC, Lim KP; Head and Neck Cancer Research Team, Cancer Research Malaysia, 47500 Subang Jaya, Selangor, Malaysia, Department of Otorhinolaryngology, Hospital Pulau Pinang, Penang, Malaysia, Department of Ear, Nose & Throat Surgery, Tung Shin Hospital, Kuala Lumpur, Malaysia, Stomatology Unit, Cancer Research Centre, Institute for Medical Research, Kuala Lumpur, Malaysia, Department of Oral & Maxillofacial Surgery, Tengku Ampuan Rahimah Hospital, Klang, Malaysia, Department of Oro-Maxillofacial Surgery and Medical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia, Cancer Vaccine Development Program, Department of Surgery, Uniformed Services University of the Health Sciences, Bethesda, MD20814, USA (Abstract Number -173)

18.10-18.20 O-14 THE ROLE OF PYK2 IN THE CCR7-MEDIATED REGULATION OF METASTASIS AND VIABILITY IN SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK CELLS IN VIVO AND IN VITRO Liu F; Sun C; Department of Oromaxillofacial-Head and Neck Surgery, Department of Oral and Maxillofacial Surgery, School of Stomatology, China Medical University, Shenyang, Liaoning, 110002, P.R.China (Abstract Number – 62)

18.20-18.30 O-15 PRECLINICAL EVALUATION OF PALBOCICLIB IN HEAD AND NECK CANCERS AND IDENTIFICATION OF SPECIFIC MUTATIONS FOR BIOMARKER OF RESPONSE Zainal NS; Lee B K B; Yee SP; Gan PC ; Tiong HK; Mun KS; Rahman Z A A, Patel V; Cheong SC; Head and Neck Cancer Research Team, Cancer Research Malaysia, SubangJaya, Selangor, Malaysia, Department of Oro-Maxillofacial Surgery and Medical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia, Department of Pathology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, Oral Cancer Research and Co-ordinating Centre (OCRCC), Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia (Abstract Number – 252)

18.30-18.40 O-16 SAFETY AND EFFICACY STUDIES ON PV1 PEPTIDE VACCINE IN A TRANSGENIC MOUSE MODEL Lim KP; Gan CP; Chai SJ; Fong CY; Chin IS; Mun KS; Rahman Z A A; Zain RM; Ponniah S; Patel V; Cheong SC; Head and Neck Cancer Research Team, Cancer Research Malaysia, Subang Jaya, Selangor, Malaysia, Department of Pathology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia. , 3Department of Oro-Maxillofacial Surgery and Medical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia, 4Oral Cancer Research and Coordinating Centre, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia. Uniformed Services University of the Health Sciences, Bethesda, Maryland, United States (Abstract Number -161)

18.40-18.50 O-17 CD24+ TUMOR-INITIATING CELLS FROM ORAL SQUAMOUS CELL CARCINOMA INDUCE INITIAL ANGIOGENESIS IN VIVO Zimmerer RM; Ludwig N, Kampmann A; Tavassol F; Gellrich N C; Department of Oral and Maxillofacial Surgery, Hannover Medical School, Germany (Abstract Number – 280)

18.50-19.00 O-18 Mir-1275 Promotes Cell Migration, Invasion and Proliferation in Squamous Cell Carcinoma of Head and Neck Via Up-Regulating IGF-1R And CCR7 Sun C; Department of Oromaxillofacial-Head and Neck Surgery, Department of Oral and Maxillofacial Surgery, School of Stomatology, China Medical University, Shenyang, Liaoning, 110002, P.R.China (Abstract Number – 65)

Proffered Paper Session X Reconstruction-II HALL D

Chairperson: Deepak Balasubramanian, Giulianno Molina de Melo

17.30-17.40 O-48 DEFECT BASED ALGORITHM FOR LOCAL FLAPS IN ORAL CANCER PATIENTS TREATED AT A TERTIARY CARE CANCER CENTRE Babu S, Kumar S, Manoharan S, Tyagi A, Vishwanathan MN, Aneeth MV, Nived N; Department of Surgical Oncology, Malabar Cancer Centre, Thalassery, Kannur, Kerala, Speech and swallowing therapist, Malabar Cancer Centre, 3Department of Anaesthesiology, Malabar Cancer Centre, Thalassery, Kannur, Kerala (Abstract Number : 172)

17.40-17.50 O-49 CLINICAL EVALUATION OF PMMC FLAP FOR RECONSTRUCTION OF POST ABLATIVE DEFECTS OF ORO-FACIAL REGION Anehosur V, Kumar N; SDM Craniofacial Surgery & Research Centre, Dharwad, Karnataka 580009,2Dept.of plastic surgery SDM Craniofacial surgery& Research centre, Dharwad (Abstract Number – 175)

17.50-18.00 O-50 INTERNAL JUGULAR VEIN VERSUS EXTERNAL JUGULAR VEIN ANASTOMOSIS IN MICROVASCULAR FREE TISSUE TRANSFER: OUR EXPERIENCE IN A TERTIARY CARE HOSPITAL OF ODISHA BhusanKar I, Mishra N, Patil D; Department of Oral And Maxillofacial Surgery, SCB Dental College & Hospital, Cuttack, Odisha (Abstract Number – 176)

18.00-18.10 O-51 LOCAL AND REGIONAL FLAPS IN HEAD AND NECK RECONSTRUCTION: THE DETROIT EXPERIENCE LeRose C, Ramirez C; St. John Providence Health System, MI, USA (Abstract Number – 178)

18.10-18.20 O-52 THE USE OF INTERPOSITIONAL VEIN GRAFTS FOR FREE FLAP RECONSTRUCTION IN A TERTIARY HEAD AND NECK UNIT Higginson J, Chowlia H, Martin T, Praveen P, Parmar S; University Hospitals, Birmingham, UK (Abstract Number – 179)

18.20-18.30 O-53 COMPLICATIONS AND OUTCOMES OF 152 FREE FLAPS IN HEAD AND NECK CANCER SURGERY Sharma S; Bhagwan Mahaveer Cancer Hospital and Research Centre, Jaipur, Rajasthan, India (Abstract Number – 190)

18.30-18.40 O-54 A MODIFIED FREE PECTORAL SKIN FLAP IN THE RAT FOR TRAINING AND RESEARCH IN MICROVASCULAR SURGERY Pabst A, Jäger L, Kumar VV, Ackermann M; Department of Cranio-Maxillofacial Surgery, General Armed Forces Hospital, Rübenacherstr. 170, 56072 Koblenz, Germany, Institute of Functional and Clinical Anatomy, University Medical Center, Becherweg 13, 55128 Mainz, Germany, Department of Head and Neck Surgery, Surgical Oncology, Mazumdar Shaw Medical Center, NarayanaHealth, Bangalore, India (Abstract Number: 210)

18.40-18.50 O-55 SUPRACLAVICULAR ARTERY FASCIOCUTANEOUS ISLAND FLAP FOR HEAD & NECK ONCOLOGIC RECONSTRUCTIONS Balepur PS, Shenoy AM, Chavan P; Private Practioner, 2KIDWAI Cancer Hospital, Bangalore, India (Abstract Number – 214)

18.50-19.00 O-56 MICROVASCULAR HEAD AND NECK RECONSTRUCTION: OUR EXPERIENCE AND OUTCOMES AT A TERTIARY CARE HOSPITAL IN RURAL WESTERN INDIA Nayak S, Kantharia R, Bhatt Y, Doshi P, Kantharia S; KCHRC, Goraj, Baroda, Gujarat (Abstract Number – 227)

Proffered Paper Session XI Basic Science II **HALL E**

Chairperson: Nageshwar Iyer, Sharada P

17.30-17.40 O-115 MICRO ARRAY ANALYSIS OF ORAL SUBMUCOUS FIBROSIS Venugopal DC; Satha sivasubramanian S; Vijayalakshmi R; Dept of Oral Medicine and Radiology, Faculty of Dental Sciences, Sri Ramachandra University, Chennai, Dept of Oral Medicine and Radiology, Faculty

of Dental Sciences, Sri Ramachandra University, Chennai, Dept of Preventive Oncology (Research Division), Cancer Institute, Adyar, Chennai (Abstract Number – 183)

17.40-17.50 O-116 MIRNA205P EXPRESSION BY IN SITU HYBRIDIZATION AND RELATION WITH EPITHELIAL-MESENCHYMAL TRANSITION IN OROPHARYNGEAL SQUAMOUS CELL CARCINOMA Guida A, Aquino G, Ionna F, Botti G, Pannone G, De Vito G, Longo F, Lo Sito N, De Cecio R, Collina F, 4Franco R; Department of Head and Neck Medical Oncology, Istituto Nazionale Tumori "Fondazione Pascale"-IRCCS via Mariano Semmola, Napoli, Department of Pathology, Istituto Nazionale Tumori "Fondazione Pascale"-IRCCS via Mariano Semmola, Napoli, Department of Clinical and Experimental Medicine, University of Foggia, Foggia Italy, Department of Mental and Physical Health and Preventive Medicine, Second University of Naples, Naples, Italy (Abstract– 278)

17.50-18.00 O-117 EPIGENETIC REGULATION OF P2X7 RECEPTOR AND ITS ROLE IN ORAL CANCER CELLS

Park K; Dept. of Physiology, School of Dentistry, Seoul National University, Oromaxillofacial Dysfunction Research Center for the Elderly(ODRCE), Seoul 110-749, Korea (Abstract Number – 321)

18.00-18.10 O-118 ROLE OF ANO1 IN RESISTANCE/RESPONSE TO HEAD AND NECK SQUAMOUS CELL CARCINOMA (HNSCC) Reddy RB, Hedne N, Kuriakose MA, Suresh A; Integrated Head and Neck Oncology Program, Mazumdar-Shaw Centre for Translational Research, Bangalore, Division of Medical Biotechnology, School of Biosciences and Technology, Vellore Institute of Technology University, Vellore, Head and Neck Oncology, Mazumdar Shaw Medical Centre, Bangalore (Abstract Number – 337)

18.10-18.20 O-119 IMMUNO-CHARACTERIZATION OF TUMOR BUDDING AND HISTOLOGICAL CHARACTERIZATION OF STROMAL DESMOPLASIA IN PROGNOSIS OF GINGIVO-BUCCAL COMPLEX CARCINOMA. Swain N, Iyer J, Hosalkar R ; Department of Oral Pathology, MGM Dental College & Hospital, Navi Mumbai, Maharashtra, India (Abstract Number – 376).

18.20-18.30 O-120 STUDY OF GENETIC AND MOLECULAR EPIDEMIOLOGY OF ORAL CANCER IN ASSAM AND MEGHALAYA OF NORTH EASTERN REGION OF INDIA Mahanta J, Kaur T, Borah PK, Phukan RK, Symlie J, Das A, Kataki AC; Regional Medical Research Centre, NE Region (ICMR) Dibrugarh, ICMR, New Delhi, Civil Hospital Shillong, 4Dr. B. Boroaah Cancer Institute, Guwahati (Abstract Number – 404)

18.30-18.40 O-121 CAFE MOCHA: AN INTEGRATED PLATFORM FOR DISCOVERING CLINICALLY RELEVANT MOLECULAR CHANGES IN CANCER; AN EXAMPLE OF DISTANT METASTASIS AND RECURRENCE-LINKED CLASSIFIERS IN HNSCC Krishnan NM; Mohanraj I; Hariharan J; Panda B; Ganit Labs, Bio-IT Centre, Institute of Bioinformatics and Applied Biotechnology, Bangalore, Karnataka 560100, India, Strand Life Sciences, Bangalore, Karnataka 560024, India (Abstract Number – 407)

18.40-18.50 O-122 Role of CD11b+BMDCs in lymph node metastasis: a study in an orthotopic nude mouse model of squamous cell carcinoma of the oral tongue Sugiura K, Kioi M, Iisaka T, Okubo M, Nakashima H, Mitsudo K, Tohnai I; Department of Oral and Maxillofacial Surgery, Yokohama City University Graduate School of Medicine, Yokohama, Japan (Abstract Number: 231)

18.50-19.00 O-123 MOLECULAR MARKER BASED INTRA-OPERATIVE DIAGNOSTIC ASSAY FOR DETECTION OF LYMPH NODE METASTASIS IN HNSCC James BL, Kontharaman S, Kumar M, Ravindra DR, SmithaPK , Dwivedi N, Nisheena R, Pillai V, Hedne N, Suresh A, Das M, Kuriakose MA; Integrated head and neck oncology program, Mazumdar Shaw Centre for Translational Research, Head and Neck oncology, Mazumdar Shaw Medical Center, Tumor Immunology, Mazumdar Shaw Centre for Translational Research,4Department of Pathology, Narayana Hrudayalaya, Alpha Omega Sciences (Abstract Number – 352)

18:30 to 19:30 Poster viewing and interaction with sponsors HALL E

19:30 21:30 Delegate Networking Dinner/ Faculty Dinner

20TH MAY SATURDAY

7:30 to 8:30 AM

Video 3 HALL A

Chairperson: Carlos Lehn, Rajiv Sharan

7.30-7.40	Demonstration on medial sural artery perforator flap	Gunjan Agarwal
7.40-7.50	Near Total Laryngectomy	Nayan Gupta
7.50-8.00	SOHND Marginal Mandibulectomy/Adequate partial glossectomy -with or without free flap reconstruction Superficial Parotidectomy	Rajendra Toprani
8.00-8.10	On a Scapula Tip Harvest	Douglas Chepeha
8.10-8.20	Minimally invasive Head and Neck Surgery	Yoon Woo Koh
8.20-8.30	Supraclavicular Flap	Robert Lohman

Instructional Course 7: HALL B

Korean Society of Oral Cancer

Chairperson: Umashankar Pal, Anjan Shah

FHNO/IFHNOS Trainees Forum HALL C

Chairperson: Vinay Hazarey, Anjaneya Dubey

Instructional Course 9: **HALL D**

Nuances in implant borne dental rehabilitation following maxillofacial reconstruction

ENHANCE (Moderator: B Srinivas) **HALL D**

Chairperson: Chintan Narad, Azhar Jan Bhattoo

8.30 -10AM

Symposia 11: Reconstruction of soft tissue defects for oral cancer **HALL A**

Moderator: Rui Fernandes

Chairperson: Robert Lohman, Vijay Pillai

8.30-8.45	Introduction	
8.45-9.00	Reconstruction of tongue	Vikram Kekatpure
9.00-9.15	Buccal and commissure defect	Cheng Ping Zhang
9.15-9.30	Complex maxillofacial defect	Ralph Gilbert
9.30-9.45	Facial reanimation	Teresa Gonzalez
9.45-10.00	Discussion	

Symposia 12: Advances in radiation therapy to minimize morbidity of oral cancer **HALL B**

Moderator: James Bonner

Chairperson: Sandeep Jain, Prashant Pawar

8.30-8.45	Introduction	
8.45-9.00	Conformal radiotherapy	Anurag Singh
9.00-9.15	Altered fractionation regimen	Vincent Gregoire
9.15-9.30	Minimizing morbidity of surgical salvage	Jason chan
9.30-9.45	Proton therapy	Yoke Lim Soong
9.45-10.00	Discussion	

Proffered Paper Session-11 Clinical Research IV **HALL C**

Chairperson: Radhika M B, Nadimul Hoda

8.30-8.40 O-84 ACS-NSQIP RISK CALCULATOR IN INDIAN PATIENTS UNDERGOING SURGERY FOR HEAD AND NECK CANCERS: IS IT VALID? Subramanian N; Pradeep RK; Balasubramanian D; Murthy SP; Rathod P, Thankappan K;Iyer S; Department of Head and Neck Oncology, Amrita Institute of Medical Science, Kochi, India (Abstract Number-262)

8.40-8.50 O-85 DOES RECLASSIFICATION OF T1-2 ORAL CAVITY TUMOURS ACCORDING TO AJCC 8TH EDITION IMPROVE PRECISION IN STAGING? Murthy SP, Subramaniam N; Balasubramanian D; Low H; Sivakumaran V, Anand A, Thankappan K; Clark J; Iyer S; Department of Head and Neck Oncology, Amrita Institute of Medical Science, Kochi, India,

Department of Head and Neck Oncology, Chris O' Brien Lifehouse, Sydney, Australia (Abstract Number – 274)

8.50-9.00 O-86 RISK FACTORS OF DISTANT METASTASIS IN PATIENTS WITH ORAL CAVITY SQUAMOUS CELL CARCINOMA UNDERGOING SURGICAL TREATMENT Aires FT; Chin SL; Matos LL; Kulcsar MAV; Cernea CR; Discipline of Head and Neck Surgery, Hospital das Clínicas, University of São Paulo School of Medicine, São Paulo, Brazil. Departmentof Head andNeckSurgery, Instituto do Cancer do Estado de Sao Paulo (ICESP), São Paulo, Brazil (Abstract Number – 281)

9.00-9.10 O-87 DOES INCORPORATION OF PERINEURAL INVASIONAND DIFFERENTIATION INTO AJCC 8TH EDITION RECOMMENDATIONS BETTER REFLECT PROGNOSIS IN T1-2 ORAL CAVITY TUMOURS? Subramaniam N; Balasubramanian D; Low H; Murthy S; Sivakumaran V ,Anand A; Limbachiya S; Thankappan K; Clark J; Iyer S; Department of Head and Neck Oncology, Amrita Institute of Medical Science, Kochi, India;Department of Head and Neck Oncology, Chris O' Brien Lifehouse, Sydney, Australia (Abstract Number – 285)

9.10-9.20 O-88 PHARMACOKINETICS STUDY OF ORAL METRONOMIC CHEMOTHERAPY IN PATIENTS WITH HEAD AND NECK SQUAMOUS CELL CARCINOMA, Patil DP, Prabhash K, Supta AS, Gota V; Medical Oncology, Tata Memorial Hospital (Abstract Number- 296)

9.20-9.30 O-89 RETROGRADE SUPERSELECTIVE INTRA-ARTERIAL CHEMOTHERAPY AND DAILY CONCURRENT RADIOTHERAPY FOR STAGE III AND IV ORAL CANCER: ANALYSIS OF THERAPEUTIC RESULTS IN 112 CASES Mitsudo K; Koizumi T; Hayashi Y; Sugiura K, Iida M; Iwai T; Nakashima H; Oguri S; Kioi M; Hirota M; Tohnai I;Department of Oral and Maxillofacial Surgery, Yokohama City University Graduate School of Medicine, Yokohama, Japan (Abstract Number – 310)

9.30-9.40 O-90 A novel black bone MRI protocol for optimization of 3D head and neck resection margin planning Kraeima J, Hoving A, Schepers R, Dijkstra H, Dorgelo B, Witjes M; University of Groningen, University Medical Centre Groningen, Groningen, the Netherlands (Abstract Number – 315)

9.40-9.50 O-91 OUTCOME OF LOCALLY ADVANCED LESIONS OF ORAL CAVITY WITH INFRA TEMPORAL FOSSA EXTENSION-AN INSTITUTIONAL RETROSPECTIVE ANALYSIS; YADAV V, PILLAI V, HEDNE N, SHETTY V, BHAT V; Mazumdar Shaw Medical Center, Narayana Health, Bangalore (Abstract Number- 365)

9.50-10.00 O-92 INTRAOPERATIVE TUMOUR MARGIN DELINEATION SYSTEM USING A MINIATURIZED OPTICAL COHERENCE TOMOGRAPHY PROBE Agarwal S, Sunny S, James Bl, Heidari E, Wilder-Smith P, Kuriakose MA; Mazumdar Shaw Medical Centre, Narayana Health, Integrated Head and Neck Oncology Program, Mazumdar Shaw Medical Foundation, Beckman Laser Institute School of Medicine, University of California, Irvine (Abstract Number – 379)

Society symposium 9: Chinese Head Neck Society **HALL D**

Application of Digital Technique on OMS surgery

Moderator: Zhang Chenping, Zhigang Cai

Keynote Speech

8.30-8.45	Computer aided maxillary reconstruction	Sun Jian
8.45-9.00	The strategy, methodology and technology of secondary mandibular reconstruction	Ji Tong
9.00-9.15	Development and Progress in Reconstruction of Head Neck & Maxillofacial Defects	Cai Zhigang
9.15-9.30	Navigation and 3D printing technique on OMS reconstruction	Zhang Lei
9.30-9.50	Clinical Case Demonstration（5 min/person） Liu Fayu, Shan Xiaoefeng, Ren Zhenhu, Liang Yujie	
9.50-10.00	Discussion	

10:00 to 10:30 **Keynote 8** **HALL A**

Saman Warnakulasurya: Frontiers in the management of potentially malignant oral lesions

Chairpersons: Iwai Tohnai, Anil D Cruz

10:30 to 11:00 **Coffee break with exhibitors**

11:00 to 12:00 PM

Panel 5: Salvage of recurrent oral cancer **HALL A**

Moderator: Claudio Roberto Cernea

Chairperson:	David Tauro, Rajanikanth Janakiraman	
11-11.05	Introduction	
11.05-11.15	Surgical salvage of recurrent oral cavity cancer	Mark DeLacure
11.15-11.25	Re radiation for recurrent oral cancer	Sarbani Ghosh
11.25-11.35	Role of chemotherapy	Kumar Prabhash
11.35-11.45	Reconstruction following salvage surgery	Ralph Gilbert
11.45-12.00	Discussion	

Society symposium: 10 AAOHNS-AHNS **HALL B**

Management of complications in of oral cancer

Moderator: Terrence Day

Proffered Paper Session 12 Rehabilitation and Supportive care **HALL C**

Chairperson: Velmuruga Chetty, Revathi Deshmukh

11-11.10 O-124 QUALITY OF LIFE OF PATIENTS WITH LEUKOPLAKIA, LICHEN PLANUS, OR ORAL SUBMUCOUS FIBROSIS Tadakamadla J; Kumar S; RatilalL; Johnson NW; Menzies Health Institute Queensland and School of Dentistry and Oral Health, Griffith University, Gold Coast, Australia. School of Dentistry, The University of Queensland, Brisbane, Australia, School of Dentistry and Oral Health, Griffith University, Gold Coast, Australia (Abstract Number – 40)

11.10-11.20 O-125 A QUALITATIVE STUDY OF SYMPTOM BURDEN IN PATIENTS WITH CARCINOMA BUCCAL MUCOSA WHO HAVE UNDERGONE SURGERY BY INFRA TEMPORAL CLEARANCE Karnam P, Suresh A, Hedne N, Pillai V, Kuriakose MA; Pain and Palliative Medicine, Mazumdar Shaw medical Center, Narayana, Integrated Head and Neck Oncology Program, Mazumdar Shaw Center for Translational Research,Narayana Health,Bangalore, Head and Neck surgery, Mazumdar Shaw medical Center, Narayana Health, Bangalore (Abstract Number – 342)

11.20-11.30 O-126 THE INFLUENCE OF PREOPERATIVE COMORBIDITIES AND NUTRITION STATUS ON ELDERLY PATIENTS WITH ORAL CANCER Wang Y, Zhe-qi L, Tong J, Wei C, Zhen-hu R, Can-bang P, Department of Oral-Maxillofacial Head and Neck Oncology, Ninth People's Hospital, Shanghai Jiao Tong; University School of Medicine; Shanghai Key Laboratory of Stomatology. Shanghai 200011, China (Abstract Number – 29)

11.30-11.40 O-127 PRACTICAL DISTRESS MANAGEMENT IN HEAD AND NECK CANCER PATIENTS PRIOR TO START OF PALLIATIVE CHEMOTHERAPY Mondal PK; Patil VM; Naronha V; Joshi A; Deodhar JK; Kumar P; Department of Medical Oncology, Tata Memorial Hospital, Parel, Mumbai, Maharashtra, India. Department of Palliative Medicine, Tata Memorial Hospital, Parel, Mumbai, Maharashtra, India (Abstract Number – 150)

11.40-11.50 O-128 SPEECH AND SWALLOWING OUTCOMES AFTER PARTIAL GLOSSECTOMY FOR T1/T2 TONGUE CANCERS Limbachiya S, Mydhili M, Thankappan K, Balasubramanian D, Menon J, Iyer S; Dept of Head & Neck Surgery, Amrita Institute of Medical Sciences, Kochi (Abstract Number – 388)

11.50-12.00 O-129 FUNCTIONAL RESULTS AFTER COMPARTMENTAL SURGERY AND MICROVASCULAR RECONSTRUCTION FOR ORAL TONGUE/FLOOR OF THE MOUTH CANCER Grammatica A, Piazza C, Paderno A, Montalto N, Del Bon F, Nicolai P; Otorynolaryingoly and Head Neck Surgery Department - University of Brescia, Italy (Abstract Number – 409)

Society Symposium 11: Japanese Society

Novel Therapeutic Approaches

Moderator: Hiroyuki Hamakawa, Iwai Tohnai

11.00-11.12 Prognostic and staging implications of mandibular canal invasion in squamous cell carcinoma of the oral cavity

Masaya Okura, Souichi Yanamoto, Masahiro Umeda, Mitsunobu Otsuru, Yoshihide Ota, Hiroshi Kurita, Takahiro Kamata, Tadaaki Kirita, Nobuhiro Yamakawa, Michihiro Ueda, Takahide Komori, Takumi Hasegawa, Tomonao Aikawa,; and Japan Oral Oncology Group

11.12-11.24 Determination of deep surgical margin based on anatomical architecture for local control of squamous cell carcinoma of the buccal mucosa
Yoshihide Ota, Takayuki Aoki, Kazunari karakida, Mitsunobu Otsuru, Yuya Denda, Takatsugu Suzuki, Kenichi Aoyama, Akihiro Kaneko

11.24-11.36 Mandibular reconstruction with free fibula flap using computer-aided design and prefabricated 3-dimensional model
Nobuhiro Ueda, Nobuhiro Yamakawa, Megumi Nakao, Takahiro Yagyuu, Yosuke Nakagawa, Youhei Nakayama, Yuichiro Imai, Tetsuya Matsuda and Tadaaki Kirita,

11.36-11.48 Retrograde super-selective intra-arterial chemotherapy and daily concurrent radiotherapy for stage III and IV oral cancer: Analysis of therapeutic results in 112 cases
Kenji Mitsudo; Toshiyuki Koizumi; Yuichiro Hayashi; Masaki Iida; Toshinori Iwai; Hideyuki Nakashima; Senri Oguri; Mitomu Kioi; Makoto Hirota; Iwai Tohnai

11.48-12.00 Array-based application of sentinel node biopsy
Hiroyuki Goda; Koh-ichi Nakashiro; Satoshi Hino; Ryuichi Murase; Tomohiro Hamakawa; Hiroyuki Hamakawa.

12.00-13.15 Lunch Time Symposia

Lunch time symposium **HALL A**

Practical guidelines in the evaluation and management of N0 Neck (Israel-FHNO)

Sponsored lunch symposium **HALL B**

Wellness through naturopathy: Shanku Naturopathy Centre

13:15 to 14.45

Symposia 13: Prediction of outcomes in oral cancer **HALL A**

Moderator: Deepak Kademani

Chairperson: Rajendra Toprani, Tapaswini Pradhan

13.15-13.30	Introduction	
13.30-13.45	Rationale for the upcoming change in T category incorporating depth of invasion	Rob Baatenburg de Jong
13.45-14.00	Surgical margins	Sheng po Hao
14.00-14.15	Biomarkers based prediction of outcome	Sok Ching Cheong
14.15-14.30	Integrating novel predictors into staging systems	Drew Ridge
14.30-14.45	Discussion	

Symposia 14: Maximizing Scarce resources in Oral Cancer Care **HALL B**

Moderator: Andrew Shuman

Chairperson: Gopakumar Nair, Sagar Vaishampayan

13.15-13.30	Introduction	
13.30-13.45	Addressing the Global Dearth of Surgical Oncologists: Lessons from Bedside to Parliament	Alok Pathak
13.45-14.00	Oral Cancer Screening in the Context of Scarcity	Krishna Kumar T
14.00-14.15	Utilizing National Guidelines to Maximize Benefit: Lessons from the UK	Vinidh Paleri
14.15-14.30	Resource Stratification in India at the Institutional Level	Rajiv Bhatt

Proffered Paper Session **Reconstruction-III** **HALL C**

Chairman: Siddharth Chakraborty, Sourav Datta

13.15-13.25 O-57 USE OF RAPID PROTOTYPE (RPT) MODELING IN COMPLEX MANDIBULAR RECONSTRUCTION WITH FIBULAR FREE FLAP FOR BENIGN AND MALIGNANT TUMOURS Subramaniam N; Krishnadas A; Balasubramanian D; Subhash P; Thankappan K; Iyer S; Department of Head and Neck Oncology, Department of Cleft and Craniofacial Surgery, Amrita Institute of Medical Science, Kochi, India (Abstract Number – 244)

13.25-13.35 O-58 SECONDARY MAXILLOMANDIBULAR RECONSTRUCTION IN BENIGN AND MALIGNANT TUMOURS – ARE THE RESULTS SATISFACTORY? Subramaniam N, Anand A, Balasubramanian D, Mathew J, Sharma M, Subhash P, Thankappan K, Iyer S;Department of Head and Neck Oncology, Department of Plastic and Reconstructive Surgery, Department of Cleft and Craniofacial Surgery, Amrita Institute of Medical Science, Kochi, India (Abstract Number – 248)

13.35-13.45 O-59 NASOLABIAL FLAP FOR RECONSTRUCTION OF MODERATE TO LARGE DEFECTS OF LIPS FOLLOWING CANCER RESECTION Gupta N, Patel M, Patel M, Kothari K; Gujarat Cancer and Research Institute, Ahmedabad (Abstracrt Number – 303)

13.45-13.55 O-60 RECONSTRUCTION SURGERY WITH A SECOND FREE FLAP FOLLOWING RESECTION OF RECURRENT ORAL CANCER Lee JH, Sung KW, Kim SM, Myoung H, Kim JM; Oral Cancer Center, Department of Oral and Maxillofacial Surgery, Seoul National University Dental Hospital, Seoul, Korea (Abstract Number – 328)

13.55-14.05 O-61 ROLE OF PRF MEMBRANE IN SUPERFICIALLY EXCISED ORAL PRE-MALIGNANT LESIONS, Mohanty S, Jeyaseelan A; Maulana Azad Institute of Dental Sciences, New Delhi (Abstract Number- 335)

14.05-14.15 O-62 A RELOOK AT THE FORGOTTEN PECTORALIS MAJOR STERNUMOSTEOMYOCUTANOEUS FLAP Murthy SP, Sharma D, Deelip DS, Balasubramanian D, Mathew J, Sharma M, Thankappan K, Iyer S; Department of Head and Neck Oncology,

Amrita Institute of Medical Science, Kochi, India. Department of plastic surgery, Amrita Institute of Medical Science, Kochi, India (Abstract Number – 346)

14.15-14.25 O-63 ANTEROLATERAL – VASTUS INTERMEDIUS – FEMUR FLAP FOR COMPLEX DEFECTS OFORAL CAVITY Murthy SP, Kapahtia R, Deelip DS, Balasubramanian D, Mathew J, Sharma M, Thankappan K, Iyer S; Department of Head and Neck Oncology, Amrita Institute of Medical Science, Kochi, India, Department of plastic surgery, Amrita Institute of Medical Science, Kochi, India (Abstract Number – 347)

14.25-14.35 O-64 VALIDATION OF BROWN'S MANDIBULECTOMY CLASSIFICATION SYSTEM TO PREDICT RECONSTRUCTIVE COMPLEXITY AND RELATED MORBIDITY Limbachiya S, Thankappan K, Anand A, Balasubramanian D, Iyer S; Department of Head and Neck Oncology, Amrita Institute of Medical Science, Kochi, India, Amrita Institute of Medical Science, Kochi, India (Abstract Number – 384)

14.35-14.45 O-65 A SIX YEAR RETROSPECTIVE REVIEW OF DISTANT OSTEOCUTANEOUS FREE TISSUE FLAP RECONSTRUCTIONSIN A REGIONAL MAXILLOFACIAL UNIT IN THE UK Madattigowda R; Northwick Park Hospital, London, UK (Abstract Number – 414)

Society Symposia 12 Brazil/FHNO **HALL D**

Locally advanced cancer

22Moderators: Pankaj Chaturvedi/India, Rogerio Dedivitis/Brazil

Reconstruction options when free flaps are not available:

13:15-13.25 Soft tissues	Carlos Lehn
13:25- 13.35 Mandible	Gabriel Damiano
1:35-13.45 Access to new technologies	Leandro Matos
13.45-13.55 - Failure pattern and salvage treatment	Alirio Mirajes
13.55-14.05 - Affordability and delay in diagnosis and treatment	Maria Christina M
14.05-14.15 - Cost and resources	Giuliano Molina
14.15-14.25 - The best and the worst in the same region	Fernando Walder
14.25-14.45 - Discussion	

14.45 to 15:15 Keynote 10 **HALL A**

Dennis Rohner: Frontiers in Maxillofacial & Mandibular Reconstruction

Chairpersons: Prathamesh Pai, Sanjiv Nair

15:15 to 15:45 Coffee break with exhibitors

15.45-17.00

Symposia 15: Technological Advances in Oncologic Surgery **HALL A**

Moderator: Andre Eckardt

Chairperson:	Bichu Jacob, Daxesh patel	
15.45-15.55	Introduction	
15.55-16.10	*In vivo* imaging	Snehal Patel
16.10-16.20	Navigation in maxillofacial surgery	Zhigang Cai
16.20-16.30	Tissue engineering	Risto Kontio
16.30-16.40	Robotic surgery	Se-Heon Kim
16.40-17.00	Discussion	

15.45-16.15

Debate 3: Adjuvant CT-RT vs Adjuvant RT for intermediate risk Oral Cancer **HALL B**

Moderator: Giuseppe Spriano

Chairperson: Saidul Islam, Sidaramesh Belgaum

Speakers: Vincent Gregoire, Sarbani Laskar Ghosh

16.15-17.00

Debate 4: Tongue and Gingivo-Buccal Complex cancers need different staging criteria **HALL B**

Moderator: Richard Shaw

Chairperson: Sheng-Po Hao, Mayuri Rajapurkar

Speakers: Arun P, Ian Ganly

Proffered Paper Session- 14 Ablative surgery **HALL C**

Chairperson: Lalitha T, Sawar Hashmi

15.45-15.55 O-32 COMPARATIVE STUDY EVALUATING SURVIVAL OF ADVANCED GINGIVA-BUCCAL COMPLEX CANCERS PATIENTS WITH REGARD TO SKIN VERSUS MANDIBLE INVOLVEMENT Kumar R, Chandran A, Panda S, Sagar P; AIIMS, New Delhi, India (Abstract Number -171)

15.55-16.05 O-33 CORRELATION OF POST-OPERATIVE TONGUE MOTILITY WITH SPEECH AND SWALLOWING FUNCTIONS AFTER ONCOLOGICAL RESECTION OF TONGUE Paudel D, Janakiram R, Tirkey AJ; CMC, Vellore, TN, India (Abstract Number -259)

16.05-16.15 O-34 MARGINAL MANDIBULECTOMY: AN INSTITUTIONAL EXPERIENCE FROM NORTHERN INDIA. Lakshmanan M, Akhtar N, Chaturvedi A, Kumar V, Gupta S; King George's Medical University, Lucknow, UP, India (Abstract Number – 275)

16.15-16.25 O-35 TUMOR SIZE RELATED TO REGIONAL METASTASES IN PT4 ORAL SQUAMOUS CELL CARCINOMA Cicco RD, Souza R, Quintana P O, Friaça V M A, Filho GDFJ; Instituto do Câncer Doutor Arnaldo - Head and Neck Surgery Department– São Paulo, Brazil (Abstract Number – 309)

16.25-16.35 O-36 INFRA TEMPORAL FOSSA CLEARANCE IN LOCALLY VERY ADVANCED ORAL SQUAMOUS CELL CANCERS (T4B)-OUR EXPERIENCE Shah S; HCG Cancer Center, Gujarat. India (Abstract Number – 383)

16.35-16.45 O-37 COMPARTMENTAL SURGERY FOR ORAL TONGUE AND FLOOR OF THE MOUTH CANCER: ONCOLOGIC OUTCOMES Piazza C, Grammatica A, Montalto N, Paderno A, Del Bon F, Nicolai P; Department of Otorhinolaryngology - Head and Neck Surgery, University of Brescia, Italy (Abstract Number – 408)

16.45-16.55 O-38 POSITIVE YIELD FROM RE-EXCISION OF CLOSE AND INVOLVED MARGINS IN T1 SQUAMOUS CELL CARCINOMA TONGUE: OUR EXPERIENCE Orchard AD, Horgan TJ, Ananth S, Walker T W M, Hughes C, Thomas SJ; Bristol Royal Infirmary, Bristol, UK (Abstract Number- 400)

Society Symposia 13: EHNS

Management of Oropharyngeal cancer

Moderator: Wojciech Golusinski

15.45-16.00	An update on worldwide incidence of HPV positive oropharyngeal cancer	Sat Parmar
16.00-16.15	Surgical treatment in oropharyngeal cancer	W Golusiński
16.15-16.30	Treatment of HPV-positive oropharyngeal squamous cell carcinoma: is there still a role for radiotherapy?	Vincent Gregoire
16.30-16.45	Salvage Surgery for Recurrent Oropharyngeal Cancer after Chemoradiation; are we doing Any Better?	René Leemans
16.45-17.00	deciding the right treatment for the right patient at the right time in primary oropharyngeal cancer	Hisham Mehanna

17:00 to 17:30 Valedictory function

Chairperson: Luiz Kowalsi
Panel: Moni Abraham Kuriakose, Sanjiv Nair, Pankaj Chaturvedi
2019 Conference: B Spriano

ABSTRACTS Proffered Paper Sessions
BEST OF CLINICAL PAPERS

O-1 Abstract Number – 79 **SENTINEL NODE BIOPSY AS A STAGING PROCEDURE IN THE N0 NECK. IS IT SENSITIVE ENOUGH?**

Hislop WS[1]; Maciver[1]; Wales C[1]; McLellan D[2]; McLaughlin I[3], McGarvie J[4]; McMahon JD[1].
[1] West of Scotland Maxillofacial Head and Neck Service, UK, [2] Department of Pathology, Queen Elizabeth University Hospital, Glasgow, UK, [3] Department of Radiology, Queen Elizabeth University Hospital, Glasgow, UK, [4] Department of Nuclear Medicine, Crosshouse Hospital, Kilmarnock, Scotland, UK

Introduction In 2016 the National Institute for Clinical Excellence in the UK published guidelines recommending that all patients with cN0 oral cancer should have the neck surgically staged. Specifically sentinel node biopsy is recommended for all patients with T1 and T2 N0 patients for whom a free tissue transfer is not required.

Method We present 100 consecutive cases of sentinel node biopsy carried out in the west of Scotland according to a protocol. All subsites within the oral cavity where a previously untreated T1 or T2 tumour presented with a clinically and radiologically node negative neck, and where microvascular reconstruction was not required, were considered for sentinel node biopsy.

Results There were 2 false negatives (FNR 8%) and the sensitivity was 92%. Six patients had sentinel nodes in locations likely to be missed in elective lymphadenectomy with 3 being lingual to the mandible, 2 deep to anterior belly of digastric and one lateral tongue tumour with bilateral nodes.

Conclusion Sentinel lymph node biopsy is a useful method in staging the neck in early oral SCC. It is technique sensitive requiring enhanced communication and collaboration between nuclear medicine, surgical, and pathology specialists. We will discuss pitfalls in technique and modifications implemented as a result of this study.

References

D'Cruz A, et. al. (2015) Elective Versus Therapeutic Neck Dissection in Node-Negative oral Cancer. New England Journal of Medicine, 373. 525-529
NICE guidelines 36; (2016). National Collaborative Centre for Cancer. 115 -125

O-2 Abstract Number – 99 **IMPACT OF ORAL PRE-MALIGNANCY AND ITS SEQUELAE ON QUALITY OF LIFE – VALIDATION OF A HEAD AND NECK PRE-CANCERS SPECIFIC QUALITY OF LIFE INSTRUMENT (ERNAKULAM QUALITY OF LIFE QUESTIONNAIRE FOR ORAL PRE-MALIGNANCY, EQOL-OP)**

Satheeshkumar PS[1], Mohan M[2], PS Harris[1]
[1]Qassim University, Buraidah, Qassim, KSA, [2]Governement Dental College, Kozhikkode, India

Aim: To develop and validate a QoL instrument for patients with head and neck pre-cancer related functional status and well-being, Ernakulam Quality of life questionnaire for Oral Pre-malignancy, EQoL-OP (Malayalam).

Methods: Ethical clearance for the study was obtained before the study (IEC/24/2013). A phone survey of 54 professionals caring for oral premalignant patients located in Kerala Government Hospitals, Health University hospitals/colleges were carried out to assess the most common disease- specific symptoms. 62 premalignant patients were surveyed for disease specific structured interview to determine the disease specific symptoms. 20 post graduate students and 23 dental teachers were interviewed for most common premalignant disease specific symptoms. Disease specific domains were identified; then the domain specific scores were standardized for component items, domains were assessed for the construct validity on hypothesis and test- retest reliability. Using the structured decision methods and the theory in instrument development, EQoL-OP was developed and evaluated based on the data measuring QoL before and after the treatment. In evaluating its psychometric properties, internal consistency by cronbach's alpha and test/retest reliability measured by Spearman rank-correlation coefficients were used. The constructed EQoL-OP instrument was then administered to 85 premalignant patients.

Results: Relevant domains identified were Pain (5 items), Restricted mouth opening (7 items), Burning sensation (6 items), Eating (7 items) and Additional concerns (7 items). Validity directed towards an extent to which an instrument actually measures what it is supposed to measure. It was assessed through different facets. Reliability indicated the amount of error inherent in any measurement. The internal consistency of different domains were, pain (0.712), restricted mouth opening (0.901), burning sensation (0.884), eating (0.920) and Additional concerns (0.832); the internal consistency of over all tool was 0.950. The scores differences between pre-treatment and post-treatment for overall scale; pain, mouth opening, eating, burning sensation and additional concerns domains have statistical significance.

Discussion: The main indication of the study was to assess the outcomes of the diagnosis and treatment provided to the premalignant patients. The results indicated that the EQoL-OP is reliable and valid measure of a QoL instrument for premalignant patients.
Conclusion: The EQoL-OP is first instrument to our knowledge specific to oral pre-malignancy which is of good validity, reliability and responsiveness, and can be used to assess quality of life for patients with head and neck pre-cancers cancers.

O-3 Abstract Number – 279 **NOMOGRAM TO PREDICT THE TIME OF RECURRENCE AND OVERALL SURVIVAL IN BUCCAL MUCOSA SQUAMOUS CELL CARCINOMA**

Mishra A[1], Pai P[2], Bal M[3], Chaturvedi P[2], Sadhana K[4]
[1]Senior Resident, Head and Neck services, Department of Surgical Oncology. Tata Memorial Hospital Mumbai,India, [2]Professor, Head and Neck services, Department of Surgical Oncology. Tata Memorial Hospital Mumbai,India, [3]Associate Professor, Department of Pahology, Tata Memorial Hospital, Mumbai, India, [4]Department of Biostatistics, Advanced centre for Training Research Education in cancer,Kharghar,Navi Mumbai, India

BACKGROUND: The major premise of staging is to accurately grade the patient and predict the prognosis of a patient. However there are various factors other than tumor stage which have a significant impact on survival. Various clinical and histopathological factors have been proven to significantly impact survival. The omission of these prognosticators from the staging system narrows the usability of TNM staging. An objective scoring system utilizing clinical and pathological factors together will be more appropriate for clinical decision making. Nomogram is a tested tool in variety of cancers to predict outcome. Aim of this study was to develop a nomogram to predict survival and time of failure in buccal mucosal SCC.
METHODS: 604 buccal mucosa SCC undergoing surgery followed by adjuvant treatment from 1st Jan 2012 to 31 Oct 2013 at Tata memorial center, were evaluated. All patients were treatment naïve. All Clinical and histopathological prognosticators were analyzed. The enter method was utilized to develop nomogram. The Risk prediction for recurrence and survival was done for 6 months, 1, 2 and 4 years. Scores were assigned using the nomogram for every factor.
RESULTS: The mean survival, disease free survival and median follow up was 38, 36 & 28 months. Utilizing the clinical and histopathological factors Nomograms were generated for prediction of recurrence and overall survival at 6 months, 1 years and 2 years. Nomograms were internally validated with bootstrap adjusted concordance index (CI) of 0.74 for overall survival of 93% 83% and 75% at 6 months, 1 year and 2 years: and CI of 0.69 for recurrence free survival.
CONCLUSION: Nomogram can predict the approximate time of recurrence and overall survival. Utilizing the prediction for time of recurrence and correlation with overall survival will aid in planning appropriate treatment. It will also guide adjuvant treatment and the need for treatment intensification.
Keywords: Recurrence, prognosis, nomogram, survival, buccal mucosa squamous cell carcinoma

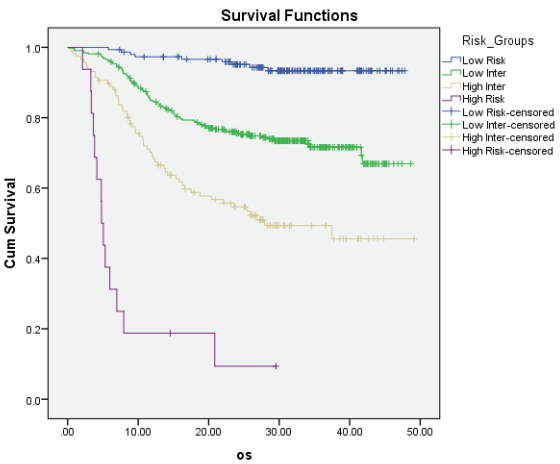


Figure 1: Risk group stratification by the nomogram

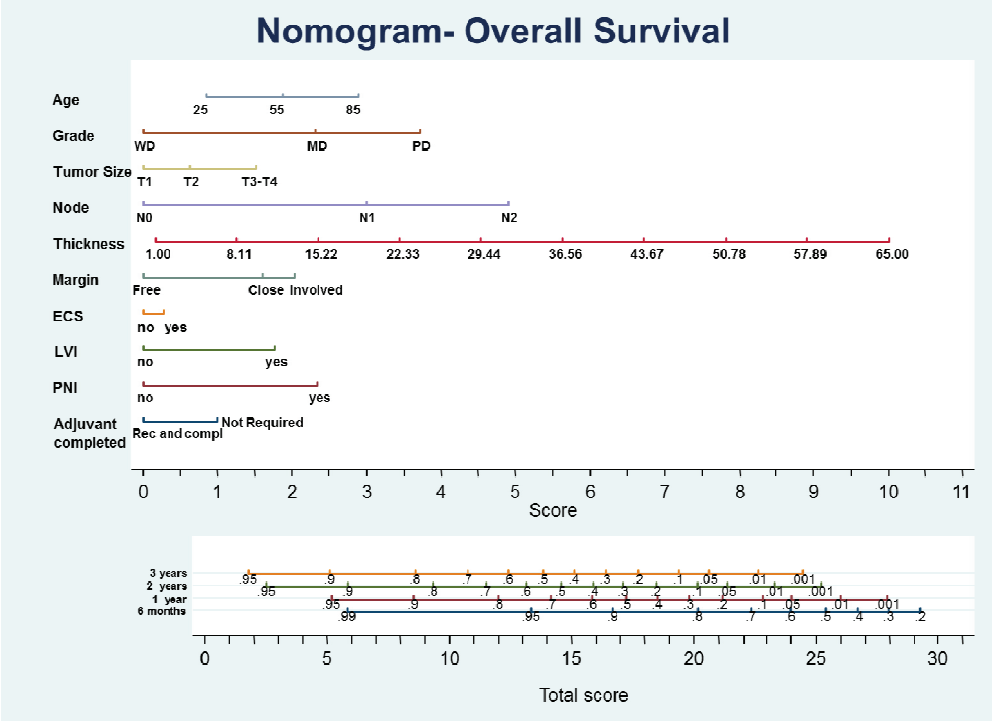


Figure 2: Nomogram of Buccal Mucosa Squamous cell carcinoma

O-4 Abstract Number – 314 **TUMOR VISUALIZATION BY FUSION OF CT AND MRI FOR INTEGRATION OF TUMOR MARGINS IN 3D VIRTUAL PLANNING FOR SURGICAL REMOVAL OF ORAL SQUAMOUS CELL CARCINOMA**

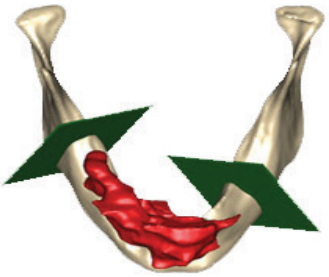
Joep K[1]; Dorgelo B[2]; Schepers R[1]; Steenbakkers R [3]; Langendijk H [3]; Roodenburg J[1]; Kees P S[1]; Witjes M[1]
[1]Department of Oral & Maxillofacial Surgery, [2]Department of Radiology, [3]Department of Radiotherapy
University Medical Center Groningen PO Box 30.001 9700 RB Groningen, the Netherlands.

Introduction: 3D virtual planning of tumor resection and subsequent reconstruction of bone defectsfor removal of oral squamous cell carcinoma (OSCC) is a frequently used method. However, 3D surgical planning software does not allow tumor margin visualization which makes it difficult where to plan the cutting planes for the mandibulectomy. We therefore studied a new strategy based on fusion of CT and MRI imaging in which MRI is used for tumor delineation and CT for planning of the bone cutting planes.

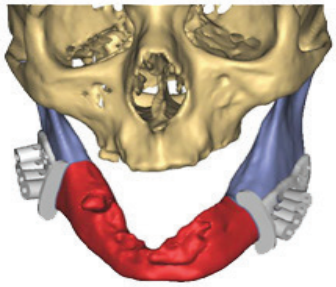
Methods: MRI images were projected onto theCT images.Delineation of the gross tumour volume (GTV) on MRI was performedwith radiotherapeuticplanning software. In the surgical software the cutting planes were planned, utilizing the 3D visualized tumor. Cutting guides were 3D designed and during mandibulectomy, the bone cuts were made using the 3D printed cutting guides. Outcome measures were 1) histological proven tumor free bone resection plane 2) 3D analysis of post op cutting planes on post-operative CT compared to the pre-operative 3D planning.

Results: From 30 consecutive patients, nine patients suffered from claustrophobia or the MRI was of poor quality. On average the GTV was 18.7cm^3 (range 6.4-66.7 cm^3). All patients had histological proven free bone tumor margins. Analysis of the accuracy of the cutting planes showed that the average deviation of the planned cutting plane was 2.1mm. Thirteen planes were closer placed to the tumor than planned with an average shift of 1.98 and 2.5 mm measured on the most cranial resp. caudal point of the buccal bone surface.

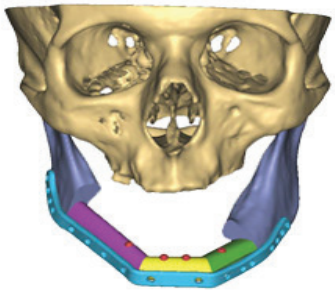
Conclusions: This study reports a method for image fusion and 3D surgical planning using the hospitals existing software architecture. Tumor visualization by fusion of CT and MRI for integration of tumor margins seems a safe methodin 3D planning of surgical removal of oral squamous cell carcinoma.



GTV(visualized (red) with cutting planes (green)



Cutting guides design



reconstructive design with fibula in planned defect

O-5 Abstract Number – 340 **CONSISTENTLY DYSREGULATED MICRORNAS DISCOVERABLE IN ORAL SQUAMOUS CELL CARCINOMA PATIENTS' ORAL SWIRLS**

Yap T[1], Koo K[2], Cheng L[3], Vella L[4], Hill AF[3], Reynolds E[1,5], Nastri A[6], Cirillo N[1,5],Seers C[1,5], McCullough M[1,5]
[1]Melbourne Dental School, University of Melbourne, Victoria, Australia, [2]Department of Surgery, Royal Melbourne Hospital, Victoria, Australia, [3]Department of Biochemistry and Genetics, La Trobe Institute for Molecular Science, La Trobe University, Victoria, Australia, [4]The Florey Institute of Neuroscience and Mental Health, Parkville, Victoria, Australia, [5]Oral Health Cooperative Research Centre, Melbourne, Victoria, Australia, [6]Department of Oral and Maxillofacial Surgery, Royal Melbourne Hospital, Victoria, Australia

Introduction: Next generation sequencing data can be utilized for comprehensive comparison ofmicroRNAexpression profiles in patients with oral squamous cell carcinoma (OSCC). Identification of microRNAs consistently dysregulatedin both frozen resection specimen data and formalin fixed paraffin-embedded (FFPE) diagnostic biopsy may be additionally discoverable in biofluids such as oral swirls.
Objectives: To identify commonality of OSCC microRNA dysregulation betweennext generation sequencing of FFPEtissue from diagnostic biopsy andfresh frozen resection specimens in The Cancer Genome Atlas (TGCA) database. Further, to explore if these microRNAs are dysregulated in oral swirl samples.
Methods: Small RNA libraries from 3 OSCC and 3 histologically normal epithelium FFPE biopsy specimenswere sequenced on an Ion Torrent S5™.Log fold microRNA changes ofOSCC over HNE were calculated. Log fold changes of OSCC over HNE microRNA expression data from the TGCAdatabase were calculated and the 2 data sets were compared. The list of microRNAs was filtered for abundance and concordant directional fold changes. Oral swirl samples were collected from 20 patients with OSCCand 20 controls. After enriching forextracellular vesicles, RNA was extractedand analyzed by reverse transcription real time-PCR (qPCR) using EPIK™ miRNA Select Assays.
Results: Analysis of commonalityidentifiedconsistentupregulation ofmicroRNAs, miR-21 and miR-31 and consistentdownregulation of the two clusters miR100/125b and miRlet7c/99a/125b.The detection and dysregulation of these microRNAs by qPCR was reflected in oral swirls.
Conclusion: Comparisonof diagnostic biopsy FFPE and resection fresh frozen tissue highlighted a panel of dysregulated microRNAs. Oral swirls can be utilized to explore the expression of dysregulated microRNAs in patients with OSCC.

O-6 Abstract Number – 295 **ROLE OF NACT IN ACHIEVING NEGATIVE MARGINS IN TECHNICALLY UNRESECTABLE BUCCAL MUCOSA TUMOURS**

Kamrajpuram SP, Patil V[2], Joshi A[3]; Noronha V[3]; Prabash K[3]
[1] Senior Resident, Tata Memorial Hospital, Mumbai, Maharashtra,India, [2]Assistant professor, Tata Memorial Hospital, Mumbai, Maharashtra,India, [3]Professor, Tata Memorial Hospital, Mumbai, Maharashtra,India

INTRODUCTION: R0 resection is the mainstay of treatment in advanced oral cancers. A positive or close surgical margin is considered as an high risk factor for recurrence in oral cancers.In our institute T4 oral cancers contribute to 80% of our margin positive resections.T4 buccal mucosa cancers with peritumoral edema reaching up to or above the level of zygomatic arch are called as technically unresectable cancers.The risk of margin positive resection is high in such tumors. Neoadjuvant chemotherapy (NACT) followed by surgery is an option in this group. Whether the margin positive rate of this cohort is similar to that in our upfront operated T4 technically resectable tumors is unknown. We performed this audit to address this issue.

METHODS: This was a 1:1 match pair analysis of oral cancer patients treated at Tata Memorial Hospital between 2010-2013. We had matched 215 upfront operated T4 buccal mucosa cancer patients to 215 T4 buccal mucosa cancer patients operated after NACT.

RESULTS

	Upfront Surgery (n=215)	**NACT-> Surgery (n=215)**	**p value**
Median age in years (Range)	50 (28-84)	45 (22-78)	0.051*
Gender distribution Number of male (%) Number of female (%)	 172 (80.0) 043 (20.0)	 187 (86.8) 028 (13.2)	0.051**

Table 1: Distribution of important parameters between the 2 groups.*-Comparison done by unpaired student t test.**-Comparison done by chi-square test.

	Upfront Surgery (n=215)	**NACT-> Surgery (n=215)**	**p value**
Positive margin	3 (1.4%)	0 (0.0%)	0.212**
Positive + Close margin	11 (5.1%)	07 (3.3%)	0.335**
Lymphovascular invasion	3 (1.4%)	3 (1.4%)	0.995**
Perineural invasion	50 (23.3%)	19 (7.4%)	**0.000****

Table 2: Distribution of important post surgery pathological tumor parameters between the 2 groups.**-Comparison done by chi-square test.

CONCLUSION: The result of this match pair analysis shows that the patients who are given NACT because of high risk margin positivity if operated upfront, undergo R0 resections and the margin status is similar to our upfront operated patients.

O-7 Abstract Number- 156 **TUMOR BUDDING AS A PREDICTOR OF LOCOREGIONAL RECURRENCE IN EARLY TONGUE CANCER**

Yamakawa N [1]; Kirita T[1]; Yamada S[2]; Otsuru M[3]
[1]Department of Oral and Maxillofacial Surgery, School of Medicine, Nara Medical University, Kashihara, Japan, [2]Department of Dentistry and Oral Surgery, Shinshu University School of Medicine, Matsumoto, Japan, [3]Department of Oral and Maxillofacial Surgery, Division of Surgery, Tokai University School of Medicine, Isehara, Japan, [4]Japan Oral Oncology Group

Introduction: Some patients with early-stage oral cancer have a poor prognosis due to local recurrence or delayed neck metastasis. Generally, factors that influence local recurrence and delayed neck metastasis include resection margin status, depth of invasion and vascular invasion. In recent years, tumor budding, defined as the presence of single cancer cells or small clusters of fewer than five cells at the invasive front, has been reported as a promising prognostic marker in many cancers. In this study, we evaluated whether tumor budding could serve as a predictor of recurrence in early tongue cancer.

Methods: Of the Stage I or II tongue cancer patients who visited our university hospitals, 422 who underwent radical surgery and histopathological examination were included in this study. The following factors were evaluated: patient characteristics (age, sex, and disease stage), histopathological factors (tumor budding, resection margin,

differentiation, depth of invasion, vascular/perineural invasion, and adjacent tissue of the invasive front). Tumor budding was evaluated in three groups (0, <5, or ≥5 buds/field). Relapse-free survival rate were calculated, items that were statistically significant on univariate analysis were used as explanatory variables, and independent factors for locoregional recurrence were identified by multivariate analysis.
Results: The relapse-free survival rate of all patients was 74.2%. Univariate analysis identified tumor budding, depth of invasion, vascular/perineural invasion, adjacent tissue of the invasive front and disease stage as significant predictors of recurrence, and multivariate analysis using these combined with the sex and age as explanatory variable identified the sex, tumor budding, depth of invasion, and adjacent tissue of the invasive front as independent predictors of recurrence.
Conclusion: The results suggest that, in addition to conventional predictors, tumor budding serves as a useful predictor of locoregional recurrence in early tongue cancer.

O-8 Abstract Number – 234 **THE INFLAMMATORY MICROENVIRONMENT AND OSCC: CLINICO-PATHOLOGICAL CORRELATIONS**
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Introduction. Recent data have expanded the concept that tumour microenvironment, largely orchestrated by inflammatory cells, is an indispensable participant in the neoplastic process, as well as it is a critical component of tumour proliferation, survival and migration.
Methods. Work's aim was to evaluate the morphological characteristics of inflammatory cells with their differentiation antigens (CD3, CD138, MPO, CD68) and the presence of CD8+ lymphocytes in intratumoral and peritumoral sites in 120 OSCCs included in Tissue Microarray (TMA). A LSAB-HRPimmunostaining method was employed.Clinico-pathological correlations have been investigated.
Results. Considering means and standard deviations of the global CD8+infiltrate (peritumoral+TIL) and the percentages of CD8+ lymphocytes in the intratumoral inflammatory infiltrate (TIL), statistical significant differences have been obtained by comparing N0 tumors (1,7±0,;43%) to N1 (1,6±0,73;71,5%) and N2 (1,5±0,63;71,5%) (p=0.04). Moreover CD8+T cells were more present as TIL in men (72,5%) than in women (57%); on the contrary they were more present as peritumoral infiltrate in women than in men (2±0,9 vs 1,4±0,75) (p=0,01). No correlations with histological grade, stage, tumoral diameter and presence of metastases have been observed. Considering the plasma cell compartment, a significant linear correlation between percentage of plasma cells and histological grade has been found (G1 17%, G2 23%; G3 100%,p=0,002). The entity of the plasma cells' infiltrate increases with the tumoral stage (St1 20%; St2 20%; St3 40% St4 47%; (p<0.05). Higher levels of plasma cells have been observed in men than in women (P=0,004). Comparing the percentages of polymorphonucleated cells, their values increase in G2/G3 cancers compared to G1 ones (G1 17%; G2 46.5%; G3 40%, p=0,04)
Conclusion. The inflammatory microenvironment in OSCC is associated to higher histological grade and to more advanced tumoral stage, especially in term of lymphatic metastatic potential. These insights could foster new anti-inflammatory therapeutic approaches to cancer development.

O-9 Abstract Number – 301 **A PHASE IB NEOADJUVANT TRIAL OF ANTI-OX-40 (MEDI6469) PRIOR TO DEFINITIVE SURGICAL RESECTION IN PATIENTS WITH HEAD AND NECK SQUAMOUS CELL CARCINOMA**
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Background: Cancer immunotherapy is an evolving treatment that boosts the immune system to recognize and destroy cancer cells.Head and neck squamous cell carcinomas (HNSCC) produce suppressive factors that impair the immune system, thus limiting effective antitumor immunity.OX40 is a member of the tumor necrosis factor (TNF) receptor family and a potent co-stimulatory pathway that when triggered can enhance T-cell memory, proliferation and anti-tumor activity in patients with metastatic cancer.
Objectives: To determine the safety and immunologic activity of anti-OX40 treatment administered prior to definitive surgical resection in patients with locoregionally advanced HNSCC.

Methods: This is a phase Ibclinical trial using a murine antibody to OX40 (MEDI6469) at various dose intervals prior to definitive surgical resection of patients with HNSCC. The interval between MEDI6469 doses and resection will allow for determination of the effect of MEDI6469 on the tumor infiltrating lymphocyte (TIL) composition over time and will ensure patient safety in administering MEDI6469 preoperatively.After the time-course portion of the trial, an expansion cohort of up to 35 additional patients will be enrolled at the safe pre-operative dosing interval found to have the most promising immune response measured in peripheral blood and within tumors. Theprimary endpoint is safety. In addition, tumor tissues and peripheral blood are being obtained for exploratory immunologic end points including measurements of tumor infiltrating immune cell populations based on flow cytometry, multispectoral imaging, immunohistochemistry, as well as other circulating immunological parameters that may correlate with changes induced by MEDI6469 administration. Enrollment is ongoing. Clinical trial information: NCT02274155
Results: The time course portion of the trial has completed enrollment. MEDI6469 administration was well tolerated and there were no grade 3 or 4 adverse events related anti-OX40 treatment. The toxicity profile was mild, most commonly consisting of low-grade fever prior to surgery. Immunologic changes have been observed at all time courses with significant proliferation of CD4+ and CD8+ central and effector memory T-cell populations in both the tumor microenvironment and circulationoccurring between 12 and 19 days following MEDI6469 infusion. Ki67 is specifically induced on peripheral blood PBMC's and in the TME after MEDI6469 administration, returning to baseline at Day 55. CD39 is induced on the CD4+ cells in almost all subjects and CD39/103+ cells are increased in a subset of subjects. Enrollment in the expansion cohort is ongoing.
Conclusion: Preoperative MEDI6469 administration prior to surgery is feasible in patients with HNSCC and results in proliferation of T cell populations that peak between 12 and 19 days following infusion.

BEST OF BASIC SCIENCE

O-10 Abstract Number -410 EGFR DETECTION IN SALIVA AS AN EASY DIAGNOSTIC AND PROGNOSTIC TOOL IN ORAL SQUAMOUS CELL CANCER

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Introduction: The epidermal growth factor receptor (EGFR) is frequentlyoverexpressed in a wide variety of malignancies, including oral squamous cell carcinoma (OSCC). Our objective was to assess the EGFR diagnostic and prognostic values in OSCC, investigating its expression in serum and saliva.
Methods: Serum and saliva samples were collected froma cohort of OSCC patients before surgery and a matched group of healthy subjects. Serum EGFR concentration was determined by an enzyme-linked immunosorbent assay (ELISA), according to manufacturer's instructions. Saliva EGFR concentration was determined with a modified protocol of the same immunoassay.Sixty-three naïve patients affected by OSCC (cases) and 60 healthy individuals (controls) were included.
Results: Regarding serum EGFR levels, OSCC patients (mean, 47.6 ng/ml) evidenced lower values ($p<0.001$) when compared with controls (mean, 53.7 ng/ml).Conversely, salivary EGFR concentrations were higher ($p=0.001$) in OSCC patients (mean, 8.2 ng/ml) than in controls (mean, 4.4 ng/ml). Salivary EGFR levels were also related with tumor pT classification. Considering 9.0 ng/ml (75° percentile) as the cut-off, patients with higher values of salivary EGFR had a worse prognosis in terms of disease specific survival.
Conclusion: Salivary EGFR is a potential tumor marker for OSCC detection, with both diagnostic and prognostic values. Conversely, serum EGFR, was significantly lower in patients but did not show any prognostic impact. Determination of these markers requires a non-invasive and low-cost technique.

O-11 Abstract Number-406 **HIGH-RISK HU MAN PAPILLOMAVIRUS IN ORAL CAVITY SQUAMOUS CELL CARCINOMA**

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Introduction: Incidence of human papillomavirus (HPV) in oral cavity squamous cell carcinoma (OSCC) vary greatly based on the assay sensitivity and the choice of analyte. Accurate detection of HPV is important for disease prognosis and management of patients with OSCC.

Methods: We integrated data from multiple analytes (HPV DNA, HPV RNA and p16), multiple assays (immunohistochemistry, PCR, qPCR and digital PCR) and molecular changes (somatic mutations and DNA methylation) from OSCC patients (n=153) to correlate p16 expression, HPV DNA, and HPV RNA with HPV incidence and patient survival.

Results: In our study, high prevalence (33-58%) of HPV16/18 DNA did not correlate with transcriptionally active viral genomes (RNA prevalence 15%) in tumors. Eighteen percent of patients were positive for p16 tested by immunohistochemistry. Only 6% of the tumors were both HPV DNA and RNA positive and none were positive for both p16 and HPV RNA. Most tumors with relatively high-copy HPV DNA and/or HPV RNA, but not with HPV DNA alone (irrespective of copy number), were wild type for TP53 and CASP8 genes. In our study, p16 protein, HPV DNA and HPV RNA, either alone or in combinations, did not correlate with patient survival. Nine HPV-associated genes stratified the virus +ve from the –ve tumor group with high confidence ($p<0.008$) when HPV DNA copy number and/or HPV RNA were considered to define HPV positivity and not HPV DNA alone irrespective of their copy number ($p<0.2$).

Conclusion:HPV is rare in oral cavity tumors and HPV DNA alone is not a true measure of HPV positivity and therefore not informative. Moreover, HPV DNA, RNA or p16 in oral cavity tumors don't correlate with outcome.

Detection	Method	% Positivity		
		Oral tongue	Buccal mucosa	Together (Oral cavity)
p16 IHC	p16	18%	NA	18%
DNA based	PCR	59%	50%	58%
	qPCR	44%	3.6%	33%
	ddPCR	55%	17%	43%
RNA based	qPCR	17%	9%	15%
Combinations	PCR + qPCR	38%		
	PCR + ddPCR	48.3%		
	qPCR + ddPCR	27.2%		
	PCR +qPCR + ddPCR	37.7%		
	p16 + 3/3 Methods	5.5%		
	p16 + RNA	0%		
	RNA + DNA	6%		
Final HPV positivity	HPV DNA high copy and/or HPV RNA	22%		
Episomal status	HPV16E6 PCR followed with E2-PCR	18%	0%	18%

Table 1: Summary of HPV assays.

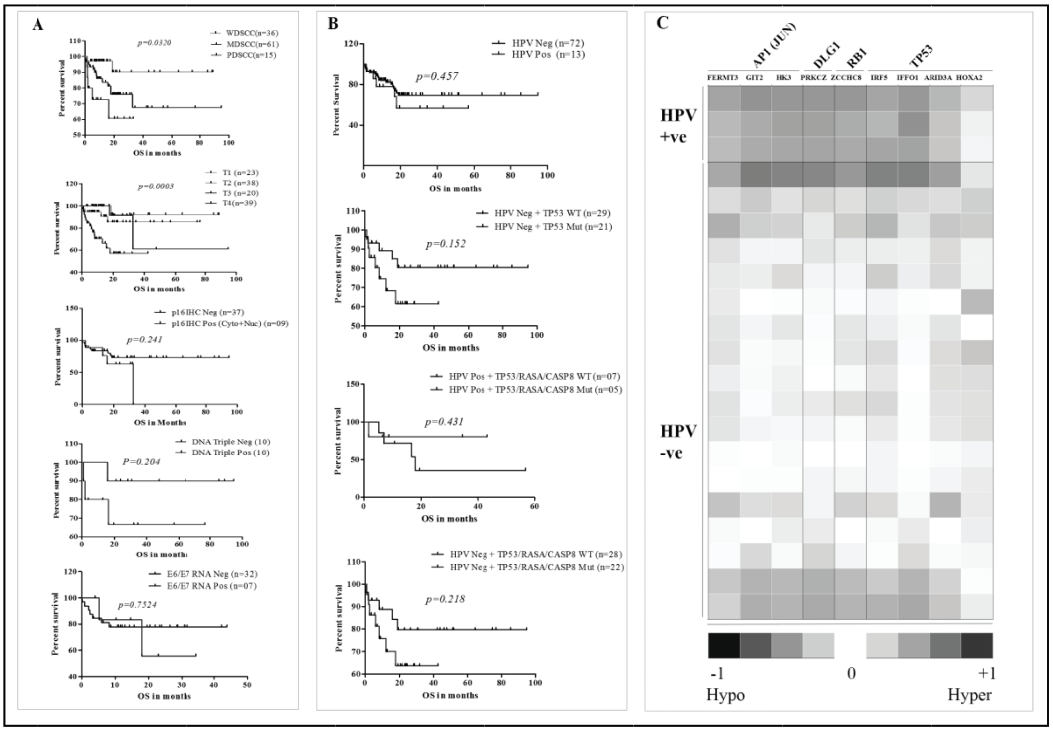

Figure 1: Kaplan Meier survival plots with tumors stratified based on tumor grade, stage, p16 IHC, HPV DNA and HPV RNA status (A), based on presence of high copy HPV DNA and/or HPV RNA, and with tumors with somatic mutations TP53, CASP8 and RASA in HPV positive/negative background (B) and clustering of nine methylated genes stratifying the HPV positive from the negative group of tumors (C).

O-12 Abstract Number – 343 **CANCER STEM CELLS IN FIELD CANCERIZATION OF ORAL SQUAMOUS CELL CARCINOMA**

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Introduction: Field cancerization is the occurrence of transformed cells in the area adjacent to the tumor has been attributed to the probable reasons of local recurrence of oral squamous cell carcinoma. Cancer Stem Cells (CSCs) are attributed with properties of tumor initiation, migration, and metastasis. The objective of the study was to evaluate their role in field cancerization.

Methods: A panel of CSCs and its related markers were validated in i) TCGA and in patient samples. Patient validation was done in retrospective adjacent normal area (less than 1cm) of tumor (N=23) by qPCR and immuno-histochemistry. The best marker subset from qPCR to predict recurrence was identified by ROC curve and logistic regression analysis and validated by immuno-histochemistry in the surgical margins. The final validation is being carried out in prospective samples collected at distances of 1, 2cm from the tumor margin in four different quadrants around the tumor and from 6 additional sites. The marker profile will be correlated with the histology of the samples and the clinical outcome of the patients on follow up.

Results: Notch1, ATR, SOX2, Cyclin D1 are altered in more than 25% of cases in TCGA. HIF2a, SOX2, Snail, ATR, VEGFA, MMP9, showed an Area under the curve of >0.55. Hif 2a, SOX2, MMP9 were the best combination of markers to predict recurrence in patients, their validation by IHC is in progress. For the prospective validation, samples (n=10) were collected from 27 patients, which were clinically normal with varied grades of dysplasia; these samples are being evaluated by the selected markers from the first set of validation. These patients are also currently under follow up for evaluating the treatment outcome.

Conclusion: Our initial results suggest that CSCs have role in field cancerization and might be predictive of tumor recurrence/re-initiation and/or development of second primary tumor.

O-13 Abstract Number -173 **DEVELOPMENT OF A DUAL-ANTIGEN PV1 PEPTIDE VACCINE FOR THE TREATMENT OF HEAD AND NECK CANCERS**

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Introduction: Head and neck squamous cell carcinoma (HNSCC) is sixth most common cancer globally, with limited therapeutic options. Peptide vaccine is a type of immunotherapy designed based on tumor-specific antigens to induce specific cytotoxic immune response against the tumor; more importantly it is safe and easy to administer in a low-resource setting. We previously identified that MAGED4B and FJX1 are overexpressed in oral squamous cell carcinoma (OSCC) and nasopharyngeal carcinoma (NPC) respectively. Further, we demonstrated that two HLA-A2-restricted 9-11 amino acid peptidesagainst these proteins were able to induce anti-tumour immune response in vitro using peripheral blood mononuclear cells (PBMCs) from HNSCC patients. In this study, we aimed to evaluate the immunogenicity and efficacy of a dual-antigen peptide vaccine PV1, comprised of MAGED4B and FJX1 peptides using PBMC from HNSCC patients.

Method: Expression of MAGED4B and FJX1 were evaluated in HNSCC patients using immunohistochemistry. Twenty HLA-A2 positive HNSCC patients were recruited into this study and dimer assay was used to detect the presence of inherent PV1-specific T-cells. The immunogenicity and efficacy of PV1 to induced cytotoxic immune response was evaluated using ELISPOT assay.

Results: We found that 94.7% of HNSCC patients expressed either MAGED4B or FJX1 suggesting that PV1 could benefit the majority of HNSCC patients. Correspondingly, PV1-specific T-cells were detected in all patients at various levels. Notably, we demonstrated that patients' T-cells were able to induce cytolytic response against target cells expressing both antigens upon stimulation with PV1 at comparable levels to that of single peptide against either antigen alone. Furthermore, patients whose tumor expressed high MAGED4B and FJX1 levels were more responsive to PV1 stimulation, demonstrating the specificity of the PV1 peptide vaccine. **Conclusion:** PV1 is immunogenic and could stimulate patients' T-cell response against cancer cells expressing MAGED4B or FJX1. In vivo evaluation of PV1 is currently on-going.

O-14 Abstract Number – 62 **THE ROLE OF PYK2 IN THE CCR7-MEDIATED REGULATION OF METASTASIS AND VIABILITY IN SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK CELLS IN VIVO AND IN VITRO**

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Abstract

Introduction: In the present study, we aimed to demonstrate whether praline-rich tyrosine kinase-2 (Pyk2) participates in the chemokine receptor 7 (CCR7) downstream signaling network, and to determine the role of this molecule and the related mechanism in the CCR7-mediated regulation of viability and metastasis in vivo and in vitro of squamous cell carcinoma of the head and neck (SCCHN).

Methods:

We constructed the stable Pyk2 related non-kinase (PRNK)-expressing SCCHN cell line, and examined the viability, apoptosis, migration, invasion and adhesion ability in the transfected and untransfected SCCHN cells. An SCCHN tumor model in nude mice was designed and the tumor growth rate was assayed. E-cadherin and vimentin expression was assessed when Pyk2 was inactivated.

Results: We found that the stable PRNK-expressing SCCHN cells exhibited low viability, a high rate of apoptosis, low migratory ability, low invasive ability and low adhesion capacity. In the nude mouse body, the tumors formed by these cells grew slowly when compared to the tumor growth in the control group. When Pyk2 was inactivated, CCR7-induced E-cadherin and vimentin expression levels were altered.

Conclusion:

Thus, Pyk2 is a key downstream signaling molecules of CCR7 in SCCHN, which promotes SCCHN tumorigenesis and progression.

O-15 Abstract Number – 252 **PRECLINICAL EVALUATION OF PALBOCICLIB IN HEAD AND NECK CANCERS AND IDENTIFICATION OF SPECIFIC MUTATIONS FOR BIOMARKER OF RESPONSE**

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Introduction: Targeted therapies for head and neck squamous cell carcinoma (HNSCC) remains limited. Using our established bioinformatics prediction tool (DeSigN), palbociclib was identified as one of the candidate drugs that could be efficacious for the treatment of HNSCC. The objectives of this study were to determine the potency of palbociclib in in vitro and in vivo, to examine the biochemical mechanism of palbociclib and to identify biomarkers associated with palbociclib response.

Methods: The effect of palbociclib was evaluated in a large panel of HNSCC cell lines by cell proliferation assays and protein analysis by western blotting. In vitro observations were confirmed by evaluating the effects of palbociclib on tumour control in mouse xenograft models.Mutations that could modulate response to palbocicblib were identified by comparing RNAseq data between sensitive and resistant cell lines. To assess the effect of specific mutationstowards palbociclib response, a palbociclib-sensitive cell, CAL-27 was retro-engineered to stably express the specific mutations.

Results: We demonstrated that 80% of HNSCC cell lines were sensitive to palbociclib(IC_{50}: 0.2 - 0.7 μM). The anti-proliferative effect of palbociclib was observed at sub-micromolar concentrations and consistently, cells treated with palbociclib were arrested at the G_1 phase of the cell cycle. Western blot analyses revealed a reduction of phosphorylated-RB following palbociclib treatment. Consistently, we found that palbociclib was effective in controlling tumour growth in mice. While comparing the genetic features of HNSCC cell lines that are sensitive to those that are resistant to palbociclib, we identified several mutations and the effect of these in modulating response to palbociclib is currently being evaluated.

Conclusion: Our data demonstrates the efficacy of palbociclib for the treatment of HNSCC and our ability to characterize mutations in palbociclib resistant cell lines could afford an opportunity to identify biomarkers that could refined patient selection.

O-16 Abstract Number -161 **SAFETY AND EFFICACY STUDIES ON PV1 PEPTIDE VACCINE IN A TRANSGENIC MOUSE MODEL**

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Introduction: Immunotherapy represents one of the most promising cancer therapy of the decade. The use of checkpoint inhibitors against CTLA4 and PD1 have had major impacts on the treatment of multiple cancer types in the last 5 years. In particular, the use of Pembrolizumab and Nivolumab have been approved for head and neck squamous cell carcinoma (HNSCC) in 2016, with an overall response rate of 13-18%. This data is encouraging for HNSCC but also suggests that the majority of HNSCC patients do not respond to checkpoint inhibitor monotherapies likely due to insufficient existing anti-tumour immune responses. We have developed PV1, a peptide vaccine based on

two important tumour antigens in HNSCC (MAGED4B and FJX1) and demonstrated their efficacy in stimulating anti-tumour immune responsesin vitro. This study aims to evaluate PV1 efficacy using AAD transgenic mouse model that expresses a human/mouse interspecies hybrid class I MHC gene, which enables the modeling of human T-cell immune responses to HLA-A2 presented antigens.
Methods: Mice were vaccinated with escalating doses of PV1 together with incomplete Freund's adjuvant (IFA) via intradermal injection at weekly intervals for 3 weeks to determine the optimum dose, safety and immunogenicity of PV1. The efficacy of PV1 was evaluated using in vivo cytotoxicity assay and itsability in controlingtumour growth was studied using tumour bearing animals.
Results: We show that mice vaccinated with PV1 had significantlyincreased population of antigen-specific$CD8^+$T-cells compared to the control groups demonstrated by both Dimer and ELISPOT assays and 1000 µg of PV1 was chosen for subsequent efficacy study. Histopathology evaluation of vital organs from vaccinated animals confirmed the safety of repeated dose vaccination of PV1. Encouragingly, vaccinated animals were able to execute selective killing of antigen-expressing cells that were introduced through tail vein. These were consistent with our observation that PV1 immunization delays tumour growth in vivo.
Conclusion: Taken together, our study demonstrated that PV1 vaccination is safe and induces peptide-specific $CD8^+$T-cells, indicating that PV1 is immunogenic. Importantly, PV1 vaccination has increased antigen-specific killing and delays tumour growth in vivo. With this data, we are now poised to determine the toxicity of PV1 in a GLP facility in order to enable the vaccine to enter first-in-man Phase 1 clinical trials.

O-17 Abstract Number – 280 **CD24+ TUMOR-INITIATING CELLS FROM ORAL SQUAMOUS CELL CARCINOMA INDUCE INITIAL ANGIOGENESIS IN VIVO**

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Background: In oral squamous cell carcinoma (OSCC), a minor subset of cancer stem cells has been identified using the surface marker CD24. The CD24+ cell population is involved in initiating, maintaining, and expanding tumor growth, but has not been reported to be involved in angiogenesis to date.
Methods: NOD/SCID mice were equipped with dorsal skinfold chambers and gelatin sponges seeded with CD24+, CD24-, and unsorted cancer cells suspended in Matrigel® were implanted. Following intravital fluorescence microscopy, specimens were examined byimmunohistology.
Results: Sponges seeded with CD24+ cells showed a significantly higher functional capillary density than those seeded with CD24- cells. The presence of endothelial cells was confirmed by immunohistochemistry for CD31.
Conclusion: For the first time, CD24+ tumorigenic cells with angiogenic potential, which were isolated from OSCC, were characterized. Our findings provide a promising in vivo model to facilitate the development of therapeutic agents against cancer stem cells and their angiogenic pathways.

O-18 Abstract Number – 65 **Mir-1275 Promotes Cell Migration, Invasion and Proliferation in Squamous Cell Carcinoma of Head and Neck Via Up-Regulating IGF-1R And CCR7**

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Introduction: MiRNAs can play vital roles in migration, invasion and proliferation in Squamous cell carcinoma of head and neck(SCCHN). In this study, we attempted to validate the expression and function of miR-1275 in SCCHN, and we also identified the way by which miR-1275 affects migration, invasion and proliferation of SCCHN.
Methods: Real-time polymerase chain reaction(RT-PCR) was employed to evaluate the expression of miR-1275 in both SCCHN tissues and cells. The role of miR-1275 in SCCHN cells was verified by cell function experiments upon transfection with miR-1275 mimics and inhibitor. Western blot analysis was employed to test the target gene expression of miR-1275. Survival analysis was made with the information of SCCHN patients expressed miR-1275 fromThe Cancer Genome Atlas (TCGA) database.
Results: MiR-1275 expression was up-regulated in SCCHN tissues and advanced metastatic SCCHN cells. Increasing miR-1275 expression in SCCHN could promote cell migration, invasion and proliferation probably by up-regulating IGF-1R and CCR7 protein levels, whereas inhibition of miR-1275 could lead the opposite effects. Survival analysis suggested that patients with lower miR-1275 expression may have a better outcome.

Conclusion: Herein we report for the first time that miR-1275 could act as a tumor-promoter in SCCHN by regulating its target gene via novel miRNA mechanisms.

EARLY DETECTION AND PREVENTION

O-19 Abstract Number – 97 **DELAY IN DIAGNOSIS OF DIFFERENT POSITIONS OF ORAL CANCER: A PROSPECTIVE STUDY**

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Backgrounds and Objective: The objective of this study is to identify the factors thataffect the patient delay and professional delay, examining the evidence between patient and/or professional delay diagnosis and late stage at diagnosis and the characteristic of delaying in diagnosis of different parts of oral cancer.
Methods: The study group consisted of 514 patients from January 2014 to April 2015 with oral squamous cell carcinoma (OSCC). We collected the data with a survey from the questionnaire by medical professionals at the Peking University Schooland Hospital of Stomatology. The multiple-factor variance analysis was applied to look for the correlation between the time of delay in diagnosis and other factors.
Results: The different positions have different delaying time, the lip cancer has the longest delaying time among oral cancer (19.8 month)
Conclusion: Oral cancer is an easily delayed disease. Lip cancer is the most easily delayed oral site.
Key words:Oral squamous cell carcinoma positions Delay in diagnosis

O-20 Abstract Number – 185 **ORO-DENTAL SCREENING AND OSTEONECROSIS OF THE JAW IN PATIENTS RECEIVING ANTI-RESORPTIVE MEDICATION – A FOUR YEAR RETROSPECTIVE STUDY AT A TERTIARY CANCER CENTRE, KERALA, INDIA**

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Introduction: Osteonecrosis of the jaw (ONJ) is a complication associated with anti resorptive medication (Bisphosphonates and denosumab) and other antiangiogenic drugs. While the exact pathology and mechanism are not understood, more than half of the patients with ONJ had tooth extraction as a predisposing event.[(9–11)].
Objectives: In patients receiving anti-resorptive medication at Malabar Cancer Centre (MCC) in North Kerala, India during 2011-2014,
1. To estimate the proportions of cancer patients who underwent oro-dental screening, and developing osteonecrosis of the jaw.
2. To determine the effect of drug dosage and duration of anti-resorptive medication on development of osteonecrosis of the jaw.
3. To study the effect of any dental intervention on development of Osteonecrosis of the jaw.
Methodology: After getting approval from IRB, Malabar Cancer Centre and Ethics Advisory Group of The Union, a retrospective record review of eligible patients at MCC and the subsequent data collection was carried out. The data was double entered and validated using EpiData entry v3.1 and analysed using EpiData analysis v2.2 (EpiData Association, Odense, Denmark).
Results: This study evaluated 183 patients who underwent antiresorptive medications therapy for their bone disease. The incidence of BRONJ was 8.19% among this sample. None of them received oro-dental screening before medications. The dosage and duration of drug adminstration was significantly related to the incidence ($p<0.05$). Surgical dental intervention was significantly related to the incidence of BRONJ.
Conclusion: Oro-dental screening and regular dental follow-up is inevitable for patients on antiresorptive medications as it will reduce the risk of BRONJ developing spontaneously and the possible need for discontinuing the drug. further it shall minimize the need of a dental extraction or other surgical procedures predisposing to BRONJ. The longer duration of drug therapy shall be considered as a relative risk factor.
Key words: osteonecrosis, bisphosphonates, dental

O-21 Abstract Number – 329 **CSC-MEDIATED CHEMOPREVENTIVE MECHANISMS IN TOBACCO/ARECOLINE INDUCED CARCINOGENESIS**

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Introduction: The chemopreventive effects of ATRA and curcumin against HNSCC have been previously reported, relapse following cessation of intervention being a major challenge. This study attempts to determine the mechanism of retinoid and curcumin resistance by exploring cancer stem cell (CSC) mediated pathways in tobacco and arecoline-induced carcinogenesis.

Methods: In vitro cell linemodel ofnormal oral keratinocytes (NOKSI) and dysplastic oral keratinocytes (DOK) wasexposed to tobacco, arecoline and combination. Toxicity assays were carried out to assess the effect on cell death malignant progression assessed by proliferation, migration and invasion assays.The carcinogen treated cells were then treated with ATRA and curcumin, either sequentially or in paralleland the changes in CSC profile/cellular properties monitored. The expression of stem cell markers CD44, CD133, P16 and ALDH1A1were evaluated using qPCR/FACS. Further, CD44+ and ALDH1A1+ cells will be sorted and RNA sequencing carried out to delineate stem cell pathways critical in cancer chemoprevention. High throughput secretome and proteomic studies are also ongoing to profile the global changes due to tobacco/arecoline exposureand treatment with ATRA/curcumin.

Results: DOK cells showed 71% (±3.68) of CD44+ cells after 7 passages of tobacco treatment (1µg) as compared to the untreated control in the same passage (1.45±0.64%). Subsequent treatment with ATRA for 7 passages, decreased the percentage to between 18-24%. Assessment of the percentage of ALDH1A1+ cells gave a similar increase on exposure to tobacco (control: 1.9±0.0028; 1µg: 50.25±0.4; 10µg: 69.65±0.019) and reduction on treatment with ATRA (1µg tobacco+ATRA; 17.9±1.41; 10µg tobacco+ATRA: 26.7%±1). The exposure to tobacco and subsequent ATRA treatment did not affect CD133+ cells. The global profiling experiments are currently ongoing.

Conclusion: This study hence attempts to provide novel insight into tobacco and arecoline induced carcinogenesis and mechanism of resistance to retinoid/ATRA chemoprevention

O-22 Abstract Number – 330 **CANCER STEM CELLS (CSCS) AND ITS FIBROBLAST NICHE DURING ORAL CARCINOGENESIS AND CHEMOPREVENTION**

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Introduction: Cancer Stem Cells (CSCs) and CSC-niche interactions are considered to be significant contributors in carcinogenesis. This study attempts to characterize CSCs during carcinogenesis, evaluateeffect of CSC-fibroblast (CAF) niche cross talk on resistance/response to chemopreventive drugs using human and mice in vitro models.

Methodology: Previously developed epithelial and fibroblast cells from mice tissue of progressive oral dysplastic lesions (mild, moderate and severe dysplasia) and human cell lines (HaCaT-normal, DOK-dysplastic, UPCI: SCC103, UPCI: SCC040 and UPCI: SCC029B) were used in this study. CSC properties were assessed by spheroid formation, migration, invasion and colony formation and byRNA sequencing. Mice epithelial cells were co-cultured in fibroblast-conditioned medium (CM) for 48 hours to evaluate the effect of CAF on CSC characteristics/cross talk pathways.Additionally, effect of cross talk inhibitorswere evaluated on the sensitivity to curcumin.

Results: Cell based assays indicated significantly enhanced spheroid formation and migratory properties in cell lines of advanced stages in both the human and mice models ($p<0.05$) and this was accompanied by up regulation of CSC markers (CD44, CD133, Notch1 and ALDH1A1) during carcinogenesis. An increase in CSC markers along withsignificantly faster migration($p<0.05$)was observed under the effect of fibroblast CM. Assessment of sensitivity to curcumin revealed acquisition of chemo-preventive resistance in co-cultured epithelial cells (70-100% cell viability) as compared to untreated controls. Further, use of cross talkinhibitor/s sensitizes the cells to curcumin in co-cultured cells (~55%) indicating the role of CSC-niche interactions.Further studies are currently ongoing in human cell line models.

Conclusions: IncreasedCSC properties during carcinogenesis with acquisition of drug resistance in fibroblast CM and sensitivity of drug in presence of cross talk inhibitor/sindicatedthe role of CSC-niche in chemoprevention resistance.

Further investigation with other chemopreventive drugs will give insights into the broader role of CSC-niche in oral cancer chemoprevention.

O-23 Abstract Number – 390 **USING DIAGNOSTIC ERROR FRAMEWORKS TO UNDERSTSAND AND DEFINE THE DIAGNOSTIC INTERVALS IN ORAL CANCER – A SEARCH FOR CONSISTENCY IN CHAOS**

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Introduction: Diagnostic delays in oropharyngeal cancer has been a persistent challenge all over the world. The various socio-cultural and behavioural aspects intertwined with human and system factors make the diagnostic delays a unique challenge for cancer clinicians and healthcare policy makers. At every phase there can be different factors that can modify when the patient moves to the next phase of treatment making it very difficult to control.
Methods: A review of research literature on diagnostic intervals and diagnostic error frameworks will be explored and then aggregated and adapted for use in oral cancer.
Results: Total patient delay will be broken down into different component parts based on the available literature and frameworks to arrive at an optimum definition of the key diagnostic intervals and preferred terminologies for use in oral cancer.
Discussion and Conclusion: Understanding the different diagnostic intervals and capturing the key time points in treatment care can help identify the bottle necks in patient flow through the system. Sadly, majority of the cancer research do not capture the key time points in a consistent manner making comparison of different studies very difficult. Consistent terms and consistent timelines defined by consensus is the need of the hour. This analytical review can help oral cancer researchers understand and capture the key time points in a consistent manner. This understanding can help us to devote resources and to devise policies to move patients swiftly through the system, so the total patient delay is minimal.

O-24 Abstract Number – 286 **ETIOLOGIC HETEROGENEITY ACROSSHEAD AND NECK CANCER SUBSITES**

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Introduction: Head and neck cancers have traditionally been considered as etiologically-similar entities, with tobacco and alcohol being the dominant risk factors. However, recent incidence patterns suggest that head and neck cancers include etiologically distinct entities. Notable examples of etiologic heterogeneity include the specific association of human papillomavirus with oropharyngeal cancers. Characterizing the etiologic heterogeneity across cancer subsites could have important implications for understanding the carcinogenic process of key causal factors, and co-factors, which in turn could have implications for risk stratification and prevention.
Methods: We utilized NIH-AARP cohort data, which included 529,708 individuals aged 50-71 years in 1995-1996, with follow-up for 16 years. Cancer subsites included: lip (n=191), oral tongue (n=187), base of tongue (n=439), gum (n=115), floor of mouth (n=195), hard/soft palate (n=129), other mouth (n=119), salivary glands (n=376), tonsil (n=295), oropharynx (n=85), nasopharynx (n=88), hypopharynx (n=172), and larynx (n=1059). We conducted site-specific Cox proportional hazards regression to investigate heterogeneity in the profile of risk factors as well as the magnitude of risk factor associations across head and neck cancers.
Results: The range of predictors was different across anatomic sites. Associations for tobacco use(current heavy versus never smoking)varied substantially, with hazard ratiosranging from 1.10-2.50 for lip, oral tongue, gum, and salivary gland cancers (weak association); 3.04-4.64 for base of tongue, tonsil, and nasopharynx cancers (moderate association); and 8.29-13.66 for floor of mouth, palate, oropharynx, hypopharynx, and larynx cancers (strong association). Similarly, hazard ratios for alcoholuse (heavy versus never) varied greatly, with estimates ranging from 0.66-4.29across sites.
Conclusion: Head and neck cancers constitute etiologically and phenotypically distinct entities. Analyzing head and neck cancers as a single etiologic entity may have obscured important differences in risk factor associations in previous studies. This etiologic heterogeneity argues for anatomic site-specific investigations to characterize the carcinogenic process.

O-25 Abstract No – 135 **DETECTION OF SECONDARY PATHOLOGY ON STAGING AND FOLLOW UP PET SCANNING IN PATIENTS WITH HEAD AND NECK CANCER.**

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Introduction: At North Memorial Medical Center we utilize PET scanning as a tool in the staging of head and neck cancers. It is also employed in the post treatment follow up of these patients, initially at 3 months and then yearly intervals to examine for recurrence. This also offers the opportunity to establish other unrelated diagnoses. The overall aim of this project is to establish if this imaging modality has additional value in the work-up of patients with head and neck cancer.

Method: Data collection was achieved via review of the charts of 108 head and neck cancer patients to establish whether a secondary pathology was diagnosed on PET and if this had any effect on subsequent management. We assessed if a pre-treatment PET was taken and whether this demonstrated regional disease or distant disease and other pathology unrelated to the cancer. The need for other treatment was then recorded. Post head and neck cancer treatment scans were then reviewed for recurrence or alternate pathology and if subsequent treatment was then necessary.

Results: 70/108 (65%) of patients had a pre-treatment PET scan. Of these, 28/70 (40%) were shown to be positive for neck disease. 30/70 (43%) patients were shown to have alternate diagnoses and 6/30 (20%) required further investigation or treatment. With regard to post treatment scans 68/108 (63%) has at least a single PET scan with a further 34/108 (27%) having a second and 16/108 (15%) having a third. Of these 118 scans a diagnosis of recurrence or other pathology was detected in 66 instances and treatment was necessary in 27 cases.

Conclusion: PET scanning has a useful role in both the staging and follow up of head and neck cancer patients. It can also demonstrate other alternate diagnosis that may necessitate treatment.

O-26 Abstract Number – 232 **SUGGESTIONS FOR EARLY DETECTION OF ORAL CANCER-EXPERIENCE FROM A GOVERNMENT BASED SCREENING PROGRAM.**

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Introduction: Our earlier research found that the government based oral cancer screening program reduced mortality in Taiwan. To continuously promote effectiveness and quality, we investigate current practices of screening programs using several large-scale government databases. The specific aims are to identify factors for improving positive predictive rate, early cancer stage and mortality, and to make feasible suggestions forimprovement.

Methods: The cancer screening (SC), cancer registry (CR), death registry (DR) and national health insurance (NHI) databases were applied from Department of Statistics, Ministry of Health and Welfare, Taiwan. All information were linked by encrypted identifications. Two outcomes included received prior positive screening results and first diagnosis at early cancer stages (0-2). The multiple logistic regression was used to estimate odds ratios (OR) and 95% confidence intervals for factors extracted from SC, CR and NHI databases.

Results: There were 27,481 oral cancer patientsidentified from CR during 2010~ 2014. Our preliminary analysis indicated 27% of them received prior positive screening results,43% were in stages 0-2, and 31% among the stages 0-2 patients were identified through screening. Factors of gender, age, calendar years, geographical areas, screening institutes, incomeand cancer sites are significantly associated with both outcomes. Interactions were also found between areas with institutes/practices. Males are 1.15 times (95%CI=1.03~1.29, p=0.0165), and elderlies (aged 60 years old or older) are 1.78 times (95%CI=1.58~2.00, p<.0001) the chance of being screened. An early discover of oral premalignant disorder (OPMD) was associated with a hazard ratio of 0.28 (95%CI=0.21~0.38, p<.0001).

Conclusion: To identify cancer patients at their premalignant or early stages is the major goal of screening programs. While prevalence rates of betel quid chewing and cigarette smoking are varied, different approaches should be implemented. Our experience from analysis of various large scale databases could suggest instrumental factors when considering a resource-stratified screening program.

O-27 Abstract Number – 119 **ORAL ONCOPREVENTION AND TREATMENT BY PHYTOCHEMICALS EMERGING TRENDS IN HEAD AND NECK CANCER.**

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Recently, the targeted elimination of oral squamous cell carcinoma cells byinducing apoptosis has emerged as a valued strategy to combat oral cancer. Studiesutilizing a variety of chemical or biological interventions demonstrated

promisingresults for induction of apoptosis in oral malignant cells has been considered that a diet high in vegetables (more than 440 g/day) and fruits could prevent at least 20% of all cancers. It appears that exploiting the apoptotic potential of OSCC would lead to contemporary therapies that might be less toxic to normal cells due to their physiologically controlled survival pathways.
Tumor formation is believed to be a multistep process involving biochemical and molecular changes resulting in dysregulated differentiation and proliferation. Oral cancer is also known to exhibit "field cancerization", resulting in the development of a second primary tumor. Hence chemoprevention has come into the picture which include strategies to prevent or reverse carcinogenesis before an invasive cancer develops or to prevent a second primary cancer in patients who have had a previous cancer cured. Phytochemicals with potential for chemo-prevention have been categorized as carotenoids, Green tea catechins/polyphenols, Ginger phenolics, chlorogenic acid, garlic extract, narcotics, carotinoids and retinoids.The additive and synergic activities of phytochemicals can be combined with chemotherapy and radiotherapy. Micronutrient and an inorganic metal Selenium and its derivatives/metabolites have alsobeen linked to reduce cancer incidence. It is suggested that these newer therapies would also be effective in treatment of epithelial dysplasia. Significant emerging technologies like nano chemoprevention should be materialized with compilation of new phytochemicals that aid in prevention of oral cancer.
This paper gives an insight into the available plant extracts that could be used in prevention and augment radiotherapy and chemotherapy of oral cancer and also future projects to be designed using these naturally occurring bioactive phytochemicals.

O-28 Abstract Number – 238 **ASSESSMENT OF THE TOTAL ANTIOXIDANT CAPACITY AND LEVELS OF VARIOUS OXIDATIVE STRESS BIOMARKERS IN SALIVA OF PATIENTS WITH ORAL CANCER AND LEUKOPLAKIA: A PILOT STUDY**

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Introduction: Salivary testing has been suggested to be an effective modality for diagnosis of oral squamous cell carcinoma (OSCC) as well as oral potentially malignant disorders (OPMD), particularly in oral leukoplakia (OL). The results of several studies indicate that various oxidative stress biomarkers (OSBM) are altered in patients with OSCC and OPMD. However, these studies are few in number and limited by calculating only a single marker of oxidative damage. The aim of the current study was to assess the total antioxidant capacity (TAC) and levels of glutathione (GSH), glutathione reductase (GR), uric acid (UA), superoxide dismutase (SOD) and 8-hydroxydeoxyguanosine (8-OHdG) in patients with OSCC and OL. Additionally, correlation between clinical staging and histological grading of lesions with the level of each OSBM was appraised.
Methods: Unstimulated saliva samples from 38 patients (18 with OSCC, 10 with OL and 10 age-matched controls) were collected. The lesions were diagnosed histopathologically. OSCC cases were clinically classified according to the TNM staging system, and histologically - according to the three-tier grading scheme. OL cases were clinically divided into homogenous and non-homogenous subtypes, and histologically - according to the World Health Organization classification system of oral epithelial dysplasia (OED).
Results: Among tested oxidative stress markers, we found significantly higher level of SOD in OSCC patients. No marked differences in levels of other OSBM as well as in TAC between the tested groups were revealed. We did not find any significant correlation between levels of tested OSBM and clinical staging as well as histological grading in OSCC patients. No marked correlation between levels of OSBM and clinical subtypes as well as OED grading in OL cases was ascertained.
Conclusions: These preliminary data do not support previous findings of the diminished level of SOD in OSCC patients. Further investigation with larger groups of patients is warranted.

O-29 Abstract Number – 241 **ORAL SUBMUCOUS FIBROSIS - HISTOPATHOLOGICAL EVALUATION OF EPITHELIAL CHANGES IN A DEFINING LESION OF THE CONNECTIVE TISSUE**

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INTRODUCTION: Areca nut is the 4th most common psychoactive substance in the world after tobacco, alcohol, and caffeine containing beverages.It is considered a popular pleasure giving substance in South Asia and chewed for its psychosomatic effect. In India areca nut is used either as in betel quid or as commercially available forms. Studies have shown areca nut is the primary etiological agent for Oral submucous fibrosis (OSF); a well known Potentially Malignant Disorder. Constituents of areca nut primarily target the fibroblasts leading to fibrosis in the connective tissue. Studies in OSF have mainly focussed on the connective tissue changes with limited information available on the effects of areca nut on the epithelium . So the aim of this study was to evaluate histopathologically the epithelial changes in OSF due to areca nut.
METHODS: A total of 109 cases of clinically diagnosed and histopathologically confirmed cases of OSF were retrieved from the departmental archives and included in this study. The H & E stained sections were made and were assessed for epithelial changes
RESULTS: The histopathological features observed in the epithelium were as follows. Type of keratosis: 12% cases showed orthokeratosis and 88% parakeratosis; epithelium thickness: 44% atrophic, 11% normal and 45% hyperplastic; presence of dysplasia 3% of cases; 28% cases showed intercellular oedema and 7% cases showed signet cells.
CONCLUSION: Though OSF is considered a connective tissue disorder, the epithelium cannot be overlooked. This paper highlights the epithelial changes observed in OSF and explains the importance of these changes.

O-30 Abstract Number- 325 **ORAL PRE-MALIGNANT AND MALIGNANT LESION DETECTION AMONG INDONESIANS: THE PREVALENCE AND RISK FACTORS**

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Introduction: Detection of oral pre-malignant lesions (OPL) can facilitate the early detection of oral cancer and improve prognosis. Although the Indonesian population currently surpasses 260 million people, large studies of oral cancer from geographically diverse areas have not been undertaken in this country, despite high number of smokers (36% of population) and betel nut chewers likely resulting in high OPL prevalence. The aim of this study was to investigate the prevalence of oral malignant and pre-malignant lesions and assess their risk factors in Indonesia.
Methods: This was a quantitative and qualitative cross sectional study based on questionnaires and clinical examination undertaken over a 3-month period in multiple geographical areas within five diverse provinces: West java, Jakarta, West Papua, West Kalimantan and Banda Aceh. It was conducted in community health services, dental hospitals and selected villages were volunteer's participants were invited to answer and extensive questionnaire previously validated by a panel of senior researchers based in Indonesia for suitability, clarity, simplicity, understanding and sequencing. This included socio-demographic factors, oral hygiene practices, diet practices, adverse oral habits and frequency of dental visits and an oral examination was then undertaken and recorded using standardized WHO procedure and recording. Data were analyzed using R with ANOVA, Chi-Square, and backward/forward stepwise multiple regression to assess association between risk factors and oral malignant and pre-malignant lesions.
Result: A total of 974 participants were enrolled (35.51% from West Java, 13.28% from Jakarta, 18.34% from West Papua, 8.96% from West Kalimantan and 23.92% from Banda Aceh). Of these, 14.81% and 12.58% were smokers and betel/areca nut chewers, respectively, while only 4% were alcohol drinkers. An OPL was detected in 11.12% of participants and 0.2% had oral malignancy. Leukoplakia was the most common OPL (7.63%), while the prevalence of erythroplakia or erythroleukoplakia was 0.55%, and oral submucous fibrosis was 1.94%. Overall, there was a strong correlation between the prevalence of OPL and risk factors for oral cancer, particularly betel/areca nut chewing. In particular, participants from areas with a high use of betel nut and areca nut chewing, such as West Kalimantan and West Papua, had high prevalence of OPL compared to individuals from Jakarta and West Java.
Conclusion: The study shows a high and previously underestimated prevalence of OPL in Indonesia that strongly correlates with the presence of certain risk factors for oral cancer. There is an urgent need in these areas to educate about oral cancer risk factors and routinely undertake oral mucosal examination for early detection will decrease the mortality and morbidity associated with oral cancer.
Key words: epidemiological survey, oral pre malignant lesion (OPL), oral malignant lesion, early detection, risk factors.

O-31 Abstract Number – 354 **ORAL CANCER SCREENING IN LOW RESOURCE SETTING USING PORTABLE OPTICAL COHERENCE TOMOGRAPHY**

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Background: Long-term goal of this project is to develop and validate a robust, portable, low-cost tool for rapid oral cancer screening in the field. Specific aim was to evaluate the diagnostic accuracy of a novel prototype OCT-based device and probe in field locations in India.
Materials and Methods: Patients referred for evaluation of suspect oral lesions underwent routine clinical exam, OCT imaging, photography, and biopsy when indicated by standard of care. Typically, OCT imaging had duration of a few seconds per image and location. We acquired images and biopsy data in 60 subjects in India. Images underwent 2 forms of evaluation: (1) visual exam by 2 pre-standardized OCT scorers and (2) automated scoring via a simple diagnostic algorithm using reflectivity and thickness ratios of superficial anatomical structures. Scoring was on a scale of 0-6 (healthy, mild, moderate, severe dysplasia, OSCC and "other").
Results and Discussion: Agreement (kappa) between visual OCT scoring and histopathology was 82%, and between scoring provided by the diagnostic algorithm vs histopathology was 83%. Positive Predictive Value (PPV) measured 83/85%, Negative predictive value (NPV) 81/84%, diagnostic sensitivity 81/85% and specificity 79/82%. If diagnostic scoring was restricted to healthy dysplastic and malignant categories only, diagnostic performance for all parameters was 2-4% better.
Conclusion: A novel low-cost OCT-based screening approach may improve early detection of oral cancer. This research was supported Financial assistance was provided by National Institutes of Health (P41EB015890), Department of Biotechnology, India (BT/MB/LCMD/04/2012) and Beckman Foundation.

ABLATIVE SURGERY

O-32 Abstract Number -171 **COMPARATIVE STUDY EVALUATING SURVIVAL OF ADVANCED GINGIVA-BUCCAL COMPLEX CANCERS PATIENTS WITH REGARD TO SKIN VERSUS MANDIBLE INVOLVEMENT**

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Introduction: Skin and mandible involvement is considered as locally advanced disease (T4a) in gingiva-buccal complex cancers as per AJCC staging system.
Aim: The aim of the study is to find out which is the worse prognostic factor – skin or mandible in advanced gingiva-buccal complex cancers.
Methodology: A retrospective audit of head & neck clinic was done from January 2011 to April 2016 at our center. A total of 320 patients of gingiva-buccal complex cancers were registered for treatment planning during this period. Complete record of 55% patients (n=176/320) was available for analysis. 61.3% patients (n=108/176) had skin, mandible or both involved by the tumour.
Results: The median survival for patients with skin and mandible was 18 and 22 months respectively. Overall survival (OS) and Disease –free survival (DFS) were 36.3, 59.4and 42.3, 64.9 months respectively for both groups. Patients with both skin and mandible involvement had median survival of 12 months only. OS and DFS was 18.7 and 25.3 months respectively in combined group.
Conclusion: Patients with skin involvement (T4a) had poor survival outcome as compared to mandibular involvement group (T4a). Involvement of both skin and mandible had worst survival outcome.

O-33 Abstract Number -259 **CORRELATION OF POST-OPERATIVE TONGUE MOTILITY WITH SPEECH AND SWALLOWING FUNCTIONS AFTER ONCOLOGICAL RESECTION OF TONGUE.**

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Background: Carcinoma of oral tongue is one of the commonest head and neck malignancy in South Asian sub-continent. Tumor itself and treatment impairs the motility of the tongue leading to poor speech and swallowing outcomes.
Methodology: 40 patients with previously untreated, biopsy proven carcinoma of the oral tongue were consecutively recruited. Using a web-cam based software tongue motility was assessed with measurement of upward, protrusion, right and left lateral deviation distances. Tongue motility score was recorded and sub group analysis was done based on type of reconstruction, extent of surgery and site of resection. Speech intelligibility test was done by speech language pathologist in a sound proof room and correct response was recorded in percentage. Swallowing evaluation was done using MD Anderson dysphagia inventory questionnaire.
Assessment: The scores of speech intelligibility test and swallowing MD Anderson Dysphagia Inventory questionnaire were recorded and relationship between tongue motility with speech and swallowing assessed. Motility of the tongue, speech and swallowing assessment done before the surgery and after six weeks of radiotherapy or 3 months after surgery.
Results: Forty eligible patients were recruited for the study and statistical analysis done. Stage wise analysis revealed that greater the extent of surgery, lesser the motility of neo tongue and poorer the speech and swallowing functions. Local flap reconstruction was associated with decreased tongue motility and poor speech and swallowing functions as compared to free flap and the difference was statistically significant.
Conclusion: Final outcomes of speech and swallowing is determined by post-operative tongue motility.

O-34 Abstract Number – 275 **MARGINAL MANDIBULECTOMY:AN INSTITUTIONAL EXPERIENCE FROM NORTHERN INDIA.**

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Introduction: Oral cancer is the thirdmost common cancer in the India. Goal of surgeryis resection with oncological safety and good quality life. Doing a segmental mandibulectomy merely to take a margin without gross involvement of mandible and extensive soft tissue component is not advisable. We present our experience of performing marginal mandibulectomy in the Department of Surgical Oncology, King George's Medical University, Lucknow, India.
Materials and Methods: We retrospectively reviewed medical records of patients who underwent marginal mandibulectomy at our centre from June-2011 to June-2016. Epidemiological, clinical, treatment and outcome data were analyzed.
Results:A total of 73 patients underwent marginal mandibulectomy during this period. Their median age at diagnosis was 46 years (Range 25 - 73 years. In our study population 79.4% (n=58/73) patients had disease involving the gingivobuccal complex and 67.1% (n=49/73) patients had disease which was pathological T2 or below, nodalinvolvement was seen in 45.2% (n=33/73) patients. Reconstruction was doneusing a Pectoralis Major Myocutaneous flap in 35.61% (n=26/73) patients. We encountered fracture of mandible in 4.1% (n=3/73) patients, for which plating was done and margins were found to be adequate in 97.2% (n=71/73) patients. In the post operative period, complications were noted in 16.4% (n=12/73) mostcommonly in the form of wound infection (n=7/73). Patients were followed up for a median period of 26 months (range 10 – 65 months) and recurrence was noted in 14.03% (n=8/57) with a median time to recurrence of 8 months (range 5 – 51 months). Survival at a median follow up of 26 months was 85.9% (n=49/57).
Conclusion: Marginal mandibulectomy is an oncologically safe procedure for oral cavity cancers which are close to mandible or superficially eroding it. Marginal mandibulectomy provides a better quality of life compared to segmental mandibulectomy without compromising on overall survival and disease free survival.

O-35 Abstract Number – 309 **TUMOR SIZE RELATED TO REGIONAL METASTASES IN PT4 ORAL SQUAMOUS CELL CARCINOMA**

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Oral squamous cell carcinoma (OSCC) is the sixth most common cancer type worldwide, and the third in death rates among the most prevalent cancer types. Tobacco and alcohol are associated with up to 75% of cases. Early-stage OSCC disease may be treated relatively well with single-modality therapy (conservative surgery or radiotherapy alone). However, two thirds of patients present with locally advanced disease. In developing countries, advanced

disease adress for more than 70% of the cases. Treatment of these patients relies on surgery and post-operative radiotherapy and/or chemoradiotherapy, and 5 year Overall Survival rates is below 30%.
According to TNM staging system, pT4 tumors invade other subsites, independent of its size. However, high volume pT4 OSCC seem to have worse prognosis and are more likely to have more lymph nodal metastasis and higher recurrence rates.
In our Institution, we reviewed charts of 106 patients presenting pT4 OSCC, submitted to primary surgical treatment from 2012 to 2016. 88 were men and 18 were women. 95.1% (98) of the patients were smokers and 94,1% (95) had alcohol comsuption habits.
Median survival rate was 36,02 months (31,7 – 41,2 CI 95%). Statistical analysis demonstrated that bigger pT4 tumours in the pathology report correlated with more lymph nodal metastasis, higher rates of perineural and vascular invasion Although there was not observed correlation with higher recurrence rates .
Tumour size is associated with increased risk of metastasis and higher rates of neurovascular invasion in pT4 oral squamous cell carcinoma
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O-36 Abstract Number – 383 **INFRA TEMPORAL FOSSA CLEARANCE IN LOCALLY VERY ADVANCED ORAL SQUAMOUS CELL CANCERS (T4B) - OUR EXPERIENCE.**

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Introduction: According 2010 AJCC staging guidelines,Oral cavity cancers are classified as T4b tumors when they invade the following four sites: masticator space, pterygoid plate, skull base or when they encase the internal carotid artery. There are few data on the outcomes of pT4b OSCC tumors treated with curative intent.
Objectives: We intent to look at the 2 years control and survival outcomes of cT4b lesions at our institute.
Methods: We prospectively evaluated 38 cT4b patients of OSCC between periods of Jan 2015 to Dec 2016. Of the 38 patients, 23 were infra-notch disease and 15 were supra-notch disease. The 2 year OS of patients with T4b disease (infra and supra notch disease) is 58% (infra-notch 72% and supra-notch 35%), median survival 16mths. No significant difference between patients receiving neo-adjuvant chemotherapy or under going upfront surgery (p value 0.8). overall failure rate was 21% (8/38)-local 5% (1/38), nodal 5%(1/38) and distant 15% (7/38). Poorly differentiation was a bad prognostic factor along with advanced nodal disease.
Conclusions: Select group of patients with locally advanced oral squamous cell carcinomas can be treated with favourable outcomes. Neo adjuvant chemotherapy may help select this subset of patients who will benefit with aggressive treatment.

O-37 Abstract Number – 408 **COMPARTMENTAL SURGERY FOR ORAL TONGUE AND FLOOR OF THE MOUTH CANCER: ONCOLOGIC OUTCOMES**

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Introduction One of the most negative prognosticator for oral squamous cell carcinoma (SCC) is depth of infiltration. A number of clinical and anatomical studies already demonstrated that oral tongue/floor of mouth SCC infiltrating more than 10 mm presents extrinsic muscles invasion, involvement of the lingual neurovascular bundles and related lymphatic vessels contained in the paramedian and lateral septa of the mobile tongue. From these basis, the concept of compartmental hemiglossopelvectomy (CHGP) has developed in order to improve the local and loco-regional controls by "en bloc" removal of the tumor along its potential pathways of spread to skull base and neck.

The aim of this study is to present the oncologic outcomes for oral tongue/floor of mouth SCC treated with this type of approach both in case of primary and salvage surgery.
Materials and Method We conducted a prospective study on 45 CHGPs performed in the Department of Otorhinolaryngology - Head and Neck Surgery, University of Brescia, Italy between 2007 and 2014 for oral tongue/floor of mouth SCC with >10 mm of infiltration at CT/MR. All patients received mono- or bilateral neck dissections and reconstruction with free flaps. Neoplasms massively infiltrating the median raphe, the opposite hemitongue or the mandible were excluded from the study. Patients were divided into 2 groups: Group A included 35 subjects never treated before, and Group B 10 patients in the salvage surgery setting. We calculated 2-year overall (OS), disease free survivals (DFS), local (LC) and loco-regional controls (LRC) for both groups.
Results Mean follow-up was 35 months (range, 1-90). At the last follow-up, 24 patients (53.3%) were alive with no evidence of disease (NED), 3 (6.7%) alive with disease (AWD), 11 (24.4%) died of disease (DOD), and 7 (15.7%) died of other causes (DOC). Two-year OS, DFS, LC, and LRC were: 80%, 91%, 100%, and 94% for Group A, and 27%, 26%, 67%, and 36% for Group B, respectively. Salvage surgery (Group B) turned out to be significantly associated with worse prognosis ($p<0.001$) for all the end-points considered. No other variables demonstrated to have a statistically significant impact on survival.
Conclusions In primary surgery, CHGP associated to adjuvant treatment when indicated turned out to be a reliable oncologic approach for T4a SCC of the oral tongue/floor of the mouth. By contrast, in patients previously failed at primary (C)RT and/or other surgical attempts, prognosis remains extremely poor even after such an aggressive treatment.

O-38 Abstract Number- 400 **POSITIVE YIELD FROM RE-EXCISION OF CLOSE AND INVOLVED MARGINS IN T1 SQUAMOUS CELL CARCINOMA TONGUE: OUR EXPERIENCE**
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Introduction The decision to re-excise close/involved margins in surgically treated T1 SCC tongue can be a significant cause of morbidity and can have psychological and financial implications for patients and oncology services nrespectively. Current guidelines define a clearance of margins by 1-5mm to be close and <1mm as involved. We conducted a retrospective study to identify the presence of residual disease in cases of pathological T1 SCC tongue that underwent re-excision for close/involved margins in our unit.
Methods Patients who had undergone excision for suspicious lesions, severe dysplasia or biopsy proven SCC of the tongue were identified from the Somerset cancer registry. Histopathology minimum dataset, hospital records and MDT outcomes were used for data collection and to identify the pathological T1 cases from these. We looked at the re-excision of close/involved margins and the pick-up rate of residual disease in these.
Results 44 patients underwent excision of suspicious lesions, severe dysplasia or biopsy proven SCC tongue, of which 12 (27%) had close margins (<5mm) and 6 (13%) had involved margins
Of these 18 patients with involved or close margins who underwent re-excision, 0% had residual disease.
Conclusions The negative yield of residual disease from re-excision opens two questions; one whether suspicious tongue lesions should be excised with wider margins. It also raises the question whether in the absence of unfavorable pathological features, a smaller clearance of margins would be acceptable without impacting recurrence rate and disease survival.

RECONSTRUCTION

O-39 Abstract Number – 49 **COMPARISION OF THE OUTCOME OF SUPRAFASCIAL & SUBFASCIAL DISSECTION OF RADIAL FOREARM IN HEAD & NECK RECONSTRUCTION**
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BACKGROUND: Radial forearm flap is a versatile & reliable tool in oral cancer reconstruction. However, a spectrum of donor site deficits following harvest of this flap has been reported. Several surgical technique have been proposed to improve skin graft take, & tendon exposure & sub sequent undesirable results at donor site.
OBJECTIVE: The study was conducted to compare the donor site morbidity associated with supra facial radial forearm flap to that with sub facial donor site in oral cancer reconstructivesurgery at SDM CRANIOFACIAL UNIT.

METHODOLOGY: A total of 20 patients were included in the study & were categorized into supra facial group & Sub facial group .The donor site morbidity was assessed both objectively & subjectively at 15 days, 1 month & 4 months post operatively. The subjective evaluation was done using patient related wrist elevation& patient & observer scar assessment.

RESULTS: The supra facial showed 80% of patients with complete graft uptake when compared to 50% in sub facial group &20% showed delayed healing in sub facial group. Range of motion & grip strength was found higher in supra facial group. Subjective evaluation revealed a better aesthetic out come in supra facial group. The PRWE pain & function did not reveal a statistically significant difference between twogroups.

CONCLUSION: The study of donor site morbidity clearly demonstrates the superiority of supra facial technique over sub facial technique.

Comparison of grip strength between group 1 and group 2 at 15 days, 1 month and 4 months post operatively

Particulars	Group	Mean(diff bt Operated Hand and Non Operated Hand)	S.D	Mean diff	P value(95% confidence interval)
Grip strength 15 days	1	-10.2000	4.39191	-0.70000	.714
	2	-9.5000	4.00694		
Grip strength 1 month	1	-4.1000	1.91195	2.0000	.100
	2	-6.1000	3.10734		
Grip strength 4 month	1	-2.4000	1.57762	1.50000	.072
	2	-3.9000	1.91195		

Comparison of POSAS score between group 1 and group 2 at 4 months post operatively

POSAS	Group	Mean	S.D	Mean diff	P value(95% confidence interval)
OBSERVER SCORE	1	26.10	2.025	-9.200	.000*
	2	35.30	1.947		
PATIENT SCORE	1	19.30	1.889	-4.900	.000*
	2	24.20	2.530		
TOTAL SCORE	1	45.40	3.307	-14.100	.000*
	2	59.50	3.837		

*significant value

Comparison of PRWE score between group 1 and group 2 at 4 months post operatively

PRWE	Group	Mean	S.D	Mean diff	P value(95% confidence interval)
PAIN SCORE	1	18.40	1.647	.000	1.000

	2	18.40	1.713		
FUNCTION SCORE	1	19.00	1.633	.300	.777
	2	18.70	2.869		
TOTAL SCORE	1	37.40	2.591	.300	.846
	2	37.40	4.040		

Comparison of ROM score between group 1 and group 2 at 15 days, 1 MONTH and 4 months post operatively

PARTICULARS1	GROUP	MEAN	S.D	MEAN DIFF	t VALUE	P VALUE(95% confidence interval)
Flexion 15 days	1	48.00	3.689	2.500	.738	.470
	2	45.50	10.055	2.500		
Flexion 1 mon	1	65.00	6.992	4.000	1.309	.207
	2	61.00	6.667	4.000		
Flexion 4 mon	1	73.00	6.146	2.000	.775	.449
	2	71.00	5.375	2.000		
Extension 15 days	1	42.00	7.528	1.000	.205	.840
	2	41.00	13.499	1.000		
Extension 1 mon	1	59.50	4.972	5.000	1.543	.140
	2	54.50	8.960	5.000		
Extension 4 mon	1	67.50	5.401	5.500	1.941	.068
	2	62.00	7.149	5.500		
RD 15 days	1	12.50	2.635	3.000	1.857	0.080
	2	9.50	4.378	3.000		
RD 1 mon	1	17.00	3.496	2.500	1.555	0.137
	2	14.50	3.689	2.500		
RD 4 mon.	1	18.50	2.415	1.500	1.116	0.279
	2	17.00	3.496	1.500		
UD 15 days	1	22.00	3.496	3.500	1.878	0.077
	2	18.50	4.743	3.500		
UD 1 mon	1	27.50	5.401	3.500	1.655	0.115
	2	24.00	3.944	3.500		
UD 4 mon	1	30.50	2.838	2.500	1.756	0.096
	2	28.00	3.496	2.500		
Pronation 15 days	1	68.00	4.216	2.000	0.600	0.556
	2	66.00	9.661	2.000		
Pronation 1 mon	1	74.00	3.944	1.000	0.507	0.618
	2	73.00	4.83	1.000		
Pronation 4 mon	1	77.00	2.582	1.000	0.424	0.676
	2	76.00	6.992	1.000		
Supination 15 days	1	65.50	3.689	2.500	1.301	0.210
	2	63.00	4.830	2.500		
Supination 1 mon	1	71.00	2.108	1.500	1.342	0.196

	2	69.50	2.838	1.500		
Supination 4 mon	1	74.00	4.595	3.000	1.701	0.106
	2	71.00	3.162	3.000		

O-40 Abstract Number – 68 **COMPUTER ASSISTED JAW AND OCCLUSION RECONSTRUCTION WITH MONO-CORTICAL DCIA FLAP**

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Introduction: Recently, computer-assisted surgery is popular for performing well-planned operations. Computer-aided navigation system is helpful in maxillofacial surgery with real time instrument positioning and clear anatomic identification.Conventionally deep circumflex iliac artery (DCIA) flap had been harvested as bicortical form. However, several complications and adverse effects occurred such as abnormal hip contour, hernia, severe bleeding tendency, gait disturbance, and hypoesthesia.

Methods: The study group was comprised of 9 patients: 5 men and 4 women. Age at the time of operation ranged from 31 to 75 years (mean, 52.8 years). Four patients had squamous cell carcinoma, 3 had ameloblastoma, one patient had ossifying fibroma, and another patient had osteoblastoma. Follow-up time ranged from 4 to 67 months (mean, 24.1 months).

Results: In all cases, monocortical bone (inner table only) was harvested from the anterior iliac crest, and the length of the bone was from 47 to 90 mm (mean, 63.2 mm), the height of bone was from 16 to 28 mm (mean, 21.4 mm). The width of bone was measured on iliac crest, body, base of the segment separately. Iliac crest width was 5.3 to 7.5mm (mean, 7.1mm), body width was 7.9 – 10.8 mm (mean, 9.1 mm), base width was 7.8 – 14 mm (mean, 10.2 mm). All flaps were transplanted successfully, and no anastomosis revision was required. No major complication occurred postoperatively. Comparing between immediate postoperative CT and 6 months to 1 year postoperative CT, there was no difference on the transplanted bone. Five patients were used with osteomuscular type for covering the mucosal defect. Internal oblique muscle flap was changed to the oral mucosa gradually and completed after 4 weeks. No patient showed clinical or radiologic signs of recurrence.

Conclusion Monocortical DCIA flap has sufficient advantages in donor site morbidity, which is one of the factors to choose flap. The present study has confirmed low morbidity relating to the gait disturbance. All the patients expressed their satisfaction with the outcome at the donor site. All the patients were able to resume normal daily activities within 2 months. Therefore, monocortical DCIA flap could reduce the donor-site morbidity for harvesting the large amount of bone segment especially when reconstruction of jaw defect is needed.

Keywords; Computer-aided surgery, Navigation surgery, Mandibulectomy, DCIA flap, CT guided implant surgery

O-41 Abstract Number – 69 **A NEW FRONTIER OF USING 3D PRINTED CUSTOMIZED TITANIUM PLATES IN FIBULA FLAP JAW RECONSTRUCTION**

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Introduction: The bending of the commercial titanium plates during jaw reconstructive surgery can be difficult and time-consuming especially for the inexperienced surgeons and in complicated cases. The aim of the present study was to use 3D printed patient-specific titanium plates in fibula flap jaw reconstruction.

Methods: Patients with jaw tumoursindicated for fibula flap reconstruction were enrolled in this study. A contrast-enhanced computed tomographic scan of the maxillofacial area and the lower leg as a donor site was performed. Surgical planning and the design of patient-specific titanium plates were done in the computer. Titanium plates were printed by a selective laser melting 3D metal printer.

Results: 3D printed customized titanium plates were successfully used for the fixation of fibula segments and to guide the inset of fibula during jaw reconstructive surgery. 3D printed plates provided a more aligned bone-plate interface, saved the time of plate blending, and increased the surgical accuracy.

Conclusion: Application of 3D printed customized Titanium platesis a new frontier in fibula flap jaw reconstruction. It has a potential to replace the conventional commercial titanium plates, which may open up a new era in reconstructive surgery.

O-42 Abstract Number – 75 **ANTEROLATERAL THIGH FLAP (ALT) WITH MUSCLE FOR MUCOSAL LINING FOR LARGE T4 BUCCAL TUMOR DEFECTS.**

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Background: Squamous cell carcinoma of buccal mucosa spreads to masticator space in advanced stage. Resection of these tumors may involve full thickness of cheek, segment of mandible, part of maxilla and muscle of mastication. These defects tend to be large requiring bulky soft tissue flaps. Often the available skin from the flap may not be adequate for lining both the mucosal and skin defect and also provide soft tissue for obliteration of the dead space. In this study we describe the use of ALT flap with muscle for mucosal lining of defect and the surgical outcome of same.
Methods: Study was conducted at Mazumdar Shaw Hospital from January 2015 - June 2016 and includes 10patients who underwent reconstruction of T4 buccal mucosa defects usingantero-lateral thigh flap with muscle for lining of mucosal defect. These patients were evaluated for post op salivary leaks, wound dehiscence, flap failures and mucosalisation of the muscle.
Results: Early signs of mucosalistionwere seen in 10-14 days. None of the 10 patients had post op salivary leak or dehiscence. One patient's flap was re-explored for arterial thrombus and successfully salvaged on post op day 5. Another had muscle bleed on post-operative day 6 which was controlled successfully.
Conclusion: Anterolateral thigh flap with muscle for mucosal lining for large T4 buccal tumor defects is safe and provides adequate bulk and lining of large composite defects.

O-43 Abstract Number – 85 **PECTORALIS MAJOR MYOCUTANEOUS FLAP OR RECONSTRUCTION AFTER ORAL CANCER SURGERY IN INDIAN SCENARIO: OUR EXPERIENCE IN 200 PATIENTS**

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Introduction: Despite the free flaps being considered gold standards in reconstruction following head and neck cancer surgeries, pectoralis major myocutaneous (PMMC) flap is still popular among many reconstructive cancer surgeons in developing countries. There have been many studies showing high complication rates of these flaps. We conducted a study to evaluate the reliability of PMMC flap.
Methods: Within a span of 2 years, 200 reconstructions were done with PMMC flaps in patients with oral cancer and they were followed for a period of 1 year. This study was done at Gujarat Cancer and research institute, a leading cancer hospital of INDIA. Documentation was done for patient demographics, site of lesion, duration for reconstruction, occurrence of complications, etc.
Result: Out of 170 males and 30 female patients, complications were recorded in 40 males and 10 females (total 50 patients, overall 25%).
Flap-related complications were – ten major (5%) and sixty minor (30%), which were comprised of twenty orocutaneous fistula (10%), twenty partial flap loss (10%), ten marginal necrosis (5%), and ten donor site necrosis (5%). All the minor complications were managed conservatively. Average time to lift up a PMMC flap was around 30 minutes. The final cosmetic results were acceptable in most patients.
Conclusion: PMMC flap is still the most versatile flap for reconstruction in head neck cancer patients in developing countries and can be done in a very less time as compared to free flaps.

O-44 Abstract Number – 92 **USE OF NASOLABIAL FLAP IN ORAL CANCER SURGERY: OUR EXPERIENCE IN 100 PATIENTS.**

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Background Reconstruction of defects following oral cancer surgery can be done with several methods. The flaps can be pedicled or free flaps. PMMC, being the most versatile flap is relatively bulky and great expertise is needed for free flaps. Nasolabial flap is a relatively simple flap and can be of great advantage in reconstruction of small defects. This article reviews our experience with nasolabial flaps in the reconstruction of intraoral defects.
Methods We conducted a retrospective study on 100 patients undergoing surgery for oral cavity cancers in which reconstruction was done using nasolabial flap. This study was conducted in the period between 2012 to 2104 at GCRI, Ahmedabad, a leading cancer hospital of India. Patient demographics, site of lesion, size of lesion and postoperative course was recorded.

Results The flap had good cosmetic and functional outcomes in almost all patients. Almost all patients were able to complete their adjuvant treatment without any iatrogenic delay. 10 patients developed wound dehiscence. Out of 10, 9 were successfully managed conservatively and one patients had complete flap loss.
Conclusions For reconstruction of small defects following oral cancer surgery, Nasolabial flap can be used with good results and less morbidity than a PMMC flap.

O-45 Abstract Number – 138 **USE OF TUMOUR TO TONGUE RATIO TO PREDICT THE NEED FOR FREE FLAP RECONSTRUCTION IN CARCINOMA TONGUE.**

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Background: Micro vascular reconstruction of tongue defects following ablative surgery is the standard of care. The decision for flap reconstruction is often made prior to surgery or intra operatively depending on the extent of the defect and the volume of remnant tongue. There exists no objective technique to predict the need for flap reconstruction. We aimed to identify an objective MRI measurement tool to predict the need for free flap reconstruction of tongue carcinoma.
Materials and methods: A retrospective analysis of tongue cancer patients undergoing surgery for squamous cell carcinoma (SCC) of the tongue who had a preoperative MRI. The senior reconstructive
surgeon made the decision for flap reconstruction and type of flap. The surgeon decision was correlated with the ratio of the tumor thickness to the total tongue thickness and also with the tumour volume to the total tongue volume in the preoperative MRI.
Results: The ratio of tumour thickness to tongue thickness (Tt/tt) was calculated. The cut off of >=0.395 (sensitivity of 89.3;specificity of 89.5) was found to be statistically significant for the decision for free flap reconstruction ($p<0.001$). The volume of tumour to total tongue volume ratio was calculated from the data of 22 cases available. A cut off of >= 4.2 (sensitivity of 83.3; specificity of 90) was found to be statistically significant for the decision for free flap reconstruction ($p<0.001$).
Conclusion: Tumour thickness to tongue thickness ratio is a reliable tool to determine the need for free flap reconstruction in tongue carcinoma

O-46 Abstract Number – 146 **INFRAHYOID FLAP – A reliable option for reconstruction of medium sized anterior oral cavity defects.**

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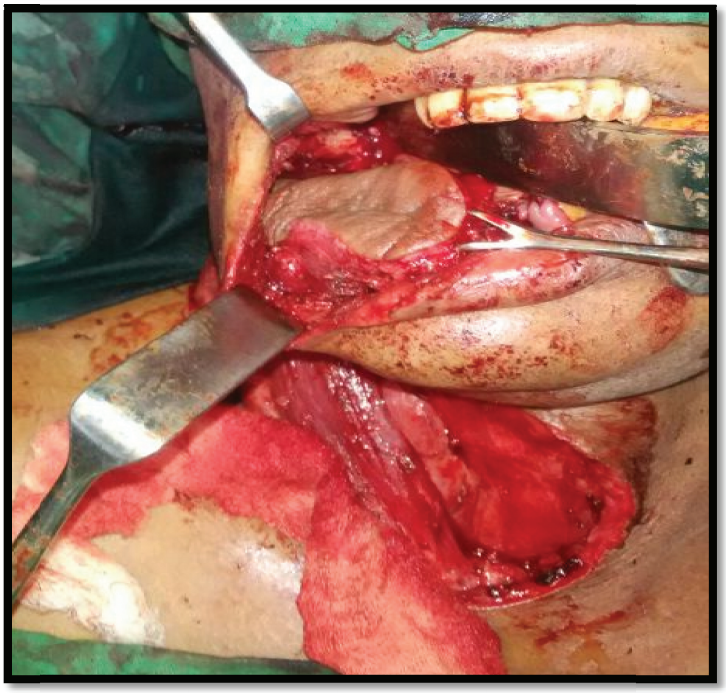
INTRODUCTION: There is no single ideal option for reconstruction of small to medium-sized defects of the oral cavity. Various local flaps and microvascular free flaps offer different utility, advantages and limitations. The aim of the study is to report the reliability, utility and limitations of infrahyoid flap for reconstruction of oral cavity defects.
METHODS: This is a retrospective study of cases operated between January 2010 and June 2016. Patient, disease and treatment data and immediate outcome were obtained from the records. Delayed outcome was assessed on patient follow up.
RESULTS: Out of 410 cases of oral cavity cancers treated with primary surgery during this period, infrahyoid flap was used for reconstruction in 11 cases. There were 2 females and 9 male patients. 2 anterior floor of mouth defects, 1 lower lip defect and 8 buccal mucosa defects were reconstructed using this flap.
There was no case of total flap loss. Venous congestion to some extent was observed in all except 2 cases. This was managed by intermittent letting of congested blood by needle scratch for 24 hrs. In 2 cases, we had loss of skin paddle, while the muscle survived. Donor site healing was normal in all cases.
In the long term, 1 patient had problem of hair growth on the flap that was managed by de-epithelisation. The neck scar had acceptable cosmesis except in 1 patient who had widening of the scar.
CONCLUSION: Infrahyoid flap is a reliable reconstructive option for small and medium sized defects of the anterior oral cavity. The advantages are the simplicity of the technique, having composite tissue consisting of muscle and skin and no added morbidity of an additional wound. Venous congestion is a common sequel which often is temporary. It is limited by its reach to the posterior part of oral cavity.

PHOTOS:



O-47 Abstract Number – 168 **MANDIBULAR RECONSTRUCTION WITH FREE FIBULA FLAP USING COMPUTER-AIDED DESIGN AND PREFABRICATED 3-DEMENTIONAL MODEL**

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Introduction: In the mandibular reconstruction, it is important that the lost in the mandibular bone due to mandibulectomy be restored precisely and for donor bone shaping to complement the mandibular defect.We investigated the usefulness of prefabricated 3D model using computer-aided design in the mandibular reconstruction with free fibula flap.

Materials and Methods: The subjects were 38 patients (29 segmental mandibulectomy and 9 marginal mandibulectomy), in whom most of the primary disease were malignant tumors in our department between 2007 and 2016.The mandible of all patients were reconstructed with free fibula flap using computer-aided design and prefabricated 3D model.The types of the defect of the mandible and the soft tissue, the number of osteotomy sites of

the harvested fibula, and the area of mandibular defects were evaluated and the postoperative function and esthetics were retrospectively reviewed.
Results: There were 28 men and 10 women with an average age of 64.7 years(range 30-82 years).Complications ofpartial or total necrosis of the grafted fibula flap and malunion were found in 5 cases.Complications correlated not with the number of osteotomy sites of the harvested fibula, but with the area of the mandibular defect.Postoperative functions such as swallowing, speaking and esthetic satisfaction were good or acceptable good in all patients according to the evaluation scoring. However, the size of the intraoral flap demonstrated a negative correlation with esthetic satisfaction.
Conclusion: For successful mandibular reconstruction with free fibula flap, preoperative model-based surgery using a prefabricated 3D mandibular model is a useful technique and the computer-aided design software is also useful to not only maximize the precision of bony osteotomies, which helps to recreate the shape of the mandibular arch, but also improve the overall efficiency of the reconstructive process.
This work was supported by JSPS KAKENHI Grant-in-Aid for Young Scientists (B) Grant Number JP15K20485

O-48 Abstract Number: 172 **DEFECT BASED ALGORITHM FOR LOCAL FLAPS IN ORAL CANCER PATIENTS TREATED AT A TERTIARY CARE CANCER CENTRE**
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Introduction: Surgery is one of the most important part of treatment of oral cancer. Reconstruction of the defects after tumor resection is the most challenging step. An adequate reconstruction helps in early recovery, rehabilitation and further treatment and better quality of life.
Methodology: Local flaps used for the defect reconstruction in oral cavity during a period of seven years was reviewed. The feasibility, success and its outcome were assessed. Speech and swallowing were reviewed and algorithm based on the defect was developed.
Results: Eight hundred and forty-four patients underwent surgery for oral cancer during the period of Aug 2009 till Aug 2016. Of these183 had primary closure. 291 had pectoralis major myocutaneous flap. 349 had local flaps,of which twenty-one had double flaps. The local flaps used were nasolabial flap (54), facial artery myomucosal flap (29), submental flap (76), sternomastoid flap (11), buccal fat pad (41), tongue flap (10), hard palate flap (4), masseteric flap (12), submandibular gland flap (3), infrahyoid flap (20) and supraclavicular flap (12). Algorithm for selection of theflap based on the defects and the suitable flap were made. Floor of mouth and tongue defects with submental flap, infrahyoid or FAMM flap; Buccal defect with submental, nasolabial or supraclavicular flaps; hard palate with temporalis or submental flaps were the suitable flaps identified. Submental flap is of choice for N0 female patients, nasolabial for elderly patients, supraclavicular flaps for node negative patients. FAMM flap not suitable in sub mucus fibrosis patients. Difficult and composite defects needed free flaps (63).
Conclusion: Local flaps are good choice in medium sized defects in oral cavity after cancer resection. An algorithm for selection of the flap based on the defect and the disease status is outlined.

O-49 Abstract Number – 175 **CLINICAL EVALUATION OF PMMC FLAP FOR RECONSTRUCTION OF POST ABLATIVE DEFECTS OF ORO-FACIAL REGION**
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Introduction: The pectoralis major myocutaneous (PMMC) flap has been used as a versatile and reliable flap since its first description by Ariyan in 1979. In India head and neck cancer patients usually present in the advanced stage making PMMC flap a viable option for reconstruction. Although free flap using microvascular technique is the standard of care, its use is limited by the availability of expertise, co-morbity and resources in developing world. The aim of this study is to identify the outcomes associated with PMMC flap reconstruction.
Methods: After ethical approval we retrospectively analyzed 150 PMMC flap at SDM Craniofacial surgery & research centre from 2008 to 2015. A total of 167 PMMC flap reconstructions were performed out of which follow-up data of 150 cases were available in our record.

Inclusion criteria for the study were patients operated for carcinoma of the oral cavity and whose one year follow up data was available. The age of patients in this series ranged between 30 to 60 years.
Results: A total of 150 patients were reviewed of these 103 were males and 47 were females. Majority of cases showed malignancy involving Gingivobuccal complex(51%) followed by malignancy of the retro molar region(18%), floor of mouth (15%),tongue(9%) and palate(7%). Most tumors 88% were having advanced (Stage 3 or Stage 4) disease.145 PMMC flap reconstruction were done as a primary procedure, and 5 were salvage procedure following failure of free flap.No total flap loss occurred in any patient. On analysis of our data, we found the most common postoperative complication to be wound dehiscence which was seen in 25 patients, orocutaneous fistula in 15 patients followed by wound infection and partial skin margin necrosis which was seen in maximum of 12 patients each.
Amongst 150 patients 103 were males and 47 females. All patients had biopsy proven malignancy of oral cavity and resection of primary lesion was performed.
Conclusion: PMMC flap is a versatile flap with an excellent vascularity can reach to face, oral cavity and neck region. With limited expertise and resources, it is still a workhorse flap in oral cavity reconstruction.

O-50 Abstract Number – 176 **INTERNAL JUGULAR VEIN VERSUS EXTERNAL JUGULAR VEIN ANASTOMOSIS IN MICROVASCULAR FREE TISSUE TRANSFER: OUR EXPERIENCE IN A TERTIARY CARE HOSPITAL OF ODISHA**

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Introduction: Microvascular free tissue transfer is considered as the gold standard in reconstruction for a variety of head and neck surgical defects. Many studies have been done to ascertain the factors contributing to free flap survival. But no study barring one by Chalian et al in 2001, has compared differences in survival of free flap when anastomosis is done with internal or external jugular systems.
Methods: A retrospective review of all free flaps performed at the oral and maxillofacial surgery department in a tertiary care hospital of Odisha, India by a single head and neck microvascular surgeon from 2011 to 2016 was done. Data was collected regarding pathology of the lesion, extent of ablative surgery, type of flap used, recipient vessels, postoperative flap complications and management. Statistical analysis was by the Fisher's exact test.
Results: One hundred and forty-three flaps performed during this period were reviewed. In 87 cases the flap was anastomosed to the internal jugular system and in 48 cases the anastomosis was done with external jugular vein. 8 cases were excluded from the statistical analysis as they were anastomosed to other veins. Success by group was 97% for the internal jugular anastomosis and 90% for external jugular anastomosis.
Conclusion: Although flap failure rates with external jugular vein anastomosis are higher than that of internal jugular vein, it can be used as a good recipient vein in experienced hands for situations where the internal jugular vein is either not available or difficult to anastomose.

O-51 Abstract Number – 178 **LOCAL AND REGIONAL FLAPS IN HEAD AND NECK RECONSTRUCTION: THE DETROIT EXPERIENCE**

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Introduction: Local and regional pedicle flaps are an effective option for reconstruction in head and neck pathology patients. In addition to providing tissue with color, thickness, and texture closely resembling that surrounding of a given defect, these flaps serve as an alternative modality of reconstruction for patients who do not qualify as candidates for microvascular free tissue transfer. Their use can also be useful in secondary revision of previous reconstructions or salvage treatment of patients in which primary reconstruction attempts have failed. The purpose of this review is to demonstrate our experience with the versatility and effectiveness of local and regional pedicle flaps in head and neck reconstruction at a single institution with microvascular reconstructive capabilities within our own department over a period of 44 months.
Methods: This is a retrospective review of the types of flaps and context for use of 79 local and regional pedicle flaps performed in the treatment of head and neck pathology patients by the St. John Providence oral and maxillofacial surgery department from July 2013 through January 2017.
Results: 79 local and regional pedicle flaps were performed in treatment of head and neck pathology patients: 20 buccal fat pad, 18 pectoralis major myocutaneous, 17 submental island, 9 supraclavicular artery island, 4 nasolabial,

3 sternocleidomastoid, 3 vertical trapezius, 2 latissimus dorsi, 2 paramedic forehead, and 1 ventral tongue flaps were performed. These flaps were used 95% of the time for reconstruction related to malignant pathology and 5% for benign pathology of the head and neck. 68% of these flaps were used in the context of primary reconstruction, 15% for secondary revision of an existing reconstruction, and 16% for salvage treatment of failed reconstruction attempts.
Conclusion: Local and regional pedicle flaps are a versatile and effective option for reconstruction of complex head and neck pathology patients.

O-52 Abstrat Number – 179 **THE USE OF INTERPOSITIONAL VEIN GRAFTS FOR FREE FLAP RECONSTRUCTION IN A TERTIARY HEAD AND NECK UNIT**

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Introduction: The introduction of microvascular free flap reconstruction has improved functional and aesthetic outcomes in head and neck surgery. Success rates are around 95% in the primary surgery setting. Increasing numbers of patients are undergoing free flap reconstruction after previous surgery and/or chemoradiotherapy, which can compromise the suitability of recipient vessels. In addition, some flaps that may otherwise be suitable may be compromised by inadequate pedicle length.
Interpositional vein grafts (IVG) are an accepted technique for providing additional pedicle length, though due to a small evidence base, some concerns remain about their reliability.
Methods: All microsurgical cases at our institution (University Hospitals Birmingham) were evaluated for the use of IVGs from 2005-2016. The case notes were examined retrospectively, and data collected on the recipient, flap donor and IVG donor sites, prior surgery, and prior chemoradiotherapy.
Results: Of 1325 cases in our database, 13 (1%) underwent free flap reconstruction with an IVG for both artery and vein. 1 flap failed due to venous congestion and undervent a second free flap with further vein grafting, giving a total of 14 free flaps in 13 patients. A range of different flaps were used. All anastomoses were performed with 9/0 Ethilon. The maxilla was the recipient site in 9 cases. 10 patients had undergone previous surgery and radiotherapy; 7 of these had undergone previous chemotherapy.
Conclusions: We present here one of the largest case series of interpositional vein grafts in microvascular reconstruction of the head and neck. Our free flap success rate with IVG was 93%: comparable with our overall success rate of 95%. These resutls are in the context of a complex population, the majority of whom had had previous radiotherapy. IVGs are a reliable technique for use in patients where pedicle length or recipient vessels are compromised.

O-53 Abstract Number – 190 **COMPLICATIONS AND OUTCOMES OF 152 FREE FLAPS IN HEAD AND NECK CANCER SURGERY**

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This study analyzed the surgical outcome and complications of 152 microvascular free flaps performed at the Bhagwan Mahaveer Cancer Hospital and Research centre. 152 patients underwent reconstruction between January 2015 to January 2016: Free flap Fibula (n=107); Anterolateral Thigh free flap (n=5) and Radial free flap (n=40). 16 failures were encountered; including 4 complete flap failures and 12 partial free-flap failures. This study confirms that free flaps are extremely reliable in achieving successful reconstruction in head and neck cancer defects, but it is essential that complications be recognized and addressed early in their course to prevent or minimize devastating consequences. Owing to the large number of possible errors in flap reconstruction, microvascular surgeons should always check everything for themselves. Venous thrombosis and cervical hematoma are the most common complications at the recipient site and are mainly responsible for flap failure, while complications occurring at the donor site may result from dehiscence and skin graft necrosis. When a compromised flap is identified, surgical re-exploration should not be delayed.
Keywords Free flaps; Head and neck; Complications;

O-54 Abstract Number: 210 **A MODIFIED FREE PECTORAL SKIN FLAP IN THE RAT FOR TRAINING AND RESEARCH IN MICROVASCULAR SURGERY**

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Introduction: In head and neck surgery and oncology, microvascular free flaps are unsurpassed for reconstructions in the head and neck region and require extended surgical skills and training. Therefore, various types of murine free flaps have been developed for microsurgical training and research. We present an innovative and new modification of the free pectoral skin flap in the rat.

Material and Methods: Twenty-five free pectoral skin flaps were raised according to the standard protocol in Sprague-Dawley rats. Deviating from the standard protocol, the common thoracic vessels were transected at the origin from the axillary vessels and anastomosed by an end-to-side technique to the femoral vessels in the groin region.

Results: The described modification decreases the operation time, the intra- and postoperative rate of complications as well as the postoperative morbidity of the animals. Overall, it significantly simplifies the surgical procedure and therefore makes the described model very useful for microvascular research and very attractive for trainees in microvascular surgery.

Conclusions: The modified free pectoral skin flap in the rat seems to be a suitable model for microsurgical training and research and might facilitate microvascular surgery training especially for trainees and beginners.

O-55 Abstract Number – 214 **SUPRACLAVICULAR ARTERY FASCIOCUTANEOUS ISLAND FLAP FOR HEAD & NECK ONCOLOGIC RECONSTRUCTIONS**

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Introduction: Complex defects resulting from Head and Neck oncologic resections are traditionally reconstructed using wide range of flaps.The methods range from Local, Regional, to Free Microsurgical flaps.
Need of the Hour…Is a Thin, Pliable Flap which restores the Form and Function of the Recipient site, with minimum donor site morbidity, also maintain the color and texture and should be hidden beneath the clothing.
Supraclavicular artery flap is one such flap which fits all the above description.

Methodology: Totally 9 cases were reconstructed by this Flap in a meticulous fashion using a Hand Held doppler to ascertain the pedicle (Parotidectomy defects: 2, Marginal Mandibulectomy defects: 2, Palatal defect 1, Cervico Facial Skin defect: 1, Pharyngoplasty: 2, Temporal Bone Resection: 1)

Results: Out of 9 cases, complete loss of flap was seen in one case, which was replaced by PMMC flap, Epydermolysis was seen in one case and Phayngo cutaneous fistula was seen in one case. Rest all, the flap was a success.

Conclusion: Supraclavicular artery flap is a versatile flap which is thin, pliable, reliable and easy to harvest with good cosmetic and functional outcome at both recipient and donor site for one stage reconstruction of oncologic defects
It is an excellent alternative to traditional regional and free flaps and has a great potential of being a **GOLD STANDARD** for reconstruction of soft tissue defects in Head & Neck region

O-56 Abstract Number – 227 **MICROVASCULAR HEAD AND NECK RECONSTRUCTION: OUR EXPERIENCE AND OUTCOMES AT A TERTIARY CARE HOSPITAL IN RURAL WESTERN INDIA.**

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AIMS AND OBJECTIVES: The microsurgical reconstruction of head and neck is usually the first indication for high tissue losses. The aim of this study was to evaluate the outcomes of reconstruction and complications in patients who underwent reconstruction using free flaps at our non-academic tertiary care referral hospital.

MATERIAL METHODS AND RESULTS: A retrospective study of patients with loss of tissue in the head and neck (mainly oral cavity defects) was performed between May 2009 and January 2017 at Kailash Cancer Hospital and Research Centre, Goraj, Baroda, Gujarat. 465 patients that were operated during this time were analysed. Of these patients, 130 (27.95%) were women and 335 (72.04%) were men. Average age group was 50 years. Immediate reconstructions was performed in all of the cases. Most were malignant tumours (95%). The defects addressed were middle 1/3 composite mandibular defects, tongue, cheek and maxilla.The frequency of the flaps was as follows: Free

Fibula (FFOCF) in 46 cases (9.89%), Radial forearm (FRAFF) in 370 cases (79.56%) and Anterolateral Thigh (ALT) in 49 cases (10.53%). The average operative time was 291 ± 42 minutes. The ischemia period was 130 ± 5.7 minutes. Complications were observed in 46 cases (9.89%), more being in cases with loco regional recurrence. On re-exploration, 29 were salvaged while there was a flap loss in 17 cases (3.65%). The venous thrombosis was the main cause of re-exploration and loss.
CONCLUSIONS: Free flaps are a safe and reliable reconstructive option and they promote a decrease in morbidity, a promotion of rehabilitation, and an overall decrease in cost. The present study showed that free flap reconstructions in our rural tertiary care hospital have good success and salvage rates, comparable to other major centres.

O-57 Abstract Number – 244 **USE OF RAPID PROTOTYPE (RPT) MODELING IN COMPLEX MANDIBULAR RECONSTRUCTION WITH FIBULAR FREE FLAP FOR BENIGN AND MALIGNANT TUMOURS**

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Introduction: In spite of the increasingly widespread use of microvascular surgery for reconstruction of mandibular defects, fixation of the bone flap in an accurate position is often a challenging proposition. In complex mandibular defects with bony expansion, expansion or discontinuity, temporomandibular joint involvement and in the paediatric mandible, achieving symmetry and occlusion while allowing for implant placement is uniquely difficult.
Objective: To determine outcomes of complex mandibular reconstruction using RPT (rapid prototype) modeling, stereolithographic (STL) models and 'inverse' planning for fibular free flap reconstruction in benign and malignant tumours
Methods: Twelve patients undergoing complex mandibular reconstruction following segmental mandibulectomy defects for benign or malignant tumours between Jan 2016 and Jan 2017 were included in our study. Reconstruction was by fibula osteocutaneous free flap. STL models of mandibles and fibula were produced from CT scans and model surgery was performed to determine ideal bone flap positioning. Cutting guides and splints were fabricated and reconstruction plates were pre-contoured to ensure accurate translation of planning to the operating table. Mandibular reconstruction was performed with guidance of pre-operative 'inverse' planning using planned fibular osteotomies and reposition guide templates to replicate this planning intra-operatively
Result: This technique is robust and reliable, producing good functional and aesthetic outcomes even in complex mandibular reconstruction. Though this technique involved meticulous lab work, it was effective in reducing intra-operative time required for the fibular osteotomies and fixation. Post-operative radiological examination of these patients showed excellent position of the bone flap that facilitated easier and more accurate placement of dental implants, and the process of prosthetic rehabilitation was significantly simplified with better load sharing by implants.
Conclusion: RPT technology and inverse planning technique produces good functional, aesthetic and rehabilitative outcomes in complex mandibular reconstruction with fibular free flaps, also improving ease of dental rehabilitation

O-58 Abstract Number – 248 **SECONDARY MAXILLOMANDIBULAR RECONSTRUCTION IN BENIGN AND MALIGNANT TUMOURS – ARE THE RESULTS SATISFACTORY?**

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Introduction: Secondary reconstruction of maxillomandibular defects following ablative surgery is fraught with challenges such scarring/radiation damage of soft tissue, depletion of vessels for microvascular anastomosis, altered anatomical landmarks and lack of reference points for surgical planning. The goals are often complex, such as providing oro-nasal separation, anatomic contour restoration, restoration of the dental height and prosthetic rehabilitation.
Objective: To determine outcomes of secondary maxillomandibular reconstruction using RPT (rapid prototype) modeling, stereolithographic (STL) models and 'inverse' planning for microvascular free flap reconstruction with or without the addition of local/regional flaps.
Methods: Twenty-five consecutive patients undergoing secondary maxillomandibular reconstruction following ablative surgery for benign or malignant tumours treated in our institution between January 2014 and December 2016 were included in our study. Reconstruction was either in one stage or multiple, by fibula osteocutaneous

(n=14), anterolateral thigh (n=3), radial forearm (n=3), DCIA (n=1) free flaps, augmented in two patients with a deltopectoral or forehead pedicled flap. STL models were produced from CT scans and model surgery was performed to determine ideal bone flap positioning. Cutting guides and splints were fabricated and reconstruction plates were pre-contoured to ensure accurate translation of planning to the operating table. Reconstruction was performed with guidance of pre-operative 'inverse' planning using planned osteotomies and reposition guide templates to replicate this planning intra-operatively
Result: All patients were able to achieve good functional, aesthetic and rehabilitative outcomes with minimal morbidity. On follow-up, no patients had impaired mouth opening, significant speech impediment or restricted oral intake. Majority of the patients (93%) had good aesthetic satisfaction as per the Visual Analogue Scale.
Conclusion: Secondary reconstruction of maxillomandibular defects is safe, with acceptable form and function. Pre-operative planning is essential; certain defects need staged reconstruction and planning of dental rehabilitation results in better outcomes. Improvements in technology and biomechanics have revolutionized surgical results.

O-59 Abstracrt Number – 303 **NASOLABIAL FLAP FOR RECONSTRUCTION OF MODERATE TO LARGE DEFECTS OF LIPS FOLLOWING CANCER RESECTION**
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Background: Squamous cell carcinoma of the lower lip is frequent, and radical excision sometimes leads to complexdefects. Many lip repair techniques are aggressive requiring general anesthesia and a prolonged post-operative period. The nasolabial flap, while a common flap for the repair of other facial defects, is an under-recognized optionfor the reconstruction of the lower lip. We describe the use of nasolabial flap for the repair of a large defect ofthe lower lip in 14 patients, with good functional results and acceptable cosmetic outcome. We believethe nasolabial flap is a good alternative for intermediate-to-large lower lip defects.
Methods: In this study we analysed the utility of nasolabial flap for the reconstruction of moderate to large lower lip defect in 14 lower lip cancer cases.
Results: All the defects were reconstructed in a single stage. We achieved good lip seal and at least good function in eating and speaking. There was no entropion of the lip, and all the reconstructed lips preserved their height.
Conclusion: The nasolabial flap is a versatile, reliable local flap for reconstruction of medium to large size lower lip defectswith good cosmetic outcomes and negligible donor site morbidity.

O-60 Abstract Number – 328 **RECONSTRUCTION SURGERY WITH A SECOND FREE FLAP FOLLOWING RESECTION OF RECURRENT ORAL CANCER**
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Objective: The purpose of this study was to evaluate outcomes of the oral cancer patients who had gone through primary resection and concomitant reconstruction but later required further resection and second free flap reconstruction due to recurrent oral cancer.
Patients and Methods: 36 patients who underwent mass resection and free flap reconstruction due to oral cancer, and later required additional resection and another free flap reconstruction between 2006 and 2016 were included in this study. Of the 36 patients, 18 were male and 18 were female. Collected data include primary pathology, location of recurrence, time interval between primary surgery and recurrence, types of flaps and vessels used for secondary reconstruction, modality and prognosis of additional surgeries including survival rate of the secondary free flaps.
Results: Patient age ranged from 35 years to 81 years with mean of 60.4 years. The time intervals between first and second surgeries ranged from 1 to 204 months with average of 38 months. The most common primary pathology was squamous cell carcinoma (83%). The most common site of recurrence was mandible (52%) followed by maxilla (18%), tongue (16%), buccal cheek (8%), and lip (3%). Radial forearm free flaps were used for the second reconstruction in 45% of the cases, while latissimus dorsi free flap (24%), fibular free flap (24%), and dorsalis pedis free flap (5%) followed. 8 of 36 patients developed local recurrence after the second surgery. 13 free flaps were anastomosed to ipsilateral neck vessels. The same artery used in the first surgery was used again in 3 cases. The same veins used in the first surgeries were used again in 5 cases. 97% of free flaps of the second reconstruction surgery survived.

Conclusion: With regard to the overall impact on survival and resulting quality of life, it is so important to identify patients with the best prognosis to respond to salvage surgery. With the advancement in the field of reconstructive surgery, the inability to perform reconstructive surgery is now rarely the factor limiting salvage surgery. Despite the potential difficulties, literature supports the overall success of second free flaps and they were found to be safe and effective.

O-61 Abstract Number- 335 **ROLE OF PRF MEMBRANE IN SUPERFICIALLY EXCISED ORAL PRE-MALIGNANT LESIONS**

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Introductio and Purpose: One of the preferred treatment options for oral premalignant lesions is excision, with or without the use of a coverage agent. Platelet-rich fibrin (PRF) membranes are popular fibrin scaffolds with entrapped platelets that release various growth factors and cytokines to support and enhance wound healing. The aim of the present report was to describe the technique, postoperative wound care, and clinical results of PRF membrane grafting after excision of superficial potentially malignant oral lesions.
Materials and Methods: Autologous PRF membrane was fabricated and grafted over 40 wounds created by excision of small, superficial, potentially malignant lesions of oral mucosa (or fiberotomy in cases of oral submucous fibrosis) and assessed clinically at 7, 15, 30, and 60 days.
Results: Healing was satisfactory in all cases, with minimal and manageable complication at 1 site.
Conclusion: The results of the present study suggest that PRF membrane is a successful coverage agent that aids in the healing of superficial oral mucosal wounds. Additional comparative studies are required to establish its efficacy compared with that of other agents.

O-62 Abstract Number – 346 **A RELOOK AT THE FORGOTTEN PECTORALIS MAJOR STERNUMOSTEOMYOCUTANOEUS FLAP**

Murthy SP[1], Sharma D[2], Deelip DS[2], Balasubramanian D[1], Mathew J[2], Sharma M[2], Thankappan K[1], Iyer S[1]
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Background: Mandibular continuity defects are common after ablative surgery for oral cancers. Whilst lateral defects in edentulous patients can be reconstructed with soft tissue flaps, central arch defects require definitive bone reconstruction for restoration of form and function. Microvascular reconstruction of mandibular defects is the current standard of care, but certain patients are unsuitable for such reconstructions. The purpose of this presentation is to elucidate the operative technique of harvest of the pectoralis major with sternum osteomyocutanoeus flap.
Aim: To describe the operative technique of the pectoralis major sternum osteomyocutanoues flap
Materials and methods: Retrospective analysis of records of cases operated between 2014-2017
Results: A total of 6 patients were operated. Mandible arch defect (n=5) and body of mandible defect (n=1) were reconstructed. The reasons we chose PMMC with sternum over free fibula flap for reconstruction were previously operated with poor neck vessel(n=5) and failed free fibula flap(n=1). The key steps in flap harvest include 1)skin flap is marked over the bone of the sternum and to the opposite intercostal spaces 2) the pectoralis major muscle is not detached from the sternal attachments 3) preservation of the sternal rib articluations on both sides 4) preserving the inner cortex of the sternum for integrity of the chest wall.
Flial chest was seen in two patients. Two patients had flap bone loss post operatively.
Conclusion: The pectoralis major osteomyocutanoeus flap is to be considered in patients with central arch defects who would otherwise not be candidates for free flap reconstruction.

O-63 Abstract Number – 347 **ANTEROLATERAL – VASTUS INTERMEDIUS – FEMUR FLAP FOR COMPLEX DEFECTS OFORAL CAVITY**

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Background: Combined soft tissue and bone defects are common after ablation of advanced oral cavity cancers. The reconstructive requirements in these cases include simultaneous mucosal, skin and bony reconstruction of the

mandible. Conventional workhorse flaps like the ALT and fibula flap seldom provide the tissue needed when used alone. There is a need to identify a composite flap for complex reconstructions. We report our experience with the single ALT + vastus intermedius – femur for such defects.
Methods: Retrospective analysis of hospital records of patients operated between 2015-2016
Results: Four cases underwent reconstruction with ALT with femur free flap. Two patients where operated for osteoradionecrosis of mandible with extensive soft tissue inflammation, one case was carcinoma tongue and other recurrent carcinoma tongue. Defects ranged from extensive soft tissue defect including FOM (n=2), oral tongue (n=2) to mandibular defect (n=4) ranging from arch defects to hemi mandible.Three patients had a combined mucosal, bone and external skin defect and one had bone and external skin defect. The largest bone defect reconstructed was 10 cms (range 4.5-10cms) and the largest skin paddle harvested was8cm x 5 cms. One patient vastus intermedius with femur was harvested with no skin paddle while all others had myocutaneous component harvested with femur. One patient had partial muscle loss after 10 days of surgery, which was managed with PMMC flap as a staged procedure. One patient developed fracture of remnant femur following fall on postoperative day 9, which was managed by intramedullary nail fixation. This was attributed to pre-existing osteoporosis. Two patients have resumed having oral feeds and have achieved good lower third contour of face. The remaining two patients have partial feeding tube dependence due to their shorter follow up
Conclusions: The ALT-vastus intermedius – femur flap is unique in its ability to provide multi axial soft tissue and bone reconstruction with a single pedicle. It has a reliable anatomy and harvest and is ideally suited for composite defects of the oral cavity. In cases of ORN it also provides sufficient muscle to promote local tissue healing.

O-64 Abstract Number – 384 **VALIDATION OF BROWN'S MANDIBULECTOMY CLASSIFICATION SYSTEM TO PREDICT RECONSTRUCTIVE COMPLEXITY AND RELATED MORBIDITY.**
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Introduction: There is no universally accepted classification system exists which can predict the reconstructive complexity and related morbidity in segmental mandibulectomy defects. James brown proposed a new classification in 2016 and suggested that reconstructive complexity in terms of number of osteotomies were proportional to the class defects.
Aim: To validate Brown's classification system to predict the reconstruction complexity and related morbidity in cases of segmental mandibulectomy.
Methods: Retrospective study of 75 patients who underwent segmental mandibulectomy with free bone flap reconstruction in a tertiary care teaching hospital between 2008 to 2015. Classification of mandibulectomy defects were done with digital OPG. Mandibulectomy defects were classified according to Brown's classification; class I (lateral), class II (hemimandibulectomy), class III (anterior), and class IV (extensive). Further classes (Ic, IIc, and IVc) include condylectomy. Numbers of osteotomies, choice of bone flap, orocutaneous fistula, plate exposure, non-union were analyzed.
Results: 42(56%) cases were benign (28 ameloblastoma + 12 OKC + 2 others). 29 (38%) cases were operated for malignant oral cavity lesions and 5 (6%) were osteoradionecrosis cases. Mean age of the patient was 48 years. 44(58%) were males and 23(30%) were females. 63 (84%) had fibula free flap reconstruction, 7(9%) cases of DCIA, 2 had ALT with femur and one case each of radial forearm flap with radius and PMMC with sternum. 37% (n=28,27+ 1 Ic) cases were class I,40% (30=26+4 IIc) were class II, 10% (n= 8) were class III and 12%(n=9) were class IV. The Number of osteotomies were proportional to the class defects; class I- 10/28(0.35), Class II- 21/30(0.7), Class III- 13/8(1.6), Class IV-18/9 (2). Non-union & orocutaneous fistula rates were almost similar around 10% in all classes. Plate exposure was proportional to the class defects.(Class I- 3%, Class II-12%, Class III- 12.5%, Class IV-44%, $p = 0.01$).
Conclusions: This retrospective study showed that the number of osteotomies were proportional to the increasing defect class. The morbidity rates were also similar, validating the classification given by the literature analysis by Brown et al.

O-65 Abstract Number – 414 **A SIX YEAR RETROSPECTIVE REVIEW OF DISTANT OSTEOCUTANEOUS FREE TISSUE FLAP RECONSTRUCTIONSIN A REGIONAL MAXILLOFACIAL UNIT IN THE UK**
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Introduction and Methods: A review of116 consecutive microvascular distantfree flapsover a sixyear period (April 2005-August2011) with a view toelucidate peri-operative variables and survival of donor tissuewas conducted. 87%of defects werea result ofsquamous cell carcinomaresection. All patients had one of threedistant flaps RFFF (n=66), FFF (n=31) and 19 anterolateral thigh flaps (ALT).The cohort was
analysed on severalfactorsincluding age,American Society of Anesthesiologists(ASA) status, previous carcinoma or radiotherapy, osteo-radionecrosis and longterm aspirin use.Modifiablevariables includedpre and post-operative creatinine (Cr) and haemoglobin (Hb)levels,operativedurationand lengthof hospital and intensive care unit (ITU) admission.
Results: Our results showcomparable success rates with RFFF (94%), FFF (90%) and 89.5% with an antero-lateral thigh flap (ALT). 33% and 32% of RFFF and FFF patients were over 65. Patients on average had longer admission when undergoing a FFF by 4.4 days. However, spent less time in ITU (22% vs 26.5% of total hospital stay). Cr and Hb slumped the severest in ALT patients, 41.7umol/L and 3.83g/dL respectively. RFFF have a change of 3.6g/dL in Hb versus 3.2 g/dL in FFF patients. Both RFFF and FFF intra -operative times were similar at 9 hours 54 minutes and 10 hours 12 minutes respectively; with ALT taking slightly longer at 10 hours 42 minutes. 55% and 56% of patients undergoing FFF and RFFF respectively had an ASA II status and 67.7% of ALT patients were ASA I.
Conclusion: we have had 4 RFFF and 3 FFF failures in 6 years with all patients going back to theatre for immediate flap salvage operation with venous thrombosis being the usual perpetrator. Given thesimilarities in success and complication rates of RFFF and FFF, these choices for reconstructive are comparable; However RFFF offers 4% greater success and a significantly faster post-operative recovery.

CLINICAL RESEARCH

O-66 Abstract Number- 7 **PDGFRA MRNA IS OVEREXPRESSED IN ORAL SQUAMOUS CELL CARCINOMA (OSCC) PATIENTS COMPARED TO NORMAL SUBJECTS, FURTHER; ITS OVEREXPRESSION IS ASSOCIATED WITH REGIONAL METASTASIS AND REDUCED SURVIVAL IN OSCC, MAKING THE PDGFRA A POTENTIAL NOVEL TARGET.**

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Background: PDGFRA is a gene encoding tyrosine kinase receptor, both EGFR and PDGFRA activate tyrosine kinase. The implication of PGFRA in many cancers and its prognostic significance irrespective to EGFR status in spinal chordoma, gliomas and uterine cancers had shown a need for its investigation in other cancers. We comparedPDGFRA mRNA expressionin OSCC to normal subjects anditsprognostic valuein OSCC.
Patients and methods: The study was conducted the department of oral maxillofacial-head and neck oncology of a tertiary hospital, the data on PDGFRA mRNA (ΔCt) expression of OSCC patients treated for curative surgery from 2008 to 2012 was collected from our institutional database; the levels are compared to normal subjects and, a univariate and multivariate analysis was performed with other cofactors for survival in cancer patients.
Results: A total of 114 patients with primary OSCC treated were studied. Of whom, 31 patients died of disease. There was a wide gap in the expression level among the cancer and control ($p<0.001$), the expression levels significantly correlated to tobacco use in controls ($p=0.002$) and cancer patients ($p=0.044$). The overexpression of PDGFRA mRNA (ΔCt) was associated with positive pN status ($p=0.002, X^2$) and overall survival in multivariate cox regression ($p=0.035$) when all other significant factors such as pT stage, pN status and grade were analyzed.KM analysis revealed that the 2-years survival for PDGFRA mRNA level (ΔCt <0.000471) was 85.7% and 3-years survival decreased to 81.4% which remained same for 5-years. Whereas, 2-years survival for PDGFRA mRNA level (ΔCt ≥0.000471) was 76.5% which decreased to 68.6% by 3-years and data was not available for 5-years.
Conclusion:
PDGFRA mRNA is overexpressed in oral squamous cell carcinoma(OSCC) patients compared to normal subjects, further; its overexpression is associated with regional metastasis and reduced survival in OSCC, making the PDGFRA a potential novel target.
Keywords: PDGFRA; Head Neck Neoplasm; OSCC; Regional metastasis; Prognosis; Survival

O-67 ABSTRACT NUMBER- 21 **ESTIMATION OF SERUM MALONDIALDEHYDE IN ORAL CANCER AND PRECANCER**

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Introduction: Tobacco and alcohol induces generation of free radicals and reactive oxygen species which are responsible for high rate of lipid peroxidation. Malondialdehyde is the most widely used marker of lipid peroxidation.The aim of the study was to estimate serum malondialdehyde level in oral precancer, oral cancer and normal individuals.

Materials and Methods: In this study serum malondialdehyde was measured according to the method of Ohkawa et al in 30 normal individuals (control group) and 30 patients each with histopathologically diagnosed oral precancer and oral cancer.

Results: The mean serum malondialdehyde level in the control group was found to be 5.107 ± 2.32 ηmol/ml whereas it was 9.33 ± 4.89 ηmol/ml and 14.34 ± 1.43 ηmol/ml in oral precancer and oral cancer respectively. There was statistically significant increase in serum malondialdehyde levels in the oral precancer and oral cancer patients compared with the control group.

Conclusion: Increased serum malondialdehyde in oral cancer and oral precancer would serve as a valuable marker for both preventive and clinical intervention and may deserve further investigation for the early diagnosis, treatment and prognosis.

O-68 Abstract Number – 47 **SITE SPECIFIC PREVALENCE OF ORAL CANCER AND POTENTIALLY MALIGNANT DISORDERS AMONG JAPANESE CIGARETTE SMOKERS**

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Introduction: In a multi-centrestudy, we examined the site specific prevalence of oral cancer (OSCC) and potentially malignant disorders (OPMDs) among Japanese smokers.

Methods: Among 435 designated training facilities for Japanese Society of Oral and Maxillofacial Surgeons, nearly half contributed to the study. During the year 2012, information on smoking and alcohol consumption were collected from patients with OSCC and OPMDs with a pathology diagnosis. Smoking pack-years (*packs*/day × *years*smoked) were calculated and cross tabulated by anatomical subsite of cancer or OPMD.

Results: 3,223 patients with OSCC (age:6814, male70%) and 1,224 (age:6313, male 55%) with OPMDs that met the study criteria were recruited. The prevalence of current smoking among patients with OSCC and OPMDs were respectively 32%/41% in males and 9%/17% in females, and ex-smokers were higher in OSCC. Among smokers in OSCC, tongue (49%) was most prevalent site followed by gum (23%), FOM (11%) and buccal (8%), and for OPMDs, gum (42%), tongue (31%), buccal (12%) and hard palate (9%). The prevalence of smoking (current and ex-smokers) was highest for both OSCC and OPMDs arising in the floor of mouth. Among patients with OSCC 42% were ≥40 pack-years smokers being higher than in OPMDs (37%) (p=0.039).

Conclusion: Our results suggest that smoking is particularly associated with OSCC and OPMDs in the floor of mouth and also other sites of the oral cavity. The number of pack years that quantifies exposure to cigarette *smoking* may explain the risk of OSCC among Japanese. Based on these findings, further studies on interventions for prevention and cessation of smoking are expected to control OSCC and OPMDs.

O-69 Abstract Number – 77 **A RETROSPECTIVE STUDY ON COMPLIANCE OF HEAD AND NECK SQUAMOUS CELL CARCINOMA PATIENTS IN 2008/2009 TO TUMOR BOARD RECOMMENDATIONS**

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Introduction: Multi-disciplinary tumor boards (MDT) have become an essential tenet of cancer treatment worldwide, as it is believed that constructive discussion and decision-making on management principles by a dedicated team of physicians from various specialties improves survival outcomes. This practice is also adopted in

tertiary care hospitals in Singapore, where MDTs have been conducted for all head and neck SCC patients for the past 10 years. However, patient compliance to tumor board recommendations is not always guaranteed. Since not much is known about the prevalence of non-compliance and its impact on outcomes, we sought to explore the underlying reasons behind non-compliance to tumor board recommendations and its possible impact on overall survival and recurrence-free survival. We postulate that compliance to tumor board recommendations is associated with higher survival and lower recurrence rates.

Materials and Methods: A total of 294 head and neck SCC patients were discussed in the MDT during the study period. 68 were excluded from analyses – 30 due to palliative treatment recommendations, 25 due to incomplete data for analysis and 13 due to absent therapeutic recommendations. 177 (78.3%) were males and 49 (21.7%) were females. The mean (SD) age of the patients was 61.7 years (12.7 years). The tumour sites included oral cavity (n = 94, 41.6%), oropharynx (n = 28, 12.4%), hypopharynx (n = 14, 6.2%), larynx (n = 74, 32.7%), nasal cavity (n = 9, 3.98%), skin (n = 4, 1.7%) and metastatic cancer of unknown primary (n = 3, 1.3%). 196 (86.7%) had primary HNSCC, 30 (13.3%) had a recurrence. Independent-sample T test and chi-squared test for two-way tables were used to compare the compliance of patients to continuous and categorical variables respectively. Univariate and multivariate analyses were performed using a logistic regression model to assess the respective factors for independent predictive outcome. Kaplan Meier curves were used for survival analysis and the log-rank test to compare survival and recurrence-free survival curves for both groups.

Results: The mean follow up time was 42.7 months. Gender, T staging, AJCC 7 staging and modality chosen are significant predictors of non-compliance in patients. Of the non-compliant group (n=54), 42 (77.8%) were due to patient factors, 2 (3.7%) were due to doctor factors and 10 (18.5%) were due to disease factors. At a mean survival time of 38.0 months (95% CI 27.5 – 48.6) for non-compliant patients and 67.6 months (95% CI 61.8 – 73.4) for compliant patients, compliant patients had an increased overall survival ($p<0.001$) and recurrence free survival ($p=0.012$).

Conclusion: The improved overall survival of patients compliant to tumor board recommendations highlights the importance of tumor boards and the interdisciplinary work in modern-day cancer treatment. In view of the impact of non-adherence to the MDT recommendations, we believe that there is great value on the part of clinicians to counsel their patients appropriately and adequately pertaining to treatment recommendations. As this study sheds light on the demographics of patients who deviate from the recommended treatment the results could help physicians in identifying patients in need of more counselling.

O-70 Abstract Number – 104 **PROPOSAL OF A CLASSIFICATION SYSTEM AND RECONSTRUCTION ALGORITHM FOR PATIENTS WITH BUCCAL DEFECTS**

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BACKGROUND: Surgery for tumours of Gingivo-Buccal complex (GBC) creates defects of various sizes, involving skin, soft tissue and bone. There is no universally accepted classification system for buccal defects in medical literature. We propose a system to classify post-ablative buccal defects and suggest a reconstructive algorithm.

MATERIALS AND METHODS: Retrospective analytical study conducted at Mazumdar-Shaw Cancer Centre including patients undergoing surgery for tumours of GBC between June,2013-June,2015. Pre,post and intra-operative clinico-pathological data were collected.

Defects were described in three planes: -

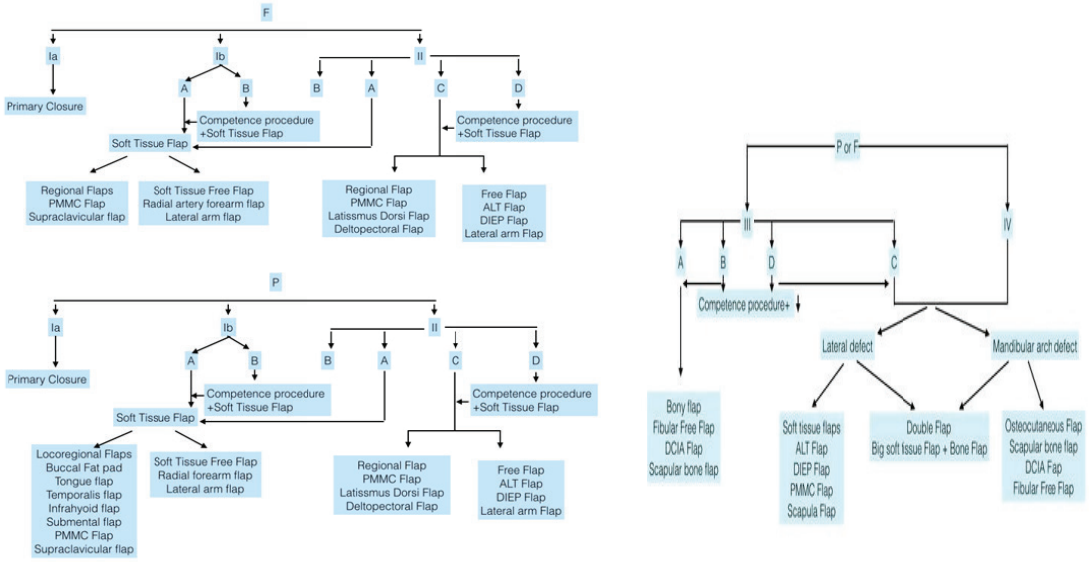
Thickness-P (Partial) or F (full);

Supero-inferior- (I –IV) depending on the size of the defect and the extent of mandible/maxillary resection; and

Antero-posterior–(A- D) depending on involvement of oral commissure and/or masticatory space.

A combination of the above describes the defect.

The reconstructive plan of each class of defect was reviewed and functional outcomes regarding mouth opening, oral competence, oral intake and speech were statistically analysed and correlated with reconstruction. This was used to formulate a reconstructive algorithm.



RESULTS: Of seventy-six eligible patients, nine died and seventeen were lost to follow up, hence the data of fifty patients was analysed. The commonest class of defect (42%) was PIIIC and the commonest flap used was PMMC (38%). Trismus was documented in 36% of patients pre-operatively and 18% postoperatively. 75% of patients with pre-operative trismus had improved mouth opening post-operatively. Currently 74% of patients take solid feeds. Speech is coherent in 80%.
CONCLUSION: Primary closure is feasible for mucosal defect less than 3cm. Thin soft tissue flaps may be used for defects not involving segmental bone or masticatory space. Bone flaps are ideal in segmental bone defects with limited soft tissue component or when the arch of the mandible is involved. Bulky soft tissue flaps are adequate for defects with large soft tissue component with a lateral segmental bone defect. We show acceptable functional outcomes in terms of mouth-opening, mastication, swallowing, speech and oral competence when the proposed classification system and reconstruction algorithm are followed.

O-71 Abstract Number – 118 **PROGNOSTIC AND STAGING IMPLICATIONS OF MANDIBULAR CANAL INVASION IN SQUAMOUS CELL CARCINOMA OF THE ORAL CAVITY**

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Background: A multi-institutional study was undertaken to determine whether mandibular canal (MC) invasion and medullary bone invasion are independent factors in squamous cell carcinoma (SCC) of the oral cavity.
Methods: A total of 1973 patients with oral SCC were retrospectively reviewed. Mandibular bone invasion was categorized into three types; no bone invasion; medullary invasion through cortical bone without MC invasion; and MC invasion. The overall survival rate was assessed by Cox proportional hazards regression analysis and Kaplan–Meier estimates.
Results: Bone invasion was present in 387 (20%) patients, of whom 280 (14%) had medullary invasion and 107 (5%) had MC invasion. Using the International Union Against Cancer (UICC) staging system and American Joint Committee on Cancer (AJCC) system (7th edition), 492 (25%) patients were classified as T4. When the bone invasion

criteria were excluded from the UICC/AJCC system definition, 171 T4 tumors were downstaged. In Cox multivariate analysis, MC invasion was an independent predictor of overall survival as well as disease-specific survival.
Conclusions: MC invasion is an independent prognostic factor for SCC of the oral cavity. The current UICC/AJCC T staging system has restricted prognostic utility. We recommend a modified T staging system, whereby tumors with MC invasion instead of medullary bone invasion are classified as T4a, and tumors are first classified as T1 to T3 based on size and then upstaged by one T classification in the presence of medullary invasion.

O-72 Abstract Number – 121 **PERFORATOR VASCULAR ANATOMY AND CLINICAL APPLICATION OF THE ANTEROMEDIAL THIGH FLAP FOR HEAD AND NECK RECONSTRUCTION**

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PURPOSE: A clinical study was undertaken to define the vascular anatomy of anteromedial thigh perforator flap (AMT) and evaluate the outcomes of the flap in head and neck reconstruction.
Methods: The sizable perforators of AMT flaps and their origins were prospectively explored in 54 patients. For each patient, we recorded the sizable perforators location, diameter, source vessel, numbers and anatomical types. Among them, 14 cases underwent head and neck reconstruction with AMT flaps. The complications and functions of donor and recipient sites were recorded and the operative techniques of AMT were described. Statistical analysis was performed with SPSS 13.0 software package.
Results: Eight of fifty -four thighs had no sizable AMT perforators. AMT flap was based on the medial branch of descending branch of lateral circumflex femoral artery (d-LCFA) and shared the same vascular pedicle with anterolateral thigh flap (ALT). The total sizable perforators were 56. Among them, 40.9%(25/61) were direct septocutaneous perforators, the remaining perforators were all musculocutaneous. Most of the sizable perforators (58/61, 95.1%) were located in the middle one-third of the thigh, with an average of 3.9 0.72 cmmedial to a line connecting the anterior superior iliac spine and the superolateral patella and an average of 22.5 2.38 cm to anterior superior iliac spine. There was an negtive relationship between the number of sizable perforators of AMT and ALT flaps $P<0.01$. 14 flaps survived completely. No complications were observed in recipient and donor site.
Conclusion: The pedicle of AMT flap is the medial branch of d-LCFA. The AMT flap may be useful if ALT flap is without sizable perforators. AMT flap may be as a primary or an alternative choice of anterolateral thigh flap for head and neck reconstruction.
Key words: Anteromedial thigh flap; Anterolateral thigh flap; Perforator; Head and neck; Reconstruction

O-73 Abstract Number – 132 **EVALUATION OF KI67, HER2/NEU AND CK-OSCAR IMMUNOEXPRESSION IN ORAL PREMALIGNANT AND MALIGNANT LESIONS.**

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Introduction: Head neck cancer in India, accounts for 20-40% of total cancer with oral squamous cell carcinmoma (OSCC) being the most common and also reported highest in North east India. As early diagnosis by predictive molecular markers can be of great benefit, we investigated the immunoexpression of Ki67, Her2/neu & CK OSCAR in premalignant (EPL) conditions viz Leukoplakia (LKP), Oral Sub Mucous Fibrosis (OSMF), Verrucous keratosis (VK) and OSCC. These markers have not been investigated yet in this highly prevalent region.
Methods: With the approval from Institutional Ethical Committee and patient consent, IHC study using above monoclonal antibodies was carried out in 50 subjects, viz 10 cases each of Control, OSCC, LKP, OSMF and VK with mean age of 50.78±13.5. Quantification and grading of immunostaining was done by digital image analysis software, ImageJ®
Results: The immunoreactivity in all the groups, expressed as mean IHC score and distribution of IHC grades are shown in Table 1 and Table 2 respectively. For Ki 67, statistically higher levels are seen in all EPL groups (LKP $p<0.05$, OSMF $P<0.05$, VK $p<0.01$) and OSCC ($P<0.001$) as compared to Control. For HER2/neu, significant difference between OSMF and OSCC ($p<0.01$) and between VK and OSCC ($p<0.05$) were observed. However, CK-OSCAR showed similar expression in all the group.

Table 1 : IHC scores for different markers in various groups.

	HER2/neu (Cytoplasm)	HER2/neu (Nucleus)	CK-OSCAR (Cytoplasm)	CK-OSCAR (Nucleus)	Ki67 (Cytoplasm)	Ki67 (Nucleus)
Control	1.4	1.8	1.9	1.8	0.8	0.6
LKP	1.92	1.6	2.3	1.8	1.2	1.5
OSMF	1.57	1.4	2.2	1.85	1.28	1.57
VK	1.2	2	2.3	1.9	0.95	1.67
OSCC	2.36	2.3	2	1.9	1.5	2.2

OSCC- Oral Squamous cell carcinoma, OSMF-Oral Submucous Fibrosis, VK-Veruccous keratosis, LKP- Leukoplakia)

Table 2: IHC score grade distribution

	Score	Control	LKP	OSMF	VK	OSCC
Ki-67	Negative (-)	5(50%)	0(0%)	0(0%)	0(0%)	0(0%)
	Low positive (+)	4(40%)	6(60%)	7(50%)	11(52.38%)	1(10%)
	Mod. positive (++)	1(10%)	3(30%)	6(42.85%)	7(33.33%)	6(60%)
	High positive (+++)	0(0%)	1(10%)	1(7.14%)	3(14.28%)	3(30%)
HER2/Neu	Negative (-)	0(0%)	0(0%)	3(8.1%)	1(10%)	0(0%)
	Low positive(+)	10(66.6%)	1(8.33%)	13(35.13%)	3(30%)	0(0%)
	Mod. positive (++)	5(33.3%)	11(91.6%)	18(48.64%)	6(60%)	7(63.63%)
	High positive (+++)	0(0%)	0(0%)	3(8.1%)	0(0%)	4(36.36%)
Cytokeratin-(OSCAR)	Negative (-)	0(0%)	(0%)	0(0%)	0(0%)	0(0%)
	Low positive(+)	6(60%)	1(20%)	1(10%)	0(0%)	0(0%)
	Mod. positive(++)	4(40%)	8(80%)	9(90%)	6(60%)	11(100%)
	High positive (+++)	0(0%)	1(10%)	0(0%)	4(40%)	0(0%)

Conclusion:

- This is the first study on these markers from NE Indian population.
- Although the results broadly conformed with other international studies, the extremely high incidence of Her 2/neu expression in OSCC as compared to other studies is very striking and points towards its potential role in confirming the diagnosis of SCC in such cases. Also, the dynamic changes in Her2/neu expression in OSCC and premalignant lesion as observed, makes it a promising and efficient new tool for monitoring and progression of disease.
- Ki67 values was found to indicate malignant progression from leukoplakia to OSCC.
- CK-OSCAR can only be considered a broad spectrum epithelial marker only.

· These markers hold promise for further development into a panel, complementary to conventional cancer evaluation and use in clinical oncology. And to achieve that, supporting results from collaborative multi-centre studies needs to be undertaken.

O-74 Abstract Number – 137 **INCIDENCE AND PREDICTORS OF TRISMUS AFTER SURGERY IN ORAL CAVITY SQUAMOUS CELL CARCINOMA**

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Aim: To find out the percentage of trismus at presentation and after treatment of oral cavity malignancies and appropriate adjuvant therapy and to study the predictors of trismus after treatment of oral cavity malignancies and appropriate adjuvant therapy.

Method(s): Prospective study of 116 patients diagnosed to have resectable Oral cavity Squamous Cell Carcinoma, who have been discussed in our MDTB and decided for primary curative intent surgical treatment. Patient characteristics, disease characteristics, surgical details and adjuvant details were recorded for each patient. Most important measurement was the Inter-incisor distancewith maximum mouth opened at 7 occasions (pretreatment, immediately after surgery, 1 week after surgery, on the day of start of adjuvant treatment, on the day of completion of adjuvant treatment, 3 months after day of surgery and 6 months after day of surgery) in patients with adjuvant treatment and 5 occasions in patients without adjuvant treatment. PRO questionnaires i.e, MFIQ(Mandibular Function Impairment Questionnaire) and EORTC QLQ – H&N were used at 3 and 6 months post surgery.

Result(s): The number of patients actually available for follow up at 6 months was only 92, which means 29/92 (31.5%)patients had postoperative trismus at 6 months. The predictors of post operative Trismus at 6 months identified in our study after univariate analysis were Bucco-alveolar complex tumours (i.e, Maxilla,Buccal mucosa and mandible alone or in combination); a pathological nodal positive disease (pN+); patients with pretreatment trismus at presentation; lip split approach for access of tumours; resection of buccinator muscle; resection of one or more of the 4 masticator muscles; marginal mandibulectomy; any form of reconstruction for surgical defect and any adjuvant therapy especially Concurrent chemoradiotherapy. On multivariate analysis, patients with pretreatment trismus at presentation (OR- 5.05), any form of bone resection either mandible or maxilla (OR-0.19), marginal mandibulectomy (OR- 8.51), resection of buccinator muscle (OR-6.04) and adjuvant treatment either RT or CTRT (OR-5.99) remained independent predictors of Post operative trismus at 6 months.

Conclusions: Post operative trismus(31.5%) is indeed a major morbidity in patients treated for OCSCC which has been proved by its correlation with poor mandibular function and QOL scores. Patients with pretreatment trismus at presentation (OR- 5.05), any form of bone resection either mandible or maxilla (OR-0.19), marginal mandibulectomy (OR- 8.51), resection of buccinator muscle (OR-6.04) and adjuvant treatment either RT or CTRT (OR-5.99) remained independent predictors of Post operative trismus at 6 months.

O-75 Abstract Number – 157 **IMMUNOHISTOCHEMICAL EXPRESSION OF UPAR, TISSUE FACTOR AND EGFR: ANALYSIS OF THE POTENTIAL FOR TARGETED MOLECULAR IMAGING AND THERAPY AND PROGNOSTIC VALUE IN OSCC**

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Background: Identification of biomarkers that exhibit tumor-specific expression is of key importance to develop targeted imaging and therapy for more effective management of oral squamous cell carcinoma (OSCC). In addition, there is a strong need to identify reliable prognostic biomarkers to identify high-risk OSCC patients. The biomarkers, urokinase-like Plasminogen Activator Receptor (uPAR), tissue factor (TF) and Endothelial Growth Factor Receptor (EGFR) are highly expressed in many types of neoplasia, and hence appointed potential biomarkers for targeted strategies and prognostication. The purpose of this study was to examine the suitability of uPAR, TF and EGFR as targets for imaging and therapy and the potential prognostic value in OSCC.

Methods: In a retrospective study of 191 patients with primary OSCC, the expression of uPAR, TF and EGFR was examined in resection specimens by use of immunohistochemistry. Results were compared with clinicopathological variables and survival outcome.
Results: By assessment of expression in the tumor compartment and adjacent normal tissues, uPAR, TF and EGFR all showed a highly tumor-specific expression patterns. The positive expression rate of uPAR, TF and EGFR was 95.2%, 57.8% and 98.4%, respectively. High uPAR expression correlated with an early disease stage (S1-S2). High uPAR expression was negatively associated with overall survival (OS) ($p = 0.0310$, HR = 1.595) in univariate analysis. The 5-year OS for high and low uPAR expression was 39.1% and 55.5%, respectively. For well differentiated tumors, high uPAR expression correlated negatively OS in uni- and multivariate analysis ($p = 0.0306$, HR = 11.723).
Conclusion: uPAR, TF and EGFR arehighly suitable targets for target imaging and therapy in OSCC due to high positive expression rates and tumor-specific expression patterns. High uPAR expression was significantly associated with dismal survival outcome. uPAR may be regarded as a prognostic biomarker in oral cancer.

O-76 Abstract Number – 162 **A PROSPECTIVE STUDY ON REPAIR OF ORAL MUCOSAL DEFECTS IN PRECANCEROUS LESIONS WITH CRYOPRESERVED HUMAN AMNIOTIC MEMBRANE GRAFT**

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Introduction – The amniotic membrane is a tissue of foetal origin. It is the innermost layer of the foetal membranes and comprises of a single layer of epithelial cells on a thicker basement membrane and a spongy collagen layer containing mesenchymal cells**.** The amniotic membrane has been considered a suitable tissue for allograft, based on its low immunogenicity. It also possesses anti-inflammatory, anti-fibrotic, anti-angiogenic properties and also accelerates wound healing & epithelisation**.**
Materials & Methods - The aim of this study was to evaluate the clinical outcome of cryopreserved human amniotic membrane (HAM) as a graft material for surgical repair of oral mucosal defects. Thirty four patients with precancerous lesions such a leukoplakia/erythroplakia/verrucous hyperplasia were included. After elective caesarean section, the fresh amniotic membrane was procured, cleaned & prepared in antibiotic solutions and was preserved at -80˚C.
Results – Our results showed that HAM promotes wound healing & epithelisation, reduces scar contracture which proves its remarkable anti-fibrotic property. The healing of defects was with least post-operative infection & complications (both local & systemic).
Conclusion - We conclude that the human amniotic membrane has promising results in repair of post surgical oral mucosal defects.

O-77 Abstract Number -229 **ODONTOGENIC KERATOCYST- A retrospective DEMOGRAFIC study of over 35 years (Total 139 cases} from an INDIAN DENTAL INSTITUTE WITH IHC OBSERVATIONS.**

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INTRODUCTION: The odontogenic cysts form a significant portion of the pathologies affecting the orofacial structures. Among, these the Odontogenic Keratocyst (OKC) is the most aggressive and recurrent, with high mitotic count, and greater epithelial turnover rate. Genetic findings of syndromic and sporadiccases has led to the reclassification, renaming as Keratocystic odontogenic tumors (KCOT) by WHO in 2015.The purpose of this study was to review the cases clinically, histopathologically and immunohistochemically (IHC in total 60 cases}.
METHODS: After approval by the ethics committee the dental records of histologically diagnosed biopsy specimens of cysts of oro-facial region were procured and all 139 cases of OKC/KCOT were evaluated from the period of January 1981 to December 2015.The clinical, histopathological evaluation was done for all the cases, while immunohistochemical expression of PCNA and Podoplanin was done in 30caseseach.
RESULTS: The, OKC was reported as the third most common orofacial cyst (11.41%) and second most common odontogenic cyst. The maximum incidence was noted in the age group of 11-20 years of age with a male to female ratio of 1.84: 1. The syndromic cases of OKC accounted to 5.75% (8 cases), OKC with secondary infection was 31.65% (44 cases), OKC with microcyst formation 2.16% (3 cases), 1.44% (2 cases) were recurrent and 58.99% (82

cases) were characteristic sporadic OKC.Histopathologically it showed variations and immunohistochemically varied expression.
CONCLUSIONS: In the management of pathologic lesions of the head and neck region, appropriate management is often dictated by the clinicopathological diagnosis. Literature review reveals that neither large number of cases of OKC have been reported, nor recorded over a period of many years in India for international comparative studies. It's said that larger the sample size, more accurate would be the age, gender and other demographic data, hence, the present study was undertaken to overcome these factors

O-78 Abstract Number- 182 **PROGNOSTIC IMPACT OF ORAL SQUAMOUS CELL CARCINOMA ON 295 PATIENTS WITH PATHOLOGICALLY POSITIVE LYMPH NODE METASTASIS: A RETROSPECTIVE MULTICENTER STUDY**

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Introduction: Extracapsular spread (ECS) of pathologically positive regional lymph node metastasis (pN+) and the presence of positive margins are recognized as major adverse prognostic factors for survival in head and neck squamous cell carcinoma. Patients with these prognostic factors are considered at high risk for recurrence, and postoperative concurrent chemoradiotherapy (CCRT) is a widely accepted standard of care for fit patients with these high-risk features in surgical pathology. The purpose of this retrospective multicenter study was to assess the prognostic impact of oral squamous cell carcinoma (OSCC) on patients with pN+ and to identify the efficacy of postoperative radiotherapy (RT) or CCRT.
Methods: We examined the records of 295 pN+ patients with OSCC who underwent neck dissection. The locoregional control (LRC), relapse free survival (RFS) and overall survival (OS) rates served as the main outcome measures.
Results: The 5-year LRC, RFS and OS rates for the entire patient cohort were 59.5, 54.2 and 53.2%, respectively. Multivariable analysis showed that variables independently prognostic for OS were T-stage (hazard ratio [HR] =2.14; P<0.001), closed (<5 mm) margin distance (HR=2.03; P<0.001), ECS (HR=2.03; P<0.001), and more than 4 involved nodes (HR=1.61; P=0.039). In the high risk patients with closed margin and/or ECS (n=127), the postoperative RT or CCRT was associated with a better OS rate than the surgery only (P=0.030). However, LRC, RFS and OS were not significantly different between patients who received postoperative RT and CCRT.
Conclusion: The addition of cytotoxic chemotherapy to RT does not provide additional benefit in OSCC patients with pN+ high risk disease. To further improve the survival of advanced OSCC patients, novel approaches, such as postoperative adjuvant CCRT with molecular targeted therapy, will be required.

Poster Number-79 Abstract Number: 413 **THE ROLE OF RETINOIC ACID RECEPTOR IN UNDERSTANDING ORAL CANCER PATHOGENESIS**

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Retinoids are the best studied chemopreventive agents in oral cancer patients, whose effects are mediated by retinoic acid receptors (RAR). The loss of RARβ2 expression early in the development of oral cancer is attributed to acquisition of cellular immortalization or abrogated senescence. Aim: To determine the functional effects of RARβ2 dysfunction (constitutive expression or loss) in precancerous oral keratinocytes. Methods: Characterization of a panel or mortal (D6, D30) and immortal precancerous oral keratinocytes (D19, D20, D34 and D38), and tert immortalized normal cells (FNB-6) for baseline RARβ2 expression and their role in senescence, differentiation, apoptosis, and the methylation status. The re-expression of RAR β2 following the administration of all trans retinoic acid, 5-aza-2'-deoxycytidine, administered alone or in combination and their effect on senescence and promoter methylation. Results: Mortal cells showed constitutive expression of RARβ2 in senescing cultures and loss of expression in immortal cells. This was reflected in tissue engineered 3D composites as well as in the corresponding biopsies, when stained with RARβ antibody. Concomitant expression of CDKN2A and CDKN1A in senescing cultures and their absence in immortals suggest that the loss of RARβ2 strongly correlate with transition from senescence to immortalization. Re-expression of RARβ2 in immortal cells by treatment with retinoic acid (RA), 5-aza-2'-deoxycytidine (Aza-C) and combination of RA + Aza-C with simultaneous upregulation of CDKN2A and CDKN1A confirm RARβ2 as tumor

suppressor gene, which is silenced due to hypermethylation. Increase in the Histone Repressor A (HIRA) foci and Senescence associated β- galactosidase (SAβ) activity in treated cell confirmed the restoration of senescence program in an immortal cell. Promoter methylation analysis confirmed that the silencing of RARβ2 in immortal cell was due to hypermethylation. Conclusion: The role of demethylating agent in growth inhibition and apoptosis highlights the importance of RAR beta serving as an intermediate biomarker in chemoprevention. Identification of methylation status may prove useful as a selective biomarker prior to combined demethylation and retinoid treatment in oral precancerous lesions.

O-80 Abstract Number – 243 **A PREDICTIVE MODEL FOR COMPLICATIONS IN PATIENTS SUBMITTED TO ORAL CANCER TREATMENT.**

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Surgical complications are a risk to any procedure. Our objective is to develop a simple and practical preoperative model for patients with oral SCC.

We analyzed 815 consecutive patients. Mean age at diagnosis was 56.92 years. There were 660 males and 155 females. Tobacco consumption was reported by 622 patients and alcohol, by 503 patients. 257 patients had comorbidities. By the Charlson score, 58 patients had a score of 0, 159 patients had a score of 1, 246 patients had a score of 2, 195 patients had a score of 3, 114 patients had a score of 4, 25 patients had a score of 5, nine patients had a score of 6 and seven patients had a score of 7. The ACE-27 value was 0 for 607 patients, one for 51 patients, two for 131 patients and three for 26 patients. There were postoperative complications in 247 patients. Medical complications occurred in 58 patients and surgical complications, in 199 patients.

We used CART to define risk groups. Patients were groups according to the presence of bone resection, generating two groups with distinct complications incidence. In the second variable, patients submitted to primary closure or local flaps, peddled flaps or microsurgical flaps were grouped in three distinct groups.

Results The logistic model for complications in general is demonstrated had a AUC of 0.7255 with a PPV of 56.79% and a NPV of 72.38%, correctly classifying 70.60% of patients after variable selection and coefficient reduction. The model for surgical complications has a AUC of 0.6882 with a PPV of 35.00% and a NPV of 71.57%, correctly classifying 70.38%. The model for clinical complications has an AUC of 0.7560 before bootstrap and an AUC of 0.7270 after.

O-81 Abstract Number – 251 **WHAT IS THE TRUE INCIDENCE OF SUBMANDIBULAR GLAND INVOLVEMENT IN ORAL CANCER? DETERMINANTS AND IMPLICATIONS FOR TREATMENT**

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Introduction: Removal of the submandibular gland during neck dissection is a routine practice that has been shown to reduce saliva output, impacting the patient's quality of life. Several studies have shown that the incidence of gland involvement by direct extension of tumour is low (<5%) and have recommended that it is oncologically safe to spare the gland during routine neck dissection; however they fail to differentiate between N0 and N+ patients or mention peri-glandular lymphadenopathy with extracapsular extension, necessitating at least partial gland excision for disease control.

Objective: To determine the incidence of submandibular gland involvement in oral cancer and the feasibility of preserving the gland during routine elective or therapeutic neck dissection

Methods: Retrospective analysis of598 patients of oral squamous cell carcinoma (tongue, buccal mucosa, floor of mouth and alveolus) treated in our institution with wide local excision and neck dissection were included in the study. Histopathology reports were evaluated for incidence of direct involvement of the gland by tumour, periglandular lymphadenopathy with extracapsular extension and periglandular lymphadenopathy without lymphadenopathy, to determine feasibility of sparing the gland in treatment of oral cancer.

Result: No patients had occult metastasis in periglandular (level IB) nodes. Of the 235 N+ patients, 21 patients (8.9%) had gross extension of the tumour into the gland. 31 patients (13.2%) had periglandular lymphadenopathy without extracapsular extension and 22 patients (9.3%) had periglandular lymphadenopathy with extracapsular extension.

Conclusion: In clinical N0 patients, submandibular gland sparing neck dissection may be feasible since no patients had occult metastasis to periglandular nodes. In the N+ patient, submandibular gland sparing neck dissection is not feasible due to the high incidence of periglandular lymphadenopathy with or without extracapsular extension.

O-82 Abstract Number – 260 **BUBR1 AS A POTENTIAL BIOMARKER OF MALIGNANT TRANSFORMATION IN ORAL LEUKOPLAKIAS**

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Introduction: Oral potentially malignant disorders (OPMD), such as oral leukoplakia, are clearly associated with oral cancer development. Proteins involved in the mitotic checkpoint complex, such as BubR1 and Mad2, have an important role in preventingchromosomal instability.Our aim was to evaluate the expression of BubR1 and Mad2 in OPMDand assesstheirpotential value for predicting malignant transformation.

Methods: We analysed the immunoexpression of BubR1 and Mad2 proteins, in 118 biopsies from oral tissues (C00-C06) including 34 oral leukoplakias (OL), 15 oral leukoplakias with epithelial dysplasia (OLED), 7 carcinomas*in situ* (CIS), 24 invasive squamous cell carcinomas (SCC) (stage I/II), 28 invasive squamous cell carcinomas with metastasis(SCCM) and 12 normal tissue (NT) cases. We compared the immunoexpression of the markers with clinical-pathological factors and also with the malignant transformation.Univariate (Kaplan-Meier/log-rank test) and multivariate (Cox regression method)analysis were performed to evaluate the association of variables with malignant transformation.

Results: BubR1 high expression was observed in 2.9% of OL cases, 26.7%of OLED, 71.4% of CIS, 87.5% of SCC (stage I/II), 96.2% of SCCM and no high expression cases in NT ($p<0.001$). Mad2 high expression was observedin 31.3% of OL cases, 60% of OLED, 83.3% of CIS, 95.5% of SCC (stage I/II), 100% of SCCM and 16.7% of NT cases($p<0.001$). BubR1 was correlated with epithelial dysplasia grade ($p=0.004$). 15% of OL/OLED casesshowed malignant transformation. In multivariateanalysis, additionally to dysplasia grade, oral leukoplakias (OL/OLED) with BubR1 high expression showed an increased risk of developing an oral squamous cell carcinoma (HR-15.362; $p=0.021$).

Conclusion: BubR1 and Mad2 showed an increasing expression along the natural history of oral carcinogenesis suggesting an important role in oral cancer development. BubR1 could be a useful predictive marker of malignant transformation in oral leukoplakias (work under the funds:"AdoralLeuk-CESPU-2016", "SpindlyTarget-CESPU-2016" and "MitOralC-CESPU-2016").

O-83 Abstract Number – 253 **DO PATIENTS OVER 70 YEARS TOLERATE MAJOR SURGERIES FOR HEAD AND NECK CANCER? AN INSTITUTIONAL AUDIT AND MATCHED PAIR ANALYSIS**

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Introduction: In the context of an aging population and improved life expectancy, the decision to treat elderly patients with curative intent remains an area of debate. On one hand, patients over 70 years are expected to be less tolerant of surgical stress, have more co-morbid illnesses, experience longer recovery periods and have delayed wound healing; on the other, denying curative intent therapy and standard of care on the basis of age may not be ethically justified in all cases. Very little literature exists on the incidence of intra-operative complications and post-operative recovery in patients over 70 years undergoing major surgery for head and neck cancer.

Methods: We performed an institutional audit for the years 2012-16, including 115 patients over 70 years undergoing major ablative surgeries for head and neck cancer, with or without reconstruction. We reviewed patient charts for duration of surgery, intra-operative blood transfusion, intra-operative hypotension or other cardiac events, duration of ICU stay, duration of hospital admission, surgical site infection, surgical re-explorations, wound complications ad 30-day mortality. We performed a match-pair analysis with 30 patients in the age group 50-60 years, matched for the same prognostic variables, to determine if the incidence of intra or post-operative complications in elder patients was significant.

Results: The 30-day mortality was 2%. Free flap failure rate was 4%. Compared to other co-morbidities, those with coronary artery disease on anticoagulants had a higher incidence of wound complications (p=0.004). Minor and major morbidity was acceptable, with no statistical difference between elder and younger patients.
Conclusion: Patients above 70 years with a good performance status can be offered radical surgery as per standard of care wherever feasible – intra-operative and post-operative course is comparable to younger patients.

O-84 Abstract Number-262 **ACS-NSQIP RISK CALCULATOR IN INDIAN PATIENTS UNDERGOING SURGERY FOR HEAD AND NECK CANCERS: IS IT VALID?**
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Introduction: The American College of Surgeons National Surgical Quality Improvement Program Surgical Risk Calculator is the most comprehensive surgical risk assessment tool available, derived from compilation of tens of thousands of patient records. It estimates the likelihood of unfavourable surgical outcomes such as return to surgery, pulmonary complications, cardiac complications and perioperative mortality. Validation studies have been performed on head and neck cancer patients, with some showing good concordance, while other showing unsatisfactory concordance. No validation has been done on an Indian population.
Objective: To determine validity of ACS NSQIP Risk Calculator on patients of head and neck cancer undergoing surgery in an Indian tertiary care centre.
Methods: Retrospective data was collected from one fifty hundred patients of head and neck cancer undergoing surgery in our in institution in2016 and ACS NSQIP Risk Calculator estimates were determined. The calculated complication rates were compared with the actually observed perioperative complication rates. Brier's scores were calculated for an estimation of the calculator's predictive outcome, with 0.01 being a threshold for good performance. ROC curves were used to determine true and false positive rates and Pearson *r* coefficient was used to determine length of hospital stay.
Result: The prediction for pulmonary and cardiac complications, surgical site infections, venous thromboembolism, return to operation theatre and length of hospital stay were unsatisfactory (p>0.05). Single most important predictor of wound complications was previous irradiation (p<0.01), which was not a component of the scoring system.
Conclusion: Although likely to be of value in predicting probability of adverse events, the accuracy of predicting complications in individual patients was found to be low. Incorporation of prior irradiation and risk factors associated with microvascular flap compromise may improve predictive value.

O-85 Abstract Number – 274 **DOES RECLASSIFICATION OF T1-2 ORAL CAVITY TUMOURS ACCORDING TO AJCC 8TH EDITION IMPROVE PRECISION IN STAGING?**
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Introduction: The recent AJCC 8th edition has incorporated depth of invasion into the TNM classification for oral cavity tumours along with maximum tumor dimension in view of its prognostic ability
Objective: To determine if reclassification of T1-2 oral cavity tumours according to AJCC 8th edition helped predict outcomes compared to the previous TNM staging
Methods: Retrospective analysis of patients of early oral squamous cell carcinoma (tongue and buccal mucosa) treated in our institution was performed. As per the AJCC 8, T1 was classified as ≤5mm depth of invasion, T2 was classified as 5-10mm depth of invasion and T3 was ≥10mm depth of invasion. Kaplan-Meier curves were plotted for DSS and OS with both staging systems (old and new). Log rank test was used for statistical significance.
Result: Four hundred and sixty three patients were identified. As per AJCC 8, there were 138 T1 tumours and 190 T2 tumours. New T-stage predicted 5-year disease-specific survival and overall survival. Due to up-staging of the poor prognostic group, the new T-stage reflected better outcomes; T1 stage 5-year DSS improved from 87% to 94% and 5-year OS improved from 85% to 92.%. For T2 stage 5-year DSS improved from 70% to 79% and 5-year OS improved from 66% to 73%.
Conclusion: By reclassifying T1-2 oral cavity tumours according to AJCC 8th edition, there was improved precision in staging. By upstaging the poor prognostic group, high-risk patients are likely to receive adjuvant therapy, and the newly staged T1-2 oral cavity tumours reflect improved outcomes.

O-86 Abstract Number – 281 **RISK FACTORS OF DISTANT METASTASIS IN PATIENTS WITH ORAL CAVITY SQUAMOUS CELL CARCINOMA UNDERGOING SURGICAL TREATMENT**

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Introduction: The presence of distant metastasis (DM) after the initial treatment of oral squamous cell carcinoma is associated with a poor prognosis. The aim of this study was to investigate the clinical and pathological factors related to DM in patients with oral cancer undergoing surgery.
Methods: A retrospective data review was conducted in patients who underwent primary surgery for squamous cell carcinoma of the oral cavity in Instituto do Cancer do Estado de São Paulo (ICESP) between 2009 and 2015. Distant metastasis rates were calculated and predictive factors were determined by Cox proportional-hazards model.
Results: There was a total of 271 patients, including 210(76,6%) men and 64(23,4%) women, with a mean age of 59.9 ± 10.9 years.The incidence of distant metastasis was 9.6%, with the lung being the most common site. The mean interval between the surgical treatment and the diagnosis of distant metastasis was 12 months (2 – 40 months). Advanced T staging, pN+, contralateral cervical metastasis, extracapsular spread, angiolymphatic and perineural invasion, tumor thicknesshigher than 25mm and locoregional recurrence were considered risk factors in the univariate analysis. In the multivariate analysis, angiolymphatic invasion(HR=2.87; P=0.023), contralateral cervical metastasis(HR=3.3; P=0.007), tumor thickness>25mm(HR=3.50; P=0.009) and locoregional recurrence (HR=6.59; P<0.0001) were the only independent factors of DM (Table 1 and Figure 1).
Conclusion Patients with squamous cell carcinoma of the mouth who have contralateral lymph node metastasis, tumors with a thickness >25mm, angiolymphatic invasion or locoregional recurrence after surgical treatment have a greater risk of developing distant metastasis.

Table 1. Multivariate analysis of risk factors for distant metastasis

Variable	HR	$CI_{95\%}$	P
T3/T4staging	0.838	0.274 – 2.560	0.757
pN+	2.382	0.744 – 7.625	0.144
Contralateral cervical metastasis	3.327	1.389 – 7.969	**0.007**
Extracapsular spread	1.221	0.433 – 3.438	0.706
Tumor thickness>25mm	3.500	1.362 – 8.995	**0.009**
Angiolymphaticinvasion	2.873	1.159 – 7.122	**0.023**
Perineuralinvasion	1.808	0.407 – 8.022	0.436
Locoregionalrecurrence	6.597	2.387 – 18.235	**<0.0001**

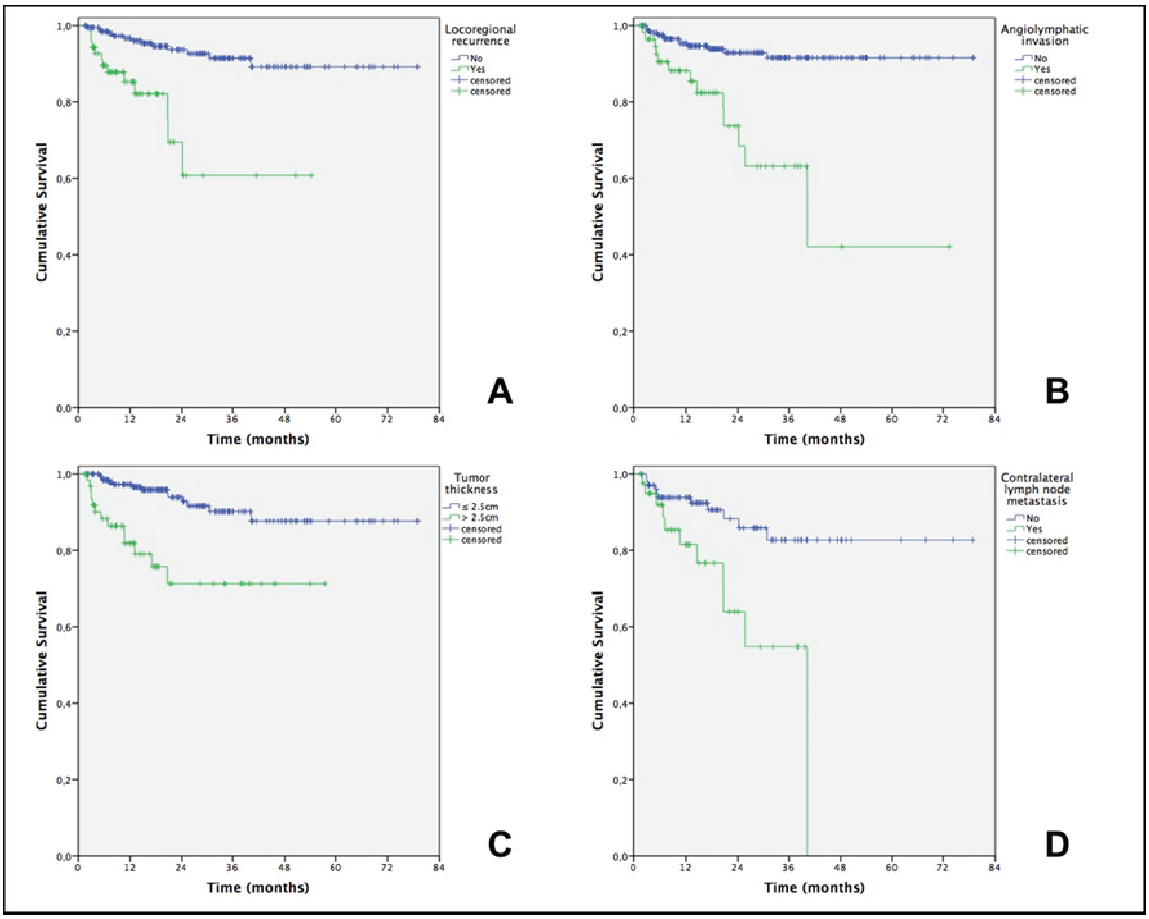

Figure 1. Time free of distant metastasis in relation to independent risk factors for distant metastasis. (A) Locoregional recurrence (89.2% x 60.8%, p<0.0001); (B) Angiolymphatic invasion (91.6% x 42.1%, p<0.0001); (C) Tumor thickness >25 mm (87.7% x 71.3%, p<0.0001), (D) Contralateral cervical metastasis (82.7% x 0%, p= 0.002).

O-87 Abstract Number – 285 **DOES INCORPORATION OF PERINEURAL INVASIONAND DIFFERENTIATION INTO AJCC 8TH EDITION RECOMMENDATIONS BETTER REFLECT PROGNOSIS IN T1-2 ORAL CAVITY TUMOURS?**

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Introduction:AJCC 8th edition has incorporated depth of invasion into TNM classification of oral cavity squamous cell carcinoma due to the prognostic impact on recurrence and survival. After reclassifying our patients of T1-2 oral cavity according to these recommendations, we intended to study the effect of adverse pathological features (perineural invasion, lymphovascular invasion and differentiation) on overall survival (OS) in these patients.

Objective: To determine if perineural invasion, lymphovascular invasion and grade of tumour impacted overall survival in patients classified as T1-2 oral squamous cell carcinomaas per AJCC 8th edition

Methods: Retrospective analysis from442 patients of T1-2 oral squamous cell carcinoma (tongue, buccal mucosa, floor of mouth and alveolus) treated in our institution was performed. As per the AJCC 8, T1 was classified as ≤5mm depth of invasion, T2 was classified as 5-10mm depth of invasion and T3 was ≥10mm depth of invasion. Univariate and multivariate analysis was performed for impact of adverse pathological features (APFs) on OS. Patients were stratified based on the presence of APFs and Kaplan-Meier curves were plotted for OS. Log rank test was used for statistical significance.

Result: For the newly reclassified T1-2 oral cavity tumours, on multivariate analysis the prognostically relevant parameters were perineural invasion (p=0.032), and differentiation (p=0.009). Increasing adverse pathological features resulted in worse survival (p=0.005).
Conclusion: Incorporation of perineural invasion and differentiation better reflect prognostic outcome in oral cavity tumours classified as T1-2 as per the new AJCC 8th edition. Increasing APFs resulted in worse survival.

O-88 Abstract Number- 296 **PHARMACOKINETICS STUDY OF ORAL METRONOMIC CHEMOTHERAPY IN PATIENTS WITH HEAD AND NECK SQUAMOUS CELL CARCINOMA**

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Introduction: Oral Metronomic Chemotherapy (OMCT) comprises of chronic repetitive administration of chemotherapeutic agents at relatively low, minimally toxic doses and with no prolonged drug free breaks. Its more preferred due to enhanced antiangiogenic and proapoptotic activity, minimal toxic side effects, less likelihood of emergence of acquired chemo resistance, possibility of combination with other cytostatic & molecularly targeted treatment, convenience and can be used in outpatient setting is an added privilege. OMCT induces important anti-angiogenic effects (Inhibition of endothelial cell proliferation, migration and morphogenesis, decreases in Thrombospondin-1 expression), resulting in a reduction of the tumor vasculature. In addition its also decrease the number and activity of Trec cells and it also promote dendritic cells maturation, leading to re(activation) of an anticancer immune response, which is mediated by cytotoxic T cells and NK cells.
Objective: To evaluate the pharmacokinetics of OMCT (Methotrexate & Celecoxib) in HNSCC who are unfit for standard care of treatment. Secondary objective: To study the correlation between OMCT plasma concentration and study outcome & toxicity profile.
Methods & Materials: It is single arm, open label, prospective analysis of OMCT in HNSCC. Patients were treated with OMCT between December 2013 and March 2016. OMCT includes oral celecoxib 200 mg BD daily and oral methotrexate 15 mg/m^2 once a week and it was continued until disease progression or intolerance. Bioanalysis is done using Reverse-phase HPLC. SPSS version 16 was used for statistical analysis
Results: 100 patients with median age of 47 years (range 26-68), 85 males and 15 females received OMCT. The primary site was oral cavity, where 85 patients with locally advanced and 15 patients with metastatic disease. 83 patients were without comorbidites & 17 patients with comorbidites. The performance status was 0-1 in 97 patients and 2 in 3 patients. 61 patients were previously treated and 39 patients were upfront treated. The median OS and PFS were 5.6 months (95%CI 4.2-6.9 months) and 3.8 months (95%CI 2.8-4.8 months) respectively. Grade 3-5(manageable) toxicity was seen in 33 patients (33%). The rate of grade 3 hyponatrimia and grade 2 CINV was 21% (21 patients) and 34% (34 patients) respectively. Time to toxicity was found to be 46 days. Only 3% of patients required dose interruption. Median Concentration of celecoxib and MTx were approximately 2600 ng/ml and 18 ng/ml respectively.
Conclusion: Plasma concentration and concentration at which Clinical Benefit Response rate was found to be same. If we treat cancer as chronic disease, OMCT with methotrexate & celecoxib for patients with HNSCC was effective, well tolerated provides good pain control and improves quality of life with least toxicity profile.

O-89 Abstract Number – 310 **RETROGRADE SUPERSELECTIVE INTRA-ARTERIAL CHEMOTHERAPY AND DAILY CONCURRENT RADIOTHERAPY FOR STAGE III AND IV ORAL CANCER: ANALYSIS OF THERAPEUTIC RESULTS IN 112 CASES**

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Introduction: Patients with locally advanced oral cancer who undergo surgery must often accept postoperative dysfunction, including swallowing and speech, and affects the patient's social life, reducing the quality of life. To preserve function while maintaining or improving locoregional control and survival rates, concurrent chemoradiotherapy represents one of the standard treatment modalities for definitive treatment of locoregionally advanced squamous cell carcinoma of the oral cavity, particularly superselective intra-arterial chemotherapy for oral cancer has the advantage of delivering a high concentration of the chemotherapeutic agents to the tumor bed with fewer systemic toxic effects than systemic chemotherapy. This study was to evaluate the therapeutic results and rate

of organ preservation in patients with advanced oral cancer treated with retrograde superselective intra-arterial chemotherapy and daily concurrent radiotherapy.
Methods: One hundred and twelve patients with stage III and IV oral squamous cell carcinoma underwent retrograde superselective intra-arterial chemoradiotherapy. Catheterization from the superficial temporal and occipital arteries was performed. Treatment consisted of superselective intra-arterial infusions (docetaxel, total 60 mg/m^2, cisplatin, total 150 mg/m^2) and daily concurrent radiotherapy (total 60 Gy) for 6 weeks.
Results: The median follow-up for all patients was 46.2 months (range, 10–76 months). After intraarterial chemoradiotherapy, primary site complete response was achieved in 98 (87.5%) of 112 cases. Five-year survival and local control rates were 71.3% and 79.3%, respectively. Grade 3 or 4 toxicities included mucositis in 92.0%, neutropenia in 30.4%, dermatitis in 28.6%, anemia in 26.8%, and thrombocytopenia in 7.1% of patients. Grade 3 toxicities included dysphagia in 72.3%, nausea/vomiting in 21.4%, fever in 8.0%, and renal failure in 0.9% of patients.
Conclusion: Retrograde intra-arterial chemoradiotherapy provided good overall survival and local control rates. This combination chemoradiotherapy approach can preserve organs and minimize functional disturbance, thus contributing to patients' quality of life.

O-90 Abstract Number – 315 **A novel black bone MRI protocol for optimization of 3D head and neck resection margin planning**
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Background: In current head and neck oncology practice, three-dimensional (3D) CT based virtual planning of resection and reconstruction, followed by guided surgery, is standard of care. However, tumours are usually well visible on MRI while less clearly on CT.
Objectives: The aim of this study was to improve the current workflow by developing a method for obtaining 3D MRI-based mandible models, in order to plan the bony resection margins with MRI-based visualisation of the tumour.
Methods: A workflow for MRI based surgical planning and guided surgery was developed using a 4-step approach, including a general exploration phase, test series, validation series and guided surgery. Key MRI parameters where defined in phase 1, followed by application of selected sequences on healthy volunteers in phase 2. The optimised MRI protocol was validated by application on a patient series (N=10) and comparison to CT data of the same patient, phase 3. Phase 4 provided examination of the clinical value during surgery.
Findings: Three blackbone sequences were applied for all cases. In comparison-analysis, mean deviation values between the MRI- and the CT-based models were found to be 0.56, 0.50 and 0.58 mm. Guided surgery was performed in two cases resulting in a mean deviation of the resection planes of 2.3 mm, 3.8mm for the fibula segments, and a mean axis deviation of the fibula segments of 1.9°.
Conclusion: This study provides a method for 3D virtual resection planning and guided surgery, based on solely MRI imaging. Therefore no additional CT data fusion is required.

O-91 Abstract Number- 365 **OUTCOME OF LOCALLY ADVANCED LESIONS OF ORAL CAVITY WITH INFRA TEMPORAL FOSSA EXTENSION-AN INSTITUTIONAL RETROSPECTIVE ANALYSIS**
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Background/Objective- Gingivo-buccal complex cancer has a high propensity to involve infratemporal fossa. Oral cancer involving the infratemporal fossa (ITF), a part of masticator space, is classified as very advanced local disease (T4b) and is traditionally considered unresectable. The aim of the study is to evaluate the outcome of T4b gingivo-buccal carcinoma involving the infratemporal fossa.
METHOD- It is a retrospective study of 124 consecutive patients with biopsy confirmed gigivo-buccal carcinoma with radiological evidence of invasion to infratemporal fossa. The patients were treated during a one year periodbetween 2013 to 2014. All patients underwent ablation with compartmental resection of ITF. The follow up period was from 24 to 48 months. Overall survival and disease free survival was the main outcome measure
RESULTS-Of the 124 with pre-treatment radiological evidence ITF involvement, pathological evidence of tumor extension to ITF was seen only in 32% (n=124). The overall survival of the patients was 57.6%. On comparative analysis between T4a and T4b disease- local control, 91% vs. 88%, neck control, 97% vs. 82%; distant metastases, 14% vs. 43%; disease-free survival, 63% vs. 55%; and overall survival, 65.7% vs. 52%, respectively. Perineural

invasion (75%), lymphovascular invasion (75%) and Extra capsular spread(80%) was associated with poor survival . Skin involvement was not significantly associated with disease outcome.
CONCLUSIONS- Radiological evidence of ITF involvement may not be an indicator of pathological tumor invasion. Even with pathological evidence of ITF involvement, the disease outcome is comparable to other advanced oral cancer. Skin involvement was not a poor prognostic indicator. Distant metastases was a common pattern of disease failure with T4b lesion.

O-92 Abstract Number – 379 **INTRAOPERATIVE TUMOUR MARGIN DELINEATION SYSTEM USING A MINIATURIZED OPTICAL COHERENCE TOMOGRAPHY PROBE**

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Background: Surgical margin status is the most significant determinant of local recurrence. One of the most challenging issues is obtaining negative margins during surgery. The current "gold standard" is frozen section analysis of submitted margins by the pathologist, which has several technical limitations and significant false negative rates. Optical coherence tomography (OCT) is an emerging non-invasive technology capable of high-resolution imaging of the mucosal epithelium and lamina propria (LP). The objective of the study is to assess effectiveness of Optical Coherence Tomography in determining intra-operative mucosal margins in patients undergoing surgery for oral cancer.
Methods: After obtaining informed consent patients were enrolled in the study. Prior to resection of tumor, the clinical tumor margin, surgical margins and sites 1cm from the surgical margins were imaged using OCT *(Figure 1A)*. The biopsies were carried out from the same sites using 5mm punches. OCT images were analysed in a blinded manner using a proprietary algorithm (alpha value) and correlated with histological report *(Figure 1B*). The resection was carried out with surgical margin located according to current clinical guidelines (1 cm of clinically normal mucosa). Receiver operating characteristic curve (ROC) analysis were performed using Medcalc to determine the significant cutoff.
Results: 14 patients were included in the pilot study, a total 110 biopsies were performed from 3 sites: at tumour margin (site 1), at surgical margin (site 2) and 1cm from surgical margin (site 3). Analysis showed that the alpha value of OCT algorithm correlated with histology; normal– 0.0918-0.128; dysplasia – 0.0780-0.0918 and malignant – 0.0580-0.078. OCT could delineate OSCC and dysplasia from non dysplastic sites at sensitivity and specificity of 88.1 and 88.9 respectively.
Conclusion: OCT is a useful tool for assessing intraoperative surgical margins.OCT could significantly delineate normal, dysplasia and malignant sites.

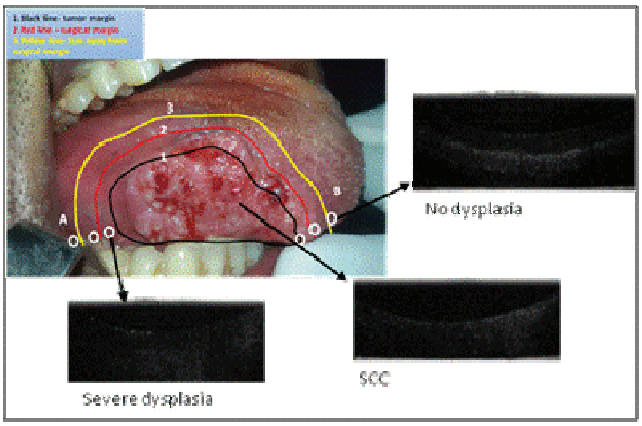

Figure 1(A)

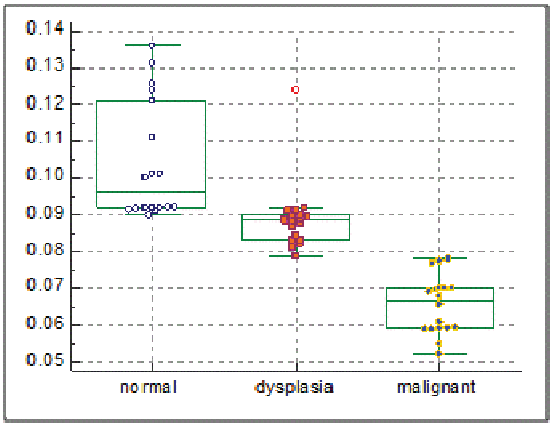

Figure 1 B

Figure 1 A: Clinical image of Ca Tongue with margin delineated: black line (tumor margin), red line (surgical margin) and yellow line (1 cm from surgical margin). OCT images taken from different sites with corresponding punch biopsies.

Figure 1(B): Box and Whisker plot showing OCT alpha score of histopathologically confirmed lesion (normal, dysplasia and malignant). OCT could significantly delineate normal, dysplasia and malignant sites.
Funding: This research was supported by the National Institutes of Health under grant No. P41EB015890 (Laser Microbeam and Medical Program: LAMMP) and No. 1R03EB014852 (National Institute of Biomedical Imaging and Bioengineering: NIBIB), Department of Biotechnology, India (BT/MB/LCMD/04/2012) and the Beckman Foundation.

MANAGEMENT OF NECK

O-93 Abstract Number – 94 **INCIDENCE OF METASTATIC NODES IN LEVEL IIB OF CN0 ORAL SQUAMOUS CELL CARCINOMA**

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Introduction: Elective neck dissection is an essential part of oral cavity squamous cell carcinomas (OCSCC) treatment, but it's associated with significant morbidity with a special concern on manipulation of spinal accessory nerve. For N0 patients, the standard neck approach is selective dissection of levels I to III, even though level IIb presents as an uncommon site of dissemination. The present study brings data of nodal metastasis in OCSCC stages I and II that underwent elective neck dissection.
Methods: Retrospective analysis of pathological findings of 237 patients with OCSCC, staged as cT1-2 and cN0, based on physical examination, ultrasonography and/or computerized tomography, who underwent elective neck dissection at the time of primary surgery on A.C. Camargo Cancer Center in Brazil from January, 1985 to December, 2013.
Results: 237 patients who underwent elective neck dissection as primary treatment were included in this study. 64 (27%) patients were classified as cT1 at diagnosis and the majority, 173 (73%), as cT2. Selective neck dissection I-III was performed in 134 (56.54) of these patients, radical neck dissection in 74 (31.22%), modified radical neck dissection type I in 20 (8.44%) and type II on 9 (3.8%) patients. No lymph nodes compromised were found in 174 patients (73,42%), 1 in 34 (14,35%), 2 in 15 patients (6,33%), 3 in 2 patients (0,84%) and 4 or more in 12 (5,06%), none of them involving level IIb.
Conclusion: In agreement with other series, this present study evidenced feasibility of I-III neck dissection, preserving level IIb in early stages oral squamous cell carcinomas, due to its low probability of metastasis.

O-94 Abstract Number – 95 **A DECISION ANALYSIS MODEL FOR ELECTIVE NECK DISSECTION IN PATIENTS WITH CT1-2 CN0 ORAL SQUAMOUS CELL CARCINOMA**

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Neck metastasis from oral squamous cell carcinoma (OSCC) have a significant impact in disease-specific and overall survival. Physical examination and image exams are used to stage the neck, but preoperative neck staging cannot reliably differentiate metastatic and non-metastatic nodes.The decision to perform END should weight the probability of neck metastasis and the harm of unnecessary surgery.We evaluate if this model can be used to decide treatment and the net benefit with different strategies.
We reviewed patients treated from January, 1985 to December, 2012. Inclusion criteria were histological diagnosis of OSCC, initial surgery, primary tumor in the oral cavitystaged as cT1-2 cN0.Development of a predictive model for metastatic nodes used patients submitted to END. The probability of neck metastasis was calculated and a decision curve analysis performed. We considered two interventions: watchful waiting and END and two outcomes, regional recurrence and disease-free survival.
We developed the model using logistic regression after multiple imputation with neck metastasis as outcome. The initial model included all demographic and pathological variables. This model has an AUC of 0.8423, a PPV of 70.7% and a NPV of 80.2%. We used LASSO for coefficient reduction and variable selection. This model has and AUC of 0.8265 with PPV of 68.3% and NPV of 80.2%.
For neck recurrence, the curves of "treat all by watchful waiting" and "treat none by watchful waiting" cross at the prevalence of neck metastasis. When we focus on disease-free survival, the decision analysis curve shows a pattern where "treat all by watchful waiting" and "treat none by watchful waiting", the predictive model provides a net benefit if used to choose treatment from a 20% until a 54% threshold.

O-95 Abstract Number – 269 **INCIDENCE OF OCCULT CONTRALATERAL NODE POSITIVITY IN CENTRAL ORAL CAVITY TUMOURS - ARE WE OVERDOING CONTRALATERAL ELECTIVE NECK DISSECTIONS?**

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Introduction: The indications in literature for contralateral elective neck dissection (CEND) in oral squamous cell carcinoma vary greatly in literature, including lateral tumours crossing the midline, central tumours, advanced stage tumours and tumour thickness. Till date no consensus exists on when to address the contralateral N0 neck. We performed this study to determine the occult contralateral node positivity in central oral cavity tumours, one of the routine indications for CEND.

Objective: To determine the incidence of occult contralateral nodal positivity in patients of midline oral cavity tumours

Methods: From a retrospective database,469 patients of oral squamous cell carcinoma (tongue and floor of mouth) treated in our institution were selected, of whom 30 tumours were found to be central in position. All these patients underwent bilateral neck dissection. The incidence of occult contralateral node positivity was computed.

Result: Of these 30 patients, only 4 (13.33%) were found to have contralateral occult node positivity.

Conclusion: Only 13.33% of all patients who underwent CEND for central oral cavity tumours were found to have occult contralateral node positivity. Our data suggests that routine CEND may be excessive in central oral cavity tumours; utilization of PET CT or sentinel lymph node biopsy may help determine candidates who have a more definite need to address the contralateral neck.

O-96 Abstract Number – 282 **MANAGEMENT OF NECK DISSECTION IN ORAL SQUAMOUS CELL CARCINOMA: OUR EXPERIENCE AND NEW PERSPECTIVES.**

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Introduction: Presence of lymph node metastases occurs in almost 50% of patients with Squamous Cell Carcinoma (SCC) of the oral cavity and represents the most important prognostic factor associated with 50% of lower survival rates.

Methods: 6-year retrospective review of patients with oral cavity SCC who underwent neck dissection (ND) from 2010 to 2015. The aim of the study is to evaluate the influence of cervical lymph node metastasis with the prognosis besides the cervical surgical management in relation to the final pathologic stage in our population.

Results: 106 patients including 64(60.4%) males and 42(39.6%) females, mean age of 62 (range 33-86 years). The sites of primary tumor tumor are tongue 48.1%%, 13.2% bucal mucosa, 13.2% retromolar trigone, 21.3% alveolar ridge, 9.5% floor of mouth and 4% hard palate.79% patients underwent ipsilateral ND and 21% bilateral. 82% of them were Selective Neck Dissection (SND levels I-III/IV) and 18% Modified Radical Neck Dissection (MRND). A majority of the patients were pathologically classified pT1-T2 83% (61% N0 and 39% N+) whereas 17% were pT3-T4 (56% N0 and 44% N+).

In 54 patients (51%) a ND was performed finally being pT1-T2N0, so do we overtreated?

Conclusion: A better understanding of the patterns of lymph node metastasis promoted the use of selective neck dissection in selected patients. Diagnostic procedure for mapping the neck N0 like Sentinel Lymph Node Biopsy allows an accurate staging of cervical lymph node. New molecular markers are joining the conventional histopathology analysis to more accurately evaluate the presence of micrometastasis.

O-97 Abstract Number – 283 **INDICATION OF THE SENTINEL NODE BIOPSY BY THE THICKNESS OF TUMOR IN PATIENTS WITH CN0 TONGUE SQUAMOUS CELL CARCINOMA**

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Introduction: Neck management for clinically node-negative (cN0) oral cancer patients is difficult. D'Cruz et al. reported higher survival rate of elective neck dissection (ND) and National Comprehensive Cancer Network (NCCN) guidelines also recommend elective ND for tumors with greater depth of invasion than 4 mm. To avoid unneeded ND and minimize the adverse effects of ND, we performed a sentinel node biopsy (SNB) from 2001, but SNB is

sometimes unnecessary because SNB positive rate is approximately 15%. The aim of this study is to examine the relationship between tumor thickness and lymph node metastasis and consider the indication of SNB.
Methods: We examined 35 cases of T1 or T2, cN0 tongue squamous cell carcinoma (SCC) that we had performed SNB from 2001 to 2015. Tumor thickness by ultrasound (US) examination before the operation was searched from medical record and resected tumor thickness was evaluated pathologically.
Results: Four cases were positive for lymph node metastasis and 31 cases were negative as a result of SNB. Three cases of SNB negative showed a delayed cervical lymph node metastasis. The average thickness of primary tumor was 4.9 mm (US), 5.3 mm (pathologically) in SNB negative cases, 5.7 mm (US), 7.5 mm (pathologically) in SNB positive cases and 4.9 mm (US) in delayed lymph node metastasis cases.
Conclusion: This result shows that SNB may not be necessarily needed in all cN0 tongue SCC.

O-98 Abstract Number – 351 **CLINICAL APPLICATION OF BIO-MARKERS FOR DETECTION OF NODAL METASTASIS IN HEAD AND NECK SQUAMOUS CELL CARCINOMA**

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INTRODUCTION: Cervical nodal metastasis is among the most important prognostic factors in head and neck squamous cell carcinoma. Currently available imaging techniques can detect nodal metastatic deposits, 2mm or more. Sentinel node biopsy which is a popular method for identification of occult nodal metastasis usually necessisates a second surgery if a positive node is identified. HPE with IHC still remains the gold standard for establishment of nodal metastasis. Serial Step Sectioning yields highly accurate results, but is very time-consuming. The use of molecular markers for the identification of micrometastasis and isolated tumour cells is already well-discussed in literature. What has not been established yet is the best combination of these markers that would have highest sensitivity and specificity in identifying pathological nodes. Also, the clinical application of the same is something yet unexplored. Hence the objective was to develop an intra-operative diagnostic assay system based on molecular markers for detection of nodal metastasis.
MATERIALS AND METHODS: This study was started in August 2014 at Mazumdar Shaw Centre for Translational Research. The first step was a literature review of the previously identified biomarkers for nodal metastasis. A retrospective (from tissue repository) and prospective (lymph node sample collection) validation of these markers is underway currently. We also look to be able to identify novel molecular markers for nodal metastasis by proteomic profiling (grant-in-aid awaited). The validation of these markers will be done by IHC. Finally the best combination of these markers will be selected for the development of a micro-fluidics based intra-operative assay system.
RESULTS: Preliminary results using antibodies to desmoglein-3 (DSG-3) as the biomarker are encouraging. With 17 positive and negative lymph node samples, a sensitivity of 72.5% and specificity of 55.6% was achieved for the detection of nodal metastasis using a Lateral Flow Test assay system. Currently, a multimarker assay system is being developed in the lab, the combination of markers will be validated in a larger cohort (n=30 each of lymph node positive and negative) of patients. The marker expression will be correlated with the clinical, nodal and pathological status of the patients.
CONCLUSION: Although there are multiple studies which have looked at such markers, no effort has yet been made towards their clinical utility. Development of this minimally-invasive, assay system for the detection of occult nodal metastasis/micro-metastasis/ITCs and prediction of susceptibility to nodal metastasis will help to improve survival outcomes in head and neck squamous cell carcinoma.

O-99 Abstract Number- 386 **COMPARISON OF TUMOR VOLUME AND THICKNESS AS PREDICTORS OF NODAL METASTASIS AND SURVIVAL**

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Background: Tumour(T) stage is an important predictor for nodal metastasis But T stage as defined by AJCC fails to represent the true three-dimensional volume of primary tumors. As a result,superficial tumors with a favorable prognosis are fallaciously clubbed together with unfavorable, deeply infiltrating lesions in the same stage. Methodology:588 treatment naïve tongue cancers operated between 2007-2010 were included in the study.Binary logistic regression was used for predictors of nodal metastasis and ECS using tumour volume and thickness as separate models.C –index - generated to quantify predictive accuracy of T stage, thickness and tumour volume for survival.

Result:The median age was 47 yrs (20-80 yr) with male to female ratio 2.5:1 . Majority of the patients were T2(47.4%).Node positivity was seen In 53.23% and Extracapsular spread was seen in 34.9%. The two model were compared using Nagelkerke R Square, -2 log likelihood, overall percentage and accuracy, we found almost similar values for Thickness model and tumour volume model. As far as disease free survival is concerned, C index was highest for Tumourvolume(0.61),followed by thickness(0.60) and T stage(0.59). For overall survival, c index was equal for tumour volume and thickness (0.69) followed by t stage(0.64) Conclusion:Thickness and Volume are equal in prediction of nodal metastasis, extra-capsular spread and survival. As per C Index, Thickness and Volume are better predictors of DFS and OS than T stage

O-100 Abstract Number- 378 **RELEVANCE OF DIFFERENTIAL EXPRESSION OF P16 IMMUNOCYTOCHEMISTRY ON NECK NODE FNAC IN SQUAMOUS CARCINOMA OF HEAD AND NECK**

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Introduction: Patients with head and neck squamous cell carcinoma (HNSCC) often present with a neck mass due to metastatic spread which is diagnosed by FNAC much before the diagnosis of primary site. It is critical to locate the primary site because treatment is dictated by the determination and extent of the primary tumor. Wide range (25-33%) of HNSCC is associated with human papillomavirus (HPV) infection and majority of them originate in the oropharynx. It is an established fact that p16INKa (p16) can be used as surrogate marker for high risk HPV infection.
Methods: Retrospective analysis of FNAC smears of neck node metastasis of squamous cell carcinoma (SCC) with known or unknown primary from 100 patients were reviewed and diagnosis of SCC was confirmed. Immunocytochemistry (ICC) using p16 antibody was performed on wet fixed destained smear. Moderate to strong nuclear and cytoplasmic staining with p16 was considered as positive. Distribution of P16 ICC on neck node FNAC with reference to different primary site was evaluated.
Results: 48/100(48%) cases of metastatic HNSCC expressed P16 by ICC. Of these positive cases primary was detected in 39 cases while in 9 cases primary site was not identified (referral cases-5, no obvious lesion on clinical or radiological studies-4 – hence not biopsied). Distribution of primary site of p16 positive FNAC:
- 76.92% (30/39) were oropharyngeal carcinoma (tonsil-15, base of tongue–9, oropharyngeal, not specified-6)
- 23.07% (9/39) were non-oropharyngeal (buccal mucosa-4, hypopharynx-3, tongue-1, nasopharynx-1)

The difference of p16 positivity was statically significant (p=0.018).
Conclusions: In patients presenting with a lymph node metastasis as the initial manifestation of their tumor, p16 positivity on FNAC using ICC can help focus the search for primary in tonsil. Even in absence of clinically and radiological non-evident lesions tonsillar biopsy should be considered as it is likely to locate primary site.
Keywords: Squamous cell carcinoma, P16 expression, immunocytochemistry, oropharyngeal carcinoma, cervical lymph node FNAC.

O-101 Abstract Number – 224 **A RANDOMISED CONTROLLED TRIAL OF INTRAOPERATIVE BRIEF ELECTRICAL STIMULATION VS NO STIMULATION OF SPINAL ACCESSORY NERVE FOR PREVENTION OF SHOULDER DYSFUNCTION AFTER ONCOLOGIC NECK DISSECTION IN ORAL CAVITY SQUAMOUS CELL CARCINOMAS-AN INTERIM REPORT**

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Introduction: Shoulder dysfunction is well documented after spinal accessory nerve sparing neck dissection due to possible causes that include direct injury, local devascularisation and decompression injuries.
Methods: Patient undergoing oncological neck dissection was recruited in the study based on inclusion/exclusion criteria. Patient was block randomized into two groups: stimulation
group and control group. Each group was targeted to have 50 patients. Both subjective and quantitative assessment of shoulder was done preoperatively and postoperatively at 3 months by the physiotherapist. Subjective assessment was done by Medical council research (MRC) grading for muscle strength, Constant Murley score, Neck Dissection Impairment Index and University of Washington Quality of Life Questionnaire. The quantitative assessment of shoulder was done using muscle strength testing device developed by Department of Bioengineering. EMG was recorded from shoulder muscle(Upper, Middle Trapezius muscle fibers) bilaterally. Both the groups underwent similar oncological neck dissection surgery. The stimulation group received electrical stimulation of spinal accessory nerve for

1 hour following neck dissection surgery. Postoperatively, shoulder muscle strengthening exercises were taught by a physiotherapist.
Results: Data collected was statistically analyzed by EPIDATA software. Categorical and quantitative data was analysed by Chi Square and independent unpaired t tests respectively. The sample size was targeted to be 100 by the end of July 2017.At present 60 patients have been recruited with 30 cases in each group. Interim analysis was done which has shown improvement in shoulder function in electrical stimulation group . Also quality of life scales have shown concerns regarding salivation in post radiotherapy patients, difficulty in chewing, daily activity.
Conclusion: The potential impact of this study is multi-dimensional . Evaluation of intraoperative electrical stimulation have shown improvement in shoulder functions post operatively and can be considered as an additional therapeutic option for the prevention of shoulder pain and dysfunction in patients undergoing oncologic neck dissection.

RADIATION AND MEDICAL ONCOLOGY

O-102 Abstract Number – 19 **ANAEMIA IN CANCER PATIENTS UNDERGOING RADIOTHERAPY AND CHEMOTHERAPY IN National HOSPITAL ABUJA, NIGERIA**
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Introduction: Many cancer patients present with anaemia prior to radiotherapy and chemotherapy or may experience anaemia/worsening of anaemia at some point during treatment.
Aims and Objectives: The aim of the study was impact of anaemia in cancer patients undergoing Radiotherapy and Chemotherapy
Methodology: 201 cancer patients of both sexes with histopathologically confirmed malignancies (solid cancers). Patient's pre-treatment Hb was taken. Patients were distributed into Radiotherapy, Chemotherapy and Chemoradiation. Their Hb were measured once every 2 weeks. The blood film pictures of the patients were examined. The whole process was terminated after 3 consecutive Hb reading or after week 6. Anaemia was classified into:
Less than 10g/dl - Severe anaemia
10 - 10.9g/dl - moderate anaemia
11-12 g/dl - mild anaemia
12 g/dl and above - no anaemia.
Results and Analysis: Out of 201 cancer patients, 86.1% were female and 13.9% were male. Age range, 25 - 75 years, 100 patients were on Chemotherapy, 63 patients on Radiotherapy and 38 patients on Chemoradiation. The prevalence in anaemia in cancer patients undergoing radiotherapy and chemotherapy was found to be 63% as shown by blood film picture (i.e average of 72%, 42.9% and 73.7%). At the end of therapy, 62% (100) patients on Chemotherapy and 55.6% (63) patients on Radiotherapy had their Hb level between 11-12g/dl, 39.5% (38) cancer patients on Chemoradiation arm hadHb value of 10-10.9 g/dl. At P- value > 0.05, there was no statistical significance on distribution of mean Hb, standard deviation based on sex and treatment type.
Conclusion: Prevalence of anaemia in the study group was found to be 63% while 37% had adequate haemoglobin (Hb) after the therapy as reflected in the blood film picture. At 95% confidence interval, Chemotherapy had greatest impact on Hb level during therapy. Thus Chemotherapy; 9.60-10.62g/dl, Radiotherapy; 11.52-12.1 3g/dl, Chemoradiation therapy; 10.98-11.3 6gIdl.

O-103 Abstract Number – 240 **THE IMPACT OF PRIMARY TUMOR AND NODE CHARACTERISTICS ON THE TIME TO POSTOPERATIVE RADIOTHERAPY IN ORAL CAVITY SQUAMOUS CELL CARCINOMA**
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Radiotherapy is a modality in head and neck squamous cell carcinoma treatment, being used when the risk of recurrence is estimated as higher than 20%. Two variables are usually regarded as significant for the effectiveness of PORT: the dose and its fractioning and the interval between surgery and radiotherapy. The time interval between surgery and radiotherapy is critical and an initial evaluation demonstrated that a interval of more than 7 weeks between surgery and radiotherapy was associated with a increase in local recurrence and decrease in survival.

A total of 389 patients were analyzed in this study. The location of the primary tumor was oral tongue in 211 patients, floor of mouth in 76, the inferior gingiva in 29, retromolar trigone in 52, hard palate and superior gingival rim in 11 and the buccal mucosa in 10 patients.
Adjuvant radiotherapy dose ranged from 5,400 to 7,500 cGy. The mean time from surgery to radiotherapy was 7.5 weeks and the mean time to treatment conclusion was 15.89 weeks. Total treatment time was significantly correlated to interval to radiotherapy (R2: 0.6445, $p<0.001$). To evaluate the impact on different variables on time to radiotherapy, we developed a logistic regression models, dichotomizing the time of radiotherapy at six and eight weeks. All variables considered clinically relevant were included in these models and selected through LASSO. Classificatory analysis demonstrates that for locoregional recurrence, time to radiotherapy is significant in patients with low lymph node ratio, advanced primary tumors and without vascular invasion and in patients with high lymph node, they are the second echelon variable.
The ideal interval between surgery and radiotherapy isn't the same for all patients. The effect of PORT depends on the characteristics of the primary tumor and nodal metastasis and specific groups derive more benefit from early start of treatment.

O-104 Abstract Number – 289 **RETROSPECTIVE ANALYSIS OF PALLIATIVE METRONOMIC CHEMOTHERAPY IN HEAD AND NECK CANCER**

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Background Metronomic chemotherapy in head and neck cancer, in a small randomized study, with selected patients cohort has shown promising results.This retrospective analysis was done to see whether the efficacy of metronomic chemotherapy in an unselected cohort of head and neck cancer patients is similar to that reported in the randomized study and the influence of site and subsite of head and neck cancer on survival .
Method: This was a retrospective analysis of head and neck cancer patients who received palliative metronomic chemotherapy between January 2013- August 2014. The data of these patients was collected from our palliative chemotherapy database maintained in medical oncology outpatient department.The overall survival(OS) was calculated in days from date of start of chemotherapy to date of death. Patients who had not expired at last follow up were censored during estimation of OS by Kaplan Meier method. Factors affecting OS were identified by COX regression analysis.
Results: Over the stipulated time period, 340 patients received palliative metronomic chemotherapy. The median age of these patients was 48 years (22-90 years) . The site of tumor origin were oral cavity in 281 patients (82.6%), oropharynx in 33 patients (9.7%), larynx in 7 patients (2.1%), hypopharynx in 12 patients (3.5%) and maxilla in 7 patients (2.1%). Previous treatment was received by 286 patients (84.1%).The median time to failure was 3.5 months (IQR 2.0-6.0 months).The overall median survival was 155 days (95%CI 140.2-169.8 days). Failure within 6 months of previous treatment was the most important factor influencing OS. There was a trend towards lower OS in patients with oral cancers (139 days versus 210 days). Among the various oral cancer subsites oral tongue primary had a lower overall survival.
Conclusion: Oral metronomic chemotherapy has promising results when used in the trial selected cohort of patients. But has dismal results in patients with within 6 months of treatment. The site and subsite of the head and neck cancer does impact the OS.

O-105 Abstract Number – 331 **PATTERNS AND DISCORDANCE IN MULTI-MODALITY MANAGEMENT OF HEAD NECK CANCERS: A PRACTICE SURVEY**

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Introduction: The grey areas in guidelines about multi-modality management of head neck cancers gives scope to variability in practices and perception in oncologists and unexplored practical issues need to be understood.
Methods: A custom-designed survey questionnaire, containing 19 questions regarding head and neck cancers was e-mailed to the members of international academy of oral oncologists (IAOO) and indian oncologists. The data was analyzed after applying exclusion criteria with chi-square analyses and student t tests.
Results: Of 369 evaluable responders 211 (57.1%) were surgeons, 135 (36.6%) were radiation oncologists and 17 (<1%) were medical oncologists. Areas of controversies include imaging investigation for metastatic work up with 109 (29.46%) clinicians believing chest x-ray as adequate and 173 (47.40%) sub-centimeter mediastinal nodes can

be followed up. In patients with HPV positivity 72 (19.89%) clinicians are willing to de-escalate treatment. In oral cavity central sub-sites tumors, 129 (35.34%) clinicians supported addressing contra-lateral neck irrespective of tumor crossing midline. Weekly regime for concurrent therapy came out as the preference of 136 (40.12%) clinicians; with 123 (36.5%) agreed to continue cisplatin in elderly patients with dose adjustments and 108 (32.43%) to replace cisplatin with anti-EGFR antibodies if the patient is not likely to tolerate. None of options for the use of concurrent chemotherapy for elderly patients, neo-adjuvant chemotherapy for borderline resectable oral cavity cancers, choice of nutritional support, and adjuvant metronomic chemotherapy for salvage treatment got clear consensus amongst the clinicians.
Conclusion: Though there are variable opinions, there are aspects like use of weekly cisplatin for concurrent chemotherapy and antiEGFR antibodies as an alternative for patients not likely to tolerate which have emerged as opinions. These emerging opinions warrant further exploration with research in addition to the areas of controversies. The deviating opinions for the issues with clear level 1 evidence also have quality implications.

BASIC RESEARCH

O-108 Abstract Number – 51 **NICOTINE INDUCES LYMPH NODE METASTASIS OF ORAL CANCER CELLS THROUGH EGFR ACTIVATION**

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INTRODUCTION: Nicotine, which is one of the main component of tobacco, is absorbed from oral mucosa and pulmonary alveoli by smoking, and moves to blood. Nicotine in blood binds to nicotinic acetylcholine receptor (nAChR) in central nervous system and relates to tobacco addiction. Recently, it has been reported that nicotine promotes proliferation and invasion in breast cancer cells through epidermal growth factor receptor (EGFR) activation. However, the role of nicotine in oral cancer cells is still unknown although oral cavity is most exposed organ to tobacco smoke. Therefore, this study assessed the effects of nicotine on oral cancer cells.
METHODS: The effects of nicotine on the cell proliferation, migration and invasion of oral cancer cells were assessed with or without nAChR inhibitor or anti EGFR antibody. nAChR expression was examined by Real time RT-PCR. EGFR phosphorylation and signal transduction pathways were analyzed by Western blotting. Subcellular localization of EGFR was investigated by immunofluorescence staining and Western blotting. A mouse xenograft model was prepared by inoculating mice with suspensions of oral cancer cells subcutaneously into the footpad of each mouse. Nicotine was administrated intraperitoneally daily for 3weeks and popliteal lymph node metastasis of xenografted tumors was examined.
RESULTS: Nicotine upregulated cell proliferation, migration and invasion of oral cancer cells, however nAChR inhibitor reduced that effects. Anti EGFR antibody suppressed cell proliferation, migration and invasion of oral cancer cells, however nicotine dissolved that effects. Nicotine elevated nAChR expression and induced phosphorylation and nuclear translocation of EGFR. In addition, an in vivo experiment revealed that nicotine increased popliteal lymph node metastasis of xenografted tumors. nAChR inhibitor suppressed lymph node metastasis of xenografted tumors.
CONCLUSIONS: The mechanism underlying the tumor progressive effects of nicotine in oral cancer cells consists of upregulation of cell proliferation, migration and invasion via the activation of EGFR.

O-109 Abstract Number – 58 **OVEREXPRESSION HSA-MIR-125A-5P ENHANCES PROLIFERATION, MIGRATION AND INVASION OF HEAD AND NECK SQUAMOUS CELL CARCINOMA CELL LINES BY UPREGULATING CHEMOKINE RECEPTOR TYPE 7 IMPLICATIONS**

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Introduction: Head and neck squamous cell carcinoma (HNSCC) is usually diagnosed accompanied by lymph node metastasis. C-C chemokine receptor type 7 (CCR7) is related with the invasion and metastasis of tumor through various pathways of signals in HNSCC. The role of hsa-miR-125a-5p in HNSCC is still unclear. We conducted this study to investigate the relationship between hsa-miR-125a-5p and CCR7 in HNSCC.

Methods: Quantitative real-time reverse transcription polymerase chain reaction (qRT-PCR) was applied to analysis the expression of hsa-miR-125a-5p in clinical samples. CCK8, transwell and wound healing assay were used for detecting cell proliferation, invasion and metastasis after overexpression hsa-miR-125a-5p respectively. And the changed protein expression of CCR7 was observed by western blotting. In survival analysis, Students T-test and Log Rank test were used to analysis the relationship between the expression of hsa-miR-125a-5p and HNSCC according to the TCGA database.
Results: We identified that the expression of hsa-miR-125a-5p in cancer tissue is lower than the corresponding adjacent normal tissues in clinical samples. (P=0.038 <0.05). And the results of western blotting suggest that there is a positive regulation relationship between hsa-miR-125a-5p and CCR7. And overexpression hsa-miR-125a-5p can enhance the ability of cell proliferation, migration and invasion in HNSCC with upregulating CCR7. The results of survival analysis showed that patients in low expression group of hsa-miR-125a-5p tend to get longer survival time. (p = 0.045 <0.05).
Conclusion: Altogether, the date raise the possibility that hsa-miR-125a-5p has a significant role in promoting cancer in HNSCC, which can provide a basis for the treatment of HNSCC in molecular targeted therapy. Further researches are still needed to ascertain the role of hsa-miR-125a-5p in other HNSCC cell lines and in vivo.

O-110 Abstract Number – 300 **POST-TRANSCRIPTIONAL GENE REGULATION BY RNA-BINDING PROTEINS AND NON-CODING RNAS IN HNSCC**

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RNA-binding proteins (RBPs) regulate numerous aspects of co- and post-transcriptional gene regulation including maturation, transport, stability and translation of coding and non-coding RNAs.RBPs are emerging as fundamental players in tumor development. Both RBPs and their target RNAs form a complex network that plays a major role in tumorigenesis. Here, we described anovel mechanism by which RBP Fragile X-Related protein 1 (FXR1)influences the expression of well-known oncogenesand play a key role in post-transcriptional control of oral cancer development. FXR1 belongs to a family of RNA-binding proteins that includes functionally similar Fragile X mental retardation 1 (FMR1) and Fragile X-related 2 (FXR2). FXR1 protein is highly expressed in multiple cancers including lung and oral cancers. Our data demonstrate that RBP FXR1 plays an essential role in the growth of head and neck squamous cell carcinomas (HNSCC) by blocking cellular senescence. FXR1 MEF cells stained positive for senescence associated beta-galactosidase straining. We report a major function of FXR1 as it promotes the stability of Telomerase RNA Component (TERC), a non-coding RNA and simultaneously destabilizes CDKN1A mRNA, and blocks cellular senescence. FXR1-deficient HNSCC cells show an increase in different cyclin dependent kinase inhibitors (p21, p27), a decrease in p-AKT, and these cells also undergo a G0/G1 cell cycle arrest which are the early onsets of cellular senescence. FXR1 binds and stabilizes TERC RNA for telomere maintenance. On the contrary, FXR1 binds and destabilizes CDKN1A mRNA. By an independent assay we also show that the senescence phenomenon was only observed by a combined up and downregulation of CDKN1A and TERC, respectively which was only obtained by FXR1 knockdown. Thus, FXR1 forms a molecular link between CDKN1A and TERC for cell cycle control and telomere length, respectively, to repress cellular senescence in HNSCC. Based on these observations, we define that RBPs, their mRNA targets, and their mechanism of action have provided us novel potential targets for cancer therapy.Funding Source Name/Number: R01DE022776.

O-111 Abstract Number- 167 **$CD19^+IL\text{-}10^+$ REGULATORY B CELLS AFFECT SURVIVAL OF TONGUE SQUAMOUS CELL CARCINOMA PATIENTS AND INDUCE RESTING $CD4^+$ T CELLS TO $CD4^+FOXP3^+$ REGULATORY T CELLS**

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Objectives: Increase of regulatory T cells (Tregs) in the tumor microenvironment predicts worse survival of patients with various types of cancer including tongue squamous cell carcinoma (TSCC). Recently, the cross-talk between Tregs and regulatory B cells (Bregs) has been shown in several tumor models. However the relevance of Bregs to tumor immunity in humans remains elusive. Our objective was to investigate the distribution and function of Bregs in TSCC microenvironment.

Materials and Methods: Double staining (Bregs: IL10/CD19 and Tregs: Foxp3/CD4) was performed on tissue sections of 46 TSCC, 20 metastasis lymph nodes, and tumor adjacent normal tissue. Flow cytometry analysis was used to detect the Bregs from magnetic bead- sorted B cells after co-culture with TSCC cell lines, and Tregs from sorted $CD4^+ CD25^-$ T cells after co-culture with stimulated B cells.
Results: The immunohistochemical (IHC) results showed that the frequency of Bregs/$CD19^+$ B in TSCC (0.80%±0.08%) was significantly higher than adjacent normal tissue (0.52%±0.04% $p < 0.01$.). And the increase of Bregs in TSCC microenvironment was related to Tregs and predicts worse survival in patients. Cytological experimentsindicated that frequency of Bregs increased after co-culture with TSCC cell line and that the induced B cells converted $CD4^+ CD25^-$T cells into Tregs.
Conclusion: The increased expression of Bregs in the TSCC microenvironment plays a significant role in the differentiation of resting $CD4^+$ T cells and influenced the prognosis of TSCC patients.

O-112 Abstract Number – 116 **INTENDMENT OF CANCER STEM CELLS IN ORAL CANCER**
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Oral cancer is one of the most common malignant tumors seen around the world with 5-year relative survival rates of approximately 60% and incidence rates being higher in men than women. Despite advances in chemotherapy, targeted agents, and radiation therapy, the prognosis for patients with advanced cancer has remained poor. Drug resistance, metastasis, and recurrence even after extended periods of remission pose persistent challenges to cancer management. A growing body of evidence indicates, however, that a subset of cancer cells, called Cancer stem cells (CSCs), may hold a key to controlling cancer and potentially achieving durable clinical responses.Cancer stem cells are rare cells with indefinite potential for self-renewal that drive tumorigenesis and have shown striking parallels with normal stem cells. Just as the signals that are known to control oncogenesis provide clues about the control of self-renewal of normal stem cells, studies of stem cell biology lend insight into the origins of cancer and will ultimately yield new approaches to fight this disease. CSCs are becoming an increasingly greater focus of cancer research, as evidence suggests that they may be integral to tumor formation. Understanding the properties and characteristics of CSCs may lead to improvements in oral cancer diagnosis, therapy and outcome.

O-113 Abstract Number – 357 **TARGETING CANCER STEM CELL TO REVERSE CHEMOTHERAPY RESISTANCE IN ORAL CANCER**
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Introduction: Enrichment of cancer stem cell (CSC) population during disease relapse following chemotherapy is observed in oral cancer. This study attempts to evaluate the effect of targeting CSCs to reverse chemotherapy resistance in oral squamous carcinoma.
Methodology:Profiled for expression of CSC markers by qPCR, FACS and western blotting was carried out in previously established chemotherapy resistant head and neck cancer cell lines. The markers identified from were validated in treatment naive and post chemotherapy patients using immunohistochemistry (IHC) and correlated with clinical parameters. Functional relevance of the identified markers was evaluated by RNAi and/or small molecule inhibitors and over-expression of GFP tagged plasmid in HNSCC cell lines. The effect was assessed by expression profiling (qPCR), cell based(migration, invasion and spheroid formation) and cytotoxicity assays.Further, the effect of inhibition of CSC using ALDH1 inhibitor was evaluated ex-vivo using patient explants and in cell line derived xenografts.
Results:Profiling in drug resistant cell lines indicated an upregulation of ALDH1A1.A significant increase in ALDH1A1 expressionwas also observed among the post chemotherapy patients (230±20, p=0.03). ALDH1A1 inhibition in cisplatin-resistant cell line (Cal-27 CisR) showed reduction in migration,spheroid and colony formation capacity($p<0.0001$). Ex-vivo studies showed that ALDH1A1 inhibition combined with cisplatin decreased the proliferative (Ki67) index (p=0.001; n=4). Combination treatment also reduced the tumour burden (p=0.009) in

Cal27 CisR-xenografts, with the tissues showing reduced Ki67 index (p=0.05) and downregulation of MDR/CSC genes. The effect of exogenous expression of ALDH1A1 in the Cal27 cells is currently in progress.
Conclusion: This study reveals that targeting CSC population may improve sensitivity inchemotherapy resistance. Further studies are warranted to establish their clinical utility.

O-114 Abstract Number – 59 **CHEMOKINE RECEPTOR 7 ENHANCES CELL CHEMOTAXIS AND MIGRATION OF METASTATIC SQUAMOUS CELL CARCINOMA OF HEAD AND NECK THROUGH ACTIVATION OF MATRIX METALLOPROTEINASE-9.**

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Introduction: The mechanisms leading to squamous cell carcinoma of head and neck (SCCHN) metastasis are not fully understood. Although evidence shows that the chemokine receptor 7 (CCR7) and its ligand CCL19 may regulate tumor dissemination, their role is not clearly defined in SCCHN. Matrix metalloproteinases break consisting of tissue barrier to the surrounding tissue invasion and metastasis by destroying the balance of matrix degradation of the basement membrane of tumor cells and extracellular matrix (ECM).
Methods: We used chemotaxis and migration assays, western blotting, gelatin zymography, actin polymerization assay, immunofluorescence staining and immunohistochemical analysis to explore whether MMP-9 can be activated by CCL19 (CCR7's ligand) and its role in SCCHN. The experiments were performed in the metastatic SCCHN cell line PCI-37B after pre-incubation of the cells with CCL19 and SB-3CT (inhibitor of MMP-9).
Results: Our results demonstrated that CCR7 favors PCI-37B cell chemotaxis and migration, upregulation of MMP-9 protein and motivates the activity of MMP-9 protein, induces reorganization of the actin cytoskeleton and upregulation of MMP-9 protein. SB-3CT can block all these effects.
Conclusion: Collectively, our data indicated that CCR7 regulates cell chemotaxis and migration via MMP-9 in metastatic SCCHN, and these results provide a basis for new strategies in preventing metastases of SCCHN.

O-115 Abstract Number – 183 **MICRO ARRAY ANALYSIS OF ORAL SUBMUCOUS FIBROSIS**

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Introduction: Oral submucous fibrosis (OSMF) is a potentially malignant disorder with highest rates of malignant transformation predominant in South East Asia. Numerous molecular pathways are found to be involved in the pathogenesis. Arecoline, epithelial mesenchymal transition and oncogenes have been found to play important role in its malignant transformation. Hence the study aims to evaluate the global differential gene expression profiles in oral submucous fibrosis using human transcriptome microarrays
Methods: Fresh OSMF and normal tissue specimens were stored in RNA later solution. Quality of the RNA was assessed by gel electrophoresis. The samples with RIN> 8 were taken for Expression profiling, using Affymetrix Array HTA2.0
Results: The total number of expressed genes evaluated was 67528, of which Coding genes were 44699 and NonCoding genes were 22829. Among the total number of genes studied, 69 genes are differentially expressed comparing the OSMF tissue vs normal. Among these 55 were coding genes and 14 were noncoding. 12 genes involved in histone modification and TGF beta signaling pathways related genes FOS, FOSB, JUNB, JUN, CCND1, ATF3 were differentially regulated.
Conclusion: The microarray based expression profiling on clinical samples of OSMF has been attempted for the first time in India using the Affymetrix human trancriptome array.

O-116 Abstract Number – 278 **MIRNA205P EXPRESSION BY IN SITU HYBRIDIZATION AND RELATION WITH EPITHELIAL-MESENCHYMAL TRANSITION IN OROPHARYNGEAL SQUAMOUS CELL CARCINOMA**

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Semmola, Napoli, [3]Departement of Clinical and Experimental Medicine, University of Foggia, Foggia Italy, [4]Department of Mental and Physical Health and Preventive Medicine, Second University of Naples, Naples, Italy.
Introduction: The presence of cervical lymph node metastases in oral squamous cell carcinoma patients is a very important in therapy choice and prognosis, with great impact on overall survival.Therefore, an accurate molecular marker to identify cervical lymph nodes status is necessary. MicroRNAs are post-transcriptional regulators of gene expression frequently dysregulated in a range of human malignancies. They can act as tumor suppressors or oncogenes. Interestingly, in oral squamous cell carcinoma, miR-205 acts as both a tumor suppressor and oncogene.The aim of this study was to evaluate the expression of miR-205p by In situ hybridization and the expression of some transcription factors involved in epithelial-mesenchymal transition in oral squamous cell carcinoma (OSCC).
Method: We used locked nucleic acid probe in situ hybridization (LNA-ISH) to visualize, in a prognostic tissue micro-arrays (TMAs) of 119 formalin-fixed paraffin-embedded (FFPE) archival OSCC tumors, the expression of miR-205p. Moreover, we evaluate the expression of EMT-associated proteins Twist, Snail and Slug in different grades of OSCC by immunohistochemistry. We also investigated the clinical significance of miR-205p expression on OSCC.
Results: We confirmed a high cytoplasmic expression of miR-205 in tumor tissue of oral squamous cell carcinoma. Conversely, the miR205 level does not show any significant association with overall survival. Moreover, miR-205 expression in non-metastatic primitive OSCC group was significantly lower than the metastatic group ($P<0.05$). Interestingly, the level of miR-205 was directly associated with the expression of Twist and Snail ($P<0.05$).
Conclusion: Our results suggest that miR-205 could be involved in the Epithelial-mesenchymal transition process. The miR-205 expression can effectively predict and estimate the cervical lymph node metastasis in OSCC.Therefore the evaluation of miR205 in primitive OSCC could be an important tool for the surgery management of patients, contributing to an improved quality of life.
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O-117 Abstract Number – 321 **EPIGENETIC REGULATION OF P2X7 RECEPTOR AND ITS ROLE IN ORAL CANCER CELLS**

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The NALP3 inflammasome is known to be assembled by infections or cell damage. Purinergic receptors, particularly type 7 (P2X7) appears to play a putative role in these process. In this study, we examined functional expression of P2X7R and its role in NALP3 inflammasome activation in oral cancer cells.
We found that the P2X7 receptors are over expressed in oral cancer patients and cancer cell lines. In HSG cells, all subtypes of purinergic receptors are expressed, except P2X7R, at the mRNA level. However, A253 cells showed a moderate methylation pattern in the P2X7R CpG island. In untreated HSG cells, most CG pairs from the first to the 21st were methylated, and 5-Aza-CdR-treatment partially demethylated the methylated CG pairs. The result demonstrates that the expression level and function of P2RX7 are regulated by DNA methylation. Then, we examined the role of P2X7R in NALP3 inflammasome activation. P2X7 receptor (P2X7R), NALP3, and its related components,

procaspase-1 and caspase-1 p20, were all upregulated in oral cancer tissues in humans. Similarly, in A253 cells derived from the epidermoid carcinoma, NALP3 inflammasome components have also been upregulated. Caspase-1 p20, which has not been detected by priming or lipopolysaccharide (LPS) stimulation, was detected after ATP stimulation. In contrast, mRNAs of NALP3 inflammasome components were not detected before or after LPS stimulation in a normal cell line of HSG cells. When primed A253 cells were treated with 3-O-benzoylbenzoic acid-derivatized ATP analogue (BzATP), a specific agonist of P2X7R, the expression levels of P2X7R itself, NALP3, and pro-interleukin-1b were significantly increased. We conclude that although NALP3 inflammasome may not be the main inflammatory pathway in normal salivary glands, it could play a critical role in cancerous tissues, where the expression and activity of P2X7R are upregulated.

Acknowledgments: This work was supported by National Research Foundation of Korea Grant, through the Oromaxillofacial Dysfunction Research Center for the Elderly (No. 2016-929358) at Seoul National University in Korea

O-118 Abstract Number – 337 **ROLE OF ANO1 IN RESISTANCE/RESPONSE TO HEAD AND NECK SQUAMOUS CELL CARCINOMA (HNSCC)**

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Introduction: *Anoctamin-1* (ANO1), a Ca^{2+}activated Cl^- channel, is located on 11q13 locus,region known to be amplified in different cancers including head and neck squamous cell carcinomas(HNSCC).This study investigates the clinical significance of ANO1 gene in both the development and drug resistance of HNSCC.

Methods: Gene expression database ofnormal, treatment naïve HNSCC and responders/non-responders to platinum/taxol in squamous cell carcinoma were obtained from public domain. This data was analyzed using Gene spring software [v12.5, Agilent, USA] for marker identification.The identified markers were validated in HNSCC-specific database of The Cancer Genome Atlas (TCGA) and by expression profiling at transcript levels (qPCR) in two patient cohorts [Group I: Surgery followed by adjuvant chemotherapy with radiotherapy; Group II: Recurrent patients]. PET-CT evaluation was carried out for recurrence assessment. Further, to determine biologic significance, small molecule inhibitor based assays were used in drug resistant cell lines (1).

Results: Meta-analysis identified statistically significant genes ($p<0.05$ and fold value >2)in HNSCC (n=181) (2)and between responders/non-responders (n=78). Validation of these entities in the HNSCC-specific TCGA database (N=528) and in patients by qPCR identified ANO1, FADD and ECT2 as upregulated and leading to poor survival ($p<0.05$). Assessment of ANO1 individually showed an upregulation in recurrent patients of Group I (N=26; meanFC:2.87) as compared to non-recurrent subset (n=21, mean FC=2.02), though notstatistically significant. Site-wise analysis expression also indicated that expression in tongue cases was higher (p=0.06).Further, the role of ANO1 in drug resistance is currently being evaluated in vitro using cellular and cytotoxicity assays in cisplatin resistant cell lines (CAL-27 CisR) (1).

Conclusion: Meta-analysis, TCGA and experimental validation identified ANO1 as a significant marker in HNSCC, which is associated with poor survival. ANO1 validation in drug resistant cell lines, will be helpful to understand itsrole in resistance/response.

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O-119 Abstract Number – 376 **IMMUNO-CHARACTERIZATION OF TUMOR BUDDING AND HISTOLOGICAL CHARACTERIZATION OF STROMAL DESMOPLASIA IN PROGNOSIS OF GINGIVO-BUCCAL COMPLEX CARCINOMA.**

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BACKGROUND: Tumor budding, representing a significant pattern of invasive tumor front, is considered to be one of the worst prognostic indicators in nearly all types of human cancers due to its positive association with tumor aggressiveness. Furthermore many researcher suggested the amalgamation of properties like epithelial mesenchymal transition (EMT) and cancer stem cell (CSC). In an attempt to assess its prognostic significance in Gingivo-buccal complex squamous cell carcinomas (GBSCC), we tried to explore the possibility of immuno-characterization of tumor budding along with histological categorization of stromal desmoplasia in this context.
MATERIALS AND METHODS: Tumor budding (single cells or clusters of ≤5 cells in the tumor front, divided into high- and low-budding tumors), EMT and CSC markers were studied in 65 immunohistochemically stained slides of GBSCC. Tissues and records of follow-up were obtained from the departmental archives. Tumor budding, EMT and CSC markers along with pattern of stromal desmoplasia were scored and analyzed.
RESULTS: Long rank test revealed marked positive association of high tumor budding with disease and recurrence specific survival rates i.e. p value-0.001 and 0.0005 respectively. Loss of E-cadherin and gain in vimentin expression in tumor buds were found indicative of EMT where as CSC markers if not all also showed significant positive association with prognosis of GBSCC. In addition, we found significant association of varying category of stromal desmoplasia (mature, immature and intermediate) with lymphnode metastasis.
CONCLUSION: A high budding index was related to poor prognosis in patients with GBSCC. Histopathologic scoring of buds and categorization of stromal desmoplasia in patients with oral cancer may help discriminate invasive tumors prone to relapse, and thus, provide an indication for adjuvant therapy. further research on immunocharacterisation of tumor buds may helpful in advancement of individualized targeted therapy.

O-120 Abstract Number – 404 **STUDY OF GENETIC AND MOLECULAR EPIDEMIOLOGY OF ORAL CANCER IN ASSAM AND MEGHALAYA OF NORTH EASTERN REGION OF INDIA**

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Objectives: To study the prevalence of oral cancer in relation to life style habits in two North Eastern States (Assam and Meghalaya). Also to study the polymorphism in genes encoding enzymes CYP1A1, CYP2D6, GSTM1,GSTM3 and GSTT1.
Methodology: It is a population based case-control study with a target sample of 300 patients. Cancer of oral cavity confirmed by Histopathology from different indigenous tribes of Assam & Meghalaya were included in the study. Controls were age and gender matched subjects without blood relation with the cases and without having any malignant disease. We used standard phenol chloroform method to extract DNA. PCR with or without RFLP were carried out to study polymorphism of CYP1A1, CYP2D6, GSTM1, GSTT1 and GSTM3 genes.
Results and observations: The study included a total of 343 study subjects (Case: 171, Control 172). Major cancer sites were gingivo-buccal sulcus (39%) followed by buccal mucosa (31%). Risk factors of oral cancer were-semi-urban & rural locality, illiteracy & low education, low income group, and betel nut chewer.
Summary: Genetic polymorphism and risk of oral cancer: Among the genotypes studied GSTM1 null genotype and MSP 1 mutant genotype of CYP1 A1 gene are independent risk factors of oral cancer. Risk of oral cancer in subject with GSTM1 null genotype is enhanced by habit of tobacco chewing and smoking.

O-121 Abstract Number – 407 **CAFE MOCHA: AN INTEGRATED PLATFORM FOR DISCOVERING CLINICALLY RELEVANT MOLECULAR CHANGES IN CANCER; AN EXAMPLE OF DISTANT METASTASIS AND RECURRENCE-LINKED CLASSIFIERS IN HNSCC**

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Introduction: CAFE MOCHA (Clinical Association of Functionally Established MOlecularCHAnges) is an integrated GUI-driven computational and statistical framework (Figure 1) to discover molecular signatures linked to a specific clinical attribute in a cancer type. We tested CAFE MOCHA in head and neck squamous cell carcinoma (HNSCC) for discovering a signature linked to distant metastasis and recurrence (MR) in 517 tumors from TCGA and validated the signature in 18 tumors from an independent cohort.

Methods: The platform integrates mutations and indels, gene expression, DNA methylation and copy number variations to discover a classifier first, predict an incoming tumour for the same by pulling defined class variables into a single framework that incorporates a coordinate geometry-based algorithm, called Complete Specificity Margin Based Clustering (CSMBC) with 100% specificity. CAFE MOCHA classifies an incoming tumour sample using either a matched normal or a built-in database of normal tissues. The application is packed and deployed using the install4j multi-platform installer.
Results: We tested CAFE MOCHA to discover a signature for distant metastasis and recurrence in HNSCC. Thesignature MR44 in HNSCC yielded 80% sensitivity and 100% specificity in the discovery stage and 100% sensitivity and 100% specificity in the validation stage.
Conclusion: CAFE MOCHA is a cancer type- and clinical attribute-agnostic computational and statistical framework to discover integrated molecular signature for a specific clinical attribute.

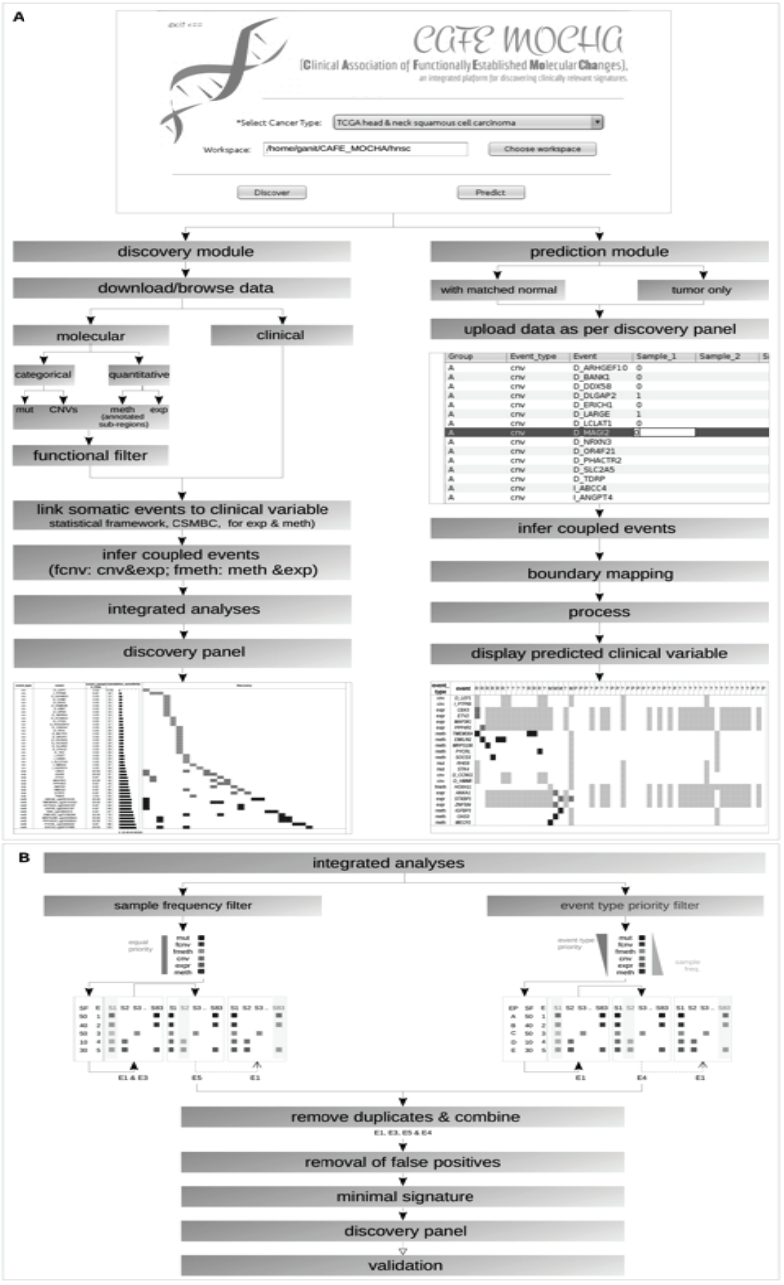

Figure 1: CAFE MOCHA application workflow and graphical-user-interface. A. Discovery,and Prediction modules. B. Integrated analyses.

O-122 Abstract Number: 231 **Role of CD11b+BMDCs in lymph node metastasis: a study in an orthotopic nude mouse model of squamous cell carcinoma of the oral tongue.**

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Introduction: The prognosis of patients with oral squamous cell carcinoma (OSCC) that have lymph node metastasis is poor. However, the mechanism of lymph node metastasis is not clearly understood. It was reported that tumor induced lymphangiogenesis that was closely related to tumor microenvironment. Bone marrow-derived cells (BMDCs) are known to be involved in the tumor microenvironmental composition and are attracted rising attention due to its contribution to the drug resistance and neovasculogenesis. However, it is not known if the BMDCs contribute to lymph node metastasis. Thus, the purposes of this study is to investigate roles of BMDCs in lymphangiogenesis using an orthotopic nude mouse model of squamous cell carcinoma of the oral tongue.
Methods: To mimic biological condition of tongue cancer and monitor lymph node metastasis, luciferase-expressing human tongue cancer OSC-19 cells were injected into the tongue of nude mice. The mice were randomly divided into 3 groups: radiation, surgery (partial glossectomy), or control. The lymph node metastasis was noninvasively monitored by bioluminescence imaging. Tumors were resected at different time points, and immunofluorescent staining were performed.
Results: Increased lymph node metastasis was seen in partial glossectomy group compared to control. We found that local tumor has significant hypoxic areas at surgical intervention region. It was also observed that tumor with partial resection recruited higher number of CD11b+cells.
Conclusion: There is an association between hypoxic condition of tumor and infiltration of CD11b+BMDCs. We are investigating the relationship of the CD11b+BMDCs influx into tumor and lymphangiogenesis.

O-123 Abstract Number – 352 **MOLECULAR MARKER BASED INTRA-OPERATIVE DIAGNOSTIC ASSAY FOR DETECTION OF LYMPH NODE METASTASIS IN HNSCC**

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Introduction: Sentinel node biopsy is emerging as a reliable and effective method to detect occult metastasis. Unreliability of frozen sectionsbased histology, necessitates a second surgery in patients who were found to have nodal metastasis. The primary objective of this study was to develop and validate a microfluidics based molecular assay system for intra-operative detection of nodal metastasis.
Methods: Multiple markers are known to be overexpressed in head and neck cancer lymph node metastasis .The markers were selected based on meta-analysis. As a proof of concept the hydrophilic region of one of the markers, DSG3, was expressed in bacterial system. Polyclonal and monoclonal antibodies were developed, a lateral flow assay system was developed and lymph nodes of patient samples (positive and negative for metastasis) were screened to determine sensitivity and specificity. Around 3 to 4 more markers co-expressed with DSG3 will also be taken through the same steps. The best combinations of markers will be used for developing micro-fluidics based intra-operative diagnostic assay for detecting lymph node metastasis.
Results: Preliminary study was done using desmoglein-3 (DSG3), wherein 5 monoclonal and 1 polyclonal antibodies were developed and validated in positive (17) and negative (7) lymph nodes; the marker showedsensitivity above 80% and specificity above 71%. Sandwich ELISA indicated the best combination of antibodies and the Lateral Flow test (LFT) assays developed with this combination for DSG-3, showed a sensitivity of 72.5% and specificity of 55.6% in detecting positive lymph node samples (11 positive & 9 negative lymph nodes).DSG3, along with the new markers will be validated in larger patient cohorts and the combination of best markers will be selected for developing the diagnostic assay.
Conclusion: Incorporating multiple markers on a proficient platform like micro-fluidics will improve the clinical utility of the assay system.

REHABILITATION AND SUPPORTIVE CARE

O-124 Abstract Number – 40 **QUALITY OF LIFE OF PATIENTS WITH LEUKOPLAKIA, LICHEN PLANUS, OR ORAL SUBMUCOUS FIBROSIS**

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Objectives: To compare the quality of life (QoL) amongpatients with Oral Lichen Planus (OLP), Oral Leukoplakia (OL) or Oral Submucous Fibrosis (OSF) andto assess the effects of disease severity on QoL.
Methods: This study was conducted at Panineeya Institute of Dental Sciences & Research Centre in Hyderabad, India. Patients diagnosed with OLP, OL or OSFand undergoing treatment were invited to participate. A complete oral examination was conducted by a single examiner which included the assessment of disease severity. Each OLP patient was categorized into one of the three stages of disease severity based on the site of lesion, clinical characteristics and pain levels. OSF patients were categorized into three categories basedon the extent of mouth opening while OL patients were classified into three categories based on the size and the presence of homogenous or non-homogenous lesions. All subjects completed a newly developed OPMD Quality of Life questionnaire which consists of 20 items under four dimensions:'difficulties with diagnosis'; 'physical impairment and functional limitation', 'psychological and social wellbeing' and 'effect of treatment on daily life.' A higher score represents poorer quality of life.
Results: Fifty each of OLP, OLand OSFpatients participated. OL patients had better QoLscores (37.7±7.9) than OLP (47.3±5.8) and OSF (45.4±9.2) and patients. OLP patients had greater difficulties with diagnosis than OSF and OL patients, and OL patients had better scores for the dimension 'physical impairment and functional limitations' than the other two OPMDs. For all the three diseases, QoL scores increased with increase in disease severity.
Conclusions: This instrument has utility for assessment of QoL in these OPMD and can be used to monitor disease severity and response to treatment.

O-125 Abstract Number – 342 **A QUALITATIVE STUDY OF SYMPTOM BURDEN IN PATIENTS WITH CARCINOMA BUCCAL MUCOSA WHO HAVE UNDERGONE SURGERY BY INFRA TEMPORAL CLEARANCE**

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Introduction: Cancers of the buccal mucosa are one of the leading cancers in India and surgery is the main stay of treatment with adjuvant radiation andchemotherapy. Infra-temporal fossa (ITF) clearance for T4 lesions, a surgical method that ensures negative margins, causes high morbidity including problems in mastication and swallowing, deviation of jaw, severe referred otalgia and loss of sensation. Pain (Nociceptive and neuropathic), present in 80% of patients is very severe due to involvement of many vital structures in the area, with most of them needingstrong opioids for pain relief. The objectives of this study wereto evaluate the symptom burden in patients who have undergone surgery with ITF clearance for carcinoma buccal mucosa and to find out the most distressing symptom after completion of treatment
Methodology: The qualitative method was adopted to assess and study the symptom battery, the study pipeline included
・ Face to face semi-structured interview with patients (T4) (3 months post treatment).
・ University of Washington Quality of Life Questionnaire (UW-QOL) wasused to assess the symptoms and to validate the findings of unstructured interview.
・ The most common symptom burden with coping skills was assessed along with total symptom burden
Results: Sixteen patients were recruited in the study and 50% of the patients were node positive with no evidence of distant metastasis. The major symptoms recorded in the study were pain, appearance, activity, problems with recreation, swallowing, chewing, speech, shoulder problems, taste, saliva, symptoms of depression, and anxiety, with problem in chewing being the most common. A detailed analysis of the symptom burden is currently ongoing.

Conclusion: The patients treated with ITF clearance reported multiple symptoms with unable to chew being the most common. A detailed statistical analysis will provide evidence towards the symptom burden and the possible implications of the same in patient treatment management.

O-126 Abstract Number – 29 **THE INFLUENCE OF PREOPERATIVE COMORBIDITIES AND NUTRITION STATUS ON ELDERLY PATIENTS WITH ORAL CANCER**

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PURPOSE: To find the influence of pre-operative comorbidities and Nutrition status on elderly patients with oral cancer.
METHODS: The data of elderly patients with oral cancer treated between January 2010 to December 2012 in the Department of Oral and Maxillofacial- Head and Neck Oncology Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine was analyzed. Only histologically diagnosed as Squamous cell carcinoma, patients aged over 60 years and those had surgical approach were included. The comorbidity index including Charlson, HNCA and ACT index and a new index named Nutrition index(NI) were analyzed on prognosis.
RESULTS: Among 465 patients. The preoperative Charlson, HNCA and ACT index didn't show significance to the outcome of disease. （P=0.747,0.530,0.869）. Pre-operative nutrition status and Nutrition Index is a significant factors for prognosis.(P<0.001) .
CONCLUSIONS: For elderly patients with oral SCC, pre-operative systemic disease is not a predictive factor of prognosis, and the worse pre-operative nutritional status, the lower the survival. Supported by National Natural Science Foundation of China(Grant No. 81672745 and No. 81671009) and Shanghai Summit& Disciplines.
[**Key words**] Elderly Patients；Squamous cell carcinoma；Nutrition status；Prognosis

O-127 Abstract Number – 150 **PRACTICAL DISTRESS MANAGEMENT IN HEAD AND NECK CANCER PATIENTS PRIOR TO START OF PALLIATIVE CHEMOTHERAPY**

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Introduction: Distress in patients with head and neck cancer may affect treatment compliance. The current study reports the incidence of distress, factors associated with it and an practice strategy to resolve distress in head and neck cancer patients starting palliative chemotherapy.
Methods: Adult head and neck cancer patients planned for palliative chemotherapy underwent distress screening prior to the start of treatment as a part of this single arm prospective study (CTRI/2015/11/006392). Patients who had a distress score above 3 (4 or more) on the NCCN distress thermometer (DT) were initially counselled by the clinician. Patients who continued to have distress of 4 or more post clinician counselling, were referred to psychologist and started on palliative chemotherapy. Post counselling, distress was measured again. The efficacy of clinician and psychologist counselling for reducing distress was expressed in percentages with their respective 95% CI. Binary logistic regression analysis was done for finding factors associated with high baseline distress. The relation between baseline distress and compliance was tested using the fisher's exact test.
Results: 200 patients were enrolled and the number of patients with high distress was 89 (44.5% 95% CI 37.8-51.4%). The proportion of patients who had a decrease in distress post clinician and psychologist counselling were 59.1% (52, n=88, 95% CI 48.6%-68.8%) and 75.0% (24, n=32, 95%CI 57.6%-72.2%) respectively (p value-0.136). Compliance rates did not differ among the patients with or without a high level of distress at baseline (74.2% versus 77.4%, p value-0.620).
Conclusion: The incidence of baseline distress is high in patients awaiting the start of palliative chemotherapy. The distress can be resolved in substantial patients using the strategy suggested.

O-128 Abstract Number – 388 **SPEECH AND SWALLOWING OUTCOMES AFTER PARTIAL GLOSSECTOMY FOR T1/T2 TONGUE CANCERS**

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INTRODUCTION; Head and Neck cancers are the most common cancers in India. Cancer of the tongue is one of the most challenging, most intricate and difficult to treat, especially from the view point of restoration of function of speech and swallowing.

AIMS AND OBJECTIVES

1. To assess the pattern of swallowing in a group of patients treated for oral tongue cancers with surgery and with or without reconstruction and to suggest rehabilitation measures for their management.
2. To assess the speech characteristics of a group of patients treated for oral tongue cancers with surgery and with or without reconstruction.

METHODS: Prospective non randomized pilot study in which cohort of patients with anterior 2/3rd of tongue (Lateral border) carcinoma with stage T_1 & T_2. All patients were treated with surgical resection of cancer with wide margins with or without reconstruction at our institute. They were assessed for speech and swallowing in the two groups (1) Resection without reconstruction (2) Resection with reconstruction of defect. Swallowing assessment was done by penetration aspiration scale(PAS) with VFSS [video fluoroscopic swallowing study]. Speech assessment was done with intelligibility scores.

RESULTS AND DISCUSSION: 52 patients were included in the study. 32/52 (61%) underwent excision for their cancer defect and reconstruction with free flaps either radial forearm or lateral arm. 20/52(39%) had excision only without reconstruction. In swallowing outcomes the most affected parameters are sulcus residue and vallecular residue. Altered lingual pattern and pharyngeal propulsion were significantly affected in both groups. Mean difference in PAS between two groups was not significant (1.65 in flap group vs 1.85 in without flap group, P= 0.6). In speech study there was no significant difference between the various intelligibility scores (OSIS) of two groups (84% in flap group vs 80% in without flap group, P= 0.9). This could be explained by the fact that none of these patients had resections involving the mobile tip.

CONCLUSION: The early stage oral tongue carcinoma treated with surgery +/- reconstruction had minimal morbidity in terms of swallowing functions. There is not much impairment in speech intelligibility in both groups.

O-129 Abstract Number – 409 **FUNCTIONAL RESULTS AFTER COMPARTMENTAL SURGERY AND MICROVASCULAR RECONSTRUCTION FOR ORAL TONGUE/FLOOR OF THE MOUTH CANCER**

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Introduction Compartmental hemiglossopelvectomy (CHGP) has raised in the last decade as a new surgical concept for treatment of oral tongue/floor of the mouth cancer when radiological depth of infiltration is >10 mm. This procedure consists in the complete removal of the affected hemitongue compartment along with its related extrinsic muscles, neurovascural, glandular structures, and lymphatic drainage which can harbor potential loco-regional tumor cells. Whereas its oncologic results have been already demonstrated by independent institutions, data regarding its functional impactare still lacking in the literature. Aim of the present study is to evaluate the speech and swallowing outcomes after CHGP reconstructed by microvascular free flaps.

Materials and Methods We prospectively evaluated 30 patients (mean age, 60 years; range, 30-85; M:F ratio 3:2) treated by CHGP for cT4a oral tongue/floor of the mouth cancer from 2008 to 2015at the Department of Otorhinolaryngology - Head Neck Surgery, University of Brescia, Italy. Patients lost to follow-up, with evidence of disease at the time of the study, or reconstructed by free flaps other than antero-lateral thigh (ALT) or radial forearm (RF) were excluded from the present study. Patients' assessment included subjective speech and swallowing evaluation by EORTC QLQ-H&N35 and UW-QoL questionnaires, analysis of speech intelligibility by a phone call with an inexpert listener, and objective swallowing evaluation by videoendoscopy (VE) and videofluoroscopy (VF) for semiliquid and liquid foods. Furthermore, we assessed the influence of age, surgical access, type of free flap, previous treatments, oropharyngeal extension, ASA score, and adjuvant (C)RT on functional results.

Results EORTC QLQ-H&N35 showed normal or slightly impaired oral communication in 93% of patients, while UW-QoL showed noproblem in language articulation in 97%. Speech intelligibility was >80% of the proposed list of words in 60% of patients, 60-80% in 33%, and <60% in 7%. Regarding swallowing outcomes, VE showed no aspiration, 85.7% of epiglottic vallecular pooling, 25% of hypopharyngeal pooling, and 32% of pharyngeal phase initiation delay. VF showed aspiration, epiglottic vallecular pooling, hypopharyngeal pooling, and pharyngeal phase initiation delay in 27%, 67%, 40%, and 67% of patients for liquids, and 20%, 70%, 43%, and 53% for semiliquids, respectively. Swallowing resulted significantly worse for age >70, ASA scores 3-4, transmandibular approach, RF reconstruction, oropharyngeal extension, and adjuvant therapy. Speech intelligibility was significantly worse for age >70, ASA scores 3-4, salvage surgery, ALT reconstruction, oropharyngeal extension, and adjuvant therapy.

Conclusion CHGP has been demonstrated to be oncological sound with local and loco-regional control rates surpassing standard surgical approach to T4a cancer of the oral tongue/floor of the mouth. The present study adds to the existent literature the confirmation that, also from the functional point of view, such a surgical approach is not hampered by major speech and swallow sequelae if proper microvascular techniques are adopted.

CLINICAL RESEARCH

O-130 Abstract Number – 72 **AWARENESS OF ORAL CANCER IN INDIA - CRY FOR HELP**

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India continues to report the highest prevalence of oral cancers globally (86% of total oral cancer patients across the globe) with 75,000 to 80,000 new cases of such cancers reported every year.
Tobacco, gutkha, beetle nuts and Alcohol contribute to 90 per cent of oral cancer cases in the country. The Indian government spends approximately Rs 300 billion annually in both public and private spending on treatment of tobacco-related illnesses accounting for roughly one fourth of all health spending. Moreover, so many numbers of NGO's are working on awareness related to oral cancers.
We did a survey to check the status of oral cancer awareness amongst patients attending our OPD from both rural as well as urban areas. Our centre is a tertiary level centre in a densely populated region with 3.6 million inhabitants (1007 persons/km^2). We distributed a questionnaire to 987 participants and analyzed the responses. The results suggested that in spite of a fortune being spent on oral cancer awareness programs in the country; the general population is still in the darkness of ignorance. We also tried to find out what is the reason behind the failure of such programs. Moreover, we have suggested what measures could be undertaken to improvise on the existing knowledge related to oral cancer amongst the general population.

O-131 Abstract Number – 216 **META-ANALYSIS OF THE RETROSPECTIVE STUDIES ON ORAL CANCER ETIOLOGY: ARE WE OVERLOOKING SOMETHING IN THE WHOLE COURSE OF CANCER TREATMENT?**

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Objective: the objective of this study is to carry out the meta-analysis of previous studies on oral cancer etiology. We focused our study to understand the mechanism of induction of uncontrolled cell proliferation. We then tried to find out their implication during the due course of cancer treatment.
Material and Methods: We studied 100 publications related to cancer etiology and the various modalities of treatment depending on the staging. We studied the Roles of tobacco, alcohol, virus and micronutrients, emphasizing on their mechanism of induction of uncontrolled growth of cells. Role of tobacco, alcohol and viruses are well studied and implicated in treatment course. Lots of studies have been conducted emphasizing the role of micronutrients, especially vitamin E, in preventing the differentiation of cells. Main actions of Anti-toxins(AT) includes, Free radical scavenging, Maintenance of membrane integrity, Immune function, Inhibition of cancer cell growth/differentiation, Cytotoxicity, Inhibits mutagenicity and nitrosamine formation, Inhibition of DNA and RNA in protein synthesis in cancer cells. Antioxidants such as β carotene, provitamin A, vitamin-C, vitamin-E, zinc, selenium and spirulina are believed to have a preventive role against oral cancer. We then carried out retrospective analysis and institutions based longitudinal studies to find out its implication in due course of cancer treatment, to know if Vitamin E is being included during the treatment course anywhere in India and worldwide.
Result: Under the currently accepted modalities, statistically significant improvement in survival was observed, with the overall 5-year relative survival rate going from 54.7% in 1992–1996 to 65.9% in 2002–2006. Subgroup analysis showed improvement in cancers of the oral cavity, tongue, tonsils, and nasopharynx, with the greatest improvements observed in tonsillar carcinoma (+22.2 percentage points) and carcinoma of the tongue (+14.4 percentage points). Studies highlighted the role of vitamin E on prevention of differentiation of cells, but none of the studies which were analyzed could highlight its efficacy in controlling cancer and improving the survival, in whole course of treatment (pre or postoperative).
Conclusion: Understanding the role of micronutrients, especially vitamin E, are we overlooking the role of nutrients in our course of treatment? Studies are needed to evaluate the role of vitamins (vitamin E) during the course of treatment.

O-132 Abstract Number – 327 **SUPER THIN SPLIT DERMIS FAT GRAFT**

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Introduction Fat a multipotent cells, capable of transforming to various tissues when under the induction of local growth factors. The beauty about fat cells is the ability to survive and transform with di usion and imbibition without the actual perfusion.
Methods We compared two groups of Five Super Thin Spit Dermis Fat Graft(SDFG) and Five Split Thickness Skin Graft(SSG), primarily as an Lining for post WLE premalignant lesions and cT1-2,N0,M0 tumors.
Results The outcome surprises us to /nd all the Five SDFG group is good to excellent in terms of graft take-up with minimal graft contracture when compared to SSG group.
Conclusion SDFG is superior to SSG in terms of graft take-up and minimal graft contracture.

O-133 Abstract Number – 415 **RECONSTRUCTION OF ORO-FACIAL DEFECTS WITH SUBMENTAL ISLAND FLAP**

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Objective: The aim of our report is to evaluate the outcomes of the Submental Island Flap reconstruction for defects after ablation in patients with head and neck cancer.
Methods: All patients who underwent reconstruction for head and neck defects with Submental Island Flap at Dhaka Medical College and Hospital between January 2014 to December 2015 were observed.The site of tumour,the clinical stage,the technique of flap harvesting, the outcome of cosmesis and function were recorded.
Results: There were 5 men and 4 women with ages ranging from 38 to 66 years . The sites of tumour were tongue, buccal mucosa,floor of the mouth and retromolar area. The sizes of the flap ranges from 4x3cm to 7x5 cm,with a median 5.5x4 cm. Five patients underwent radiotherapy after surgery; the radiation dose 60 Gy. The follow up period ranged from 1 to 15 months with a median of 10 months. The long term cosmesis and function were perfect in most patients. One patients died of metastasis.
Conclusion: The Submental Island Flap is a reliable alternative for reconstruction of head and neck defects in cancer patients.

O-134 Abstract Number – 131 **LOCAL FLAPS AND THERE VERSATLITY IN ORAL AND MAXILLOFACIAL RECONSTRUCTION AFTER ABLATIVE CANCER SURGERY.**

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Introduction-Reconstruction after ablative oral cancer surgery poses variety of challenges. Currently reconstruction with microvascular free flap is in vogue, the concept of reconstructive ladder have been forfeited by many surgeons. We present a video feature with oral presentation of our experiences with versatile use of locoregional flaps for oral reconstruction.
Methods- We used Island platysma, Tunneled fat pad, Temporoparietal, Island nasolabial and Island submental flap for various reconstruction after oral cancer in group of patients.
Results-We found the locoregional flap reconstruction offered distinct advantages after oral cancer surgery. Donor site morbidity,time taken, and versatility was better than pedicle or free flap reconstruction. These flap were versatile in their use.
Conclusion-Local flaps and there versatile use are presented through this oral and video presentation.

O-135 Abstract Number – 117 **SALIVARY BIOMARKERS -NOVEL TUMOR MARKERS FOR ORAL CANCER**

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Oral cancer is a potential global health problem and is the sixth most common malignancy with a five year mortality rate of approximately 50%. Oral squamous cell carcinoma accounts for 90% of all oral cancers. Regardless of the fact that oral cavity is easily accessible, most oral cancers are detected at an advanced stage. Hence the outcome of the treatment and prognosis of oral cancer largely depend on early diagnosis.

Salivary diagnostics has fascinated many researchers and has been tested as a valuable approach in early diagnosis of oral cancer. Using saliva as a diagnostic fluid meets the demands for safe, inexpensive, non invasive, patient compliant and accessible diagnostic medium. An added benefit is that saliva is in direct contact with the oral cancer lesion. Abnormal cellular products like DNA, RNA, protein molecules elucidated from malignant cells can be detected and measured easily from saliva and constitute tumor markers.
A Biomarker is any substance, structure or process that can be measured in the body or its products and influences or predicts the incidence of outcome of the disease. Biomarkers help in detection of the earliest change of oral mucosal malignant transformation, reveal the genetic and molecular changes related to early, intermediate and late end points in the process of oral carcinogenesis.
This paper discusses the role of various salivary biomarkers in early detection and management of oral cancer.

O-106 Abstract Number – 148 **MORPHOLOGICAL PROGNOSTIC FACTORS IN EARLY STAGE ORAL SQUAMOUS CELL CARCINOMA**

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Introduction: Oral squamous cell carcinoma (OSCC) is one of the most common cancer in our country. Despite advances in the treatment of this malignancy, the disease free 5-year survival rate of patients is usually below 50%. Regional lymph node metastasis, anatomic site, histological grade, TNM stage, and depth of invasion have been cited as prognostic factors. Morphological appearance of the lesion may have significant impact on outcome, which has yet not been studied, particularly in early lesions. This would be clinically useful to determine the biological aggressiveness of these tumours, and to enable specific appropriate therapies to be applied to each tumour. The aim of this study was to evaluate and correlate the morphology with disease free survival in early OSCC.
Methods This is a prospective case series study of patients with OSCC clinical stage I (T1N0M0) and II (T2N0M0) presenting over a period of four years. We noted all demographic and histopathological parameters. Based on morphology, patients were classified into three groups in each stage as ulcerative, infiltrative, and proliferative. Disease free survival was calculated from the date of surgery to occurrence of radiologically or pathologically evident recurrence, which was analysed with Kaplan-Meire survival curves.
Results: A total of 336 patients presented with early OSCC during this period. Stage I had 124 and Stage II had 212 patients. Median age was 52±9.7 years; men were more in each stage, 1.8:1 and 1.4:1. In stage I, ulcerative lesion was in 45, infiltrative in 28 and proliferative in 51 patients, and in stage II, 68, 42, and 102 patients, respectively. Five-year DFS in stage I was 86%, 78% and 92%, respectively. In stage II, 5-year DFS was 63%, 49% and 72%, respectively. Proliferative lesions in stage II were similar with infiltrative lesions in stage I. The difference of DFS among different morphology was significant.
Conclusion: Based on our results regarding association of morphological parameters with disease failure, this may for m useful tool for predicting high recurrence rate, poor survival rates, which contributes the understanding of the biological behaviour of early stage OSCC.

O-107 Abstract Number – 191 **GENE PANEL SEQUENCING IN ORAL SUB MUCOUS FIBROSIS PREDICTION IN ORAL CANCER RISK**

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Sub mucous fibrosis (SMF) is a chronic high-risk oral premalignant disease (OPMD) characterized by inflammation and progressive fibrosis of lamina propria and deeper parts of connective tissue resulting in stiffening of oral mucosa and difficulty in mouth opening, associated with increased risk of malignant transformation ranging between 1.9%-7.6% . The characteristic features of SMF are progressive decrease in mouth opening, blanching of the oral mucosa, pain and burning sensation particularly on taking food, decreased mobility of the soft palate and tongue, loss of gustatory sensation and occasional mild hearing impairment due to blockage of the Eustachian tube. The major etiologic factor behind the development and progression of this disease is chewing betel quid containing areca nut or plain/commercially available flavoured areca nut ready-to-chew pouches. Factors like amount of areca nut in betel quid as well as the frequency and duration of chewing betel quid are directly related to the development of SMF. Every year new cases of oral and head and neck squamous cell carcinoma are increasing and most of the patients present with advanced stage disease at the time of diagnosis. Despite improvements in therapy, strategies designed

to improve early diagnosis and minimize disease progression have remained elusive. As genomic technology and genetic profiling advance identification of gene expression patterns will facilitate accurate matching of patient needs with precision-based therapies.Hence the present study was designed to determine genetic risk predictors of oral squamous cell carcinoma in sub mucous fibrosis patients which can not only detect the disease but also halt the progression of the disease at an infancy stage.
Materials and Methodology
• Stimulated salivary samples were collected, following written informed consent from 10 subjects, 8 tobacco users 9 non tobacco users between the age-group of 20-50 years
• clinical exome nucleotide sequencing for oral cancer susceptible genes was done following DNA extraction from salivary samples
• The subjects sequenced was compared to the consensus and known variant sequences of the population.
• By sequencing the exome of a subject and comparing it to normal reference sequence, variations in an individual's DNA sequence can be identified.
Results
• The results obtained have been subjected to statistical analysis.

POSTER SESSION
EARLY DETECTION AND PREVENTION

Poster Number-1 Abstract Number – 1 **CAN ELECTROGUSTOMETRY AND IN VIVO IMAGING OF TASTE BUDS AMONG THE CHRONIC SMOKERS BE AN ADJUNCT TO SCREENING METHODS FOR ORAL CANCER - A REVIEW?**

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Introduction: Oral jewellery- a new style of self expression and adornment. The human being is endowed with a property of body modification or dressing and this serves as an effective means of communication during social interaction. It influences peoples' establishing identities of themselves and others. Identities communicated by dress may be influenced by technology and society-wide moral and aesthetic standards for dress. The diverse properties of dress that are related with identity may change through time in response to economic, demographic, and other societal changes.
Methods and Results: The various types of self-adornment or body modifications include tattooing, body piercings and oral piercing or attaching objects to teeth. It is increasing in popularity within a largely-unregulated industry. One of the self adornment related to oral cavity is tongue piercing .Tongue piercings (TP) are currently in trend worldwide. A study shows that wearing of TP appears to be particularly popular in individuals aged between 16 and 24 years. A survey of 10,000 individuals in England showed a prevalence of 1.5% for tongue piercings, 6.5% of the subjects aged 16 to 24 years had a TP, while in the individuals above 25 years of age it was 0.6%). The most commonly described oral complication is damage to the teeth and periodontium. Local effects include enamel cracks and tooth fractures resulting from knocking the ball-shaped tips of the jewellery against the teeth. In a study, 115 teeth (9.1%) in 19 subjects showed enamel fissures/cracks, mainly affecting the lingual surfaces. The other groups of individuals comprising of examination of only 60 teeth (4.8%) in 30 subjects were diagnosed with such damage which mainly affected the vestibular tooth surfaces. A significant correlation between wearing a tongue piercing and an increased incidence of enamel fissures, enamel fractures and gingival recessions (especially in the lingual region of mandibular incisors) was revealed.
Based on this and other data available and the numerous dental complications which have been reported, the tongue piercing is hazardous. Because of the presence and variety of bacteria in the oral cavity, oral piercings are also considered to have higher risk and are therefore strongly discouraged. An effort should be made to discourage people from this and at the same time maintain possible oral hygiene methods that can prove to be auxiliary in decreasing the potential complications arising from oral piercing

Poster Number- po 2 Abstract Number – 20 **EFFECTIVENESS OF PREOPERATIVE LYMPHOSCINTIGRAPHY FOR THE DETECTION OF CERVICAL LYMPHNODE METASTASIS IN PATIENT WITH ORAL SQUAMOUS CELL CARCINOMA**

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Introduction: Oral squamous cell carcinoma is one of the most common malignant tumour. Oral cancer is the cancer of squamous epithelium of oral cavity, which are the sixth most common malignancy reported worldwide and one with highest mortality rate among all malignancies. Lymphatic spread is the most important as well as the most frequent pathway for the spread of oral malignancies. Determining the presence or absence of nodal metastasis is of paramount importance for staging, treatment planning and prognosis. Lymphoscintigraphy provides a minimally invasive method for determining the disease status of the cervical nodal basin, without the need for a formal neck dissection.
Materials &.Methods: This was a prospective study done in Oral and Maxillofacial Surgery Department and The National Institute of Nuclear Medicine & Allied Science, Bangabandhu Sheikh Mujib Medical University (BSMMU) during the period of July 2015 to June 2016. Thirty six patients with oral squamous cell carcinoma were included in this study. Radioisotope technique was used in the detection of cervical metastases in patients with histologically proven oral squamous cell carcinoma. Patients were assessed by lymphoscintigraphy after diagnosis of oral squamous cell carcinoma and then it was compared with postoperative histopathology report.
Result: Lymphoscintigraphically out of 36 patients, 23 had lymphatic channel obstruction where histologically 20 patients had lymph node metastasis. There were 20 true positive cases, 13 true negative cases, 3 false positive cases but no false negative case was found. The test of validity results was observed that sensitivity 100.0%, specificity 81.25%, accuracy 96.66%, positive predictive value 86.96% and negative predictive value 100.0%.
Conclusion: Lymphoscintigraphy for the detection of cervical lymph node metastasis has an important role for the management of oral squamous cell carcinoma. It is also cost effective and it will decrease the morbidity.
Key Words: Oral squamous cell carcinoma, Lymphoscintigraphy, Cervical lymph node.
Conflict of Interest: none

Poster Number –PO 3 Abstract No. 22 **EVALUATION OF INCIDENCE OF PREMALIGNANT AND MALIGNANT LESIONS BY MIRROR IMAGE BIOPSYIN ORAL SQUAMOUS CELL CARCINOMA**

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Introduction: Oral Squamous cell carcinoma (OSCC) cancer arises due genetic and epigenetic changes caused by synergistic infliction of various carcinogens like alcohol, tobacco, smoking; injury or human papilloma virus 16 and 18. Patients once treated with primary OSCC are more prone to develop multiple premalignant and malignant lesions in aerodigestive tract than healthy individuals due to existing field defect. Our study was conducted to histopatholically evaluate the apparently normal looking mirror image mucosa from contralateral anatomic site in unilateral, single, untreated and histopathologically diagnosed oral cancer patients to detect the incidence of premalignant and malignant lesions.
Materials and methods: A cross sectional observational study was carried out in Oral and Maxillofacial Surgery Department, Bangabandhu Sheikh Mujib Medical University (BSMMU), from March 2015 to September 2016.44 consecutive eligible patients aged between 28 to76 years diagnosed with primary, solitary, unilateral and untreated OSCC were subjected to mirror image biopsy and histopathologic examinationfrom corresponding contralateral intraoral anatomic locations.
Results: Among 44 patients, 16 patients displayed dysplasia in oral mucosa of mirror image site, among which 12had mild dysplasia and 4 moderate dysplasia.Dysplasia was found higher in patients with only betel nut chewers (9) and betel nut chewers plus smokers (4). Although statistitically not significant, it was observed that gingivobuccal sulcus, retromolar trigone, and tongue displayed increased vulnerability to dysplasia or precancerous changes.
Conclusion: This study has demonstrated that clinically normal-looking mucosa from oral cancer patients may exhibit premalignant dysplastic changes in significant proprtions. Hence, the mirror image biopsy would be an important diagnostic tool for early detection dysplatic changes in apparently normal mucosaprcondtioned with field effect, to prevent further progression to cancer.

Keywords: Mirror image biopsy, Oral squamous cell carcinoma, Primary cancer, Field cancerization
Conflict of interest None declared

Poster Number – 4 Abstract No. 25 **QUANTIFIC ASSESSMENT AND CORRELATIVE STUDY OF SERUM TOTAL SIALIC ACID LEVELS AS TUMOR MARKERS IN ORAL CANCER**

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Introduction: Tumour markers are the biochemical or immunological correspondents of the differentiation state of the tumour. In general, tumour markers poses as re-expression of substances produced normally by embryogenically closely related tissues (oncodevelopmental markers). The high sensitivity of sialic acid as a tumor marker has been reported in a variety of cancerous condition.

Materials and Methods: The study was conducted on 90 subjects equally divided into three groups viz, healthy individuals, oral cancer and precancerous patients.The Quantific assessment of serum total sialic acid level was done according to Plucinsky et al by resorcinol reagent method. The statistical analysis was carried out by using SPSS 10.0 software.

Results: The mean serum total sialic acid (TSA) level in oral precancerous and oral cancerous group was statistically significant ($P<0.05$). The present study also suggested that no correlation exists between habit of tobacco chewing/betel nut chewing/smoking or alcohol consumption with that of serum total sialic acid levels.

Conclusion: Serum total sialic acid levels can be used as an concomitant diagnostic marker in head and neck cancer.

Poster Number – 5 Abstract No-37 **AWARENESS OF INITIAL DEMONIC CHANGES IN THE MOUTH AND ITS PREVENTION- STOP CLOCK FOR CANCER**

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INTRODUCTION: Oral cancer includes a group of neoplasms affecting any region of the oral cavity, pharyngeal region and salivary glands. Oral squamous cell carcinoma (OSCC), accounts for 90% of all oral cancersand 2%–4% of all cancer, usually preceded by potentially malignant disorders (PMDs). OSCC have a recurrence rate of 32%, prevalence of 45%, 5-year survival rate is 40-50% affecting the age group of 18 to 44 years. Despite advances in therapeutic approaches, morbidity and mortality rate have not improved in last 30 years.The risk factorsare use of tobacco& areca nut.Tobacco smoking is associated with 75% of oral cancer. Usually OSCCgo unnoticed in the initial stages and aremostly diagnosed in advanced stages.

METHOD: Tobacco which is available commercially in smoking and chewableformshave images of advanced stages of oral cancer on theirpackets. Instead if images of initial stages of cancer and PMDs are printed on the packets it will help create awareness in the general population. Motivation for quitting the tobacco habit is very difficult, if free*Nicoret*te gumsare providedalong with cigarette packets it can help an individual in motivating himself in using the replacement aid and help in quitting the habit. Aquestionnaire was created to assess to see if the formulated idea is sustainable. A feedback was taken from 300 individuals. The results of which will be presented.

RESULTS: The response from 300 forms was noted and a statistical analysis done.

CONCLUSION: Motivation to quit the tobacco habit and early diagnosis are key elements ineradication of OSCC. General population should be aware that single ulcers, red or white patches, if present for more than two weeks, can be suspected as malignancy.

Poster Number – 6 Abstract – 38 **EARLY IS THE WATCH WORD FOR CANCER DETECTION**

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INTRODUCTION: Potentially malignant disorders (PMD) are morphologically altered tissue in which cancer is more likely to occur than it normal counterpart. Prevalence of oral submucous fibrosis ranged from 0.4% to 1.2% and the frequency of malignant transformation of 7.6% to 40%. Prevalence of leukoplakia varied from 0.2% to 4.9% and malignant transformation of leukoplakia range from 3.6% to 17.5%. Erythroplakia has anprevalance of 0.02–0.83% and malignant transformation rate of 14.3–66.7%.Prevalence of oral lichen planus is 1-2% and malignant

transformation rate is 0.3 to 3%. Tobacco use and alcohol are known risk factors for cancers of the oral cavity. In India, 57% of men and 11% of women between 15 and 49 years of age use some form of tobacco. The screening for PMD's helps in the early detection and intervention, which would reduce the burden of illness for both individual and community.
METHOD: Creation of a picture screen card for education of the anganwadi workers about PMD screening can be achieved through pictorial representation of the lesions and their respective symptoms, signs and site of occurrence.
RESULTS: PMD screening by anganwadi workers can prevent escalation of PMD into oral cancer and early detection of high risk lesions.
CONCLUSION: Any delay in identification and recognition of suspicious lesions are major contributors for advanced stage at diagnosis and poorer survival rates. Early diagnosis is one of the major cornerstones for the control of oral cancer. There is need for simple, self-explanatory and adaptable educational campaigns at various levels to educate the public about the risk factors and early signs/symptoms. Health care workers must be encouraged to perform oral cavity examinations as part of their patient care regime, and to be knowledgeable about early signs of oral cancer and premalignant disorders.

Poster Number – 7 Abstract No. 46 **LACTATE DEHYDROGENASE AS A TUMOUR MARKER IN ORAL CANCER AND ORAL POTENTIALLY MALIGNANT DISORDERS: A BIOCHEMICAL STUDY**
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INTRODUCTION: Oral cancer is an alarming global concern accounting for an estimated 2,75,000 cases and 1,28,000 deaths annually. Oral cancer is often preceded by potentially malignant disorders (PMD) with more emphasis is being placed upon early detection, since diagnosis at an early stage is comparatively easier and is the key to reduce mortality and morbidity.Tumour markers are biochemical substances elaborated by tumour cells either due to the cause or effect of malignant process.Severaltumor markers in both serum and saliva have been identified. Lactate dehydrogenase (LDH) is one among them, which is a ubiquitous enzyme that plays a significant role in the diagnosis of pathologic processes. LDH activity in serum increases as a marker of cellular necrosis. The aim of the study is to estimate and compare salivary and serum LDH in normal healthy individuals, Oral cancer,Oral submucous fibrosis (OSMF) and Oral Leukoplakia.
MATERIALS AND METHODS: This study was conducted at Department of Oral Medicine and Radiology, Raja Rajeswari Dental College and Hospital. The study comprised of four groups as follow: Group I(OSMF), Group II(Oral leukoplakia), Group III (oral cancer). Group IV (control group). Unstimulated whole saliva and 2ml of blood was collected aseptically and was processed for LDH measurement using Agappe Diagnostic kit.
RESULTS: Salivary and serum LDH levels were consistently higher in Oral Cancer followed by OSMF and Oral leukoplakia. There was significant increase in salivary and serum LDH among study groups when compared to control group. ($p < 0.001$ both serum and saliva).

TABLE 1: Comparison Of Mean Serum & Salivary LDH Levels Between Study Groups

Comparison of mean Serum & salivary LDH levels between study groups using one-way ANOVA test followed by Tukey's Post hoc Analysis									
	Groups	N	Mean	SD	Std. Error	Min	Max	F	p-value
Salivary LDH	OSMF	10	668.0	75.1	23.7	580	785	72.863	<0.001
	Leukoplakia	10	536.6	80.6	25.5	425	652		
	Oral cancer	10	1126.0	194.5	61.5	824	1456		
	Control	10	376.1	76.5	24.2	221	500		
Serum LDH	OSMF	10	512.7	46.7	14.8	420	582	95.673	<0.001
	Leukoplakia	10	471.6	72.3	22.9	365	580		
	Oral cancer	10	886.3	138.9	43.9	650	1120		
	Control	10	251.5	48.3	15.3	175	326		

OS - OSMF; LP - Leukoplakia; OC - Oral Cancer; CT – Control

Table 2:Multiple comparison amongs various study groups

Multiple comparison using Turkey's HSD Post hoc Analysis for salivary & serum LDH							
	Groups	OS Vs LP	OSVs OC	OS Vs CT	LP Vs OC	LP Vs CT	OC Vs CT
Salivary	P- value	0.22	<0.001	<0.001	<0.006	<0.001	<0.001
Serum		0.7	<0.001	<0.001	<0.001	<0.001	<0.001

OS - OSMF; LP - Leukoplakia; OC - Oral Cancer

CONCLUSION: Salivary diagnostics is a non-invasive, patient friendly, effective tool which can substitute to serum LDH. It also serve as a valuable aid in early diagnosis, monitoring, treatment outcome and prognosis.

Poster Number – 8 Abstract No- 48 **METABOLITE PROFILING OF PRENEOPLASTIC AND NEOPLASTIC LESIONS OF ORAL CAVITY TISSUE SAMPLESREVEALED A BIOMARKER PATTERN**

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Introduction: Oral cancer is a major health challenge in the Indian subcontinent and a dreadful form of cancers worldwide.Alarmingly, cancer of oral cavity in Pakistan is second commonest and amongst the highest in the world.This is a globally accepted fact that early detection of cancer greatly increases the chances for successful treatment.

Objective: The current study is focused on the identification of distinguished biomarker metabolites of oral cancer tissue samples in comparison with precancerous and control tissue samples using gas chromatography coupled with triple quadrupole tandem mass spectrometry and chemometric analyses.

Method: Samples were collected from Oral and Maxillofacial department of Dr.Ishrat-ul-Ebad Institute of Oral health Sciences, Dow University of Health Sciences, Karachi, consist of 4-6mm punch biopsies of total 51 tissue samples: 15 samples of potentially malignant disorder of oral cavity that is of oral sub-mucous fibrosis (OSF), 21 of diagnosed OSCC patients and 15 from the healthy individuals.GC-MS-based metabolite profiling andchemometric analysis of tissue samples has been performed at H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi. Metabolites obtained were identified through National Institute of Standards and Technology (NIST) mass spectral (Wiley registry) library. Mass Profiler Professional (MPP) software was used for the alignment and for all the statistical analysis.

Results:31 compounds out of 735 found distinguishing among oral cancer, precancerous and control group samples using p-value ≤ 0.05. Partial Least Square Discriminant Analysis (PLSDA) model was generated using statistically significant metabolites gave an overall accuracy of 90.2%. Down-regulated amino acid levels appear to be the result of enhanced energy metabolism or up-regulation of the appropriate biosynthetic pathways, and required cell proliferation in cancer tissues.These results suggest that tissue metabolic profiles have great potential in detecting oral cancer and may aid in understanding its underlying mechanisms.

Keywords: Oral squamous cell carcinoma, oral submucousfibriosis, metabolomics, chemometric analyses, GC-QQQ-MS, cancer tissue

Poster Number- 9 Abstract No- 83**INCREASING INCIDENCE AND SURVIVAL IN ORAL CANCER: A NATIONWIDE DANISH STUDY FROM 1980 TO 2014**

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Background: Oral carcinomas (OCs) make up a significant proportion of head and neck carcinomas (HNCs) and are an important cause of morbidity and mortality globally. The purpose of this population-based study was to determine trends in incidence and survival in OC in the Danish population from 1980 to 2014.

Materials and Methods: This study covered all patients registered in the nationwide Danish Cancer Registry (DCR) in the period 1980–2014. Age-adjusted incidence rate (AAIR) per 100,000 and annual percentage change (APC) were evaluated. Also, 5-year overall survival was calculated with Cox regression analysis in relation to location, gender, age, and calendar year at diagnosis.
Results: Altogether, 8,299 patients with oral cancer were identified, 5,062 (61%) of whom were males and 3,237 (39%) were females. The median age at diagnosis was 63 years. The AAIR of patients with OC increased from 1.9 per 100,000 in 1980 to 3.5 per 100,000 in 2014, and we observed a significant increase in 5-year overall survival of 12 percentage points (a relative increase of 38%) from the period 1980–1984 to 2005–2009. Women were found to have a better prognosis than men.
Conclusion: In this manuscript, the data show a significant increase in theage-standardised incidence of oral cancer the last 30 years in Denmark. We also find that a peak may soon be apparent. Surprisingly, the 5-year overall survival has been significantly better in recent years, even when we have adjusted the analysis for relevant covariates.

Poster Number-10 Abstract No-106 **NON INVASIVE MASS SCREENING FOR ORAL PRE-CANCER AND CANCER BY DIFFUSE REFLECTANCE SPECTROSCOPY**
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Introduction: Oral lesions are very common in the adult population and many innocuous looking lesions may turn out to be malignant. Visual examination followed by biopsy is the current accepted means of detection. However these methods have many limitations, thus necessitating the development of an adjuvant tool. Diffuse reflectance spectroscopic (DRS) diagnosis of cancer is a non invasive method, based on the local architectural changes occurring at the cellular and sub cellular levels and vascularization that affect the elastic scattering properties of the tissue.
Methods: This screening test evaluation of 1 year duration was conducted at the outpatient department of Govt.Dental College, Trivandrum. Sample sizes of 918 subjects were screened with diffuse reflectance spectroscope and the measurements and values were recorded. Only those subjects in whom the values which indicated dysplastic or malignant change or clinically diagnosed cases were further subjected for biopsy. Data were analyzed using simple ratio technique.
Results: Out of 918 subjects screened, 172 cases were showing a change in intensities of the oxygenated hemoglobin absorption dips (DRS). These cases were categorized as abnormal and were having a clinical and pathological diagnosis as all variants of leukoplakia (53), lichen planus (74), erythroplakia (8) and squamous cell carcinoma (37).
Conclusion: The diffuse reflectance point monitoring system uses a fiber-optic probe for taking spectral measurements from a small area (100-400 microns). When used for various intra-oral sites, the DR spectral features and the intensities of the oxygenated hemoglobin absorption dips showed variations between the normal and abnormal mucosa. The spectral intensity ratio (R545/R575) increased significantly with tissue abnormality and was even effective in diagnosing occult lesions. This device developed as a non- invasive and cost effective screening method for early detection of oral cancer, will help to implement the prevention and treatment strategies at an earlier stage.

Poster Number- 11 Abstract No-114 **ARRAY-BASED APPLICATION OF SENTINEL NODE BIOPSY**
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Introduction: Regional lymph node metastasis is an important prognostic factor in oral squamous cell carcinoma (OSCC). We previously reported the clinical usefulness of sentinel node biopsy (SNB) diagnosed by intra-operativegenetic analysis. However, this method includes two problems. One is the low sensitivity used single marker (keratin-19) in genetic diagnosis, and another is the overtreatment for about 80% true negative cases. Here, we attempted to identify novel molecular markers for detecting lymph node metastasis and construct the genetic algorithm used primary tissue for indication of SNB.
Methods: We performed microarray analysis to identify genes overexpressed in 7 metastatic lymph nodes from OSCC patients, compared to 1 normal lymph node and 5 salivary glands from non-cancer patients. We then used real-time quantitative RT-PCR and reverse transcription loop-mediated isothermal amplification (RT-LAMP) to compare the expression of these genes in newly resected metastatic and non-metastatic lymph nodes. On the other hand we performed microarray analysis of the primary tissue. And we constructed the algorithm for indication of SNB to use 50 cases of cN0 OSCC primary array data.

Results: Of 4 genes identified by microarray analysis, annexin A8 (ANXA8) and desmoglein3 mRNA were detected by qRT-PCR in metastatic lymph nodes but not in normal lymph nodes. Furthermore, ANXA8 mRNA expression was detected in all false negative lymph nodes in the former study. And the algorithm constructed by microarray analysis had the highest diagnostic accuracy (100%) foranother 50 cases of cN0 OSCC patients.
Conclusions: There results show that array-based application of SNB is a minimally invasive and highly reliable means of staging the cN0 neck for patients with OSCC and that treatment can be substantially improved. 273/300 words

Poster Number -12 Abstract- 144 **DEVELOPMENT AND EVALUATION OF A 'COMPUTER-AIDED SCREENING TOOL' (CAST) AS AN ADJUNCT AID FOR EARLY DETECTION OF DYSPLASTIC ORAL POTENTIALLY MALIGNANT DISORDERS: A PRELIMINARY REPORT**

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Introduction: We developed and evaluated a 'computer-aided screening tool' (CAST), adjunct to 'clinical visual exam', to detect dysplastic oral potentially malignant disorders (OPMD). CAST uses state-of-the-art,iterative, self-learning computer algorithms (Python-programming; OpenCV) and 'grey-level co-occurrence matrix' (GLCM) statisticsonhigh-resolution colour photographs(10megapixel) of the suspected clinical sites of the oral cavity to predict the presence of dysplastic OPMD.
Methods:
Development: Clinical colour photographsof thirty representative samples of biopsy-confirmed dysplastic OPMD (group1:leukoplakia, oral sub-mucous fibrosis, lichen planus) and eighteen apparently healthy mucosa (group2:no OPMD, frictional keratosis, geographic tongue, median rhomboid glossitis) were collected from 'College of Dental Sciences', Davangere, Karnataka and 'Indian Cancer Society', New Delhi and interpolatedon CAST using600 regions of interest (ROI of 30X30pixel size each).Twenty-fourgrey-scale textural featuresfor 420ROI(210 ROI per group) were evaluated with GLCMand principal component analyses (PCA).Target values were setfor dysplastic OPMD versus healthy mucosa; output was classified into '0-benign;1-premalignant (dysplastic OPMD);2-malignant'(malignant features were set through a different exercise). The output accuracy was tested with remaining 180ROI (90 ROI per group) by plottingreceiver-operating-characteristic curve.
Evaluation: WeevaluatedCAST in an opportunistic screening populationof men and women of 18+years with clinically evident OPMD excluding frank carcinoma (N=134),for feasibility, acceptability and kappa agreement of results with 'oral brush biopsy'.
Results: Development: PCA revealed distinct textural clustersfor benign and premalignant groups on CAST indicating potential forvalid output (Figure1). The set accuracy to detect dysplastic OPMD from healthy mucosa was 82.78% (Figure2).
Evaluation: Feasibility of sample collection and acceptability among participantswere better for CAST. CASTyielded 40 dysplastic OPMD versus 17 atypical OPMD by brush biopsy demonstratingfair agreement with brush biopsy (kappa-overall:0.33;$p<0.0001$;highest for OSMF:0.42;$p<0.0001$ followed by non-homogenous leukoplakia:0.38;$p<0.0001$).
Conclusion: An adjunct'computer-aided screening tool'was developedto detect dysplastic OPMD. Preliminary evaluation indicates its potential for a sensitive and specific tool with robust applications. Refinement with varying degrees of dysplastic, non-dysplastic OPMD and other benign lesions followed by 'gold-standardvalidation' are the next steps planned.

Figure 1a: Regions of interest selection, interpolation and analyses of textural variations of dysplastic OPMD on grey-scale of 'computer-aided screening tool' (CAST).

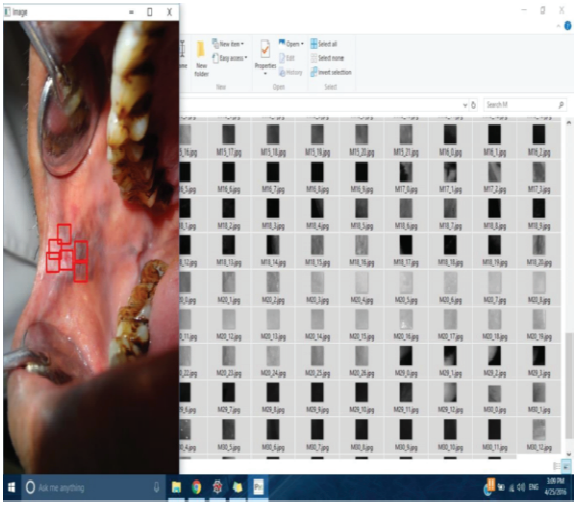
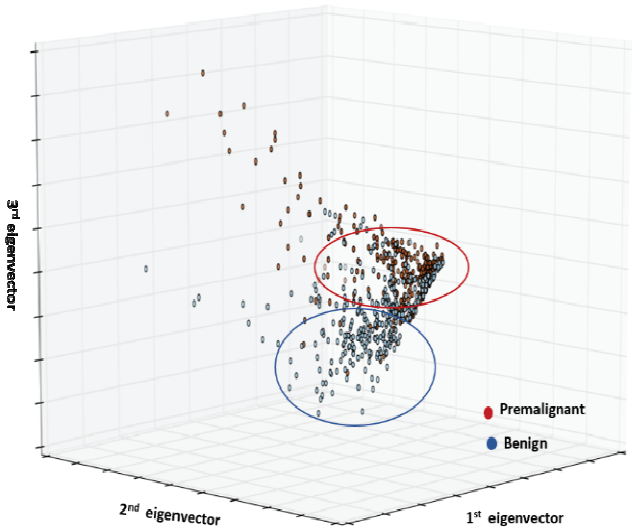
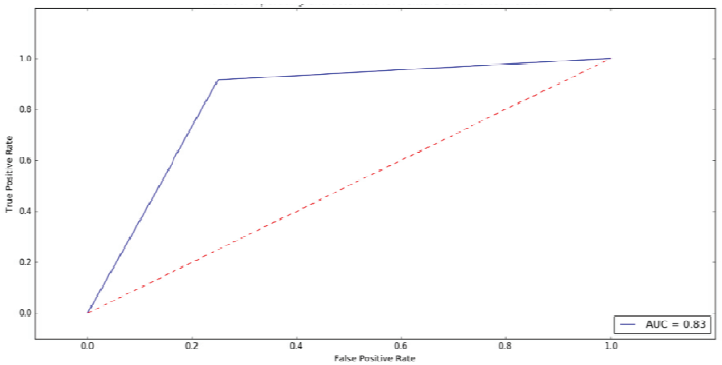


Figure 1b: Principal component analytic directions of texture features on a three-dimensional scale



The textural features (6 features on 4axes yielding 24 features in total) included dissimilarity (dissimilar pixels of an image), correlation (uniformity of pixels of an image), angular second moment (disorders in image pixels), energy (non-homogenous pixels of an image), contrast (variations between pixels of an image) and homogeneity (homogenous pixels of an image)

Figure 2: Receiver operating characteristic (ROC) for texture based classification



CLASS	PRECISION (POSITIVE PREDICTIVE VALUE)	RECALL (SENSITIVITY)	F1- SCORE * (ACCURACY)
BENIGN	0.91	0.75	0.82
PREMALIGNANT	0.76	0.92	0.83

$$F1\text{-score} = 2 \times \frac{precision \times recall}{precision + recall}$$

Poster Number – 13 Abstract – 169 **EVALUATION & COMPARISON OF LDH LEVELS IN SERUM & SALIVA IN ORAL LEUKOPLAKIA & OSCC PATIENTS WITH NORMAL CONTROLS FOR USING LDH AS A BIOMARKER IN OSCC**

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Introuction: Oral cancer is the third most common form of malignancies in India. In many cases it develops at the site of premalignant lesion. Early diagnosis of oral cancer is a priority health objective, in which oral health professionals may play a pivotal role as detection would lead to less damage from cancer therapy and to a better prognosis. Transformation of normal tissue to premalignant lesion and further to oral cancer results in alteration in glycolytic pathway and hence the lactate dehydrogenase levels. Enzyme Lactate Dehydrogenase (LDH) is found in the

cells of almost all body tissues. The profile of salivary total LDH enzymes is similar to that found in oral epithelium, indicating that the major source of salivary LDH is probably the oral epithelium-shedding cells. Consequently, LDH concentration in saliva, as an expression of cellular necrosis, could be a specific indicator for oral lesions that affect the integrity of the oral mucosa. Therefore, this study would be carried out to determine the changes in lactate dehydrogenase (LD) levels in oral leukoplakia (OL) and oral cancer (OC) patients. The aim is to estimate and compare the salivary lactate dehydrogenase (LDH) levels in various histological differentiation of oral squamous cell carcinoma (OSCC) patients, oral leukoplakia and normal subjects & attempt to predict a benchmark value or range of normalcy & pathology. Also the same will be compared with serum values of the parameter.
Settings and Design: Hospital-based setting, case-control study.
Methodology: Study will comprise of three groups as follows: Group I: It will comprise of 25 healthy individuals of comparable age. Group II: 25 otherwise healthy and consenting patients with oral leukoplakia (OL). Group III: 25 otherwise healthy and consenting oral squamous cell carcinoma (OSCC) patients. Unstimulated whole saliva measuring 1 mL will be collected from each of these patients by spit method, centrifuged and evaluated for LDH levels using the standard kit & Semiautomatic Analyzer method. The data obtained will be subjected to statistical analysis & correlation of the histological tumor differentiation with the salivary LDH levels will be sought for.

Poster Number-14 Abstract No-174 **miRNAS AS POTENTIAL BIOMARKER IN OSCC**
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MicroRNAs (miRNAs) are short (19-to-25 nt) single stranded non-coding RNAs, that bind to complementary sequences present usually in the 3′ untranslated region (UTR) of target messenger RNAs and inhibit their translation by the subsequent recruitment of RNA induced silencing complex – RISC. miRNAs fall into two categories: **cellular and extracellular**. Extracellular miRNAs are present in plasma or other body fluids, are also called secretory miRNAs & they may be intercellular signaling molecules and transduct intercellular signals when flowing. Several studies have found charateristic and stable miRNA profiles in bodily fluids and these profiles can resist degradation at high and low temperatures, in strong acids and bases, and by RNase probably because they are wrapped up by proteins or stored within vesicles.
Since > 30% of the human genes are predicted to be regulated by miRNAs, these tiny RNAs govern all cellular, physiological and developmental processes. A vast majority are located in intergenic regions (anywhere between 57 and 69%), followed by intronic regions (~12 to 17%), exonic (~5%), long-noncoding (5%) and repeat regions (~8%) . Around 50% of these genomic regions are frequently prone to alterations in various cancers and are collectively termed as cancer-associated genomic regions (CAGRs). In these regions miRNAs play important roles by regulating various cellular processes such as cell growth, differentiation, apoptosis, and immune response.
Therefore, miRNA deregulation which is common in all human cancers including OSCC and miR signatures have been helpful at all levels right from diagnosis to determination of treatment response & prognosis.
MicroRNAs (miRNAs) in human saliva have recently become an emerging field in saliva research for diagnostics applications. Hence, from the saliva of OSCC patients, microRNAs (miRNAs) could serve as potential biomarkers for oral cancer detection. Understanding the biological function of miRNAs in association with diseases is important towards utilizing miRNAs as diagnostic markers. There are currently a variety of profiling methods available for detecting miRNA expression levels.
Principal methods include quantitative PCR (qPCR), microarray hybridization, and next-generation sequencing (NGS). However, for detecting salivary miRNA expression, there are currently several challenges like:
a) miRNAs present in saliva are relatively low, typically in the nanogram range upon extraction . So, profiling arrays typically require several micrograms or more of input RNA, causing problems with sensitivity and specificity.
b) miRNAs are short and similar in sequence, making it difficult to design RT-qPCR assays or hybridization probes
c) Owing to the presence of three different forms of miRNA (pre-miRNAs, pri-miRNAs, and mature miRNAs), the profiling method needs to be able to detect and distinguish between each type.
miRNAs have distinct expression profiles due to being differentially expressed in cancer cells in comparison to normal cells. Additionally, the expression level of many miRNAs in cancer cells and normal cells exhibit fold changes tens to hundreds of times higher than the expression levels of mRNAs. This data suggest that miRNAs can be potentially used as biomarkers to detect early-stage diagnosis of oral cancer and lead to the development of miRNA-based cancer-treatment and therapies. Weber *et al*. reported the miRNA profiles of 12 bodily fluids and found a maximum of 458 miRNAs in saliva . In a study by Park & colleagues(2009), two saliva miRNAs, miR-125a and miR-200a, were significantly decreased ($P < 0.05$) in OSCC patients than in normal controls.In another preliminary analysis, miR-31 over-expressed in the saliva of OSCC patients .

In a study by Mayakannan Manikandan et al (2016) a strong link between the downregulated miRNAs and the PI3K/Akt signalling pathway was observed & this pathway is critical for maintaining the homeostasis in proliferation, metabolism, migration, apoptosis, etc., and its deregulation or constitutive activation due to mutations has been implicated in oral carcinogenesis. More than 47% of HNSCC and specifically 38% of Indian OSCC samples have been suggested to carry at least one molecular alteration in this pathway. Thus, loss of miRNAs' control on PI3K/AKT signaling can have dire biological consequences.In an unsupervised analysis the study, identified 46 miRNAs to be differentially expressed in OSCC,wherein, the downregulated miRNAs targeted genes enriched in the PI3K/Akt signaling activated limitless replication potential. Conversely, the up regulated miRNAs targeted genes enriched in the p53 signaling pathway, causes the inhibition of pathway & thereby may lead to evasion of apoptosis and defects in cell cycle checkpoints.
An issue of current interest is, the reason of protection and shuttling from the source of the tumor to the saliva of salivary mRNA and miRNA biomarkers . Salivary mRNAs are protected from ribonucleases present in the saliva by macromolecules called exosomes.
In saliva mature miRNAs have been studied with RT-qPCR as, it is the gold-standard method with a large dynamic range, high specificity, and high sensitivity.
As, several studies have demonstrated that aberrant expression of miRNAs is closely related to the pathogenesis and development of cancer, therefore, miRNAs possess discriminatory power as cancer biomarkers in OSCC. Also, research striving towards early detection and efficient management of OSCC is of utmost importance in India, which is considered as the world capital of oral cancer.

Poster Number- 15 Abstract No- 187 **SCREENING OF ORAL CANCER AT PERIPHERAL AREAS: OUTCOMES ON PATIENT MANAGEMENT**

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Introduction: Screening of oral cancers should be performed among the high risk groups in order to ensure its effectiveness. The peripheral population will benefit from the early screening and improves their awareness of the oral cavity cancer and its treatment.
Intervention: We conducted a day event at rural area of Pasir Mas, incorporating lectures on oral cavity cancers, an exhibit of pathology specimens of oral cancers, clinical examination of oral cavity and oropharynx by the ENT medical officers and counseling on the oral cavity carcinoma and its treatment. There was 50 participants aged from 30 to 50 years old and the majorities are the working group. Only 2 patients were identified with suspicious lesion in the oral cavity and were referred to our hospital for immediate management.
Discussion: Direct communication with at risk populations of having oral cancer during a screening programme is an effective method of early detection since better understanding of the disease by the participant can be attained and direct oral cavity examination is performed by the experts in the field. More such events should be carried out globally in ensuring the finesse of patient's care at near future.
Conclusion: Screening of oral cancer among high risk groups in peripheral areas is cost effective as it can improve local population awareness toward oral cavity carcinoma and they know where to get subsequent investigation and treatment.

Poster Number- 16 Abstract No- 194 **ANALYSIS OF SPHINGANINE AMINO ACID LEVELS IN SALIVA FOR EARLY DETECTION OF ORAL CANCER – AN ELISA STUDY.**

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Introduction: Oral cancer is the 6th most prevalent cancer worldwide. It has emerged as one of the most dreaded malignancy with increasing incidence and mortality rates all over the world with rising trends in the younger population. This highlights the implementation of newer screening methods for early detection and prevention. Salivary biomarkers for early detection of this malignancy has found increasing demands owing to the easy and noninvasive collection of saliva when compared to blood. Salivary Metabolomics is the systematic study of small-molecular-weight substances in cells, tissues or whole organisms as influenced by multiple factors. Objectives of the study: To explore sphinganine which is a salivary metabolite biomarker for early identification of oral cancer using ELISA.

Methods: 20 patients with oral cancer and 20 healthy patients were included in the study. All the donors were asked to refrain from smoking, eating, drinking, or oral hygiene procedures for at least 1 hour prior to samples collection, and then rinse their mouth thoroughly with water. Saliva samples were collected between 9:00 and 11:00 a.m. in a private room using standard techniques. Roughly three milliliters of unstimulated whole saliva was obtained. The samples were analysed using ELISA.
Results: Awaited
Conclusions: Sphinganine is a blocker postlysosomal cholesterol transport by inhibition of low-density lipoprotein-induced esterification of cholesterol and cause unesterified cholesterol to accumulate in perinuclear vesicles. Recent Literature search reveals in OSCC, sphinganine and phytosphingosine are both down-regulated with P values < 0.001. These bioactive sphingolipid metabolites may have the potential to serve as biomarkers for OSCC. Salivary biomarkers represent a promising noninvasive approach for early detection of oral cancer. However some challenges have to be resolved to establish this approach as a reliable, highly sensitive and specific method for clinical use.

Poster Number – 17 Abstract No-202 **A NOVEL SURGICAL MARKER**
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Oral cancer is the sixth most common cancer in the world. It has a geographic predilection with a higher incidence reported in southeast Asia and Brazil. Higher incidence in these areas is due to the habitual usage of chewing tobacco and the betel nut.
Its incidence rates vary in men from 1 to 10 cases per 100,000 population in many countries and the early detection, including screening of early signs and symptoms, increases the probability of cure.
The oral cavity is easily accessible for physical examination and different non-invasive methods have been used to support and increase the sensitivity and specificity of visual screening with the support of a normal (incandescent) light. A number of reports indicate that in the surgical treatment of oral and oropharyngeal cancer, dysplasia at surgical margins is a predictor of local recurrence.
Although various dyes like Toluidine Blue has been used for the identifications of the margins and extent of a cancerous lesion, a study using Lugol's iodine will be more helpful in identification of the margins. Lugol's iodine is a simple, inexpensive mean which has more sensitive and specific staining properties. A study to examine the margins of a cancerous lesion will help the surgeon to identify the exact boundaries prior to surgical resection.

Poster Number – 18 Abstract No-203 **PREDICTING THE MALIGNANT TRANSFORMATION OF ORAL SUBMUCOUS FIBROSIS USING QUANTITATIVE BIOMARKERS P63 AND CD31**
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Introduction: Oral submucous fibrosis (OSMF) is a potentially malignant disorder prevalent in South Asia, which has shown higher incidence in young adults on account of the increasing availability of commercialarecanut preparations. It is an insidious, chronic progressive disorder with a malignant transformation rate of 7-13%. Recently, it has been suggested that oral cancers arising in OSMF comprise a clinico-pathologically discrete disease, due to diverse mechanisms in association with*arecoline*. Though OSMF is a connective tissue disorder, epithelial changes leading to dysplasia precede its malignant transformation. Therefore understanding the behaviour of the overlying epithelium using various quantitative immunohistochemical markers in different grades of OSMF will provide a clue in predicting the malignant transformation of these cases,aiding in early detection and preventing further progression.
Aims & objectives:
1) To assess epithelial cell proliferation and differentiation in various grades of OSMF by evaluation of p63.
2) Determine if increased endothelial expression of CD31 is seen across different grades of OSMF.
3) Null Hypothesis
4) Levels of IHC stained p63 and CD31 will be comparable over time within histologic grade (using appropriate correlative analyses) in progressive and nonprogressive patient cohorts.
Materials and Methods: i) 40 archival cases of OSMF - categorized into early, moderate and advanced grade (Khanna et al, 1995) on histologic examination. Ii) Sections will be stained with p63 and CD31 and compared with corresponding Hematoxylin& Eosin stained tissues.
Expected Results: Increase in nuclear expression of p63 and endothelial expression of CD31 with the corresponding grade of OSMF. Results will be statistically analysed with SPSS software.

Conclusion: Increased expression of p63 and CD31 in cases of OSMF should be considered as definitive quantitative markers in the prediction of the malignant transformation of OSMF. Patients showing the overexpression of these biomarkers are at considerable risk of malignant transformation and should be closely monitored.

Poster Number – 19 Abstract No- 213 **ASSISTANCE OF IMMUNOHISTOCHEMICAL MARKERS P63 AND CD31 IN GRADING OF ORAL LEUKOPLAKIA AND COMPARISON WITH DIFFERENT HISTOPATHOLOGICAL GRADING SYSTEMS AND CLINICAL FEATURES**

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Introduction: Oral squamous cell carcinoma (OSCC) is responsible for most cancer related mortality and morbidity, but the 5-year survival rate significantly increases between 66-85% when detected early. OSCC mostly is preceded by a range of tissue and cellular alterations consistent with carcinoma, but restricted to the surface epithelium, termed potentially malignant disorders (PMDs). These changes often manifest as a clinical mucosal lesion, the most common being oral leukoplakia. Such lesions may either progress towards malignancy or regress if the inciting agent is withdrawn. The rate of malignant transformation of these PMDs is approximately 1-3%. Various attempts have been made to discretely categorize the continuous scale of tissue changes in PMDs using various histopathological grading systems such as Ljublijana classification, 2005 WHO classification, 2-tier classification system by Kujan et al, etc. This cataloguing is important as the clinicians monitor the milder cases but surgically excise cases that are categorized as severe. The use of histopathology alone has long been considered imprecise due to low levels of reproducibility. The use of a proliferative marker and an angiogenesis marker such as p63 and CD 31 would thus assist in grading of leukoplakia cases. The present study would analyse the various grading systems of leukoplakia assisted by IHC markers and correlate with the clinical features to assess the efficient grading system.

Aims and Objectives:

1. To compare various grading systems for categorizing leukoplakia cases. 2. To correlate various grading systems with the clinical features. 3. To assess if IHC markers p63 and CD31 aid in categorizing leukoplakia.

Materials and Methods: 35 cases of leukoplakia would be graded using Ljublijana classification, 2005 WHO classification and 2-tier classification by Kujan et al and correlate with clinical features assisted by IHC markers for proliferation (p63) and angiogenesis (CD 31). The results will be statistically analysed using SPSS software.

Results and Conclusions: The grades of each case using different grading systems would be correlated with clinical features to help in identifying the most proficient grading system. Evaluation of the role of p63 and CD31 in cases of leukoplakia would be carried out.

Poster Number- 20 Abstract Number – 217 **ORAL LICHEN PLANUS - PRE-MALIGNANCY JUSTIFIED? – AN IHC BASED STUDY**

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INTRODUCTION: Tobacco associated cancer deaths stand the second highest among cancer mortality rates. But in the recent past non-tobacco oral cancers are increasing at an alarming rate among the world population, where the etiology is being elucidated to viruses, autoimmunity, genetics and epigenetics etc. Oral lichen planus (OLP) is an autoimmune pre-malignant lesion not associated with tobacco usage. Chronic inflammation being one of the hallmarks of OLP is connected to increased risk of tumor development. WHO classifies OLP as a potentially malignant condition but malignant transformation is still a matter of controversy. CD44 is a transmembrane glycoprotein that binds to hyaluronic acid, which is more concentrated in premalignant & malignant cell than normal cells, supporting its role in cancerinvasiveness. It is a widely accepted cancer stem cell marker and also plays important role in lymphocyte activation, proliferation and migration. P63 is a marker for differentiation of epithelial cells, the normal mature epithelium shows positivity only in basal cells whereas in dysplastic epithelium the positivity extends to superficial layers. Also expressed in endothelium and lymphoid cells. The aim of this study is to further elucidate the autoimmune and premalignant character of OLP, grade the dysplasia and compare the characteristics with Oral squamous cell carcinoma (OSCC).

METHOD: Tissue sections of formalin fixed paraffin embedded blocks of OLP and OSCC cases will be subjected to immunohistochemical staining with antibodies against CD44 and P63 in all the cases.

RESULTS: The stain location and intensity will be assessed, recorded and interpreted. Expected results are: strong membranous positivity of CD44 in cells showing malignant transformation and cancer stem cells. Strong nuclear positivity of P63 in proliferating and undifferentiated cells. The observations will be compared between OLP and OSCC cases.
CONCLUSION: CD44 detection indicates early carcinogenesis and may play a role in pathogenesis of inflammatory pre-malignant lesions, invasiveness and maintenance of stemness. P63 marks the undifferentiated cells and proliferation indicating the potential of pre-malignant lesions as targets for malignant transformation. Hence these markers can throw more light on the early detection of malignant transformation in entity like OLP which is a non-tobacco lesion, stemness, proliferation rate, prognosis and targets for therapy.

Poster Number – 21 Abstract No-222 **EFFECTIVENESS OF POPULATION BASED SCREENING IN EARLY DETECTION OF PRE-CANCEROUS AND CANCEROUS ORAL LESIONS IN RURAL KANNUR, KERALA, INDIA- 2014**

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Introduction: International Agency for Research on Cancer in 2012 estimated 14.1 million new cases of cancer including 8.2 million deaths worldwide. India accounts for one-fifth of all oral cancer cases and one-fourth of all oral cancer deaths.In this paper, we intends to describe the population based oral cancer screening strategy used in a district level cancer control project and to assess the effectiveness of this programme in detection of early stage oral cancers and pre-cancers.
Methods: Cross sectional study. Population aged > 15 years in 48 panchayats of Kannur district from August 2013 - March 2014 constituted the study population. The program was planned in 5 stages. Initially, volunteers were trained in oral cancer screening followed by house to house survey to conduct the oral cavity examination. The survey results were analyzed with the help of local health care staffs and the risk population was identified. They were further examined by doctors and referred to tertiary cancer centre for investigation, treatment and follow up.
Results: 265272 houses were surveyed covering a population of 10,61,088 people. 3226 subjects were identified to attend the camps after survey evaluation.2507 attended the oral cancer detection camp and were examined by doctors. 13 oral cancer cases and 174 oral pre cancerous cases were detected at the camps conducted over a span of 8 months. (August 2013 to March 2014). 30.76% of cases were in stage 1 and 15.38% of cases were in stage 2.
Conclusion: Population based screening focusing on people with risky habits is effective in detecting oral cancers in early stages. Community based cancer screening programs are required for oral cancer control as majority of these patients are poor or elderly. Volunteers trained in oral cancer screening can help in early detection of oral cancers and pre cancers.

Poster Number – 22 Abstract No- 235 **IS DIRECT TISSUE AUTOFLUORESCENCE VISUALIZATION MORE EFFICIENT THAN CONVENTIONAL ORAL EXAMINATION FOR IDENTIFICATION OF ORAL SQUAMOUS CELL CARCINOMA (OSCC) AND ORAL POTENTIALLY MALIGNANT DISORDERS (OPMD)?**

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Introduction: OSCC is the most common type of oral cancer (OC). Occasionally it is preceded by OPMD. The five-year survival rate for OC remains at very low level of 50%. It is related, first and foremost, to late diagnosis. Therefore, it is essential to search for and validate diagnostic methods alternative to conventional oral examination (COE). The aim of the presented study was to evaluate the efficacy of VELscope® in OSCC and OPMD diagnostics.
Methods: The study involved 180 patients: 60 with clinically suspicious oral mucosal lesions, 60 with OSCC history and 60 from other risk groups of OC. The examination of oral mucosa was conducted conventionally under white light and with the use of VELscope®. All fluorescent signals that could be observed when oral mucosa is excited in the blue light of VELscope® were taken into account. The histopathologic diagnosis was considered the golden standard.
Results: The highest sensitivity of VELscope® in identification of OSCC and OPMD with dysplasia was calculated for signal of green fluorescence visualization loss (GFVL). It was higher than maximum sensitivity of COE (97% vs. 85%). The highest specificity of VELscope® in identification of OSCC and OPMD with dysplasia was determined for signal of red fluorescence visualization (RFV). It was lower than maximum specificity of COE (98% vs. 95%). The

efficacy of every method varied depending on the group of patients in which they were conducted. VELscope® was much more effective than COE in identification of OSCC among patients with OSCC history.
Conclusion: The direct tissue autofluorescence visualization method is more efficient then COE in detection of OSCC and OPMD with apparent dysplasia, but less effective in differentiation them from other oral mucosal lesions. This method can be particularly recommended for screening of patients with OSCC history for new neoplastic lesions of the oral mucosa.

Poster Number- 23 Abstract No-237 **ARE H-RAS MUTATIONS PATHWAY TO PATHOGENESIS OF EARLY CANCER DEVELOPMENT IN ORAL EPITHELIAL DYSPLASIAS?**
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Introduction: The aetiology of Oral Squamous cell carcinoma is complex involving selection of variant cells that develop a growth advantage over and above that of the surrounding normal epithelium. The growth advantage is a combination of increased proliferation and decreased apoptosis to allow cell survival. Mutations are among the most common oncogenic drivers in OSCCs. It has been identified that activating mutations in H-Ras oncogene result in constitutive signaling, thereby stimulating cell proliferation and inhibiting apoptosis. H-ras oncogene is known to show a high frequency of somaticmutations at hot spot codons 12, 13 and 61 in OSCC with tobacco habit in Indian population. However the same has not yet been documented in Oral epithelial Dysplasias (OED).
Methods: This study was aimed to determine the frequency of oncogenic hotspot mutations in codon 12,13 and 61 of the H-ras gene andits immunohistochemical expression in varying histopathological grades of oral epithelial dysplasias (OED) and oral squamous cell carcinomas (OSCC) and detect its correlation with tobacco habit in Indian population.A total of 70 cases inclusive of normal controls, OEDs and OSCCs wereanalyzed for mutations of the H-ras gene using polymerase chain reaction (PCR), Restriction Fragment length polymorphism and direct genomicsequencing.The cases were also subjected to immunohistochemical analysis and assessed using qualitative scoring, quantitative scoring and an expression index.
Results: The overall prevalence of H-ras mutations in our study groups was found to be 29% (18/62). A statistically significant increase in frequency of mutations from epithelial dysplasiasto OSCC was observed and majority of the mutations were restricted to codon 12, position 1 changing the amino acid from glycine to serine. The mutations associated positively with tobacco chewing habit and negatively with H-rasimmunoexpression.
Conclusion: These alterations, provide preliminary evidence that Hras mutation may be an early event in OSCC carcinogenesisand H-ras directed therapies may be a useful chemoprevention strategy.

Poster Number – 24 Abstract No- 245 **THE ROLE OFDIAGNOSTIC IMAGING IN ORAL CAVITYCANCER**
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Introduction: Although oral cavity cancers are identified by direct visualization, most of them are diagnosed late, reaching large dimensions. Imaging exams provide crucial information for proper diagnosis, staging and follow-up.
Methods: The cases for the pictorial essay were selected from the digital files.
Discussion: The majority of the population can not distinguish malignant lesions from anatomical structures in the oral cavity and seek medical or dental care when they suspect anomalies. After histological diagnosis, correct staging is usually done according to the AJCC TNM classification, now at the new 8th edition. Cross-sectional imaging may assess the extent and depth of the lesion, as well as bone involvement, perineural spread, and lymph node enlargement or distant metastases.
Imaging of the oral cavity can be limited by dental amalgam artifacts or by opposed mucosal surfaces. Therefore, dynamic CT maneuvers, such as the full cheek and the opening of the oral cavity are very applied and useful. For a lesion classified as T2 or larger lesions the evaluation of CT or MR may show the extent of the disease not detected by physical examination. CT is the best tool for detecting mandibular bone involvement, and MR is the best tool to evaluate the involvement of the soft tissue of the tongue and the floor of the mouth, as well as to evaluate perineural spread. CT or MRI imaging can detect metastatic lymph nodes and extranodal extension. The presence of cervical lymph nodes larger than 2 cm or with low central attenuation and peripheral enhancement are suspected for metastasis.

Although several reports in the literature cite PET-CT in the initial staging of squamous cell carcinoma of the oral cavity, other reports consider that it does not present adequate anatomical resolution and, therefore, is more suitable for the investigation of distant metastases.
CONCLUSION: This pictorial review will present the appropriate use of different axial imaging methods for the diagnosis and staging of oral cavity cancer, including the new 8th AJCC TNM classification.

Poster Number – 25 Abstract No- 256 **INVENTIVE PANEL OF MOLECULAR BIOMARKERS IN EARLY DIAGNOSIS AND PROGRESSION OF ORAL CANCER: A PATH FOR TOMORROW!**

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Introduction: Oral squamous cell carcinoma (OSCC) is well known for its aggressiveness associated with poor prognosis. Its treatment protocol is braced by the International Union against Cancer (UICC) TNM classification, which comprises of surgery with additional radio/chemotherapy in more advanced tumors.For early detection and understanding molecular transformation related to tumor progression,focussing on development of new diagnostic tools and incorporating tumor biomarkersassociated with oral carcinogenesis is obligatory in today's date.This paper focuses onthe corroborative and amplifying effect of a panel of molecular biomarkers expression in various degrees of differentiation in OSSC tumor progression,hoping to further pave the way towards better outcome and less overtreatment.These work in future intendsto develop a new automated cellular analysis method, incorporating lab-on-a-chip sensor technique too.
Aim: The aim of this paper was to investigate and evaluate role of carcinoma associated fibroblast (CAF's) in OSCC tumor microenvironment and its association with the predictive and prognostic value of molecular markers like Caveolin-1, Tenascin-C, Periostin, and Fascin for early diagnosis and progression.
Methods and Results:A retrospective studyusing FFPE blocks consisting of biopsies taken from 10 apparently normal and 50 OSCC patients treated at Institute of Dental Sciences, Siksha O Anusandhan University,Bhubaneswar,India were examined. Immunohistochemistry (IHC) evaluating protein expression was performed using all the above mentioned markers. Results of these studyexpressed a strong communiqué and interrelationship between these biological markers, under the influence of CAF's present in the OSCC tumor microenvironment.
Conclusion: This is the first study demonstrating the significanceof panel of molecular biomarkers for early diagnosis and understanding the progression pathway of OSCC.An insight into the probable associationof CAF's and these biomarkers in the evolution and malignant transformationof OSCC further magnifies the molecular-biologicalspectrum of OSCC tumor microenvironment.

Poster Number- 26 **Abstract No- 264 THE CLINICAL MISDIAGNOSIS OF LICHEN PLANUS AND ITS POTENTIAL FOR UNTOWARD OUTCOME**

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Introduction: Dentists in clinical practice usually see white striae or patches. It could be unilateral or multiple, some of these white patches can be wiped leaving erythematous areas in the oral cavity. The differential diagnoses of common white patches include infection, hereditary, traumatic, immune mediated to idiopathic lesions (see table 1). Treatment of these lesions is based upon the diagnosis.

Name of the lesion	Clinical presentation	Unique feature
White sponge nevus	Generalized thick spongy diffuse white plaque	Genodermatosis, chronic & asymptomatic
Candidiasis	Generalized wipeable white plaques	Acute, presents with burning and taste

Lichen planus	Bilateral diffuse white plaques with striae	Chronic, may be symptomatic or asymptomatic
Frictional keratosis	Ragged diffuse white patches in the of trauma	Chronic & asymptomatic, present at the occlusal plane
Leukoplakia	Usually well-defined white plaque	Chronic & asymptomatic, usually unilateral

Conclusion: The importance of diagnosis and management of white lesions will be demonstrated by using clinical cases. Misdiagnosis of white lesions with special reference to lichen planus, with delay in diagnosis and proper management will be discussed. Two cases of white patches misdiagnosed as lichen planus, later diagnosed as squamous cell carcinoma leading to extensive treatment will be discussed.

Poster Number- 27 Abstract No-271 **UTILIZATION OF RISK FACTOR MODEL FOR EARLY DETECTION OF ORAL CANCER IN SOUTH EAST ASIAN REGION: SRI LANKAN EXPERIENCE**

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Introduction: Oral and pharyngeal cancer is the 9th most common cancer globally: which accounts 442,760 new cases worldwide (Globocan 2012). The highest incidence of oral cancer in both sexes is observed in South Asia where betel quid chewing is a major risk factor.

Methods: Considering the main obstacles to effective oral cancer screening over the intervening three decades, we developed a Risk Factor Model (RFM) for Oral Potentially Malignant Disorders (OPMD) to identify the high risk groups, based on age, socioeconomic status, betel-quid chewing, alcohol drinking and tobacco smoking. We then validate the RFM in a new community. Each variable was given a score based on previous study odds ratio and a total score calculated for each individual. A ROC curve was plotted for the total risk factor score and disease (OPMD) outcome to achieve a cut off point for screening.

Results:A cut-off point of 12.0 resulted in a sensitivity of 95.5% and specificity of 75.9%. In future programmes, individuals with a score above 12.0 for this model should be called for a screening examination of the mouth by a trained professional.

Conclusion: We have utilized RFM through a social marketing campaign to invite high risk people for screening. RFM approach has shown great success in enhancing public awareness on prevention and early detection of oral cancer in Sri Lanka. This RFM, or minor variations of it, will be suitable for evaluation in field trials for the early detection of oral cancer in a number of high risk populations in South East Asian region.

Poster Number-28 Abstract No- 272 **EXPRESSION OF CD44 AND ITS CLINICOPATHOLOGICAL CORRELATION IN ORAL SQUAMOUS CELL – AN IMMUNOHISTOCHEMICAL STUDY**

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Introduction: The prognosis of oral SCC patients is dependent on the metastasis of tumor cells and CD44 is considered to be one of the candidate molecules involved in the metastasis of oral SCC. The cellular functions of CD44 imply that a disorder of CD44 expression plays a crucial role in the behavior of a malignant tumor. The downregulation of CD44 expression is reported to correlate with the metastasis and a poor prognosis in various types of carcinoma including oral SCC. But there is no consensus in the literature about the exact behaviour of CD44 whether it is under expressed or over expressed and what grade of OSCC will these signify. This study is done to correlate this marker with all the clinicopathological features.

Materials and Methods: The present study comprises of 36 cases (retrospective and prospective)of OSCC who reported to the Department of Oral and Maxillofacial Surgery, FDS, MSRUAS, and Department of Surgical Oncology, M.S Ramaiah Teaching and Memorial Hospitals, Bengaluru, from July 2012 to December 2016.Formalin-fixed

paraffin-embedded tissue blocks and histopathology reports were retrieved from the archives of Department of Pathology, M.S RamaiahTeaching and Memorial Hospitals.The specimens were divided into two groups of 18 samples each (Group 1 – well differentiated OSCC, Group 2 – moderately differentiated OSCC). The immunohistochemical staining was compared and correlated with degree of tumor differentiation, TNM staging and prognosis.
Results: The study is completed and results are awaited.
Conclusion: Although enormous amount of research is going on, early detection of cancer is still a challenge to the clinicians. Through tumor markers, initial prediction of aggressiveness will give the surgeon an overall better picture of the behaviour of tumor and thus helps in planning and executing treatment.

Poster Number-29 Abstract No-276 **EXPRESSION OF PODOPLANIN IN PREDICTING THE BIOLOGICAL BEHAVIOUR OF ORAL SQUAMOUS CELL CARCINOMA – A CLINICOPATHOLOGICAL CORRELATION**
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Introduction: The presence of lymph node metastasis is the most important indicator for the prognosis of Oral Squamous Cell Carcinoma. Currently its diagnosis mainly relies on histopathological evaluation. However, due to the high frequency of recurrence this may be inadequate. Therefore, there is a need to evaluate the changes occurring at the molecular level. Podoplanin is a mucin-like transmembrane eglycoprotein that has been highlyand specifically expressed in the lymphatic endothelial cells, but not in the endothelium of blood vessels. Studies have shown the expression of podoplanin in certain tumour cells including those of squamous cell carcinomas. Expression of podoplanin has also been strongly associated with lymph node metastasis and other clinicopathological characteristics. This raises a possibility that podoplanin may have a biological function in Oral Squamous Cell Carcinoma and its expression could be used as a biomarker for diagnosis and prognosis.
Methods: Podoplanin expression was analyzed in 55 cases of Oral Squamous Cell Carcinoma who reported to theDepartment of Oral and Maxillofacial Surgery, FDS, MSRUAS, and Department of Surgical Oncology, M.S RamaiahTeaching and Memorial Hospitals, Bengaluru, from July 2012 to December 2016.Formalin-fixed paraffin-embedded (FFPE) tissue blocks and histopathology reports were retrieved from the Department of Pathology, M.S RamaiahTeaching and Memorial Hospitals.These cases were evaluated immunohistochemically for the expression of podoplanin using monoclonal antibody (D2-40). We analysed the correlation between podoplanin expression and site, size and degree of differentiation of the tumor, lymph node metastasis and prognosis.
Results: Since it is an ongoing study the results are awaited.
Conclusion: In this study we aimed to determine the correlation between podoplanin expression andclinicopathological characteristics in Oral Squamous Cell Carcinoma.

Poster Number – 30 Abstract No-298 **GRADING OF ORAL EPITHELIAL DYSPLASIA: CLINICIAN'S PERSPECTIVE**
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Introduction: The probability of occurrence of malignanacy in an oral potentially malignant disorder (OPMD) is determined by estimating the degree of dysplastic changes in the epithelium. Oral epithelial dysplasia refers to a series of subtle changes occurring at cellular level. Dysplasia grading is considered the gold standard for diagnosing OPMDs.
WHO classification of dysplasia into hyperkeratosis, mild, moderate, severe, and carcinoma in situ; remains one of the most widely accepted systems for grading dysplasia. However, there can be considerable inter-observer variability in the grading of dysplasia due to its subjective nature. Histopathological grading has been criticised for lack of reproducibility and poor predictive value. This study aims to assess the agreeability between two oral pathologists for grading dysplasia.
Methods: 100 patients clinically diagnosed with OPMDs were included in the study. Informed consent was obtained and incisional biopsy was performed at clinically suspicious site. Specimen were sectioned and stained with hematoxylin and eosin. The slides were evaluated by two oral pathologists independently and their results were tabulated. The pathologists were blinded to the clinical diagnosis. Statistical analysis is in process and inter-observer agreeability will be assessed by chi-square test.

Results: The mean age of subjects was 39.7 years, with a range of 20-75 years. 86% of subjects were males. 47 subjects were diagnosed with homogenous leukoplakia, 8 with non-homogenous leukoplakia, 32 with tobacco pouch keratosis, 7 with lichen planus and lichnoid reaction, 4 with erythroplakia, and 3 with Oral submucous fibrosis. The variability in histopathological diagnosis is depicted in the table.
Conclusion: The obtained data indicate a variability in histopathological assessment. Final conclusions will be drawn after statistical analysis. It is important to establish objective and widely accepted criteria for diagnosis of dysplasia, since this determines the treatment plan and predicts potential for malignant transformation.

Clinical impression	**Number**	**Pathologist 1**								**Pathologist 2**							
		A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H
Leuko-plakia	54	-	16	24	11	3	-	-	-	27	17	-	-	1	6	-	3
Tobacco pouch keratosis	32	-	4	18	10	-	-	-	-	16	7	-	-	-	9	-	-
Lichenoid lesion	7	-	3	3	1	-	-	-	-	3	-	-	-	-	4	-	-
OSMF	3	-	2	-	1	-	-	-	-	1		-	-	-	-	2	-
Erythroplakia	4	-	1	3	-	-	-	-	-	2	1	-	-	-	1	-	-

A: Hyperkeratosis E: Microinvasive carcinoma
B: Mild dysplasia F: Lichenoid lesion
C: Moderate dysplasia G: OSMF
D: Severe dysplasia H: Normal

Poster Number- 31 Abstract Number- 307 **ASSESSMENT OF KNOWLEDGE OF ACCREDITED SOCIAL HEALTH ACTIVISTS IN ORAL CANCER SCREENING**
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Introduction: Oral cancer is the leading cause for morbidity and mortality; India, accounts for the highest number of cases.Ina low-resource setting poor access to specialists is one of the primary reasons for delayed diagnosis. In rural India, ASHAs (Accredited social health activists) are primary contact, trained to play a key role in delivering health care at primary level. Oral health is often ignored and ASHAs need training in oral examination and detection of oral lesions. Thus, the study was conducted to assessthe knowledge of ASHAs in identifying oral lesions and their rolein oral cancer screening.
Methodology: ASHA workers (n=25) were trainedto perform oral cancer screening in 2 Primary Healthcare Centers (PHC) in North and South of Karnataka, India.Training included education on ill effects of tobacco and on clinical examination of various sub sites of oral cavity to identify oral precancerous lesions. Pre and Posttestwas conducted to assess the knowledge and awareness on oral cancer using questionnaires. The content validity (Eigen value) and the Cronbach's alfa for questionnaires were evaluated. Duration of the posttest was 3 days and 3 months following training. The observations wereStatistically analyzed using paired t test. The improvement in their knowledge was specified in terms of percentage.
Results:84%ASHAsshowed an improvement in posttest assessment following 3 days of trainingthat was statistically significant ($p<0.05$).However, retention of knowledge after 3 months was 64%and was statisticallyinsignificant.

Conclusion: The trained ASHA workers areefficient in oral cancer screening program.Study also recommends periodical training sessions for ASHAs in oral cancer surveillance.

Poster Number- 32 Abstract No-311 **SCREEN AND TREAT - EARLY DETECTION, PREVENTION, TREATMENT AND SURVEILLANCE OF ORAL CANCER"**

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Introduction: Globally, India accounts for the highest number of Oral Cancer cases, with the government recording a staggering 80,000 cases every year. Oral Cancer is primarily caused by use of tobacco and its products, which are common practices in rural India.

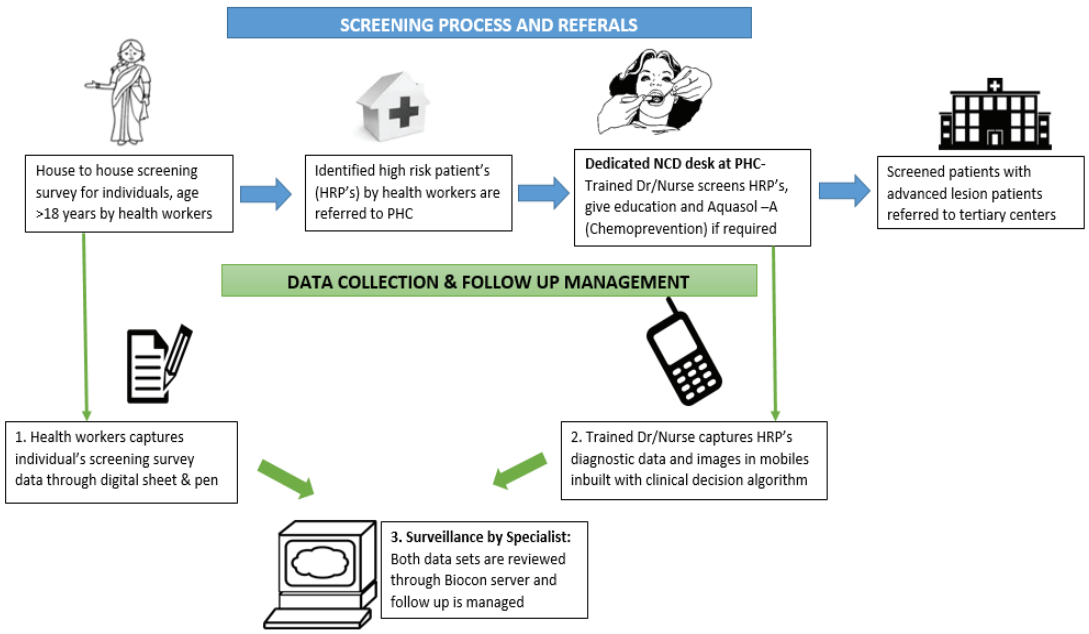
"**Screen and Treat - Early Detection, Prevention, Treatment and Surveillance of Oral Cancer**" – mobile health (mHealth) approach, in association with Government of Karnataka,was implemented in two Primary Health Centers Karnataka, India, withthe aim to improve the ability of ASHAs (Accredited Social Health Activists) for early diagnosis of oral cancer and also to optimize the adherence to follow up care by harnessing the potential of ASHAs. Trained ASHA workers preformed house to house screening using a digital pen and paper to collect electronic data, referred the high risk group, obtained intra oral images through mobile phones, connected specialists thus facilitated treatment and timely referral.

Results: A total of 3930 people were screened in a period of 3 months. 67% (2638) of the participants were positive for usage of some form of tobacco and were 83% (2201) of the people who used tobacco and its products were positive for oral pre-cancerous lesions. Majority of the lesions were found in buccal mucosa clinical presentation of most of the lesions were white patch- 872(40%), followed by white and red patch (23%) and105 (5%) had difficulty in mouth opening.

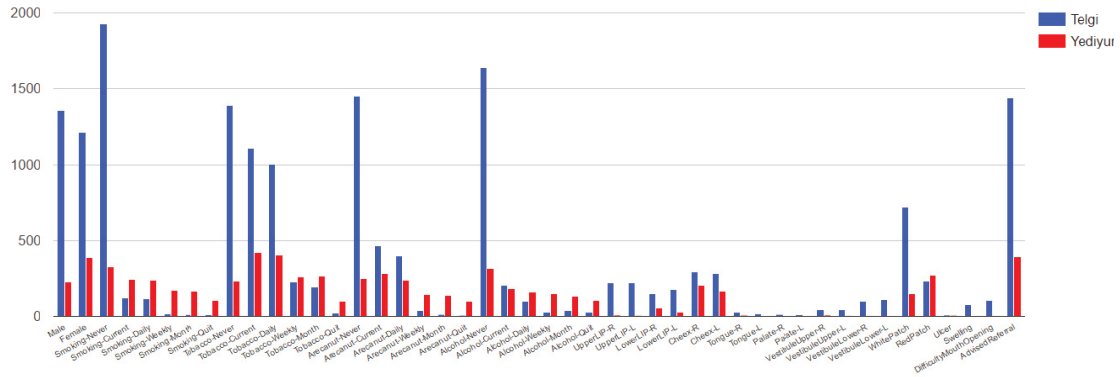
This project improved the documentation process, data security, transparency, interpretation and evaluation. This approach was a cost effective, sustainable module.

Conclusion: This project was an innovative approach integrating into Government Health Care, with a primary focus as a scale-up "Screening Module" in record turnover time. We believe results of this project will aid in health policy decision in down staging oral cancer.

Screen and Treat – Program protocol



Profile of Data in two Primary Health Care Centers.



Poster Number-33 Abstract No-333 **VISUAL EXAMINATION/LED LIGHT/TOLUIDINE BLUE AS DIAGNOSTIC TOOLS FOR ORAL PREMALIGNANT LESIONS – WHICH IS MORE EFFECTIVE?**

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Introduction: The increasing oral cancer burden can be minimized only with early detection of Oral Premalignant lesions (OPML).Toluidine blue and Chemiluminiscence techniques have been popularly used as adjunctive diagnostic aids in detection of oral cancer. However, the efficacy of these diagnostic tools in diagnosing OPML in a community setting with a high risk population group has not been evaluated. This study seeks to address this gap by assessing the efficacy of Conventional Visual examination (CVE), LED Light and Toluidine Blue in diagnosing OPML in High Risk Individuals.
Methodology: 55 patients underwent CVE followed by examination with LED Light and Toluidine blue. This systematic approach to the assessment was in accordance with the guidelines prescribed by British Columbia Oral Cancer Prevention Program, 2008. The location and dimensions of the lesions were recorded at each stage. Incisional biopsy (Gold Standard) was carried out at the most affected site.
Results: The sensitivity and positive predictive values of CVE, LED Light and Toluidine Blue were 80% and 91%, 84% and 91%, and 85% and 97% respectively. The area of the lesion identified with LED Light was the largest, followed by Toluidine blue and Conventional visual examination ($p<0.001$). LED Light and Toluidine blue assisted in patient education as well.
Conclusion: The diagnostic adjuvants enhanced the visualization of the OPML and assisted in the diagnosis. The results obtained indicate that these cost effective diagnostic modalities can be used for diagnosing OPML in the high risk group.
Key Words: Oral Potentially Malignant Lesions, Visual Examination, LED Light, Toluidine Blue.

Poster Number – 34 Abstract No-371 **MOBILE HEALTH APPROACH FOR FOLLOW-UP CARE IN EARLY ORAL CANCER SCREENING PROGRAM**

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Introduction: In the India, oral cancer accounts for 23% of all cancer-related deaths. This high prevalence is due to usage of risk factors as tobacco and alcohol, coupled with scarcity of accessible preventive, and curative health care services,lack of awareness of screening and follow-up care. Thus, multiple barriers exist at the community level whichenvisages a huge scope for early screening and follow-up of oral potentially malignant disorders.The use of wireless networking and telemedicine portal using mobile applications (mhealth)has been explored for improving the disease surveillance, providingremote specialist consultation, documentation of patient data and its retrievalfor follow-up care in community screening programs. We hereby present the role of mhealth infollow-up care in two cohorts.
Methodology: Two interventional cohort were included formhealthearly oral cancer screening with a 2 year interval follow-up care.
Results: In the first interventional cohort, 2200 were screened, wherein 583 subjects were high risk group, 67 were diagnosed with lesions and 1 oral cancer. During thefollow-up care, amongst 67 previous diagnosed patients, 36 were followed up with no evidence of progression of the lesion. Of the 583 high risk subjects, 576 were rescreened and21 new subjects were diagnosed with lesions. In the 2nd cohort 2598 were screened, 781 were high risk subjects, 41

were diagnosed with lesions. During the follow-up care, 497 high risk subjects were rescreened, with no subjects with new lesions. Amongst the 41 previous diagnosed patients, 38 were followed up, with no clinical evidence of progression of the lesion to oral cancer.
Conclusion: mHealth approach facilitated success rate for follow-up care and during the 2 year interval follow-up care showed no progressive changes of the lesions.

Poster Number-35 Abstract No-372 **EARLY DETECTION OF ORAL SQUAMOUS CELL CARCINOMA: THE ROLE OF SALIVARY BIOMARKERS**
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Oral cancer refers to the malignancies that occur in the oral cavity, lip and pharynx with a majority of the oral cancers are diagnosed as squamous cell carcinomas. The main issue is that most oral cancers are detected at a later stage leading to lower survival rates and early detection of oral squamous cell carcinoma is important as far as overall prognosis and survival of the patient is concerned. Rapid advancement in the field of molecular biology such as salivary biomarkers has helped with early diagnosis of many potentially malignant conditions even before its clinical manifestations. Saliva is in contact with oral lesions and salivary biomarkers are a sensitive, specific screening method in diagnosis, staging and follow-up. This talk would be a review of the various salivary biomarkers and their effectiveness as a screening tool in early detection of oral squamous cell carcinomas.

Poster Number-36 Abstract No-373 **OPPORTUNITIES AND CONCERNS TO INCORPORATE EARLY DETECTION OF ORAL CANCER AND ORAL POTENTIALLY MALIGNANT DISORDERS (OPMDS)IN ROUTINE WORK OF HEALTH WORKERS IN INDIA.**
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Introduction: Oral cancer (OC) is one of the most prevalent cancers in India. It can be detected in early stages as OPMDs to increase chances of survival. The main risk factors are tobacco use, alcohol. Our government has integrated to this component in National Program for Prevention and Control of Cancer, Diabetes, CVD and Stroke (NPCDCS).
Objectives: 1. Assess the work environment of the health workers. 2. Explore the opportunitiesand concerns of health workers to incorporate detection for OC and OPMDs in their routine work.
Methods: A qualitative research design (ethnography approach) was used. Data was gathered through field visits (observation), interviews and focus group discussions (FGD) using validated FGD guide. Time and person triangulation was done for reliability. The informal interviews were conducted with gatekeepers and key informants: Medical Officers and Health Assistants. The observation of health workers was done in their workplace and two Focus Group Discussions (FGDs) was carried out on the informed schedules with health workers and voice was recorded with participants' consent. The findings from observation and interviews were noted in the dairy after each visits. The analysis for was done using a Key Words In Context (KWIC). Spradley's method (1979).
Results findings: Total of 44 key informants and health workers were involved and the more than 120 codes emerged by deductive and inductive coding.
Six domains:community trust, regular meetings, consequences of OC, people affected, addiction for habits, people ignorance towards health, information required recognition of effort and **three themes**: formal and informal meetings, willingness to help, support required were identified reflecting to serve people if support was provided.
Conclusions: Early detection would be possible as health workers have connect with the community provided their knowledge and skills are enhanced and also rewarding their effort.

Poster Number – 37 Abstract No. – 396 **IN VITRO APPRECIATION OF EPITHELIAL MESENCHYMAL TRANSITION UNDERGOING CELLS IN ORAL CANCER THROUGH THEIR MORPHOLOGY.**
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Oral cancer is a major malignancy with 6th globally rank and 1st in India among male population. Oral squamous cell carcinoma (OSCC) is the most common form of oral cancer which generate from epithelium. It recurrently metastasize to lymph node. Epithelial-mesenchymal transition (EMT) plays a pivotal role during metastasis. EMT is a multi-step and complex process involving cellular motility, invasion, migration etc. Recently this phenomenon has

been recognized as epithelial mesenchymal plasticity (EMP), EMT-like phenomenon, incomplete EMT, semi-mesenchymal phenotype, hybrid phenotype, intermediate phenotype, meta-stable stage for its transient nature. Present study explores the morphological and ultrastructual diversity/variety with molecular expression in EMT induction on OSCC and Keratinocyte cell line by TGF-β and EGF. The morphological sub-types are initially documented from phase contrast microscopic images. The ultra-structural changes are explored by scanning electron microscopy (SEM) and atomic force microscopy (AFM). The phenotypic varieties/classes are further verified by immunocytochemistry (ICC) study of F-actin, E-cadherin, vimentin and fibronectin to address morpho-molecular hybrids. EMT induction is faster in cancer cell line compared to normal and ultra-structural differences are very prominent in SEM and AFM study. The pattern of molecular expression is also dissimilar.

Poster Number – 38 Abstract No- 417 **ROLE OF S 100 A 7 FOR EARLY DETECTION OF ORAL CANCER IN YOUNG INDIAN POPULATION**

Mishra D.

Introduction: Epidemiological studies over last 20 years have shown a steady rise in the incidence of these cancers in younger adults (age 18–45 years), especially in cancers of the oropharynx and oral cavity. A recent review of the literature has demonstrated that there is a paucity of research examining risk factors for oral cancer among young people in India.

Methods: Total 120 individuals of Indian origin (30 patients histopathologicallydiagnosed with OPMD of age 30 years or younger, 30 Patients histopathologicallydiagnosed with OSCC of age 30 years or younger, 30 Patients histopathologicallydiagnosed with OSCC of age more than 30 years and Controls, which never had OPMD and cancer) were included in the study.All oral cancer patients were evaluated clinically andwere examined thoroughly. Demographic information was obtained from the subjects. All the cases wereimmunohistochemicallyanalysedfor S100A7 expression.

Results: Each slide will be evaluated for S100A7 immunostaining using a semi-quantitative scoring system for both staining intensity and the percentage of positive epithelial cells. S100A7 protein expression, sections will be scored as positive if epithelial cells show immunopositivity in the nucleus/cytoplasm.The tissue sections will be scored based on the % of immunostained cells as: 0–10%=0; 10–30%= 1; 30–50% =2; 50–70%= 3 and 70–100% = 4. Sections will also be scored semi-quantitatively on the basis of staining intensity as negative = 0; mild = 1; moderate = 2; intense =3. Finally, a total score will be obtained by adding the score of percentage positivity and intensity. In cases when both nuclear and cytoplasmic immunoreactivity will be observed, the nuclear and cytoplasmic staining will be scored independently.

Conclusion: We hypothesize that S100-A7 can be proposed to be a marker for invasion in oral premalignant epithelia.

Poster Number-39 Abstract No-14 **EVALUATION OF ROLE OF DRINKING WATER COPPER IN PATHOGENESIS OF ORAL SUBMUCOUS FIBROSIS:A PROSPECTIVE CASE CONTROL STUDY**

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Although oral submucous fibrosis (OSMF) as a (premalignant) oral disorder in India, is thought to be multifactorial in origin, the chewing of areca nut is thought to be the main cause. Alkaloids and tannins in areca nut are responsible for fibrosis; recent evidence has suggested that copper ions are also an important mediator. However, the precise aetiology is still unknown. Till today no conclusive evidence has been found despite many extensive investigations on factors implicated. The ideas proposed have been derived from existing clinical and epidemiological data. There are no definite answers for many questions like; why does OSMF frequently progress even after the cessation of the areca-chewing habit? Why does OSMF recur even after medical therapy, and in the absence of areca -chewing? If the copper contained in the areca nut is the primary cause of OSMF, why are not all areca nut-chewers affected by the condition? Why do some areca nut -chewers develop OSMF in an early phase of their habit? What is the reason for the occurrence of OSMF in multiple oral sites? In this regard, we have investigated the association between drinking water copper and OSMF in a heterogeneous population in Hyderabad-Karnataka, India, a region with a high incidence of OSMF. We evaluated 3 groups, each of 100 patients: those with OSMF who chewed gutkha, those who chewed gutkha but did not have OSMF, and healthy controls who did not chew gutkha. The difference between the groups in the mean concentration of copper in water measured by atomic absorption spectrometry was significant ($p<0.001$). There were also significant differences between the groups in mean concentrations of serum copper, salivary copper,

and ceruloplasmin ($p<0.001$). Our results confirm that copper in drinking water contributes to the pathogenesis of OSMF, but ingestion of copper is unlikely to be the sole cause.

Poster Number-40 Abstract Number-18 **ROLE OF VOLUNTARY ORGANIZATIONS FOR PREVENTION OF ORAL CANCER IN INDIA**

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India has the highest number of Oral Cancer cases in the world and this is increasing. The reason is that the **"Mass Awareness and Health Education Programme"** in the country is not well organized and these risk factors for the causation of Oral Cancer are not well understood and communicated to the general masses. For any successful implementation of nationwide Oral Cancer Control Programme, voluntary organizations (N.G.Os.) with their proximity to the society can play an important role in educating the public and motivating them to seek early advice. Education of the public is necessary because certain **lifestyles** are known to be associated with the onset of Oral Cancer. Since, Oral Cancer is a multi-factorial disease, where certain risk factors play an important role for the onset of Oral Cancer. They are, Alcohol Use, Tobacco Smoke, Secondhand Tobacco Smoke, Smokeless tobacco, Weakened Immune System, Malnutrition, Exposure to Human Papilloma Virus, Prolonged Sun Exposure, Old Age, Ill-fitted dentures, Poor Oral Health, Environmental Pollution, Water Pollution, Occupational Factors, Stress & Strain, etc. Avoiding these risk factors, Oral Cancer can be prevented to a great extent **(Primary Prevention).** Participation in an early Oral Cancer detection programme can lead to discovery of Oral Cancer, while it is still curable **(Secondary Prevention)**.

It is proposed to highlight the findings of Authentic Published Data by National/International Researchers working in the field of Oral Cancer, as well as our Future Proposed Programme would be presented and discussed during the 6th World Congress.

Poster Number – 41 Abstract No- 36 **OUT OF THE BOX – INNOVATION**

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INTRODUCTION: Oral cancer, the most common cancer in the world, account for an estimated 300,000 new cases and 145,000 deaths. India alone accounts for one-fifth of all oral cancer cases and one-fourth of all oral cancer deaths.Tobacco use, in various forms, including smoking, chewing etc. have carcinogenic impact in oral cavity. India's tobacco problem is very complex, with a variety of smoking and smokeless tobacco products mainly manufactured as cottage and small-scale industries using varying mixtures. Nicotine is the principal tobacco alkaloid. The lethal dose for adults is 30–60 mg, leading to safety warnings that ingestion of five cigarettes or 10 ml of a dilute nicotine-containing solution could kill an adult. Nicotine is extensively metabolized to a number of metabolites by the liver, cotinine being the most important one. There is a high correlation among cotinine concentrations measured in blood, saliva, and urine, and measurements in any one of these fluids can be used as a marker of nicotine intake. Nicotine levels need to be monitored as its associated with tobacco habit as well as therapy and its multiple health hazards.

METHOD: Suggest an Intraoral and extra-oral device. These devices are based on the principle of detecting excessive smoking consumption via saliva and transdermal measurements of cotinine throughout the day. This will moniter the levels of cotinine with the help of cell sensor. This will help in monitoring and cessating the habit especially in cases of daily users.

CONCLUSION: We all know the saying "Prevention is better than cure". Early detection of OSCC is of utmost importance in India, which is considered as the world capital of oral cancer. In this regard,newer inventions and techniques to help people prevent the very onset of the disease are needed.

Poster Number-42 Abstract No-44 **AWARENESS OF ORAL CANCER, ORAL POTENTIALLY MALIGNANT DISORDERS, AND THEIR RISK FACTORS AMONG DENTAL PATIENTS: A CROSS-SECTIONAL STUDY**

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Introduction: Globally, cancer is considered as a serious public health threat with increasing number of patients each year. Public awareness/knowledge of oral potentially malignant disorders (OPMDs), oral cancers (OCs), and their risk factors helps in prevention and early detection of the disease. Lack of public knowledge and awareness is the most significant factor in delaying diagnosis and providing treatment. This emphasizes the need for an extensive awareness campaign of the issues related to OPMDs. To reduce the morbidity and mortality associated with OC, people need to be aware of it, in terms of its early symptoms and risk factors.
Materials and methods: This study was conducted as a cross-sectional survey at the Department of Oral Medicine and Radiology, RajaRajeswari Dental College, Bengaluru, India. Patients above the age of 20 years were randomly selected. A self-administered questionnaire was designed and comprised of relevant questions to determine the sociodemographic information, awareness and knowledge of OC, OPMDs, and riskfactors and questions on participant's exposure to risk factors were also included.
Results: The overall awareness of OC was found to be 79% and that of OPMDs was 38.6%.

Aware of OC	*n*	*Percent*
No	105	21.0
Yes	395	79.0
Aware of OPMDs		
No	307	61.4
Yes	193	38.6

Conclusion: The study revealed an alarming lack of awareness towardOPMDs which should to be readily addressed. As ruralresidents in our study group displayed lower levels ofawareness of risk factors as well as of clinical signs andsymptoms of OC, a well-defined rural population-based study is recommended to further assess public awareness and to reach the less privileged groups in our society.The awareness of oral cancer in this population was satisfactory, but the awareness of OPMDs was poor, pointing to a need for targeted health education and risk factor cessation counseling.

Poster Number- 43 Abstract No- 52 **TOBACCO USE, AWARENESS AND CESSATION AMONG MALAYALI TRIBES, YELAGIRI HILLS, TAMIL NADU, INDIA.**

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BACKGROUND: Health is a state of complete wellbeing free from any discomfort and pain. Despite remarkable world-wide progress in the field of diagnostic, curative and preventive medicine, still there are large populations of people living in isolation in natural and unpolluted surroundings far away from civilization. India has the second largest tribal population of the world next to the African countries. The present study was conducted to assess the tobacco use, awarness and its effect on health among Malayali tribes, Yelagiri Hills, Tamil nadu, India.
METHODOLOGY: The inhabitants of the 14 villages of the Yelagiri hills, who have completed 18years and residing for more than 15years present on the day of examination and who were willing to participate in the study were included. Data was collected from a cross-sectional survey, using a Survey Proforma, clinical examination and a pre-tested questionnaire which included Demographic data, tobacco habits. An intra-oral examination was carried out by a single examiner to assess the Oral Health Status using WHO Oral Health Surveys – Basic Methods Proforma (1997).SPSS version15 was used for statistical analysis.
RESULTS: Results showed that among 660 study population, 381(57.7%) had no formal education. Among the study population 75%) had the habit of alcohol consumption. Of those who had the habit of smoking, 26% smoked beedi, 10.9% smoked cigarette, 65% chewed raw tobacco, 18% chewed Hans and 28% had a combination of smoking and smokeless tobacco usage. The reason for practicing these habits were as a measure to combat the cold, relieving stress and body pain after work, and the lack of awareness of the hazards of the materials used.

CONCLUSION: From the results of this study it may be concluded that the Malayali tribes were characterized by a lack of awareness about oral health, deep rooted dental beliefs, high prevalence of tobacco use and limited access to health services.

Poster Number- 44 Abstract No- 53 **A CROSS-SECTIONAL STUDY ON TOBACCO CONSUMPTION PATTERN AMONG AUTO RICKSHAW DRIVERS IN CHENNAI CITY, TAMIL NADU, INDIA**

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Background: Tobacco use is a major preventable cause of premature death and diseases, currently leading to five million deaths which are expected to raise over eight million deaths worldwide by 2030. India is the second largest consumer of tobacco in the world. The prevalence of tobacco use among adults (15 years and above) is 35% and the prevalence of overall tobacco use is 48% among males. The aim of this study is to assess the prevalence of tobacco consumption and the associated factors involved in it.

MATERIALS AND METHODS: A Cross sectional descriptive study was conducted among Auto Rickshaw Drivers in Chennai City. Auto drivers who were working for more than two years, present on the day of examination and willing to participate were included. Cluster random sampling technique was used. 400 samples were selected from 40 auto stands. Data was collected using a Survey Proforma which comprised of a Questionnaire which can assess the frequency and amount of consumption, age of initiation, and most importantly the awareness towards oral cancer. The data recorded was analyzed using SPSS version 20 .Chi- square test was used to test the significance between groups

RESULTS: Prevalence of consumption of tobacco products was very high (87%). Auto rickshaw drivers were mostly used tobacco in the form of Gutkha (72%) and bidi (40%) in comparison to other products. Most of the auto rickshaw drivers started using in age less than 18 years (80%). Awareness level was high (70%) but still they use tobacco because of its addiction (66%).

CONCLUSION: Mostly auto rickshaw drivers use tobacco to reduce stress, to be awake but a large number of participants also use them without any reason. Almost one half of the study population was suffering from tobacco related diseases like cough, ulcer on mouth, lung disorder.

Poster Number – 45 Abstract Number – 93 **INSIDUOUS NATURE OF POTENTIALLY MALIGNANT DISORDERS A LURKING DANGER**

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Introduction: We presume that the hazards of deleterious habits (like tobacco/areca nut) are well known to public, but in reality the enormity of its consequences is poorly understood by the common man. They fail to recognise the lesions presenting in the oral cavity and rarely attribute its occurrence to the use of tobacco and its products. Our aim was to study the types of habits prevalent in Rourkela (Orissa) and to assess the insidious nature of the lesions associated with these habits.

Materials and Methods: A camp was conducted for habitual users of tobacco and its products, areca nut and other mixed habit users. A thorough history was taken of the type, duration and frequency of habits, symptoms of patients along with clinical examination by a single examiner.

Results: 54.7% had lesions and 60.9% of them were asymptomatic and rest had mild burning sensation while eating. Awareness regarding the presence of lesions among the patients was negligible.

Conclusion: There is a need to spread awareness of the ill effects of the tobacco and other associated habits far and wide and more importantly educate the general public on the appearance of potentially malignant disorders as these are almost always insidious in nature and can transform into oral cancer. This presentation would highlight the importance early recognition of mucosal lesions by patients, immediate visit to the clinician, the biopsy indications in such cases and also delve into social and economic consequences and treatment outcomes of oral squamous cell carcinoma.

Poster Number – 46 Abstract No- 293 **WORKPLACE TOBACCO CONTROL PROMOTION IN INDIA -A PILOT STUDY**

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Background: To promote workplaces as a potential setting to encourage and motivate the adults and target them for smoking cessation through employer funded programs.

Objectives: i) To perform a survey on prevalence of tobacco use by the employees of 2 corporate companies in Delhi-NCR region. ii) To assess the KAP (Knowledge, Attitude and Practices) of corporate employees towards tobacco use and promotion of workplace tobacco cessation programs.

Material and methods: 2 corporate companies (travel and real estate) were targeted in the Delhi-NCR region for this survey based on pattern of tobacco consumption according to the job profile and to assess the Knowledge, attitudes and practices of these employees regarding second hand smoke, working ability, insurance plans and need of tobacco cessation programs at their workplace. A semi-structured questionnaire was designed based on the above mentioned features. Total no of corporate and construction site employees were 125 and 25 respectively i.e. n=150. A cancer screening program was undertaken for the travel company under CSR initiative. The screening package includes examination of individuals by ENT specialist, general surgeon and a gynaecologist. Supplementary tests like CBC, Blood pressure examination, chest x-ray and PAP test. Coordination was done by the cancer society officials with the human resources personnel and senior officials to seek their cooperation. The survey participants were apparently healthy men and women above 18 years of age working in the selected 2 companies. There were no minors. The employees were given awareness lectures on tobacco use and its ill effects on health. Discussions were made to make them comfortable and identify their concerns, work pattern and environment. They were invited to participate in the study and were enrolled after signing the informed consent form. All the participants were assisted for filling the form.

Results: Total number of employees screened and who were enrolled for survey were 150, i.e. 125 corporate and 25 construction site workers respectively. Total no of males and females were 113 and 37 respectively. All the male smokers used cigarettes and out of them 18 were chain smokers and 28 were recreational smokers. The male construction site workers were all smokeless tobacco users. In females, 10 were cigarette smokers and 4 bidi smokers. A total of 122 employees were aware about the ill effects on tobacco on their health. Very few knew about the concept of second hand smoke and third hand smoke. Regarding the insurance policy covering the tobacco related diseases, 87 employees were not aware about such policies. 39 had company insurance cover specifically for tobacco related diseases.24 employees had no idea of such policies. Construction workers had no company policy of such insurance as well as personal insurance. We found no premalignant lesions in the corporate employees but construction workers had OSMF.

Conclusion: NGO's involved in tobacco control activities at the community level prove to be as a resourceful organisation in eradicating this deadly habit from its roots not only for corporate but other workplaces like factories and industries. Although the world perceives India as a hub of technology and science and soon to be developed country, we see it as a Technology proliferate under developed country. India's growth has been pretty lopsided and full of peculiar challenges in a way; on one side we are a nuclear superpower and an IT power to reckon with, on the other hand we have the maximum number of tobacco users and cancer burden on the globe, surpassing even some poor under developed nations. Therefore, the challenges faced by India are unique as there is a need to work with highest and the lowest end of the spectrum. Further research would be valuable in this context in developing countries, where high rates of an array of tobacco use prevails and smoke-free legislation is not widely accepted or enforced. This pilot study also gives a picture of insurance policies which can help to formulate newer policies based on the requirements of the different company set up.

ABLATIVE SURGERY

Poster Number -47 Abstract No-6 **EVALUATION OF SURGICAL OUTCOME AFTER TRANSORAL CO_2 LASER RESECTION OF POTENTIALLY MALIGNANT &T1/T2 EARLY ORAL MALIGNANCY.**

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Background: Literature in head and neck oncology continues to support the use of lasers in surgery of premalignant and malignant lesion.The present study provided an evidence based data of the various short term surgical outcomes

associated with use of transoralCO_2laser in potentially malignant and early oral cancer at Regional Cancer centre, Trivandrum, which will guide us in the management of premalignant and early oral cancer in future.
Objectives: This prospective study was undertakenwith the Aim to assess the surgical outcomes following TransoralCO2 laser resection of potentially malignant & T1/T2 early oral malignancy on basis ofOperative time, Blood loss, Hospital stay, Postoperative pain, Time to re-epithelization, Pathological margins adequacy&Post-operative scar
Materials and Methods: 35 patients of either sex admitted to surgical oncology wards of RCC Thiruvananthapuram with diagnosis of Potentially malignant lesions (Leucoplakia (non homogenous), Erythroplakia, Carcinoma in situ) or Early T1/T2 SCC of Anterior oral cavity (Tongue,Buccal mucosa) were taken up for present study.The CO2laser was usedforexcision with standard oncological principles being observed& wound was left for secondary healing &parameters were recorded
Results: In this study 35 patients were included(potentially malignant n:20 & malignant n:15). In 33 patients lesion was in tongue & in 2 patients it was in buccal mucosa. Mean operative time was 36min(SD5.56). Mean intraoperative Blood loss was 13ml(SD:3.49). Mean pain score on 1st POD was VAS 1.85. Mean hospital stay was 2,45 days(SD0.9). Time to re epithelization was 3.88weeks(SD0.6)
Conclusions: The overall results of this study suggest that CO2 laser is beneficial in the management of premalignant &low-risk (T1/T2) tumors of the oral cavity with the results being minimal intraoperative blood loss, post-operative pain, rapid reepithelization& soft scar.

Poster Number -48 Abstract No- 76 **MARGINAL MANDIBULECTOMY IN ORAL CAVITY CANCER: 7 YEARS OF INSTITUTIONAL EXPERIENCE**
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INTRODUCTION: The management of the mandible when dealing with oral cavity cancer is still controversial. Marginal mandibulectomy is a mandible preserving procedure for resection of oral cancers coming close to the mandible or involving it superficially. In this study, we present our experience with marginal mandibulectomy over a 7-year period.
METHODS: We retrospectively evaluated 56 patients who underwent marginal mandibulectomy for squamous cell carcinoma of oral cavity between 2005 to 2011 at Gujarat Cancer Research Institute (GCRI). Oncological outcomes such as recurrence and disease specific survival were analyzed and impact of various prognostic factors on them was evaluated using multivariate analysis.
RESULTS: Microscopic bone infiltration was seen in 3(5.36%) patients. Local and/or regional recurrence was seen in 16(28.57%) patients, distal metastasis diagnosed in 2(3.57%) patients. 3(5.36%) patients developed osteoradionecrosis. Disease specific survival rates at 2 year and 5 year were 89.28% and 80.36% respectively. On multivariate analysis we did not find microscopic bone infiltration to be an independent prognostic variable influencing either the disease specific survival or the locoregional control rates.
CONCLUSION: Marginal mandibulectomy is an oncologically safe procedure for oral cavity cancers close to the mandible or superficially eroding it. In properly selected cases, marginal mandibulectomy can achieve good disease control without compromising on esthetics and function of the mandible.
KEY WORDS: Oral cavity cancer, Marginal mandibulectomy, Disease specific survival, Osteoradionecrosis

Poster Number- 49 Abstract No-91 **AN EXEMPLENARY SURGICAL TECHNIQUE "POSC TECHNIQUE". NO MANDIBULOTOMY FOR RESECTION OF MIDDLE THIRD TONGUE & FOM CANCERS.**
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Mandibulotomy for resection of the middle third oral cancer is well established technique. But it has its attended morbidity. The percentage of morbidity increases once adjuvant Raditherapy +_ chemotherapy is added to it. We describe a POSC approach for the middle third tongue & FOM resectable cancer. The POSC technique is easily reproducible, oncologically sound & has no morbidity of mandibulotomy.

Poster Number- 50 Abstract No-140 **WHAT IS THE ROLE OF ELECTIVE NECK DISSECTION IN THE MANAGEMENT OF PATIENTS WITH BUCCAL SQUAMOUS CELL CARCINOMA AND A CLINICALLY NEGATIVE NECK?**

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Introduction: Buccal squamous cell carcinoma (BSCC) is an uncommon tumor location, which in the United States, accounts for 10% of all oral cavity carcinoma. Studies have shown it to have high local and regional recurrence rates.1 The role of the elective neck dissection (END) for patients with BSCC and clinically negative neck (N0) is unclear. The purpose of this study is to answer the following clinical question: "Among patients with N_0BSCC, do those who undergo END, when compared to those who do not undergo END, have better locoregional, and metastatic rates and better 2- and 5-year survival rates?

Methods: The investigators implemented a retrospective cohort study and enrolled subjects with BSCC treated at Universities of Washington, Michigan Tennessee, and Minnesota and Head and Neck Surgical Associates (Portland, OR) between June 2001 and June 2011. The predictor variable was END status (yes/no). The outcome variables were loco-regional, metastatic rates and survival rates. Other variables were grouped as demographic, operative, pathology, and treatments.

Results: The sample was composed of 98 subjects with a mean age of 66 years, 54% were male, and 74 (76%) underwent END. Locoregional recurrence rates for END and no END were 36% and 58%, respectively. Metastatic rates of END and no END were 9% and 4%, respectively. The 2-year survival rates of END and no END were 91% and 75%, respectively. The 5-year survival rates, of END and no END were 85% and 63%, respectively.

Conclusions: Our study corroborates prior studies that BSCC is an aggressive cancer with a high recurrence rate. END had a therapeutic effect as evidenced by lower regional recurrence rates and better 2- and 5- year survival.

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Poster Number -51 Abstract No- 142 **CLOSE AND INVOLVED MARGINS: CAN WE SOLVE THE CONUNDRUM?**

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Introduction: Initial surgery with a clear resection of the primary tumor followed by adjuvant treatment in advanced stages remains the gold standard therapy for oral squamous cell carcinoma. Of all the poor prognostic factors, surgical margin is the only prognostic factor over which the surgeon has control during resection. However, the role of the close margin in the treatment algorithm for oral carcinoma is less clear. The purpose of this study was to determine whether close or involved margins have different outcomes of recurrence and overall survival in previously untreated patients of oral cancer.

Material and methods: Data from 403 patients who underwent surgery for oral squamous cell carcinoma was retrospectively analyzed for patient variables including margin status, T stage, differentiation, nodal status, extranodal spread, lymphovacular and perineural spread and adjuvant treatment. Overall 2 year survival and recurrence free survival was analysed.

Observation and Results: In 403 patients, 37 cases (9.18%) had close (1- 5mm) margins, while in 13 patients (3.22%), margins were involved (<1mm). There was Overall survival benefit in patients with close margins as compared to those with involved margins (60% vs 35%) but it was not significant (p= 0.435). On multivariate cox regression analysis, perineural spread (p =0.034) and metastatic cervical nodes (p=0.018) were the only significant factors to affect overall survival. There was no difference in recurrence free survival.

Conclusion: Close surgical margins showed a trend towards better overall survival as compared to involved margins. Overall survival in these patients was adversely affected by perineural spread and cervical nodal metastasis. Recurrence free survival was similar in both the groups.

Poster Number- 52 Abstract No-158 **EVALUATION AND MANAGEMENT OF SKULL BASE TUMORS**
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Introduction and Objective: Skull base surgery is one of the most challenged surgery. Because of the complex anatomy in the cranial base, structure violation and functional lesion are difficult to evaluate. Safety surgical approach to resect the tumors and multidisciplinary comprehensive treatment to control malignancies are required. This study is to characterize our experience with the evaluation and surgical management of skull base lesions.
Methods: 86 patients who underwent resection of anterior and middle skull base tumors with craniofacial approach were review. There were 11 involving in anterior, 65 involving in middle, and 11involving in anterior and middle skull base. Examination of cranial nerves was performed to evaluate nerve involvement and structure violation. CT and MRI scan was applied to observe the bony destruction and lesion position. Traditional open incision was assisted by intro-operative navigation. It is difficult to design a safe surgical approach to reach the lesion. Coronal incision with unilateral or bilateral frontal craniotomy approach was applied to expose anterior skull base malignancy. Weber-Ferguson incision with maxillary swinging approach provides directly exposure for middle skull base lesions. There were plenty approaches to explore anterior and middle skull base. After surgery, a CT scan was needed to see the tumor was completely removed or not. In the follow-up period, recurrence and survival were record. Postoperativecomplications, such as, CSF leak, diplopia, vision changes, intracranial infections were review.
Results: Eighty-six cases of surgically resected anterior and middle skull base lesions were included over the 10-year period from 2006 through 2015. Two patients had a CSF leak postoperatively, one each from middle skull base surgery and combination surgery. Orbital complications include 8.1% of patients experiencing vision changes and 7.0% with diplopia. The average period of follow-up was 52.4 months. Locally recurrent or persistent disease was seen in 43.6% of patients
Conclusion: According to our study, choosing appropriate surgical approach could provide better lesion exposure, structure protection, quality of life improvement and complications reduction. Fromtotemperal-orbitozygomatic combined approach is suitable for the malignancies involving anterior and middle skull base.Preoperative evaluation, especially the cranial nerves examination, was very important for surgical planning.

Poster Number-53 Abstract No-209 **NEURILEMMOMA OF THE MANDIBLE:REPORT OF TWO CASES**
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Neurilemmomas are slow growing benign neoplasms derive from the schwann cells. They usually occur in the soft tissues and intraorally they usually present in the tongue Rare intrabony lesions occurring in the mandible has been described. We describe two additional cases of neurilemmoma occurring in the mandible and discuss the management of these cases.
Keywords: central neurilemmoma, schwannoma, mandible

Poster Numbe -54 Abstract No-242 **VERRUCOUS LESIONS OF ORAL CAVITY: MANAGEMENT ISSUES**
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Introduction: Verrucous lesions of oral cavity are slow growing, exophytic lesions of variable malignant potential. Histopathological spectrum includes verrucous hyperplasia, proliferative verrucous leukoplakia, verrucous carcinoma and invasive squamous cell carcinoma. Frequently preoperative differentiation of invasive form from other less malignant forms is difficult even after multiple biopsies. Management of these lesions is an important issue. Our small series of eleven cases aim to highlight the management issues for these lesions and to propose a treatment strategy.
Material & methods: Prospective data was collected for oral verrucous lesions from July 2014 to Dec 2016. 11 patients with age range from 30 to 65 years had verrucous lesions of oral cavity. There was male preponderance with male to female ratio of 10:1. The site of lesion was buccal mucosa in seven patients and tongue in four cases. Addiction history was present in 8 patients (subsite: buccal mucosa=5, tongue=3). Hyperplasia (n=3), verrucous

hyperplasia (n=6) and suspicious for SCC (n=2) was seen histologically on incisional biopsies. After informed written consent, all lesions were excised with adequate margins. Three patients underwent simultaneously neck dissection and two patients underwent marginal mandibulectomy for three–dimensional oncological safe margin based on intraoperative disease extent.
Result: Post-operative final histopathology showed that in verrucous lesions of tongue (n=4), three patients had invasive SCC (n=3/4, 75%). Malignant transformation in buccal mucosa lesion was seen in two patients (n=2/7). One case verrucous hyperplasia and one case of hyperplasia of buccal mucosa were reported as dysplasia (n=2/7) postoperatively. Three (n=3/7) cases had similar report of verrucous hyperplasia pre as well as post operatively.
Conclusion: Verrucous lesions of oral cavity have a variable histopathological spectrum. Surgical excision should always be done with adequate three dimensional margins. Verrucous lesions of tongue should be supplemented with simultaneous selective neck dissection. Long term follow-up is mandatory for these lesions as they carry significant conversion rate to invasive SCC.

Poster Number-55 Abstract No-249 **CARCINOMA CUNICULATUM OF THE HEAD AND NECK REGION– AN EXCEEDINGLY RARE ENTITY**
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Introduction: Carcinoma cuniculatum is rare, distinct clinicopathological subtype of squamous cell carcinoma, with fewer than thirty cases reported in English literature. It is characterized by a complex pattern of stratified squamous epithelium without atypia, often having exogenic and endogenous components. Although it associated with a good prognosis, it is more locally aggressive than verrucous carcinoma, a close differential diagnosis, and needs to be understood as a distinct entity for appropriate treatment.
Methods: In this study we present two cases of carcinoma cuniculatum of the oral cavity treated in our institution, one involving oral tongue and one involving mandible. The clinical features, management and outcome are discussed. We also present a review of literature and the difficulties associated with establishing this diagnosis.
Conclusion: Although rare, carcinoma cuniculatum of the oral cavity can have a varied presentation, leading to diagnostic delays and confusion. A familiarity with this diagnosis can help in administering suitable treatment without delay.

Poster Number-56 Abstract No-287 **EVALUATION OF SURGICAL MARGINS: THEN & NOW**
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Introduction: Head and neck malignancy ranks 3rd in the world and is the commonest malignancy in Indian Males. Oral Squamous cell carcinoma accounts for 24% of head and neck neoplasia and 90% of oral cavity carcinoma. Surgery is the main stay of treatment in head and neck neoplasia. The cure rates & prognosis of a resective cancer surgery rely on achievement of a negative surgical margin. With the growing understanding of disease and its process more research is now targeted on cellular and molecular alterations. Vis a vis the documentation for a clear surgical margin now relies not just on palpation or visual examination neither a frozen section, but, a negative microscopic margin. Today, this can be achieved with the modern available technological advances.We have now ushered into an era of optical technologies coming into play.Optical coherence tomography, narrow band imaging, high resolution micro-endoscopy etc. are just the tip of an iceberg, yet to be explored. The focus of these modalities is on molecular control of disease in real time.
Methods: Review of literature
Results: Fraught with its limitations the current gold standard of Frozen section is taking a back seat. Optical coherence tomography, narrow band imaging, high resolution micro-endoscopy, near infrared imaging and targeted fluorescent imaging, to name a few are showing promising results. With more research and growing insight into the field of optical technology these would become the standard of care. This would guide the surgeon to achieve his goal of the most sort after, 'negative surgical margin'.
Conclusion: Though still in their infancy these avant grade modalities for assessing surgical margins are giving encouraging results. Real time molecular control would be state of art surgery in coming future.

Poster Number- 57 Abstract No-317 **ORAL MUCOSAL MELANOMA: DIAGNOSTIC CHALLENGES AND SURGICAL MANAGEMENT: EXPERIENCE FROM A TERTIARY REFERRAL HOSPITAL IN RWANDA.**
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Background: While pigmented oral mucosal lesions are common in the African population, oral mucosal melanoma (OMM) remains a rare pathological condition, accounting for less than 10% of all head and neck melanomas. .Due to its rarity, the majority of the research and guidelines for management of OMM is extrapolated from that of cutaneous melanoma.
Methods: We performed a retrospective analysis of all patients with biopsy proven OMM treated at Rwanda Military Hospital from September 2014-2016. We reviewed patient descriptive characteristics, histopathology results and treatment outcomes of patients diagnosed with OMM.
Results: Over the 2 year period, 9 cases were identified. 4 patients were operated . 3 patients lost to follow up after biopsy . 2 patients confirmed dead before treatment. Sex ratio was fairly equal with majority lesions in the gingiva. Wide excision with minimum 2 cm margin, local reconstruction and neck dissection was performed with 1 case developing distant metastasis and no case of local recurrence at 18 months follow up.
Conclusion: Oral mucosal melanoma is a rare malignancy which is difficult to diagnose due to its asymptomatic nature. Timely dental check up/self examination can aid in early diagnosis. Non surgical treatment options remain inaccessible in our setting for financial and accessibility constrains. Research focused on Oral mucosal melanoma rather than extrapolated treatment guidelines would be beneficial for better management of OMM.

Poster Number- 58 Abstract No-353 **ORAL SUBMUCOUS FIBROSIS: TREATMENT STRATEGIES**
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Oral Submucous Fibrosis (OSMF) is a chronic, disabling, pre-malignant condition of oral mucosa and oropharynx which results in progressive juxta-epithelial fibrosis and consequently loss of tissue elasticity and reduced mouth opening. A variety of treatment strategies exist for this condition but its management is still highly complex with variable results. Management strategies range from conservative means (viz. quitting the habit of quid and tobacco chewing, immuno-modulatory drugs, anti-oxidants and antifibrotic agents) to radical methods which involve third molar removal, fiberotomy and/or coronoidectomy and reconstruction with buccal fat pad/naso-labial flap and alloplastic materials like collagen membrane. When malignant changes are noted in the lesions, the treatment involves bony resection with neck dissection and reconstruction with vascularized/non-vascularized grafts. Aim of this presentation is the various treatment strategies employed at the author's institution and the results obtained.

Poster Number- 59 Abstract No-380 **VERRUCOUS CARCINOMA OF ORAL CAVITY- GMCH EXPERIENCE**
Gupta A, Saini V, Lehl G, Dass A
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Introduction: Oral verrucous carcinoma is a rare and special form of well-differentiated squamous cell carcinoma with specific clinical and histological features. This tumor grows slowly and locally, invasive in nature and unlikely to metastasize. It appears as a painless, thick white plaque resembling a cauliflower. The most common sites of oral mucosal involvement include the buccal mucosa, followed by the mandibular alveolar crest, gingiva, and tongue. Surgery has been the first choice of treatment for these lesions, and radiotherapy is controversial, however, surgery combined with radiotherapy is the next most preferable treatment and may have benefits, particularly in cases of extensive lesions. Recurrence rate is high in cases in which either irradiation or surgery alone is performed. The aim of this study is to retrospectively review the cases of oral verrucous carcinoma about the demographics, treatment offered and outcome with an analysis of the literature.
Methods: The patient records of the Department of Dentistry and ENT, GMCH were searched for verrucous carcinoma of oral cavity from Feb 2015 to Feb 2017. A total of 9 patients were found and out of these one patient didn't report after incisional biopsy.
Results: All the patients were diagnosed with verrucous carcinoma following incisional biopsy. Among the 8 patients, age ranged from 45–65 years with mean age: 53.7 (SD-6.6) and male to female ratio was 7:1.Buccal mucosa cheek was the most affected site (87.5%) followed by lip (12.5%). Three patients had evidence of recurrence after treatment. Out of 3 recurrences, two patients died within 6 months. Two recurrences had Squamous cell carcinoma conversion within 2 months of first surgery.

Conclusion: Verrucous carcinoma with extensive lesions have tendency to metastasize with bad clinical course. They should be over treated like squamous cell carcinoma and kept on regular follow up with close observation.

RECONSTRUCTION

Poster Number-60 Abstract No-3 **DIVERSE PATHOLOGIES OF THE MAXILLOFACIAL REGION! CURRENT STATE OF THE ART.**

Muralidhar P, Nair S, Reddy V V, Shah A, Rajan R
SVS Institute Of Dental Sciences, Telangana, India

Maxillofacial surgeons in India may encounter, an unique aggressive pathologies in advance stages of the tumours of jaws, that require early diagnosis and prompt treatment. This action may limit the extent of tissue damage, quality of life and, improve survival outcome. Clinicians should therefore be aware of the range of resective, reconstructive and rehabilitative options that are available in the management of these patients.

I present our experience with the various reconstruction options used for oromaxillomandibular ablative defects; this was undertaken in 30 patients following resective surgery for malignant pathology, cytologically benign but biologically aggressive odontogenic pathology and radiation induced osteonecrosis. I will also review the history, surgical anatomy, surgical assessment and potential complications that are relevant to the diverse pathologies and current reconstruction options.

Poster Number -61 Abstract No-12 **POSTOPERATIVE ANTICOAGULATION PROTOCOL FOR THE SUCCESS OF MICROVASCULAR FREE FLAPS. OUR INSTITUTIONAL EXPERIENCE.**

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Introduction and Aim: To study the outcome, feasibility, morbidity, flap survival rate and efficacy of our institutional postoperative medication protocols for the success of microvascular free flaps reconstruction after oral tumor ablation.

Materials and Methods: 30 patients having primary oral cavity cancer requiring ablative surgery followed by reconstruction by microvascular free flap (radial forearm free flap, fibula free flap, anterolateral thigh flap etc) after tumor resection were studied. Postoperative monitoring of free flap for color, turgor and flap viability by prick test was done. Studies have reported that the majority of microvascular thrombi occur within the first two days therefore use of anticoagulation is routinely practiced after free flap microvascular surgery. A variety of postoperative anticoagulation protocols are reported in the literature and no data suggest that one is superior to another. Here, we are presenting our institutional protocol of injection low molecular weight heparin (LMWH), 0.6 mg subcutaneous once in a day for five days postoperatively to prevent clotting events for the success of microvascular free flap reconstruction.

Results: Result of our study shows that the protocol we followed gives 93% free flap success rate. Exploration was done in five cases with early sign of flap congestion in which three flaps survived completely; two cases had a total flap loss.

Conclusion: According to our experience, we believe that this postoperative protocol of using LMWH gives better postoperative success rates to prevent thrombo-embolic event with minimum postoperative complication.

Poster Number-62 Abstract No-23 **MEDIAL SURAL ARTERY PERFORATOR FLAP- VIDEO PRESENTATION**

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The medial sural perforator (MSAP) flap was first described in 2001 by Cavadas et al. and has since been described for both extremity and head and neck reconstructions. At our institution, we regularly perform ALT and RAFF flap but since 1 yr we have used the MSAP flap for oral reconstruction. In general, we try to avoid the RFFF because of the high donor site morbidity, and ALT for bulkiness hence we perform MSAP flap. I want to give video presentation how to harvest MSAP flap.

Poster Number -63 Abstract No-28 **IMMEDIATE MANDIBULAR RECONSTRUCTION IN AMELOBLASTOMA (AN INTRA OSSEOUS NEOPLASM)**

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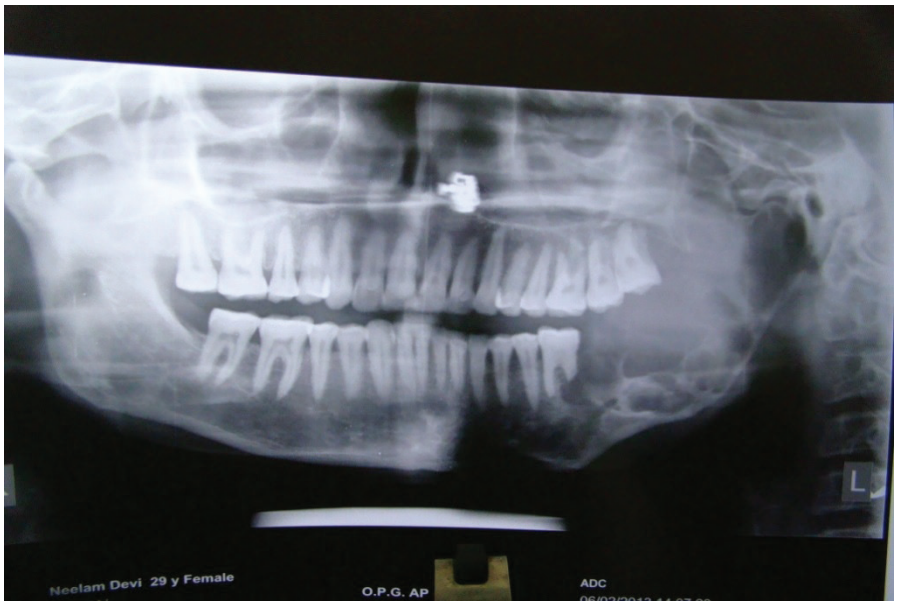
Introduction: Ameloblastoma accounts for approximately 10%of all tumors that originate in the maxilla & mandible. Ameloblastoma is an intraosseous odontogenic neoplasm of great interest due to its ability to aggressively infiltrate the maxillofacial region. The estimated incidence of ameloblastoma is approximately 0.5 million population per year.There is no distinct gender predilection. Most cases are diagnosed between 30 and 60 years of age. The posterior region of the mandible is the site of predilection. In approximately 40% of the cases there is an associated unerupted tooth, often the mandibular third molar. The aim of this study is to report that Immediate reconstruction by reconstruction plate can be the treatment of choice especially when logistics etc for microvascular surgeries are not available . Reconstruction plate can be kept for longer time if it does not show dehiscence, infection migration or loose hardware breakage.

Material & Method: In this study 11 patients were selected who were diagnosed, treated in Oral & maxillofacial surgery department of Indira Gandhi Govt dental college Jammu & had completed 9 years of follow up. The information regarding age, gender, localization duration of the lesion was noted .Incisional biopsy was done to confirm the diagnosis. Radiographically all the patients had multilocular radiolucencies. Hemi mandibulectomy with disarticulation was done in 9 patients followed by reconstruction plate .In anterior region segmental resection was followed by reconstruction plate in two patients.

Results: In this study 11 cases were selected, 5 were females & 6 males. Age ranged from 22 to 50 years . In the nine patients the lesion was located on posterior side of mandible, five on right side . Two patients had lesion in anterior mandible. Radiography revealed large multi locular radiolucencies. The cortical bone was very thin . Periosteal perforation was seen in two patients. In all the 9 cases ramus, body, angle condyle & were affected, only head of condyle & coronoid process were spared .there was resoption of roots of posterior teeth with mobility . These patients were treated by hemi mandibulectomy with disarticulation & reconstruction plates .In two patient extra oral swelling was present in anterior region from right side mandibular premolar to first molar on left side, segmental resection was followed by immediate reconstruction by reconstruction plates .Follow Up was done on annual basis on clinical & radiographic findings for 8 years .No recurrence was noted in any of the patient.

.**Conclusion: W**e have experienced that when multi locular radiolucent tumor has involved both buccal, lingual cortices & lower border of mandible, wide segmental resection with safety margins of healthy tissue 1.5-2cms beyond radiographic margins of the lesion should be done .Reconstruction plate can be kept for longer time if it does not show dehiscence, infection migration or loose hardware breakage. A long term follow up both clinically & radiographically is important



Pre operative Radiograph showing multilocular radiolucency on Left side

Post operative Radiograph showing reconstruction plate after hemi mandibulectomy

Poster Number- 64 Abstract No - 30 **FREE FLAP RECONSTRUCTION FOR THE OLDEST OLD PATIENTS WITH HEAD AND NECK CANCER: CLINICAL CONSIDERATIONS FOR COMPREHENSIVE CARE.**

Chen Y, Ji T

Dept. Oral Maxillofacial -Head Neck Oncology Affiliated 9th People's Hospital School of Medicine, Shanghai Jiao Tong University

Purpose: To evaluate and identify the clinical challenges involved in microvascular flap reconstructions for head and neck cancer defects among oldest old patients.

Method: A retrospective study for oldest old patients treated in a head and neck department of tertiary hospital from 2005 to 2015 was designed. All the patients reconstructed with microvascular flap for head and neck cancer were filtered for the study and the patients with age ≥85 years were segregated and analyzed statistically for complications.

Results: There were a total of 24 oldest old patients treated in the given time period, of whom 15 were males and 9 female patients. The median period of hospital stay was 23 days. 18 patients had ASA II and 6 patients had ASA III on preoperative evaluation. The median operation time was 420 minutes, while the median intra-operative blood loss was 550 ml. A total of 16 patients underwent prophylactic tracheostomy, 9 patients suffered from post-operative surgical complications while 16 patients experienced medical complications. The surgical complication was associated with ASA III (p=0.08) and the medical complication was associated with tracheostomy (0.02).

Conclusion: Head and neck cancer resections and microvascular reconstructions in oldest old patients are associated with high risk of post-operative complications, the medical complications are associated with tracheostomy while surgical complications are associated with ASA score. Although the complication rate is high; complex resections and microvascular reconstructions are successful with optimum recovery and age did not influence the surgery. However, consideration is needed to avoid prophylactic tracheostomy in these patients.

Poster Number -65 Abstract No-34 **Local Flaps For Management of Buccal Mucosa Malignancy: Our Experience**

Kudva A, Cariappa K M, Kamath A, Ray S

Manipal College Of Dental Sciences, Manipal, India

INTRODUCTION: Post ablative defects arising from oral malignancy can be managed by various modalities. Thependulum has swung towards free tissue microvascular reconstruction which obviously has better outcome in terms of quality of life. Various local flaps that have been described if used with proper indication have proved to have satisfactory outcome in managing oral cancer.

MATERIALS AND METHODS: Six patients with moderately advanced oral malignancies were managed using various local flaps for reconstruction ofpostablative defects arising from oral malignancy of buccal mucosa.patients were assessed for mouth opening, donor site morbidity and healing time

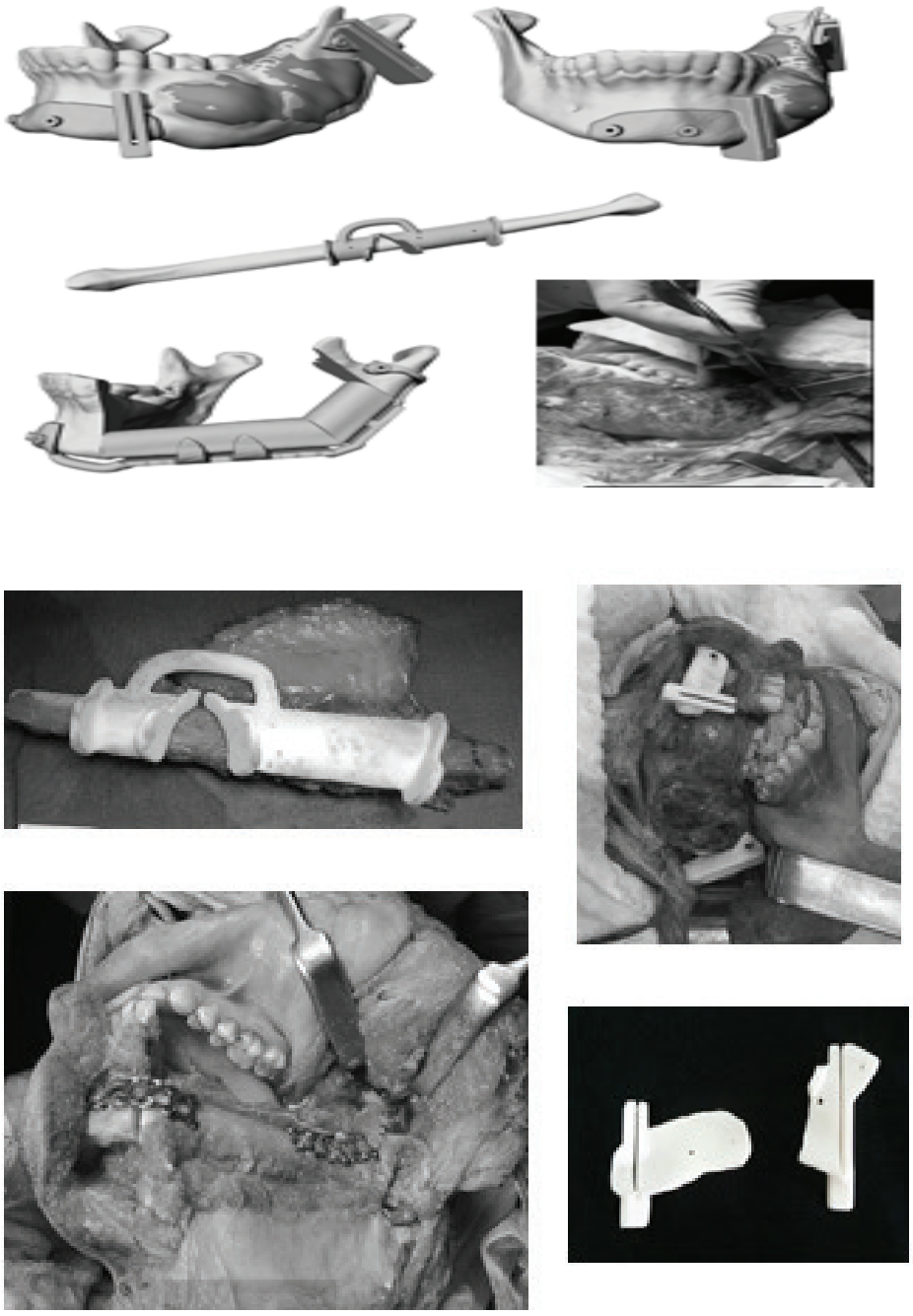
Conclusion: Local flaps reconstruction for buccal mucosa defects results in reasonable outcome in view of quality of life, donor site morbidity in moderately advanced cancers of buccal mucosa with decrease intraoperative anesthetic time.

NO.	SEX	AGE	STAGE	SITE	Type of flap
1	M	35	T 3	Buccal mucosa	Nasolabial flap
2	M	55	T3	Left buccal mucosa	Buccal fat
3	F	40	T2	Left buccal mucosa	Buccal fat
4	M	65	T2	Buccal mucosa	Buccal fat
5	M	32	T2	Lower gingivobuccal sulcus	Nasolabial
6	M	56	T3	Left buccal mucosa	Masseter flap

Poster Number- 66 Abstract No- 41 **3d Guides For Fibula Free Flap Reconstruction – From Virtual To Reality: Report Of 2 Cases Of A Brazilian Experience.**

Souza P, Molina G, Dornelles R, Neves M, Aragão B.
Federal University Of São Paulo - Brazil

Introduction: Segmental resection of the mandible in oral cancer may cause functional, esthetic and social problems. The free fibula graft has become the most used flap for reconstruction. In this past year we have incorporated virtual technology with the management of 2 patients with malignant disease involving the mandible.
Method: Prior to surgery our patients were referred to tomography for acquisition of images. The images were treated with Invesalius®, Brazilian software. The 3D file was exported to a 3D CAD software - Rhinocceros 3D- where further manipulation were done togenerate imagens in a CAD format. Thereby all surgical planning were carried on allowing us to visualize the virtual resection of the lesion, define the points of the osteotomies and design the surgical guides, all based on the unique bone contours of each patient.
Case 1 - 18 years old male presented with a painless and slow growth bulging on the left mandible. The CT revealed a destructive lesion in cortical bone of the left mandible from angle to inferiorincisor. He underwent surgery with exeresis of an 8.5x5.3x4,2cm low-grade osteosarcoma and was reconstructed by 3D guided fibula free flap.
Case2- Female patient presented with an osteolytic lesion on her left mandible. Thebiopsy showed a squamous cell carcinoma staged T4aN2bM0.She underwent surgery with free margins and reconstruction by 3D guided fibula free flap.
Conclusions - The fibula flap is widely accepted for mandibular reconstruction because of its thickness, length, and bone uniformity. Recently, computer-aided virtual planning holds the potential for enhanced precision and acceleration of a time-consuming intraoperative step. Although our small experience gives us the feeling that the 3D preoperative planning is able to deliver good aesthetic, function and occlusion effects and less time consuming outcomes, prospective studies are required to confirm these results.



Poster Number- 67 Abstract No- 42 **CASE ANALYSIS OF ORAL CANCER PATIENTS WITH FOREARM FREE FLAP RECONSTRUCTION – PEARLS AND PITFALLS**

Kim K, Hwang S, Song M, Choi N, Oh JS, Lee S
Dept. of Oral And Maxillofacial Surgery, Pusan National University Dental Hospital, Yangsan, South Korea

Introduction: This study is to analyze clinically impact factors on forearm free flap success rate, patients survival rate and to acquire basic clinical data for suitable treatment plan, care for flap success, survival in oral cancer patients and to review pearls and pitfalls of forearm free flap

Methods: A total of 8 patients with oral cancer had forearm free flap surgerysfrom January 2011 to November 2016at Oral and Maxillofacial Surgery of Pusan National University Dental Hospital. All patients had surgery from the same

surgeon. Clinical study was performed with analysis on clinical data like survival rate, flap success rate, TNM stages, type of cancer, effectiveness of forearm free flap on oral defect area after cancer ablation
Results: 8 patients underwent reconstruction in which 4 were males and 4 females. In 3 patients primary site was tongue, 2 were buccal mucosa, 2 were retromolarpad area, 1 was lower lip. Patients'sreconstruction showed a 75% flap success rate and 100% patients survival rate. Flap failures were in 2 case (15%). The etiology of failure of two flaps was 2nd infection of intraoral flap, weakness of vein drainage of superficial temporal vein. The patients with TNM stage were various. The stage I: 1patient, stage II: 2patients, stage III: 3patients, IV was 2patients. The type of cancer is 6 squamous cell carcinoma, a chondrosarcoma, aadenocystic carcinoma. The reconstruction of forearm free flap on intraoral defects was successful to restore the tongue, cheek, oropharynx, retromolartrigone.
Conclusion: The pearls of forearm free flap were easy harvesting, large donor vessel size, long pedicle flaps, workhorse flaps for intraoral defects but the pitfalls were a risk of variant of radial artery anatomy even if Allen test is confirmed, palm weakness to flexion movement, scar, etc. Our clinical data showed the good results on flap success rate, patient survival rate.

Poster Number -68 Abstract No- 43 **CASE ANALYSIS OF ORAL CANCER PATIENTS WITH FIBULAR FREE FLAP RECONSTRUCTION –PROS AND CONS**

Kim K, Hwang S, Song M, Choi N, Oh S, Le S
Dept. of Oral and Maxillofacial Surgery, Pusan National University Dental Hospital, Yangsan, South Korea

Introduction: This study is to analyze clinically impact factors on fibular success rate, patients survival rate, to acquire basic clinical data for suitable treatment plan, care for flap success, survival in oral cancer patients and to review pearls and Pros and cons of fibular free flap
Methods: A total of 5 patients with oral cancer had fibular free flap surgerysfrom august 2013 to december 2016at Oral and Maxillofacial Surgery of Pusan National University Dental Hospital. All patients had surgery from the same surgeon.Clinical study was performed with analysis on clinical data like survival rate, flap success rate, type of cancer, TNM stage, effectiveness of free flap on jaw defect sites.
Results: 5 patients underwent reconstruction in which 3 were males and 2 females. In all patients primary site were mandible. Patients'sreconstruction showed a 60% flap success rate and 100% patients survival rate. Flap failures were in 2 case (40%). The etiology of failures of the fibular flaps was 2nd infection of soft tissue flap, weakness of currency of blood especially, skin perforators of osteocutaneous fibular free flaps. The stage III was 1 patient and stage IV was 4 patients. The type of cancer was squamous cell carcinoma on all patients. The defects of mandible after mandibulectomy on cancer site were successful reconstructed with the flap mostly.
Conclusion: The pros of fibular free flaps were workhorse flaps for restore of mandibular segmental defects has large donor vessels and adequate bone length for reconstruction of kmandible, but the cons of flap were a risk of absent of posterior tibial artery branch, a risk of absent of septocutaneous perforator for harvesting osteocutaneous flap. Our clinical data showed the relatively good results on flap success rate. The fibular flaps is useful for mandibular osteocutanous defect after oral cancer ablation.

Poster Number-69 Abstract No-54 **NASOLABIAL FLAP FOR RECONSTRUCTION OF INTRAORAL DEFECTS**

Singh M, Shibu IA
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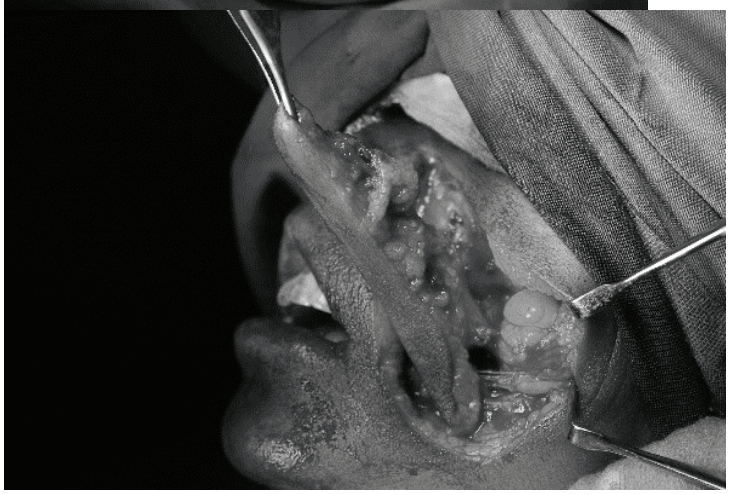
Introduction: The nasolabial flap is an arterialised local flap in the head and neck region with an axial blood supply provided either by the facial artery or by the superficial temporal artery through its transverse facial branch and the infraorbital artery. It is used in a variety of situations including reconstruction of the lower eyelid and small defects of the nose, lips and oral cavity. In cancer treatment its major role is for reconstruction of the floor of the mouth, palate and ala of the nose. The recent innovation of folding the flap has further expanded its role, as it is now able to provide lining and cover for a fullthicknesscommissural defect.
Methods: A total of four patients reported to the department of OMFS. Two patientswere diagnosed with severe Oral Sub-mucous Fibrosis. Fibrotomy with bilateralcoronoidectomywas planned for both patients. The other two were diagnosed with squamous cell carcinoma. Wide resection and modified radical neck dissectionwas planned for both patients. Reconstruction with nasolabial flap was planned for all. Post-operatively there was no complications and the patients are under follow-up.
Results: All flaps healed without evidence of necrosis, infection or dehiscence. Patient satisfaction with this procedure was high. The use of the nasolabial flap appears to provide an improvement in overall functional outcome.

Conclusion: The nasolabial flap is a pedicled flaps that provide versatility when reconstructing intraoral defects. The flap provide soft tissue coverage for small to medium sized defects. The benefits of this flap include the transfer of vascularized soft tissue, low harvest site morbidity, and ease of harvest.



Poster Number – 70 Abstract Number – 55 **THE TUNNELED SUPRACLAVICULAR ISLAND FLAP: AN OPTIMIZED TECHNIQUE FOR HEAD AND NECK RECONSTRUCTION: A REVIEW OF CASES**

Singh M, Das A
Rajarajeswari Dental College and Hospital, Bangalore

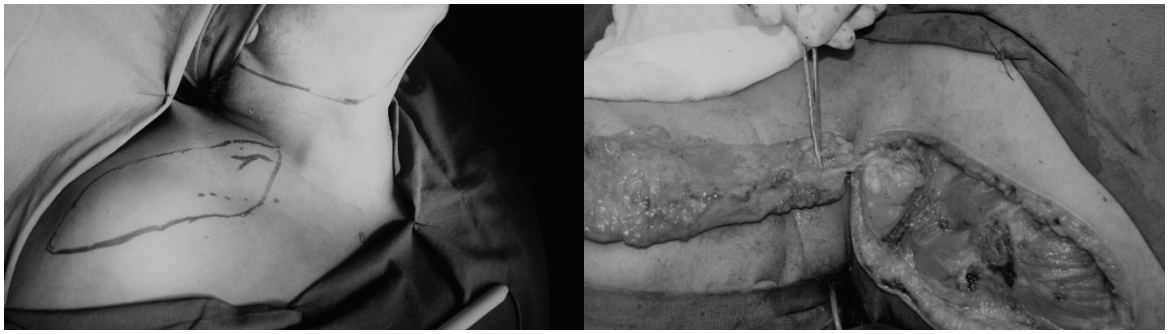
Introduction: The supraclavicular skin is thin and pliable; it closely resembles that of the neck and facial Skin, making it the perfect source of tissue for neck and orofacial reconstructions. We sought .to Provide a concise compilation of the use of the supraclavicular artery flap, including surgical landmarks, Modifications, uses, complications, and anomalies, and experience with the use of the flap.

Methods: The flap was elevated from the distal to themedial direction. An incision was made at the distal tip of the flap and deepened to the fascia overlying the deltoid muscle. A subfascial dissection was carried out in a medial approach towards the mid-third of the clavicle. Completion of the skin incision was performed circumferentially along the skin island. The vascular pedicle was seen coursing through the skin island when transilluminated. Dissection was continued in a medial direction in a combination of blunt and bipolar dissection. Once the flap was elevated and there was sufficient pedicle dissection, adequate tension-free rotation of the flap to the defect was achieved .The transfer of the flap to the defect side was made by tunneling of the flap. Particular care was taken while de-epithelisation. Donor site was closed by primary closure.

Results: Margins for elevation of the supraclavicular artery flap were delimited anteriorly by the clavicle, posteriorly by the superior border of the trapezius, and distally by the insertion of the deltoid muscle. There were no flap complications with the patients. The patients are under follow-up.

Conclusion: The pedicled supraclavicular fasciocutaneous flap is emerging as a versatile reconstructive tool for the neck and orofacial regions. It is an excellent option, especially in medically compromisedpatients and in patients in

whom free flaps may be technically difficult. Anatomic and clinical studies have shown it to be consistently reliable, with excellent color matching for the face and neck have established reliable surgical landmarks, modifications, uses, common complications



Poster Number- 71 Abstract No-74 **CLEAR CELL ODONTOGENIC CARCINOMA ON MANDIBLE- A CASE REPORT**

Kim U K, Dae H S, Hyeung L G, Young B J, Jong P C, Jun LS
Pusan National University Dental Hospital, Republic of Korea

Introduction and Objective: This study is to report a rare case of clear cell odontogenic carcinoma (CCOC) on mandible which was first misdiagnosed as ameloblastoma on incision biopsy in our clinic. On the case showing the bursting lesion from anterior mandible involving the mouth floor, we treated the patient with en block excision, fibular osteocutaneous free flap reconstruction at 2nd surgery diagnosed as CCOC following by primary resection of mandible, reconstruction with iliac block bone at 1st surgery misdiagnosed as ameloblastoma. CCOC was first reported in 1982 internationally and commonly nominated the name from 1992 in W H O, but the entity of disease is still difficult to differentiate from ameloblastoma, ameloblastic carcinoma, KOT at pathological findings. We reported with literature review a 51-year old male patient case which showed CCOC lesion on mandible, mouth floor.
Patients and Methods: A patients who suffered from anterior mandibualr swelling, discomfort visited the Department of Oral and Maxillofacial Surgery, Pusan National University Hospital, S. Korea on September 2016. Throughout CT, incision biopsy, the lesion on mandible was first diagnosed with ameloblastic lesion. We performed with segmental resection, reconstruction with iliac block bone, reconstruction plate. The resected lesion was finally disagnosed with ameloblastic carcinoma or clear cell odontogenic carcinoma (CCOC) on mandible, mouth floor. The pathological specimen was sent to other pathologic lab to confirm the CCOC on mandible. We prepared 2nd operation for further wide excision on mandible, mouth floor from lower right 2nd premolar site to lower left 2nd premolar site. From MR, PET-CT and RP model, the exact resection range on mandible, mouth floor was confirmed. Wide excision, fibular composite free flap reconstruction on mandible, mouth floor, both SOHND lymph node dissection, tracheostomy were performed at 2nd operation. The patient was uneventful healed. The final specimen also was reported as CCOC lesion.
Results: We experienced a patient with CCOC lesion mimicking ameloblastoma on mandible and reported a CCOC case with literature reviews.
C**onclusion:** Clear Cell Odontogenic Carcinoma (CCOC) on mandible is similar to the ameloblastic lesions, so precausion to diagnose the lesion at 1st visit is necessary to avoid the misdiagnosis, malpractice.
Key words: Clear Cell Odontogenic Carcinoma (CCOC), Ameloblastoma, Fibular Free Flap

Poster Number- 72 Abstract No-89 **PECTORALIS MAJOR RIB OSTEOMYO CUTANEOUS FLAP IN PRIMARY MANDIBULAR RECONSTRUCTION FOR ORAL CAVITY CARCINOMA IN GERIATRIC POPULATION IS IT BETTER THAN FIBULAR FREE FLAP.**

Khunteta N
BMCHRC, Jaipur, India

Oral cavity cancer in geriatric population is commonly seen in our part of world. Generally they come with locally advance cancer, along with this population has multiple comorbid conditions. The morbidity of Radical resection & osteomyo cutaneous free flap reconstruction is higher than younger age population. This high morbidity can lead to mortality also in this population.

One stage reconstruction of the mandible and lower third of the face with pectoralis major osteomyocutaneous (RIB) pedicle flap is a better reconstruction method than free flap.

Poster Number – 73 Abstract Number – 102 **PLATYSMA SUBMENTAL FLAP: AN OPTION FOR RECONSTRUCTION OF ORAL CAVITY DEFECTS IN MALES**

Singh N, Agarwal M, Chaturvedi H
Department Of Head & Neck Surgical Oncology. Max Cancer Centre, Max Superspeciality Hospital,

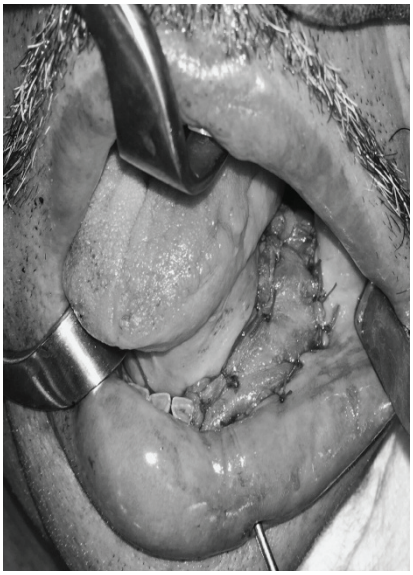
OBJECTIVE: To evaluate the feasibility of platysma submental island flap as reconstruction option for oral cavity defects.The submental artery island flap is being used frequently for small and midsized defects of oral cavity. In males it is a relative contraindication for reconstruction because of tough hair bearing skin. We present here a flap which is raised as submental flap including only platysma, submental fat,anterior belly of digastric and superficial fibers of mylohyoid muscle.

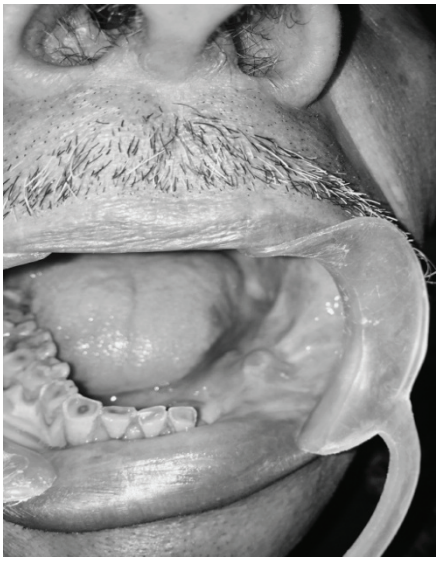
METHODS: This flap was used for two patient who were males. First patient had hemiglossectomy and floor of mouth defect and another patient had marginal mandibulectomy with excision of floor of mouth and adjacent buccal mucosa. The flap dimensions were 7.5x 3.5 cm and 8x4cm respectively.

RESULTS: No major complications were noted. Patients did not have decreased extension of neck as happens after harvesting traditional submental flap

CONCLUSIONS: The playtsma submental flap is safe, rapid, and simple to raise and leaves no scar except neck dissection scar. This flap is a valid option of small to medium size intraoral defects in males.

Per-operative postoperative





Poster Number-74 Abstract No-103 **LATERAL TRAPEZIUS MYOCUTANEOUS FLAP IN ORAL TONGUE RECONSTRUCTION**

Agarwal M, Singh N, Gupta V, Chaturvedi H
Department of Head & Neck Surgical Oncology. Max Cancer Centre, Max Superspeciality Hospital, New Delhi

INTRODUCTION: Oral cavity carcinoma are among most common cancer in India in which treatment of choice is usually surgery, reconstructive options depends on the defect .The reconstructive options for tongue defects are radial forearm free flap or regional flaps like submental flap and infrahyoid flap. The lateral trapezius myocutaneous flap(LTMC) has been described in literature as the reconstructive option for head neck reconstruction. We have used this flap for buccal mucosa defects and now we present our experience with this flap in reconstruction of tongue defects

OBJECTIVE - was to study the feasibility of LTMC flap for hemiglossectomy and extended hemiglossectomy defects with or without floor in patients with cancer of the tongue.

METHOD- eight patients prospectively underwent trapezius myocutaneous flap for hemiglossectomy or extended hemiglossectomy defects with or without floor of mouth resection reconstruction from August 2014 to October 2016
RESULTS- The flap dimension ranged from 4x4 cm to 8x5.5 cm. Marginal necrosis was seen in 1 patient out of 8 cases, mild shoulder dysfunction was seen, good cosmetic effects was observed. All donor areas were primarily closed.
CONCLUSION-The LTMC flap is a safe, reliable method for reconstruction for tongue patients especially for larger defects as an alternative to radial forearm free flap.
Per-operative flap marking postoperative

POSTER NUMBER-75 Abstract No-105 **DO-IT-YOURSELF FLAP: NASOLABIAL FLAP RECONSTRUCTION IN ORAL CAVITY CANCERS**

Jain K[1], Kumar V[1,] Chaturvedi A[2], Mishra S[1] Sameer GS[1], Naseem A[1], Manikandan L, Garg S[1]
[1]Department Of Surgical Oncology, MAMS, KGMU, Lucknow; [2]Director, AIIMS Jodhpur

Introduction: Oral cavity cancer patients in India usually present in an advanced stage. These cases present a challenge for reconstruction, post resection, due to time and resource constraints. Though free flaps are the current standard of reconstruction, availability of an expert plastic surgeon is a limiting factor. The traditional reconstruction techniques like split skin graft, tongue flap, nasolabial flap, pectoralis major myocutaneous flap, and forehead flap are used by surgical oncologists to make up for the absence of an expert plastic surgeon. We evaluated nasolabial flap as a reconstruction method in oral cavity cancers based on:

- Time required for reconstruction.
- Postoperative recovery time
- Functional outcome.
- Cosmetic satisfaction.
- Complications.
- Cost of treatment.

Methods: Database review from January 2012 to May 2016 in the Department of Surgical Oncology, KGMU, Lucknow.
Results: A total of 1762 oral cavity cancer cases were treated in our department during above timeline. Nasolabial flap as a method of reconstruction was used in 121 patients. The mean defect size was 3cm. Average time to raise the flap was 9 minutes (range 5-15 minutes). Post operative recovery time ranged 6-10days. Flap necrosis was seen in 15 patients, and no patient developed orocutaneous fistula. All the complications were managed conservatively. Functional outcomes, based on speech and oral feeding, were generally satisfactory. Limited mouth opening with difficulty in feeding was seen in 6 patients. Cosmetic outcome was good. Average overall cost of treatment (perioperative) was quite low.

Conclusion: Reconstruction is an important part in oral cavity cancer surgical treatment due to the very "in your face" results. Free flaps remain the current gold standard, however, the limited availabitilty of experts in developing countries begs for an alternative. Nasolabial flap is an easily learnt alternative technique of reconstruction, making it a "Do-it-yourself "flap!

Poster Number-76 Abstract No-111 **VERSATILE NASOLABIAL FLAP IN RECONSTRUCTION OF ORAL CAVITY DEFECT**

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Dr T.S.Choudhary ENT and Head neck Oncosurgery Clinic, Ujjain, MP, India

Introduction: Nasolabial flap is versatile, technically simple to harvest and provides pliable skin for medium size intraoral defect.

Method: Nasolabial flap was used in 14 patients mean age was 58 yrs,11 male and 3 female .Oral cavity subsites are as follows -floor of mouth 03,lower lip 02,soft palate with upper alvelous 04, angle of mouth 03 and buccal mucosa 02 cases.

Result: Distal end of flap was necrosed in 02 cases, wound gaping and infection in 03 cases. 09 cases were having very good healing. Mean follow up period was 15 months.

Conclusion: The nasolabial flap is a versatile, reliable local flap for reconstruction of oral cavity defect with good cosmetic outcomes.

Poster Number-77 Abstract No-134 **SALVAGE THE CATASTROPHIC AFFAIRS OF MICRO-VASCULAR FIBULA RECONSTRUCTION IN ORAL CANCER**

Yadav A, Kumar S, Mukharjee S
Sardar Patel Post Graduate Institute Of Dental & Medical Sciences

INTRODUCTION

• Micro vascular reconstruction of mandible with fibula is an excellent reconstruction option in OSCC cases. It not onlytechnicallyskillful surgery but also requires meticulous planning.

• Important monitoring of factors can be broadly categorized in four category i.e. pre operative, intra operative, early post operative and late post operative factors.

PATIENTS AND METHOD

• 30 patients were included for evaluation who underwent resection of mandible and micro vascular reconstruction done with fibulas in OSCC cases.

RESULT

• In our cases, one case had failure in terms of loss of vascularity of fibula. Five patients developed infection of surgical site ie, harvesting site in legs.

Pre operatively, spect CT and 3D printing models wereused as an adjuvant.

• Vascular mapping of leg was done.[Fig. 1].
• Skin quality.
• Previous fracture of fibula or vascular injury.
• Monitoring ischemia time.
• Prevention of cutaneous perforators[Fig 2].

NERVES

1. Superficial peroneal nerve preservation
2. Sural nerve preservation
3. Lesser saphenous vein preservation

OSTEOTOMY OF FIBULA:

• Greater than 1.5 mm of bony blocks.
• 7 blocks maximum.

VESSEL ANASTOMOSIS

• Avoid kinking and rotation of vessels
• Dual anastomosis for vein

PREVENTION OF SURAL NERVE AND ANKLE FUNCTION

• Sural nerve- 6 cm of bone to be left
• Ankle function- 8 cm of bone to be left

SUCTION DRAIN

Not to cross repaired vessel.

SUTURING OF HARVESTING SITE

No tight closure
Pseudo compartment syndrome may occur.
Fascia and tendon should be covered by muscle.

POST OP OBSERVATION

Early

Flap monitoring:
Head position
Foot to be raised

Late

Oro – cutaneous fistula
Pseudo-compartment syndrome.

CONCLUSION

It was concluded from these observations that surgical skill along with careful monitoring of all aspects of micro vascular reconstruction can minimize complications and increase success rate.

FIGURES

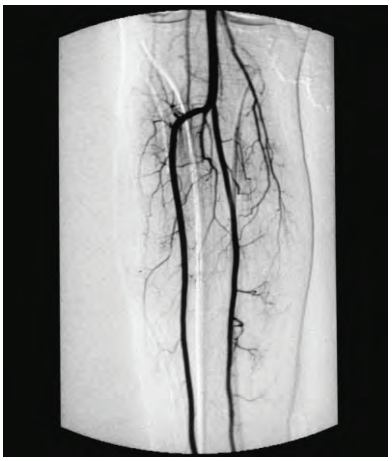

Fig 1: Pre operative vascular assessment of peroneal vessels

Fig 2: Anterior incision for better assessment of perforators

Poster Number-78 Abstract No-141 TEMPOROCALVARIAL FASCIA FLAP IN MAXILLOFACIAL RECONSTRUCTION

RAO S, RAO S
ALL INDIA INSTITUTE OF MEDICAL SCIENCES, RAIPUR

In the era of free transfer and microvascular anastomosis, a pedicle flap with a consistent pedicle superficial temporal artery can be used in various maxillofacial reconstructive applications. We hereby present cases showing the versatility of temporocalvarial fascial flap in various maxillofacial defects secondary to ablative surgeries and trauma are presented in the paper. Detailed insight of the osteofascial flap and the harvesting technique will be covered in the paper.

Conclusion: a reliable vascular pedicle with a definitive anatomy, various maxillofacial defects could be reconstructed successfully using the flap. The harvested calvarial graft in the flap is vascularized with the pedicle and has a higher chance of survival.

Poster Number-79 Abstract No-143 **EVALUATION OF THE EFFICIENCY OF PLATYSMAL FLAP RECONSTRUCTION IN ORAL MALIGNANCY: A STUDY OF 50 CASES**

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Dharamshila Hospital and Research Centre, Uttarakhand, India

Introduction: Surgical resection with reconstruction remains the only curative modality for majority of oral malignant lesions. Wide local excision of tumours of oral cavity will result in severe functional impairment of the individual patient. Therefore, adequate functional reconstruction of both hard and soft tissue defects plays a key role in surgical treatment of oral malignancy. The objective of this study is to evaluate the reliability of platysmamyocutaneous flap in reconstruction of early lesion of oral malignancy, its efficacy in functional outcome and improvement in quality of life.

Methods: The study includesanalysis of 50 patients of T1 and T2 oral malignancy undergoing treatment at Dharamshila Hospital and Research Centre, New Delhi, India. Reliability, improvement in quality of life (functional outcomes) and satisfaction (Yes/No) was evaluated for each of the patient during follow up period of day1, day10,1 month and 6 months.

Results: On 10^{th} day, complete healing was seen in 33(66%) cases, where as epithelial breakdown was seen in 7(14%) of cases and partial failure was seen in 10 (20%). After 6 months 36 (72%) cases showed complete flap

acceptance; whereas in 8 (16%) cases there was partial failure. Of completely accepted and partial accepted cases, speech was clearly understandable in 97% and 87% respectively and level of overall satisfaction was found to be 97% and 75% respectivelyMouth opening wasadequate in all of the 41 (100%) patients,.
Conclusion: For the small and medium sized oral cavity defect superiorly based platysmal flap is good option with good reliability (complete acceptance rate of 72%) according to our study. Surgery can be performedin single setting.As it is a simple, thin, pliable, versatile, of the same colour, no second donor site, with excellent functional outcome and interesting visual qualities, it is available as a good reconstructive option.

TABLES:

After 6 month	**Numbers**	**Percentage**
Mouth Opening – Adequate	47	94.00%
Speech – Clearly Understandable	48	96.00%
Swallowing – Without Difficulty	50	100.00%
Cosmetic Appearance – Acceptable	42	84.00%
Overall – Satisfaction	47	94.00%
Tongue Mobility-UL,RC,LC	50	100%

Poster Number-80 Abstract No-147 **BASAL CELL CARCINOMA: SUBHARTI EXPERIENCE**
Dubey P, Ali A
Subharti Dental College and Hospital, Meerut
Basal cell carcinoma is a nonmelanocytic skin cancer (ie, an epithelial tumor) that arises from basal cells (ie, small, round cells found in the lower layer of the epidermis). It often appears as a slightly transparent bump on the skin, though it can take other forms. It occurs most often on areas of the skin that are exposed to the sun, such as head and neck. Most basal cell carcinomas are thought to be caused by long-term exposure to ultraviolet (UV) radiation from sunlight. Avoiding the sun and using sunscreen may help protect against basal cell carcinoma.
The basic tenets of reconstructive surgery include restoration of form and function while minimizing donor site deformity. Whenever possible, this should be accomplished with similar tissue. Potential tumour margins, radiotherapy, and lymph node dissection must all be taken into account when planning major reconstructive procedures. Respecting facial esthetic units or subunits by placing scars following skin creases is an essential principle should be kept in mind. The current suggested approach, however, is to select the reconstructive option which best provides the patient with the ideal reconstruction, thus maximizing functional and esthetic results primarily. This presentation will discuss the various histological varieties of basal cell carcinoma and its surgical management

Poster Number- 81 Abstract No-180 **ARE FASCIA-ONLY ALT FLAPS MORE LIKELY TO DEVELOP DONOR SITE SEROMA?**
Virdi M, Higginson J, Praveen P, Martin T, Parmar S
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Introduction: The anterolateral thigh (ALT) is a versatile perforator flap; they can be raised with or without skin, according to the desired characteristics at the recipient site. They are commonly used for oral, pharyngeal or lateral skull reconstruction. Donor site seroma - post-surgical collection of tissue fluid - is a known complication of ALT flaps, with a published incidence of around 5%. Drains or compression dressings are often recommended to prevent seroma, without strong evidence. Our unit is a busy cancer centre, but employs the ALT relatively infrequently, partly due to the habitus of many of our patients. We noted that several of our patients developed seromas, requiring

aspiration. To evaluate our own practice, we performed a retrospective case-control study with the aim of establishing our seroma rate, and identifying any contributory factors to seroma formation.
Methods: The University Hospitals Birmingham Head and Neck Database was searched to identify patients who underwent reconstruction with an ALT flap between 2012 and 2016. Case notes were reviewed retrospectively for factors that were potentially contributory to the formation of seromas. Fisher's exact test was used to evaluate the significance of categorical data; regression modelling was used to evaluate continuous data.
Results: 32 patients underwent ALT reconstruction: 4 (12.5%) developed donor site seroma. Patients who had a muscle/fascia only flap were more likely to develop a seroma than those who had a fasciocutaneous flap (p=0.016). No other surgical, demographic or medical factors were significant.
Conclusion: We demonstrated a significant relationship between ALT flaps raised without skin and seroma formation. We hypothesise that this may reflect the increased tension required for closure where skin is lost: the resultant compressive effect may help to prevent the accumulation of tissue fluid. However, this analysis must be interpreted with caution due to our small numbers.

Poster Number-82 Abstract No-189 **BUCCAL FAT PAD ROTATIONAL FLAPS IN ORAL CAVITY RECONSTRUCTION: A REVIEW OF 74 CASES**
Claiborne ST, Kademani D, Patel KJ, Idle MR.
North Memorial Medical Center, Robbinsdale, MN, USA
Introduction: Since Egyedi in 1977, the literature contains reports of pedicled buccal fat pad in reconstructing many types of oral defects. The anatomical proximity and the size of the fat pad allow its use as a pedicle easily to sites in the oral cavity, providing predictable reconstruction. This study reveals a single surgeon's experience with 74 cases.
Methods: The senior author's practice from Mayo Clinic, University of Minnesota, and North Memorial Medical Center was reviewed from 2004-2016 for retrospective analysis of buccal fat pad pedicled flaps for oral reconstruction. There were 74 defects in 70 patients, with 4 patients requiring bilateral procedures. The patient population was predominantly Caucasian and female with age range from 11 to 90 years. The majority of defects were located in the alveolar processes of both jaws. Additional sites included the retromolar trigone, buccal mucosa, and the hard palate.

Location of Defect	**Number of Cases**	**Percent of Total Cases**
Mandibular Alveolus	38	51%
Maxillary Alveolus	26	35%
Retromolar Trigone	4	5.5%
Hard Palate	3	4%
Buccal Mucosa	3	4%

Seven patients had previous radiation therapy and within the combined North Memorial and Mayo Clinic groups, 7 were active smokers at the time of surgery. The first follow-up visit occurred within the first 2-3 weeks, with a minimum of 1 month of post-surgical examination.

Pathology Type	**Number of Cases**	**Percent of Total Cases**
Medication Related Osteonecrosis	37	50%
Miscellaneous Pathologies	13	18%
Squamous Cell Carcinomas	10	14%
Osteoradionecrosis	7	9%
Oral-Antral Fistulas	6	8%
Osteomyelitis	1	1%

Results: Overall, the buccal fat pad advancement flap healed completely without complications by 1 month postoperatively in 65 out of 74 cases (88%). Minor complications occurred in 8/74 cases (11%). These included partial flap loss, as denoted by wound defect or exposed bone at the first follow-up visit, in 7 cases (9%), and a single case of a postoperative hematoma which required early reoperation. Total flap failure occurred in only 1/74 cases (1%).

Conclusions: The buccal fat pad has been shown to be one of the most versatile regional flaps for oral cavity reconstruction. Our study presents the largest series of cases to date, for a variety of applications and anatomic sites. The low rates of both minor and major complications make this an attractive option for reconstructive oncologic practice.

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Poster Number-84 Abstract No-193 **INTRODUCING A MODIFIED BILATERAL PERIALAR CRESCENT FLAP FOR COMBINED RECONSTRUCTION OF A FULL THICKNESS DEFECT INVOLVING MIDDLE 2/3 OF THE UPPER LIP ALONG WITH A PRE MAXILLARY DEFECT.**

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The Bilateral Perialar crescent shaped flap flap has been a technique used in reconstructing large full thickness defects of the upper lip especially when the defect is almost 2/3rd the total length of the upper lip.

In the traditional technique, both the perialar crescents that are raised are discarded for advancing the flap medially for lip reconstruction, whereas In our modification we have preserved both the perialar crescents which were tunneled intraorally to reconstruct the anterior palatal shelf .

This brought in good oro-nasal separation which avoided the use of an obturator for our patient. The patient was given a pleasing esthetics later with necessary dental rehabilitation. This Modification can be applied in selected cases where there is a combined defect of the middle 2/3rd of the upper lip along with a premaxillary defect.

Poster Number- 85 Abstract No- 205 **PRIMARY SURGERY VERSUS SALVAGE SURGERY FOR POSTOPERATIVE MONITORING OF FREE FLAP HEAD AND NECK RECONSTRUCTION.**

Popli G

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Objective: To compare the treatment outcome of free flap reconstruction in oral squamous cell carcinoma between primary and salvage surgery.

Methods: A total of 70 patients [Primary surgery (n=45) and Salvage surgery (n=25)] were included in our retrospective study. The clinical data were retrieved to identify the flap related complications (wound dehiscence, infection, vascular compromise and complete flap failure) between both the groups. Salvage group had 13 patients treated with radiotherapy and 12 patients treated with previous surgery.

Results: Flap related complication rate was 25.7% (n=18). Salvage group had higher rate of flap related complications (32%, n=8) in comparison to primary surgery group (22%, n=10). Most common complication in both groups was wound dehiscence.

Conclusion: Free flap reconstruction is a dependable method for previously irradiated or operated Head and Neck Carcinomas and comparable to reconstruction in primary surgery.

Poster Number-86 Abstract No-206 **NASO-LABIAL FLAP AS A SOLE RECONSTRUCTIVE METHOD IN EARLY ORAL CANCER: STUDY OF 70 CASES IN A NON-METROPOLITAN CITY CANCER HOSPITAL OF INDIA.**

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Background: Nasolabial flaps have been recognized as versatile, simple, easy to harvest local flap that can cover a variety of defects on the face, nose, lip and the oral cavity. We present the success and utility of variations of Nasolabial flap for small to medium sized defect after excision oral cancers.

Aim: Study of 70 cases of early oral cancer who underwent nasolabial flap reconstruction for small and medium sized defects as a sole method.

Patients and Methods: We retrospectively studied 70 patients (48 males and 22 females) who underwent excision of oral cancer and reconstruction using nasolabial flap between 2008 and 2016. The patients with clinically T-1 N0, T-2 N0, T-3 N0 invasive squamous cell carcinoma of buccal mucosa, tongue, gingivobuccal sulcus, palate and lip were studied. Immediately after surgical excision, one stage reconstruction of the defect was done using a type of nasolabial flap as a sole reconstructive method. All patients were followed and the median follow-up period was 1 year.

Results: The following patients underwent surgical excision:

- 36 patients of buccal mucosa cancer,
- 21 patients of gingiva buccal sulcus cancer,
- 06 patients of palate cancer,
- 05 patients of lip cancer and
- 02 patients of tongue cancer.

All the patients underwent single stage reconstruction of defect using a type of nasolabial flap as a sole reconstructive method. We have used following variations of nasolabial flap for oral reconstruction such as:

- superior based flap,
- inferiorly based flap,
- laterally based flap and
- folded flap to make it broad and round
- flap based on subcutaneous tissue

Flap viability was reliable and was not affected by performance of a synchronous neck dissection as well as ipsilateral facial artery ligation. We have used cresentric extension on lateral nasal area for better cosmetic result. Minor wound complications were observed in 10 patients and one patient had complete flap loss. Functional results were satisfactory and cosmetic results were good in most of the patients.

Conclusions:

- The nasolabial flap is a reliable and minimally traumatic local flap for one stage reconstruction of small to medium size defects in the oral cavity.
- The abundant blood supply allows its modification to cover large defects and to obtain better cosmetic results.
- The versatility of the flap minimizes the use of local tongue flaps and split thickness grafts for covering small and medium size defects in cases of buccal mucosa and lip cancers.
- It has a high viability rate, low complication rate, is quick and easy to perform in addition to its satisfactory functional and cosmetic results.
- It can be done by a surgical oncologist without a help of a plastic surgeon.
- It can be done at small set up hospitals safely.

Key words: Nasolabial flap, oral reconstruction, local flap

Poster Number-87 Abstract No-207 **STABILITY OF THE PERMANENTLY BENT PLATES USED IN MANDIBULAR RECONSTRUCTIVE SURGERY**

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Introduction: For the reconstruction of mandible, straight surgical plates are widely used for the stability of the bone fixation after lesion resection. In the operation room, surgeons usually make straight plates bent by force manually to fit to the contour of defects. This manual deformation comprises the prognosis with agitating the stability of the fixated parts because of the residual stress in the plates generated by the bending hand-maneuver.

Methods: We assumed 8 models to study the residual stresses and other mechanical properties of 'customized plates' and 'bent plates' after mastication simulation. 'Customized plates' means the fabricated plate fitting defects as it is without any residual stress. And 'bent plates' is the plates bent by external force, so it has its own residual stress. In the following table, F and C stand for fracture cases and central defect removal cases, each.

CASE	CASE	Plates
1	F	mini-plates (bent)
2	F	mini-plates (customized)
3	C	mini-plates (bent)
4	C	mini-plates (customized)

5	C	thick mini-plates (bent)
6	C	thick mini-plates (customized)
7	C	reconstruction-plates (bent)
8	C	reconstruction-plate (customized)

The straight plates were located on standardized positions on the mandible models. Then, for each plate, forcing hand-maneuver was simulated. After Bending procedure simulation executed, Mastication simulation using three-dimensional finite element analysis (FEA) followed and the results were compared with the initial mechanical property of the models itself and plates.
Result: when the bearing strength is enough in the plates, the bending maneuver gives residual stresses on the plates, which have more higher stress so that the stability of the fixations decrease.
Conclusion: The bent plates had the same level of bearing strengths to the customized plates, but the residual stress added to the 'bent' groups make the total stress level higher. Surgeons need to consider that bending maneuver itself may agitate the surgical prognosis by increasing the instability of the inter-fragmental bone fixation.

Poster Number -88 Abstract No- 218 **ASSESSING THE RISK OF PATHOLOGICAL FRACTURE IN OSTEORADIONECROSIS: A FINITE ELEMENT ANALYSIS**
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INTRODUCTION: Pathological fractures of mandible account for less than 2% of all mandibular fractures, where the bone weakend by underlying pathology is unable to tolerate forces under physiologic range. Atrophic edentulous mandible, osteoradionecrosis, osteomyelitis, odontogenic cysts and tumors, malignancies, extraction of impacted third molar, bisphosphonate induced osteonecrosis involving the mandible are common entities contributing to pathological fracture of the mandible. Osteoradionecrosis (ORN) is a severe and devastating late complication of radiotherapy in patients with head and neck cancer, especially in the mandible, since it has high density and decreased vasculature. Progression of the condition may lead to pathologic fracture, intraoral and/or extraoral fistula formation, bone sequestration, trismus, pain, local or systemic infection and sometimes permanent deformity. With the conventional radiation techniques, the rate of ORN was reported to be between 5% and 15%, whereas with newer techniques such as 3D conformal therapy and intensity modulated radiotherapy the rate of ORN has decreased to 6%. Pathologic fracture in patients with ORN requires advanced therapies, with resection of the necrotic bone with a portion of healthy bone, with or without reconstruction involving reconstruction plates, primary and secondary bone grafts .This study aims at assessing the influence of masticatory forces on mandible affected by osteoradionecrosis.
MATERIALS AND METHODS: 3D reconstruction of the mandibular bone structure affected with oateoradionecrosis was achieved using Mimics. Subsequently, using Altair's HyperMesh for discretization, the 3D object was remeshed to prepare itself to simulation of stress and strain that appear in the process of mastication. Mandibular bone prepared for numerical analysis was imported into ANSYS© SAS IP, Inc. for Finite Element Analysis
RESULTS: Results awaited

Poster Number-89 Abstract No- 250 **MICROVASCULAR FLAP RECONSTRUCTION FOR BENIGN AND MALIGNANT TUMOURS OF THE MANDIBLE IN THE PAEDIATRIC AGE GROUP – CHALLENGES AND PERSPECTIVES**
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Introduction: Microsurgical tissue transfer in the paediatric population is technically challenging for several reasons – small vessel diameter, flap size, difficulties with post-operative flap monitoring and patient compliance.Head and neck reconstruction is uniquely difficult due to the functional deficits after ablative surgery. We present our institutional experience.
Methods: In this study we present four cases of microvascular free flap reconstruction for benign and malignant tumours of the mandible in three patients aged 2-5 years. The flaps were fibula osteocutaneous free flap (n=3) and

radial forearm free flap (n=1). RPT models and inverse planning were used for mandibular reconstruction in three cases, and the radial forearm flap was used for soft tissue cover for a marginal mandibulectomy defect. We also outline our protocols in pre-operative design, intra-operative care and post-operative flap monitoring and care.
Conclusion: All four flaps survived with no morbidity. Microvascular reconstruction in the paediatric age group often has good results due to the improved recovery from surgery, good vessel quality and lack of co-morbid illness. However the approach is distinct from routine microvascular tissue transfer in the adult population.

Poster Number- 90 Abstract No- 261 **NASOLABIAL FLAP UNDER LOCAL ANESTHESIA A SURGEON'S CHOICE AMONG HIGH RISK CASES AT DISTRICT LEVEL**

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Introduction: Lip cancer is a common entity in India as tobacco & gutkha chewing is highly prevalent. Surgery is the mainstay of the treatment and includes wide excision of tumor with reconstruction of the lip using different types of flaps. In addition, medical illnesses like hypertension and diabetes make such candidates high risk for anesthesia. This is particularly true for rural India where plastic surgeons are not easily available. Nasolabial flap is a versatile flap which can be done with ease by Surgical Oncologists.
Case report: We are presenting a case of Squamous cell carcinoma of lower lip with Ischemic Heart Disease having ejection fraction of 22%. It was a large ulcerative tumor involving almost 2/3 of lower lip. Both oral commisures were not involved. No neck nodes were involved. It was a high risk case for general anesthesia. Being large lesion, a larger flap was required for reconstruction. The Patient was managed with wide local excision and bilateral nasolabial flap reconstruction under local anesthesia.
Discussion and Conclusion: Bilateral Nasolabial flap reconstruction under local anesthesia is an excellent choice for large lip tumors among elderly patients with co-morbidities, especially at district level.

Poster Number- 91 Abstract No-266 **USE OF 3D IMAGING/PRINTING FOR MANDIBULAR RECONSTRUCTION FOLLOWING TUMOR ABLATION**

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Introduction: Mandibular reconstruction is needed for continuity defect followingpartial resection. Reconstructionaims at the maintenance of proper esthetics,symmetry of the face, preserving the form and the strength of the jaw and allow achievement of good functional result in the form of dental rehabilitation. Vascularized bone grafts are considered to be the "standard of care" for mandibular reconstruction. It is reported with high success rate of up to 95% of bone incorporation and dental implant osseo-integration. However, non-vascularized bone grafts can be also be used for reconstruction procedures.With the advent of newer technologies, the patients reporting with diseased jaws have high expectations from the operating surgeon. This poster highlights the technique of 3D imaging/printing and its application in Oral and Maxillofacial Surgery after tumor ablation.
Methods: Comprehensive Review of existing literature
Results and Conclusion: Reconstruction procedures can be significantly optimized with the use of standard computerized tomography (CT)3-D reconstruction as well as 3-D anatomic models. It is possible to interact with these tools making it easier to - understand morphology of bone, perform osteotomies, assist the extent of pathologic defect and preparation of cutting guides and consoles to produce simpler and accurate contour of bone grafts thereby reducing the total operating time. All the above can be carried out virtually on the 3-D images and physically on the 3-D models.

Poster Numbe -92 Abstract No-277 **LINGUAL PLATING TECHNIQUE FOR MANDIBLE RECONSTRUCTION**

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Introduction: Reconstruction of mandible following ablative surgery for cancer involve soft as well as hard tissue. Plates are used to give contour and give stabilised fixation of donor bone with recipient site. These plates are often

known to cause problems after radiation. Thus, we introduce method of fixing plates on lingual side instead of buccal thereby overcoming such problems
Methods: 5 patients that have undergone segmental resection of mandible with neck dissection are included in the study. 2mm continuous titanium plates were fixed on lingual side and follow-up 2 years post radiation therapy was taken.
Results: The results are quite superior compared to conventional techniques. Especially in case of central arch resection cases. In one of our case the plate got fractured and plate was removed. Rest of all patients were fine without any functional problems.
Conclusion: The lingual plating system is technically difficult but results are superior then conventional techniques. In cases with central arch resections this method gives excellent functional results.

Poster Number -93 Abstract No- 291 **3D PRINTING TECHNOLOGY AND MODELS IN MICRO-VASCULAR RECONSTRUCTIONS AND REHABILITATIONS**
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3 d printing technology is changing the way we address the difficult situations in Head and neck reconstruction and rehabilitation. The ultimate aim of maxilla mandibular bone reconstruction is to rehabilitate with dentition. It is not only important but critical to design the bone shape, size, angulations and curvature so that it can support the placement of dental implants. This study critically evaluates utility of 3d technology in ischemia time of flap; accuracy of bone design, esthetic outcome, functional rehabilitation and time saved in operation theatre. 3 d printed models are extremely effective in customizing implant guides for placement of implants in reconstructed maxilla/mandible with free vascularised bone flaps.The ischemia time has reduced to 20-30 minutes from 80-90 minutes in complex reconstructions it has helped in reverse planning and accurate functional bone reconstruction rather than esthetic reconstruction only. O.T. time has reduced by 50-60 minutes. This study discusses our experience in 45 cases.

Poster Number-94 Abstract No-320 **A Gift of Life- Microvascular Reconstuction of A Massive & Rare Salivary Neoplasm In A Toddler**
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INTRODUCTION: Sialoblastoma is a rare salivary gland tumor that recapitulates the primitive salivary gland anlage. The authors herein report a case of microvascular reconstruction of a massive sialoblastoma arising from the left parotid gland in an 18 months old female toddler. The child presented with a firm nodular mass on the left side of face with dilated veins, surface ulceration and left facial palsy, which had originally appeared and progressively enlarged since the age of 9 weeks. Superficial parotidectomy was performed at the age of 2 months but the tumor recurred within a month.
METHOD: Radical parotidectomy was performed on the left side with posterior segmental mandibulectomy under general anesthesia. Post resection defect included skin of left side of face from the preauricular region till nasal alae anteroposteriorly and from the zygomatic arch till the submandibular region cranio-caudally. Reconstruction was accomplished with a free anterolateral thigh flap based on septomusculocutaneous perforators arising from descending branch of lateral circumflex femoral artery. Microvascular revision was performed 8 hours postoperatively due to arterial thrombosis. Post revision the flap was healthy and patient was discharged uneventfully on the 8th day after surgery. The major challenges faced in facial reconstruction of a toddler were massive size of defect, composite nature of defect, minute vessel calibre (in the range of 0.2-0.3mm), requirement of multiple anastomotic revisions due to frequent vessel spasm and subsequent thrombosis.
RESULT: Patient was healthy with no recurrence at 6 months follow up.
CONCLUSION: Sialoblastoma is a rare, aggressive and potentially malignant salivary gland tumor of childhood. An early aggressive surgical excision is essential for long term disease control alon gwith prolonged periodic follow up. Pediatric microvascular reconstruction can be very challenging due to small vessel calibre & tendency of frequent vessel spasm may require multiple anastomoses in order to ensure flap survival.

Poster Number-95 Abstract No-359 **COMPARATIVE ANALYSIS OF LOCAL, LOCO-REGIONAL AND FREE FLAPS FOR RECONSTRUCTION AFTER ABLATIVE ORAL CANCER SURGERY – OUR EXPERIENCE**

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Background: Surgery has remained the mainstay of treatment for oral cancers since long. The surgical procedure undertaken for treating the cancer has to be extensive so as to prevent the recurrence of the tumor. But such ablative procedures leave the surgeon with defects which are a challenge on their own. It is easier to resect but it is much more difficult to repair. A variety of flaps have been used for reconstruction depending upon various factors. There is a mix of local, loco-regional and free flaps which are used for reconstruction. At our institution we get 100s of cases of oral cancer per year and we offer surgical treatment to a range of patients having carcinoma from stage 1 to stage 4. This study is carried out in our department for comparing the outcomes of various flaps used.

Material and Method: This ongoing study comprises of 73 local flaps, 135 loco-regional flaps and 51 free flaps and our assessment of their success and failures. All the patients with oral cancers which were operated in our department since 2012 were included in this study.

Results and Discussion: Out of all the flaps, free flaps were the best for any defect repair may it be soft tissue defect or a bony defect supporting the dictum of reconstructive surgery of "like should replace like". Though free flaps gave the best result there is also a downside to this in the form of time consumed and expertise involved. In a resource poor nation like ours it becomes very difficult to spend so much time on each and every patient when the waiting list keeps on piling up owing to a high incidence of oral cancers. Loco-regional flaps though cosmetically and functionally not so appealing remains the workhorse for reconstruction. Local flaps were mainly employed for small defects and as a salvage option after free flap failures otherwise when used as a primary modality the results are not convincing.

Conclusion: All the flaps have their own set of advantages and disadvantages but as per our experience we would rate free flaps to be the best followed by loco-regional flaps and local flaps mainly reserved for flap failure salvage.

Poster Number – 96 Abstract No – 368 **COMPLICATION OF PECTORALIS MAJOR MYOCUTANEOUS FLAP (PMMC –FLAP)-10 YEAR EXPERIENCE**

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PMMC flap is the major workhorse in advanced oral cancer post resection defect reconstruction.We haven't seen any flap necrosis. The common complication is suture dehiscence. We encountered two patients with plural injuries. One patient recognized during surgery and ICTD inserted. Another patient had surgical emphysema at the time of extubation and ICTD inserted. So the plural breach should be recognized immedsiately. We never had donor morbidity. The flap dehiscence settles with meticulous oral care.

Poster Number-97 Abstract No-396 **USE OF BI-PADDLED FREE RADIAL ARTERY FOREARM FLAP FOR TRISMUS CORRECTION- A CASE SERIES**

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Introduction: Trismus is a debilitating condition which hampers an individual's function and quality of life. Trismus is often seen with oral submucous fibrosis, post oral cancer ablation or post radiotherapy. A number of techniques have been described for correction of trismus, one among them being the use of free radial artery forearm flap. At our institute we have treated 8 patients with trismus with band release and bipaddled radial artery forearm flap (BPRAFF). This study discusses the functional outcomes in these patients.

Material and methods: This study retrospectively analyses the 8 patients treated for trismus at our institute with BPRAFF. The cause of trismus, preoperative mouth opening, size of the skin paddle, post operative mouth opening and complications have been analysed.

Results: The causes were OSMF (n=4), OSMF with malignancy (n=2), post RT fibrosis (n=2) in Intra-op mouth opening of 30-35mm was achieved. Mouth opening improved in all the patients who underwent BPRAFF.

Conclusion: BPRAFF is a good option for reconstruction after trismus release. Reconstruction of bilateral buccal mucosa requires two flaps. Use of the bipaddled technique avoided the use of a second donor site and its associated morbidity. Consequently it also reduced the operating time.

Poster Number-98 Abstract No-375 **COMPARISON OF ISLANDED FACIAL ARTERY MYOMUCOSAL FLAP VS RADIAL ARTERY FOREARM FREE FLAP IN THE RECONSTRUCTION OF SMALL TO MEDIUM SIZE TONGUE DEFECTS**

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Introduction: Carcinoma of tongue is one of the most commonly encounterd malignancy by head neck onco surgeons. Reconstruction following ablative procedures on tongue remains a challenge. Restoration of a mobile organ like tongue needs careful planning and execution. Options to restore lost tongue ranges from primary closure, local flaps and microvascular free flaps. we share our experience of restoring tongue with local flap (islanded FAMM) vs free flap (RAFF).

AIM: To compare the outcomes of reconstruction of small to medium sized tongue defects with islanded FAMM and RAFFF flap.

OBJECTIVES: 1) To assess functions - speech and swallowing 2) Marginal mandibular nerve functioning between RAFF vs FAMM 3) Pre operative vs post operative mouth opening- FAMM patients 4) Economic feasibility

MATERIALS AND METHODOLOGY: The study was done from 15th january 2015 to 25th april 2016 in the departmentt of Head neck oncosurgery at Vps Lkeshore hospaital.Study included 35 patients, diagnosed with squamous cell carcinoma of tongue. Small to medium sized tongue defects patient wereselected and randomized into two groups of patients .Patients were evaluated at six weeks -post opertively. Speech was assesed by Ali Jung Yousuf National Institute of speech and Hearing Scale. Swallowing was assessed based on the ability to eat semi solids or solids. Marginal mandibular nerve functions were assessed using house brackmann scale.

RESULTS: In FAMM group- 2 patients developed venous congestion in the flap as facial vein was not included in the flap, among which one flap settled eventually and another flap was lost. Trismus was seen in two patients post operatively due to inadequate physiotherapy. In RAFF group-3 patients had to be re explored in RAFF Arm due to venous congestion. Skin graft was partly lost in two patients at donor site. Overall stay in the hospital was longer in RAFF arm and overall expenses were higher in this arm. Perception of taste was better in the FAMM group as compared to RAFF arm

CONCLUSION: We conclude from this study that islanded FAMM flap is better to radial forearm free flap for reconstruction of small to medium sized tongue defects as the former is easier to harvest, adequate bulk, pliable tissues,less technique sensitive, instant mucosal surface availability, minimal donor site morbidity and economical.

Poster Number- 99 Abstract No-385 **SURGICAL MANAGEMENT OF ORAL CANCER–OUR EXPERIENCE**

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Oral cancer is the sixth most common cancer worldwide, with a high prevalence in South Asia. Tobacco and alcohol consumption remain the most dominant etiologic factors, however HPV has been recently implicated in oral cancer. Surgery is the most well established mode of initial definitive treatment for a majority of oral cancers. The factors that affect choice of treatment are related to the tumor and the patient. Primary site, location, size, proximity to bone, and depth of infiltration are factors which influence a particular surgical approach. Surgery thus remains the mainstay of management of a majority of neoplasms arising in the oral cavity with adjuvant radiotheraphy and chemotheraphy. In this presentation I would like to share our experience of oral malignancies treated with surgery and reconstruction of defects with different flaps.

Poster Number- 100 Abstract No-392 **SECONDARY MAXILLO - MANDIBULAR RECONSTRUCTION: A SURGICAL CHALLENGE**

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Background: Though much have been studied and discussed about maxillo-mandibular reconstruction, very few published literatures have looked into the options of secondary reconstruction. A secondary reconstruction is defined as when it is done at a later stage after the primary healing has occurred post injury which may be trauma, surgery for a benign or malignant disease or debridement following any infective disease provided no active disease exists. The purpose of this study is to report the reconstructive options and outcomes in such cases.

Methods: Retrospective review of 23 consecutive patients who underwent maxillo- mandibular secondary reconstruction in tertiary care referral hospital. Clinical and operative details were analysed from the electronic medical register system. A cross sectional study of the functional and aesthetic outcomes is also reported.
Results: Of the total, 13 patients were males and 10 were females.10 patients had malignant tumours, 9 had benign conditions and 4 cases were post trauma. There was a previous history of different extents of maxillectomy in 7 patients and mandibulectomy in 11 patients. 7 patients had radiotherapy and 4 had chemotherapy as a part of their previous primary treatment. 9 patients were operated less than one year post the primary injury(surgery/trauma/debridement) and remaining 14 cases were operated post one year primary injury.
Staged secondary reconstruction was done in 3 of these patients who had complex maxilla mandibular defects. A total of 27 free flaps were used which included double free flaps as well as staged procedures and one patient had local forehead flap. Free Fibula flap was the commonest bone flap used(17) and Radial artery Forearm flap and Anterolateral thigh flap was the commonest free soft tissue flap used. Majority of the patients had ipsilateral vascular anastomosis. Total of 6 flaps were re explored of which 3(11%) were lost. 5(21%) patients have prolonged hospital stay (>2 weeks). Dental rehabilitation was done only in 6(26%) patients.
11(45%) patients could be followed up at the end of this study and all were alive and disease free at the time of follow up. Speech was normal/near normal in all of these patients. 8 of these patients could tolerate unrestricted diet FOIS=7) and rest 3 were tolerating soft diet. Majority of the patients (90%) scored good on visual analogue Score for aesthetic satisfaction.
Conclusion: Secondary maxillo - mandibular reconstruction remains a surgical challenge. Free flap surgery has helped to attain good results and free fibula flap is the workhorse and a reliable option in this reconstructive venture. Both functional and aesthetic outcomes were satisfactory.

Poster Number-101 Abstract No-398 **AVERTING THE FAILING FLAPS A REVIEW OF THE HISTORICAL AND TECHNICAL ADVANCES**
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Reflection
11/11/2016, Friday A.M
I was doing a Morning day surgery theatre list, I had 5 paediatric pts and an adult pt on my list for that day. I hadchecked all the pts and we started the list by 9 A.M …. By 11:30 am we had finished 3 cases and we were waiting for the 4th patient to come from the ward. I was waiting in the coffee room, when one of the anaesthetist came rushing to inform me about paediatric patient bleeding from the mouth, in recovery after the extraction. I rushed immediately to the recovery to examine the patient.
9-year-old male, who had UR6, UL6 and LL6extraction 15mins ago had been bleeding and the anaesthetist was suctioning to keep the airway clear. anaesthetist informed that he is still bleeding.O/e, pt was not extubated yet, there was dental pack from theatre still in the mouth and anaesthetist was suctioning to keep the airway clear. I suctioned the oral cavity to locate the source of bleeding and it was the ul6 socket which was bleeding. I straight away asked them to get nurse from theatre to bring surgical and suture,however there was no sufficient light in recovery and from the anaestheticfeedback, I thought it would be safe to deal in theatre so it was decided to take the patient back to theatre .I put the pack in and I rushed to theatre to inform the staff and to keep the surgicel, suture and suction ready. As soon as the patient was bought to theatre we scrubbed in again and suctioned the oral cavity again and packed the socket and sutured the socket wit 4 0 vicryl . I also checked the other sockets to make sure there was nobleeding. I packed the other sockets with surgical and sutured the ur6 socket. We waited again and rechecked the sockets and made sure bleeding had completely stopped.Anaesthetist was happy to take him back to the recovery. I documented the incident and thanked all the colleagues for all the support provided.
I finished the other 2 cases and then went to see the patient again. I also spoke to patient'smother and told about the situation and how we had managed it. I reassured her.
Following the incident, I reflected on the situation
I consideredpatient's medical history that could lead to bleeding but there was no related significant medical history and he was not on any medication. The procedure was atraumatic. Following the extraction, I had placed a dental take away pack and primary haemostasis was achieved.
When I saw the patient in recovery, the take away pack was dislodged and the socket was repeatedly suctioned and this did not help to achieve primary haemostasis.
I understand that in paediatric population even a small blood loss is significant and it could be detrimental.

What different I could have done -
- Waited for bit longer and check the bleeding again.
- Packed/Sutured the socket.
- Gone to recovery to check on the patient
- Communicated to the anaesthetic/recovery team
- Could have managed the bleeding in recovery (but there was no proper light and access to other instruments and anaesthetic/recovery team felt that this should be done in theatre)
- Personal action plan: Anticipate such incidents.
- Place suture/surgicel as prophylactic measure.
- Check on patients in recovery. Communicate to anaesthetic and recovery staff.

Poster Number-102 Abstract No-401 **DONOR SITE MORBIDITY IN FREE FIBULA GRAFT - A FIVE YEAR STUDY**

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Reconstructive Surgery In Head And Neck Oncology Has Advanced By Leaps And Bounds. One Of The Most Widely Used Flaps Is The Free Fibula Microvascular Flap. Though A Highly Dependable Technique, Donor Site Problems Are Common Ranging From Paresthesia To Ischemia Of The Lower Limb. We Look At Our Practice Over The Last 5 Years In A Total Of 50 Patients Who Have Undergone Fibula Graft For Reconstruction. The Complications, treatment And The Results Will Be Discussed In This Paper.

Poster Number – 103 Abstract No- 402 **PROSPECTIVE EVALUATION OF SHOULDER FUNCTION AFTER MODIFIED RADICAL NECK DISSECTION WITH PRESERVATION OF SPINAL ACCESSORY NERVE**

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INTRODUCTION: Loss of shoulder function due to resection of the spinal accessory nerve (SAN) and denervation of the trapezius muscle is the most important complication of the traditional radical neck dissection which can be prevented by modified radical neck dissection (MRND). Despite preservation of spinal accessory nerve during modified radical neck dissection, electrophysiological changes and alterations in functions might be seen in the areas of innervations of nerve in shoulder muscles. The present study included patients who underwent unilateral MRND and compared the shoulder function using goniometer and electromyography (EMG) with opposite normal shoulder which served as control. The purpose of the present study is to assess the range of the shoulder movements and EMG findings of trapezius muscle.

MATERIAL AND METHODS: Ten patients were included in the study underwent MRND. Functional movements of shoulder measured with a Goniometer at postoperative period of 1, 3 and 6 month. EMG recordings were recorded during maximum contractions atpostoperative 1, 3 and 6 month.

RESULTS (TABLE 1-4) The difference in flexion, abduction, external and internal rotation was significant in the statistical analysis of the operated and control side at 1 and 3 month follow-up. All movements almost came to normal at 6 month postoperative follow-up and differences were non-significant. Decrease in amplitude on operated side relative to the control side was observed with significant difference at postoperative 1and 3 month follow-up but difference was non-significant at 6 month.

CONCLUSION: The study concludes that despite preservation of SAN, EMG changes and alteration in movements of shoulder is seen, which are reversible but take a couple of months to return to norma

TABLE 1: MEAN COMPARISON OF POSTOPERATIVE SHOULDERFUNCTION OF OPERATED vs CONTROL GROUP PATIENTS AT 1ST MONTH

FUNCTION	OPERATED GROUP(N=10)	CONTROL GROUP (N=10)	STATISTICAL SIGNIFICANCE
FLEXION	143.2 ± 16.34	168.7 ± 11.37	<0.001 VHS
ABDUCTION	126.7 ± 18.95	161.8±14.80	<0.001 VHS
INTERNAL ROTATION	65.9 ± 6.17	72.5 ± 5.64	<0.05 S
EXTERNAL ROTATION	46.2 ± 5.82	56.1 ± 2.23	<0.001 VHS

TABLE 2: MEAN COMPARISON OF POSTOPERATIVE SHOULDER FUNCTION OF OPERATED vs. CONTROL GROUP PATIENTS AT 3RD MONTH

FUNCTION	OPERATED GROUP(N=10)	CONTROL GROUP (N=10)	STASTISTICAL SIGNIFICANCE
FLEXION	153.7 ± 12.58	170.3 ± 9.17	<0.001 HS
ABDUCTION	139.6 ± 15.15	161.8 ± 14.21	<0.001 HS
INTERNAL ROTATION	69 ± 6.27	73.9 ± 5.78	>0.05 NS
EXTERNAL ROTATION	50.6 ± 6.32	56.6 ± 2.41	<0.05 S

TABLE 3: MEAN COMPARISON OF POSTOPERATIVE SHOULDER FUNCTION OF OPERATED vs. CONTROL GROUP PATIENTS AT 6TH MONTH

FUNCTION	OPERATED GROUP(N=10)	CONTROL GROUP (N=10)	STATISTICAL SIGNIFICANCE
FLEXION	166.8 ± 10.37	171.5 ± 7.87	>0.05 NS
ABDUCTION	153.9 ± 16.44	164.2 ± 12.95	>0.05 NS
INTERNAL ROTATION	71.6 ± 5.87	74 ± 4.92	>0.05 NS
EXTERNAL ROTATION	54.2 ± 4.58	56.8 ± 2.14	>0.05 NS

TABLE 4: MEAN COMPARISON OF OPERATED vs. CONTROL GROUP PATIENTS POSTOPERATIVELY EMG VALUES

DURATION	OPERATED GROUP (N=10)	CONTROL GROUP (N=10)	STATISTICAL SIGNIFICANCE
1ST MONTH	975.6 ± 445.87	1672.4 ± 246.33	<0.001 VHS
3RD MONTH	1133.3 ± 459.86	1688.5 ± 289.41	<0.01 HS
6TH MONTH	1422 ± 386.85	1728.8 ± 317.90	>0.05 NS

Poster Number 104 Abstract No-413 **THE CURRENT PRACTICE OF FREE FLAP MONITORING IN THE UK ORAL AND MAXILLOFACIAL UNITS**

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Introduction and Aim: Free flap reconstruction is the best surgical option for reconstruction of head and neck surgicaldefects. The free flap success rates are more than 95%. This high rate is due to availability of new flaps,better surgical techniques, innovation in instruments and technological advancements in monitoring which enabled usearly recognition and prompt salvage procedure. The purpose of this study is to understand the trend in current practice of free flap monitoring in the UK Oral and Maxillofacial units.

Methods: A questionnaire survey was designed and sent by email to all the Oral and maxillofacial units in the UK. The questionnaire included information about if they do free flap surgery in their unit, who and how often the free flaps are monitored, do they have a flap monitoring protocol, technique used to monitor, do they have resident surgeons, did the team receive any formal training or teaching in free flap monitoring,do patients stay in ITU post operatively, is it two consultant lead procedure, are they extubated immediately and are the patients fed overnight?

Results: Clinical assessment, surface Doppler, implantable Doppler, spectroscopy,micro-dialysis, fluorescence angiography, contrast enhanced duplex, video based application and activatedclotting time are available methodsfor free flap monitoring. Among these implantable Doppler has been demonstratedto as an effective tool in flap monitoring and early detection of vascular compromise. This in turn improvesflap salvage rates. The Doppler probe attached to the venous out flow is shown to improve the earlyrecognition and improve salvage rate. We present and discuss our data from the questionnaire and compare to other available studies in the literature.

Conclusion: Use of technology and careful post-operative monitoring, early detection and appropriate surgical interventions can lead to improvement in overall free flap survival rate

Poster Number - 105 Abstract No- 416 **MICROSURGICAL FREE FLAP RECONSTRUCTION IN HEAD AND NECK DEFECTS IN BANGLADESH PERSPECTIVE**

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Many Oral and Maxillofacial surgeons have been inspired to enter the field because of the reconstructive aspects of this speaciality. This aspect of oral and maxillofacial surgery has continued to grow through the use of new and innovative techniques such as navigation, virtual surgery and microvascular techniques. These many different type of insults to the human body that can result facial defects. These include trauma from motor vehicles accident, high velocity weapons and blunt objects. Surgical resection o the diseased tissue due to neoplasms,infections, necrosis is commonplace in the field of medicine and dentistry. Many of these defects involve both hard and soft tissue are challenging to reconstruct. They require not only surgical skill but also knowledge of the normal and abnormal anatomy, knowledge of various surgical techniques and available technologies that can improve outcomes. Various local and distant flaps remains valuable tools in the reconstruction of small head and neck defects but large defects need various microvascular free flaps reconstruction to fulfill functional and aesthetic challenges of the defecs. In Bangladesh oral cancer is one of the most prevalent cancer. After surgical resection of these late staged cancer patients needs free flap reconstruction. In Bangladesh with limited facilities and shortage of trained persons in microsurgical field really a challege for free flap reconstruction.

CLINICAL RESEARCH

Poster Number-106 Abstract Number-4 **INFLUENCE OF MARGINAL AND SEGMENTAL BONY RESECTION ON LOCAL CONTROL OF ORAL SQUAMOUS CELL CARCINOMA INVOLVING THE MANDIBLE.**

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Background and objective: Marginal or segmental resection of bone are often required for tumour removal in oral squamous cell carcinoma patients to secure adequate margin. The present study aim to evaluate the surgical outcome and post operative complication of both group of patients and also assess the local control of the disease in the oral cavity.

Patients and Methods: In this prospective study, a total of 32 patients (age 25 to 56 years) attending in Oral and Maxillofacial surgery department of Dhaka dental College and Hospital were evaluated from September 2008 to August 2010 periods. Twenty patients underwent marginal and 12 patients had segmental resection of the mandible for treatment of Oral Squamous Cell Carcinoma (OSCC) involving the lower jaw.Comparison was done at post operative days with close monitoring of primary site of the lesion, pathologic tumour stage, presence of mandibular invasion, pathologic cervical lymph node stage and feature of post operative morbidity and other complications.

Results: According to this study, the mandible was involved in 83.3% of patient with segmental resection and 15% of patients with marginal resection. . Buccal mucosa was mostly involved site in marginal group (60%) and retromolar trigone was highly involved site with segmental group (41.7%). Mandibular invasion was significantly more in segmental group ($p<0.05$). Soft tissue surgical margins were positive in 4 patient (20%) in the marginal group and in 3 patients (25%) in the segmental group. Negative neck lymph node was found in 2o (63%) cases and positive neck node was found in 12 (37%) cases, of which four patients, including 2(15%) cases in themarginal group and 2(8.3%) cases in the segmental group was died in two years of follow up. Speech difficulty,Trismus and mastication problems were found higher in segmental than marginal resection group. No significant different was observed between two groups for oncologic surgical margin clearance.Changes of facial appearance in the segmental group were significantly higher than marginal group.

Conclusion: This study concluded that marginal resection of mandible is oncologically safe for patient with oral squamous cell carcinoma in the early stage. It also highlights the surgical margin status and bone invasion as the most important predictor of post operative complication and local control of the patient with oral squamous cell carcinoma.

Poster Number-107 Abstract Number-8 **TEMPORARY MADIBULOTOMY ACCESS PROVIDES SUPERIOR LOCAL CONTROL AND DFS COMPARED TO TRANS-ORAL RESECTION IN PT2 TONGUE CANCERS: A SINGLE INSTITUTE EXPERIENCE**

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Introduction: The surgical approach in the resection of oral tongue cancers can involve trans-oral resection (TOR) or Temporary mandibular osteotomy(TMO); the method of choice many times depends on individual surgeon's preference in overall management of the patient. There are no guidelines and the oncological safety of TOR needs consideration.We investigated either of methods in pT2 oral tongue cancers for cancer outcome.

Patients and methods: Demographic, surgical and histology data of primary pT2 tongue cancers from a tertiary hospital was charted and evaluated in a multivariate cox regression for local recurrence(LR), disease free survival(DFS) and overall survival(OS).

Results: A total of 166 pT2 patients with primary oral squamous cell carcinoma of tongue treated from 2007 to 2013 fulfilled the inclusion criteria, of whom 95 patients underwent TOR and 71 TMA. The group comparison showed significantly higher patients with perineural spread and pN positive status in TMA group, involved margin on initial resection was significantly higher in TOR patients, adjuvant post-operative radiotherapy (PORT) was preferred in TMA group in line with high pN positive status. The multivariate cox regression showed significantly high LR and low DFS

in TOR group despite stratification of adjuvant PORT. The initial survival rate of 93.85% fell to 82.19% by 5 years in TOR group, while, the initial survival rate relatively remained constant in TMA group (94.39 to 93.04% by 5 years). **Conclusion:** TMA provided superior local control and DFS compared to TOR in pT2 tongue cancers

Poster Number-108 Abstract Number-15 **SALIVARY POOLING: IS IT SPECIFIC TO PARTICULAR REGIONS IN ORAL SUBMUCOUS FIBROSIS?**

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Abstract: Despite extensive research, the pathophysiology of oral submucous fibrosis (OSMF), a premalignant condition that primarily affects the mucosa, is still unclear, although the chewing of areca nut is known to be the primary cause. While a clear association exists between areca nut and OSMF, very little has been published on the reason for its sporadic incidence in the mouth. Many authors have suggested the site where quid is habitually placed, but this fails to explain multiple sites in those who chew on one side. We hypothesised that the pattern of salivary pooling might affect the distribution of OSMF by carrying the chemicals responsible for mucosal damage. In our study of 174 patients, we evaluated the sites where quid was habitually placed and the areas of salivary pooling, and their association with the incidence of OSMF. Most chewers (136/174, 78%) placed the quid in the buccal vestibule, although other sites were also used including the vestibule of the lip, tongue, and floor of the mouth. The standardised residuals suggested significant associations ($p < 0.001$) between salivary pooling and OSMF, and indicated that salivary pooling affects the mucosal surfaces where it occurs. Our results show that the quid is not the only cause of OSMF. Salivary pooling also has an important role and provides a possible mechanism for the sporadic incidence of the condition. This is the first study to evaluate salivary pooling as a contributory factor in OSMF, and it may help to explain the pattern of distribution. Further work is needed in this area to understand the association more fully.

Poster Number – 109 Abstract Number – 24 **EVIDENCE ON ROLE OF CHEMOTHERAPY IN HEAD NECK OSTEOSARCOMA**

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Background: Osteosarcoma is an aggressive bone malignancy rarely presenting in head and neck sites, the trials for extremity osteosarcoma show improved survival by chemotherapy. The head and neck osteosarcomas (HNOs) were excluded in these trials because of atypical presentation and disease course. Further, sufficient numbers were not possible for a trial.
Objectives: We present a largest retrospective study from single institute investigating the role of chemotherapy in the management of HNOs.
Methods: The retrospective cohort of HNOs treated from 2007 to 2015 of a tertiary hospital were charted. The therapeutic and prognostic factors were analyzed for overall survival (OS), disease free survival (DFS), local control (LC) and metastasis (MT) in univariate and multivariate analysis.The minimum and median period of follow up was 12 monthsand 4.67 years.
Findings: There was a total of 157 patients definitively treated with surgery in the time period. 7 patients had positive margins and all were maxillary or skull base tumors. The multivariate cox regression showed significance of tumor site(p=0.034), margin status(p=0.006), chemotherapy(p=0.025), histological subtype(p=0.012) as predictors of overall survival. The margin status(p=0.002), Radiotherapy(p=0.005) were significant predictors for local recurrence. The age and histology subtype(p=0.058) were borderline significant predictors of metastasis(p=0.065).The KM method for OS of different chemotherapy groups(p=0.013), and survival with and without chemotherapy (p=0.007) was significant. The OS was significantly better withadjuvant chemotherapy among various treatment plans(p=0.034).
Conclusion: Chemotherapy improves OS of HNOs. A random multi institute trial is needed to achieve better results.

Poster Number-110 Abstract Number-27 **APPLICATION OF A NEW CLASSIFICATION OF CHIMERIC ANTEROLATERAL THIGH FREE FLAPS**

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Background: The anterolateral thigh free flap is one of the most commonly used flaps in reconstructive procedures. However, the classification of anterolateral thigh chimeric flap has not been reported. As recent reports have described a new classification to resolve this clinical problem, the purpose of this study was to assess this newly classification of chimeric anterolateral thigh free flaps.

Methods: Between December 2014 and October 2016, 20 patients underwent free anterolateral thigh chimeric free flap reconstruction of the defects in head and neck region. Summarized the anatomic features of perforators, such as the number and origin of the perforators.

Results: According to the anatomic features and regularity of perforators, 20 cases of femoral anterolateral double island flaps were divided into 3 types: trunk type (type I), 3 cases (15.0%), in which the perforators of two flaps originated in descending branch and horizontal branch of lateral femoral circumflex artery respectively; branch type (type II), 15 cases (75.0%), in which both the perforators originated in descending branch or horizontal branch of lateral femoral circumflex artery; bifurcation type (type III), 2 cases (10.0%), in which two perforators originated in the bifurcation of one perforator that originated in descending branch or horizontal branch of lateral femoral circumflex artery. All 20 flaps survived and no showed partial necrosis.

Conclusions: The anterolateral thigh chimeric flap could be divided into 3 types: trunk type (I type), branch type (II type), bifurcation type (III type). This classification is a practical clinical classification.

Keywords: Chimeric anterolateral thigh flap, Free flap, Classification, Head and neck

Poster Number-111 Abstract Number-32 **CLEAR CELL CARCINOMA OF JAW BONES- A RESEARCH STUDY**

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Clear cell odontogenic carcinoma (CCOC) is one of the rare benign but locally invasive odontogenic tumours in oral cavity. Literature review suggests that it is more common in anterior region of mandible and has a predilection for females with 45 cases reported in literature. In 1992 WHO defined Clear Cell Odontogenic Tumor as "A benign but locally invasive neoplasm originating from odontogenic epithelium and characterized by sheets and islands of uniform, vacuolated and clear cells."Subsequent reports of their aggressive behavior, predilection for local recurrence, evidence of pulmonary and lymph node metastases and tumor-related deaths necessitated a change in their classification and nomenclature and is now called CCOC.This paper reports the surgical management of a Clear cell odontogenic carcinoma of maxilla & mandible with case reports done by the author,recent advances in surgical management with review of literature.

Poster Number-112 Abstract Number-33 **CORRELATION OF PHYSICAL EVALUATION AND MRI OF CERVICAL LYMPH NODES WITH HISTOPATHOLOGICAL FINDINGS IN ORAL SQUAMOUS CELL CARCINOMA: AN AMBIDIRECTIONAL STUDY OF 125 NECK LEVELS IN 101 CASES**

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Introduction: Squamous Cell Carcinoma accounts for more than 90% of all oral cancers. The presence of lymph node metastases has a major impact on the prognosis of the patients with head and neck cancers. The assessment of neck remains a difficult challenge. The aim of this study was to evaluate cervical lymph node enlargement in patients with a biopsy diagnosis of Oral Squamous Cell Carcinoma using pre-operative physical evaluation and MRI findings and its correlation with post-operative histopathological data.

Methods: An Ambidirectional Observational study of 125 Necks in 101 cases with biopsy proven Oral Squamous Cell Carcinoma were evaluated through physical examination for regional lymph node enlargement, radiological examination using MRI which included assessment of: short axis diameter, grouping and central nodal necrosis of cervical lymph nodes and were correlated with histopathological data.

Results: The diagnostic validity of cervical lymph nodes on physical evaluation was 65% sensitivity, 70.59% specificity, 50.98% PPV, 81% NPV, 68.80% accuracy and on MRI evaluation was 56.63% sensitivity, 90.47% specificity, 92.15% PPV, 51.35% NPV and 68% accuracy.

Conclusion: This study concluded that the cervical lymph nodes less than 20mm in the long axial diameter on clinical evaluation, with the absence of central nodal necrosis on MRI evaluation, with short axial diameter of less than 23mm on MRI and with the absence of grouping around the drainage area of the primary site of the tumor on MRI had a probability of 89.58% being benign. A diagnostic criteria was also developed.

TABLES: Gross tabulature of 125 neck levels in 101 cases:-

			MRI			
PALPATION	SIZE(mm) Long Axis	Interpretation	SAD	CNN	GROUPING	MRI INTERPRETATION
A	<10mm	Benign	<10mm	A	P	Equivalent
P	10-15mm	Metastatic	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	A	Absent
P	10-15mm	Metastatic	<10mm	P	P	Present
P	10-15mm	Metastatic	<10mm	P	P	Present
P	10-15mm	Metastatic	25mm	P	A	Present
A	<10mm	Benign	13.8mm	P	A	Present
P	15-20mm	Metastatic	15mm	A	A	Present
A	<10mm	Benign	<10mm	A	A	Absent
P	10-15mm	Metastatic	12mm	A	A	Present
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
P	15-20mm	Metastatic	15mm	A	A	Present
P	10-15mm	Metastatic	<10mm	P	P	Present
P	10-15mm	Metastatic	<10mm	P	A	Present
P	16mm	Metastatic	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
P	16mm	Metastatic	<10mm	P	P	Present
A	<10mm	Benign	<10mm	A	A	Absent
P	15-20mm	Metastatic	15mm	P	P	Present
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
P	10-15mm	Metastatic	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
P	30mm	Metastatic	30mm	P	P	Present
P	10-15mm	Metastatic	<10mm	P	P	Present
A	<10mm	Benign	<10mm	A	P	Equivalent
P	15-20mm	Metastatic	17.3mm	A	A	Present
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	11mm	A	A	Present
A	<10mm	Benign	<10mm	A	A	Absent

A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	17.8mm	A	P	Present
A	<10mm	Benign	16mm	A	P	Present
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	14mm	A	P	Present
A	<10mm	Benign	15mm	P	P	Present
P	30mm	Metastatic	26mm	P	P	Present
P	30mm	Metastatic	22mm	P	P	Present
A	<10mm	Benign	12mm	A	P	Present
A	<10mm	Benign	22mm	A	P	Present
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	40mm	P	P	Present
A	<10mm	Benign	60mm	P	P	Present
P	10-15mm	Metastatic	14mm	A	P	Present
A	<10mm	Benign	19mm	A	P	Present
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	P	Equivalent
P	10-15mm	Metastatic	11mm	A	P	Present
A	<10mm	Benign	11mm	A	P	Present
A	<10mm	Benign	<10mm	A	A	Absent
P	10-15mm	Metastatic	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	23mm	A	P	Present
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
P	10-15mm	Metastatic	11mm	A	P	Present
A	<10mm	Benign	<10mm	A	P	Equivalent
P	10-15mm	Metastatic	<10mm	A	A	Absent
P	10-15mm	Metastatic	<10mm	A	P	Equivalent
P	45mm	Metastatic	44mm	P	P	Present
P	20mm	Metastatic	18mm	P	P	Present
P	10-15mm	Metastatic	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
P	10-15mm	Metastatic	11mm	A	P	Present
P	10-15mm	Metastatic	12mm	P	P	Present
A	<10mm	Benign	12mm	A	P	Present
P	10-15mm	Metastatic	<10mm	A	P	Equivalent
A	<10mm	Benign	13mm	A	A	Present

P	15-20mm	Metastatic	15mm	P	P	Present
P	2cm	Metastatic	15mm	P	P	Present
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	12mm	A	P	Present
A	<10mm	Benign	12mm	A	P	Present
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	15mm	A	P	Present
A	<10mm	Benign	12mm	A	P	Present
A	<10mm	Benign	15mm	P	P	Present
A	<10mm	Benign	15mm	P	P	Present
A	<10mm	Benign	<10mm	A	A	Absent
P	10-15mm	Metastatic	13mm	A	P	Present
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	P	Equivalent
P	10-15mm	Metastatic	11mm	A	A	Present
A	<10mm	Benign	17mm	A	A	Present
A	<10mm	Benign	<10mm	A	P	Equivalent
P	10-15mm	Metastatic	<10mm	A	P	Equivalent
P	40mm	Metastatic	21mm	P	P	Present
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	<10mm	A	P	Equivalent
A	<10mm	Benign	12mm	A	P	Present
A	19mm	Metastatic	<10mm	A	P	EQUIVALENT
A	8mm	Benign	<10mm	A	P	EQUIVALENT
P	43mm	Metastatic	20mm	P	P	Present
A	5mm	Benign	<10mm	A	P	EQUIVALENT
A	<10mm	Benign	<10mm	A	P	EQUIVALENT
P	<10mm	Metastatic	11mm	A	P	Present
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	15mm	A	P	Present
A	7mm	Benign	<10mm	A	P	EQUIVALENT
A	<10mm	Benign	<10mm	A	P	EQUIVALENT

A	<10mm	Benign	<10mm	A	P	EQUIVALENT
A	12mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	A	Absent
A	<10mm	Benign	<10mm	A	P	EQUIVALENT
P	35mm	Metastatic	<10mm	A	P	EQUIVALENT
P	30mm	Metastatic	<10mm	P	P	Present

Poster Number –113 Abstract Number-35 **EVALUATION OF MANDIBULAR INVOLVEMENT IN ORAL SQUAMOUS CELL CARCINOMA – A CLINICO-PATHOLOGICAL & RADIOLOGICAL APPRAISAL**

Tanmoy G

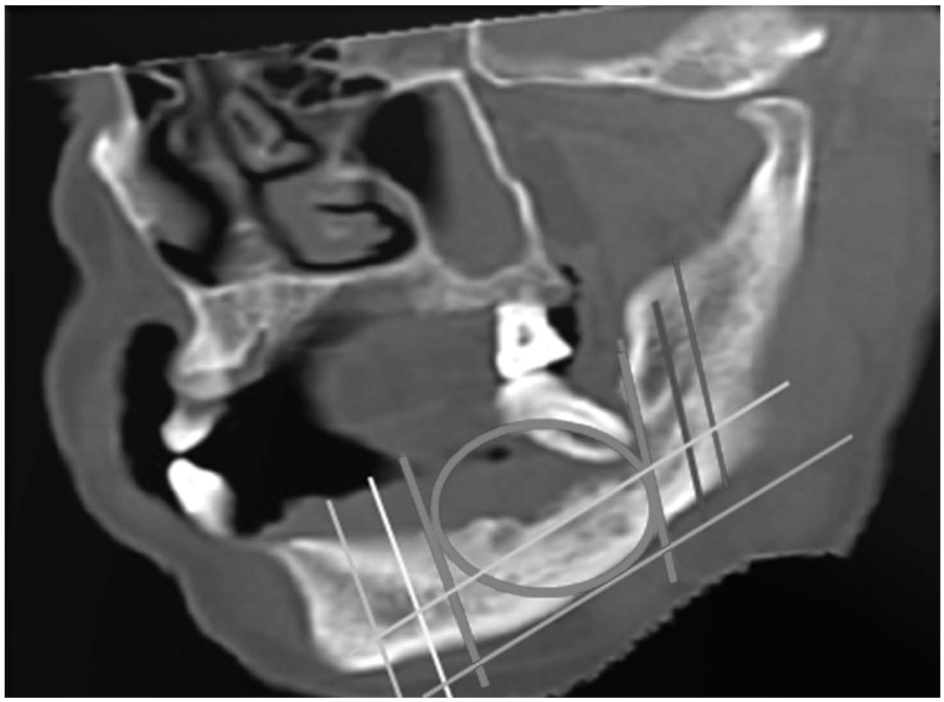
Department of Oral & Maxillofacial Surgery, Guru Nanak Institute of Dental Sciences & Research, Kolkata, West Bengal, India.

Introduction: There is a great deal of controversy regarding the appropriate method of management of oral squamous cell carcinoma (OSCC) that invade the mandible. Preoperative imaging offers several advantages, however, no single modality are accurate.

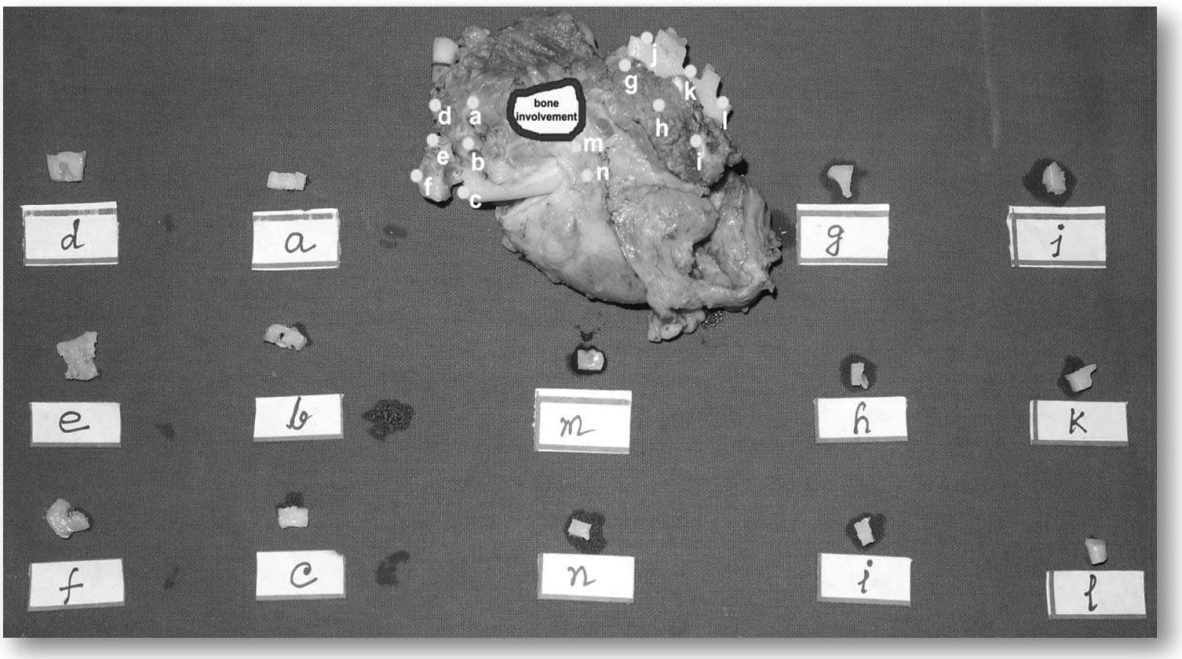
Methods: A detailed clinical examination, preoperative biopsy & imaging modality (CT scan) of mandible for bone invasion were performed in 14 selected cases suffering from OSCC. In CT scan several points & their Hounsfield values were taken in a anterior & posterior aspect as well as inferior aspects of the lesion (bony extent) over the normal bone at a pre-designed distances & bone biopsy were taken from those selected points to determine the presence of tumor cells or not after the surgical resection. The pattern of invasion & involvement of inferior alveolar nerve (IAN) were also evaluated out from the main specimens.

Result: From the pre-designated 14 points/regions, it showed that except in a case, all regions of all cases were found to be negative. There was no involvement of IAN & all were infiltrative patterns.

Conclusion: This study showed that CT scan has emerged as a reliable preoperative investigation modality. Resection 2 cm beyond CT margin in antero-posterior direction provides an oncologically safe margins . Also provides some prediction between marginal vs segmental mandibulectomy & Hounsfield Units (HU values) below 170 were treated as within the lesion & finally no modality can predict involvement of IAN preoperatively.



Determination of bony margins & predesignated points in CT scan



Specimens taken for H/P evaluation

Poster Number-114 Abstract Number-39 **PREDICTIVE VALUE OF PAKT/PTEN EXPRESSION IN ORAL SQUAMOUS CELL CARCINOMA TREATED WITH EGFR ANTIBODY-BASED CHEMOTHERAPY**

Guo W, Jiong L, Hao S, G R, Chenping Z

Department of Oral and Maxillofacial & Head and Neck Oncology, Ninth People's Hospital Shanghai Jiaotong University School of Medicine.P.R.China

Introduction: Molecular alterations in downstream effectors of epidermal growth factor receptor may confer resistance to epidermal growth factor receptor inhibitors. Our aim is to investigate whether PTEN/pAKT expression predicts response to EGFR antibody-based chemotherapy in oral squamous cell carcinoma with advanced stage.

Patients and Methods: We analyzed a cohort of 110 patients with oral squamous cell carcinoma treated with EGFR antibody -based induction chemotherapy. PTEN expression and pAKTexpression were assessed by immunohistochemistry and their correlation with treatment outcome was analyzed.

Results: Of the study patients, 18.5% had low PTEN expression, and 38.9% had high pAKT expression. Lower pAKT expression were associated with pathologic remission (P =0 .035) and better disease-free survival (P =0 .032).

Conclusion: Our study demonstrates that pAKT expression perhaps is a predictive biomarker of EGFR antibody -based induction chemotherapy in OSCC.

Poster Number-115 Abstract Number-45 **THE IMPACT FACTORS ON 5-YEAR SURVIVAL RATE IN PATIENTS OPERATED WITH ORAL CANCER**

Kim U, Song J, Geum D, Choi N, Oh J, Lee J

Dept. of Oral and Maxillofacial Surgery, Pusan National University Dental Hospital, Yangsan, South Korea

Introduction: This study is to analyze clinically impact factors on survival rate and to acquire basic clinical data for diagnosis of oral cancer, for determination of treatment plan for long-term survival in oral patients.

Patients and Methods: Through retrospective review of medical records, the factors for long-term survival rate were analyzed. The group was extracted from the patients within study criteria that were to be taken for a follow-up for more than 5 years among oral cancer patients to be treated in the Department of Oral and Maxillofacial Surgery, Pusan National University Hospital from March 1998 to March 2008. The analyzed factors were gender, age, drinking,

smoking, primary tumor site, type of cancer, TNM stage, recurrence of affected region, and metastasis of cervical lymph node. The 5-year survival rate on impact factors was calculated statistically using the Kaplan-Meier method.
Results: For 10 years, the records of 37 selected patients were reviewed in this study. By gender, men was accounted for 64.9%, female was 35.1%. In this study, the most common primary tumor sites were the tongue with 11(29.7%) cases and lower alveolar ridge with 11(29.7%) cases. By classification of clinical TNM, there were 11(29.7%) cases for stage I, 11(29.7%) cases for stage II, 3(8.1%) cases for stage III, 12(32.5%) cases for stage IV. The 5-tear survival rate of total 37 patients was 75.68%. It was evaluated that the recurrence of cervical lymph node is the significant impact factor for the survival rate, because only 30% survival rate in recurrence case was existed.
Conclusion: The classification of clinical & pathological TNM stage, local recurrence after surgery, metastasis of cervical lymph node after surgery were analyzed as the most significant 3 factors.

Poster Number – 116 Abstract Number – 61 **A COMPARISON OF MANDIBLE PRESERVATION METHOD AND MANDIBULOTOMY APPROACH IN ORAL AND OROPHARYNGEAL CANCER: A META-ANALYSIS.**
Liu F, Sun C
Department of Oromaxillofacial-Head and Neck Surgery, Department of Oral and Maxillofacial Surgery, School of Stomatology, China Medical University, Shenyang, Liaoning, 110002, P.R.China
Introduction: This study aims to compare the prognoses outcomes of mandibular preservation method (MPM) and the mandibulotomy approach (MLA) in oral and oropharyngeal cancer (OOPC) patients.
Methods: We searched PubMed, Web of Science, EMBASE, Chinese BioMedical Literature Database (CBM), Cochrane Library, and clinicaltrials.gov up to September 2016 to identify the studies that compared the prognoses of the MPM versus the MLA in OOPC patients. Two authors individually extracted the data and performed quality assessment. The surgical margins, overall survival rate, total and local recurrence rates, fistula formation, and other functional outcomes were evaluated.
Results: Six studies with 309 patients were included in our analysis. No significant difference was found regarding the surgical margins, overall survival rate, total and local recurrence rates, and speech and tongue movement between the MPM and MLA groups. However, the MPM group showed a significantly lower fistula formation rate than the MLA group after the operation.
Conclusion: These findings suggest that the MPM may provide a similar clinical outcome to the MLA, but that the MPM has a lower complication rate in the treatment of OOPC patients.

Poster Number – 117 Abstract Number – 70 **NANOTECHNOLOGY IN CANCER: A NOVEL ALLIANCE**
Arora M [1], Dave [2]
[1] Professor, Department of Oral Pathology & Microbiology, SGT Dental College, SGT University Gurugram, Haryana INDIA, [2] Professor, Department of Oral Pathology & Microbiology, SGT Dental College, SGT University Gurugram, Haryana INDIA
Cancer therapies are currently limited to surgery, radiation, and chemotherapy. All three methods risk damage to normal tissues or incomplete eradication of the cancer. Nanotechnology offers the means to aim therapies directly and selectively at cancerous cells. Nanotechnology also has the potential to generate entirely novel and highly effective therapeutic agents and devices that may reduce toxicity as well as enhance the efficacy and delivery of treatments. As a result, the application of nanotechnology to cancer can lead to many advances in the prevention, detection, and treatment of cancer.
As with any new technology, the safety of nanotechnology is continuously being tested. The small size, high reactivity, and unique tensile and magnetic properties of nanomaterials—the same properties that drive interest in their biomedical and industrial applications—have raised concerns about implications for the environment, health, and safety.
The aim of this presentation is to advance our knowledge of this field of science and to understand the significant benefits that nanotechnology has to offer society, such as for cancer research, diagnostics, and therapy.

Poster Number – 118 Abstract Number – 71 **BIOPRINTING: AN AVENUE TO EXPLORE.**

Dave A[1], Arora M [2]

[1] **Professor, Department of Oral Pathology & Microbiology, SGT Dental College, SGT University Gurugram, Haryana INDIA**

[2] **Professor, Department of Oral Pathology & Microbiology, SGT Dental College, SGT University Gurugram, Haryana INDIA**

Bioprinting is an emerging innovative technology which requires attention. Basically it refers to printing of living cells via various methods so as to fabricate a biocompatible constructs. It has been employed in fields of biomedical research, pharmaceutics, in designing implants and in construction of prosthesis. A lot of interest is being developed in studies related to tissue fabrication, tissue and organ models for study. Attention is also being drawn towards the role of bioprinting in presurgical planning, in creating models for training & improving operative skills and also in field of cancer research.

Bioprinting helps in proving better picture of the cancer microenvironment .Creating such tumour models will help in better understanding of pathogenesis of tumours, metastasis, in surgical planning with3D printing, It can also be applied in the field of pharmacotherapeutics for drug screening so as to provide a patient with a more efficient drug therapy and improved treatment modality. This upcoming field is in need of research and integration of multidisciplinary studies, so that it becomes a more cost effective methodology.

The presentation is aimed at highlighting this field and to draw attention to this new challenging field which holds a promising role in field of cancer research.

Tissue ternative options in preclinical drug testin g[36]. A low- cost, reproducible model that mimics tumors, including the microenvironment, cell distribution and vasculature, would allow high-throughput drug screening prior to clinical trials as an efficient alternative to animal models. Such a bioprinted model has already been reported for cervical cance r[5]. Additionally, bioprinted models can be used to test other materials relevant to drug delivery, such as scaffolds for releasing signals [37] and polymer microspheres for biodegradation studies [38]. Although there is room for further innovation in bioprinting, this approach shows great promise for efficient generation of biomimetic tumor models to further advance and accelerate cancer research. A unique advantage of bioprinting compared to other microfabrication techniques is the ability to precisely control the spatial arrangement of cells and complex tissue architectures with ease [39–42]. The technology offers high throughput and excellent reproducibility, generating cancer tissue models which closely mimic the structure and function of tumors in vivo, including tumor heterogeneity and vascular structures. With rapid advances in bioprinting technology for cancer models, there is potential to expand our basic understanding of cancer and develop effective therapies

Poster Number- 121 Abstract No-73 **HISTOLOGICAL PATTERNS OF LYMPH NODES IN NECK DISSECTIONS OF ORAL SCC**

Ramu s

Dayananda Sagar College of Dental Sciences, Karnataka

Oral squamous cell carcinoma is the most common neoplasm and comprises of approximately 80% of the cancers occurring in the oral cavity. The regional lymph node metastases are the most important prognostic factor.

Regional lymph nodes are the first components of the immune system to react to tumour cells and their products. Regional lymph nodes are considered to have their primary function as anatomic barriers to the systematic dissemination of tumor cells and also in the immunological surveillance. The immune response can be assessed histologically in the draining lymph nodes. Thus microscopic examination of these draining lymph nodes is important to understand the immune system which controls the path and outcome of the malignant cells. It is a well-known fact that patients exhibiting varied morphological patterns of lymph nodes have differing reactive response towards the tumour.

Assessment of the patterns of reactivity of the lymph nodes is a reliable method to evaluate the host immune status and also an indicator of the cancer cells invasion. World Health Organization (1976) proposed a protocol for uniform assessment lymph node reactivity patterns which were sub-categorised as Lymphocyte Predominance, Germinal Center Predominance, Mixed Pattern and Unstimulated Pattern.

The present poster is aimed at the review of histological patterns of lymphnodes in oral squamous cell carcinoma.

Poster Number-120 Abstract No- 81 **LUGOL'S IODINE IN DETECTION OF EXCISION MARGIN OF SUSPICIOUS ORAL LESIONS**

Singh M, Rangaswamy S, Yumnam R

Rajarajeswari Dental College & Hospital; Banglore

Introduction: Lugol's iodine can be use in early screening and also can be used to identify the lesion margin and extension in suspicious oral lesions. Tissue glycogen content is related to the degree of keratinization. Glycogen content is inversely proportional to the degree of keratinization because glycogen plays an important role in keratinization. Iodine staining method is highly effective for obtaining a clear boundary and distinguishing severity of dysplastic changes of suspicious lesion depending on the staining of Lugol's solution.

Methods: A series of cases was done on 5 patients with oral white lesions who visit to the Department of Oral & Maxillofacial Surgery, Rajarajeswari Dental College & Hospital. Lesion area was irrigated with 0.9% saline. Margins of the lesion were determine. Area was irrigated with 20 ml of Lugol's iodine allowing a minimum of 30 seconds for staining to occur before aspirating excess fluid and the lesion area irrigated with 0.9% saline. Photographic recording was done to compare the margins of the lesion.

Results: The dysplastic tissue does not takes up the stain whereas the normal mucosal surface take up the stain which gives a predictable excision margins. Histopathology report of all five shows the margins clear of dysplastic cells.

Conclusion: The premalignant disease is much less readily distinguished clinically than invasive carcinoma. Even an expert eye can overlook malignant changes. Diagnostic aids can reveal these occult changes. Lugol's iodine has been claimed to have the diagnostic efficiency in detecting and defining adequate margins of the biopsy site.

Poster Number-121 Abstract No- 82 **ASSESSMENT OF THE SERUM AND TUMOR PROTEOME OF ORAL SQUAMOUS CELL CARCINOMA PATIENT NEGATIVE FOR TOBACCO, BETEL QUID AND ALCOHOL PROCLIVITIES: CASE STUDY**

Khowal S[1]*, Naqvi H.S[2], Monga S[3], Jain K S[1,4], Wajid S[1]*

[1] Department Of Biotechnology, Faculty Of Science, Jamia Hamdard, Hamdard Nagar, New Delhi – 110 062, India, [2]Molecular Diagnostics, Genetix Biotech Asia (P) Ltd., New Delhi – 110 015, India, [3] Department Of Ent, Hamdard Institute Of Medical Sciences And Research, Hamdard University (Jamia Hamdard), New Delhi – 110 062, India, [4] Department Of Biochemistry, Hamdard Institute Of Medical Sciences And Research, Hamdard University (Jamia Hamdard), New Delhi – 110 062, India

Oral squamous cell carcinoma (OSCC) constituting 95% of all forms of head and neck cancer have shown increased incidence rate during the past decade by 50%. Despite the nowadays available therapeutic managements, such as surgery, radiotherapy, chemotherapy or in combination, the five-year survival rate is still to be improved. The oral cancer therapeutics field exists with a vacuum needing potential therapeutic targets required for designing novel drugs possessing higher efficacy along with minimal to nil pernicious effects on the vital body organs, thereby elevating the life quality of oral cancer patients undergoing treatment as well as after the complete treatment regime. Also, there stands a quintessential need for recognizing the ongoing prognostic molecular disparities enabling the realization of oral cancer probability prior its establishment at histo-pathological levels or cellular levels. The present study involves proteomic analysis of the secretome (for prognostic and diagnostic targets) and OSCC proteome (for therapeutic targets) of an oral tongue cancer patient, non addicted to tobacco, betel quid and/or alcohol, by one and two dimensional gel electrophoresis. The protein spots showing disparities were characterized using MALDI-TOF-MS PMF technique followed with validation by Real Time PCR. In total eight proteins were characterized and validated. These proteins represent the crucial players involved in oral pathologies

Poster Number-122 Abstract No- 90 **METACHRONUS ORAL CAVITY CANCER–10 YRS EXPERIENCE**

Khunteta N

BMCHRC, Jaipur, India

Metachronus oral cavity cancer is seen in 16-36% of successfully treated head & neck cancer patients. The risk of development of a second head and neck malignancy among patients treated for head and neck cancers is 10-30 times higher than in the standard population.

We present our 10 years experience of Head & neck cancer patients completely treated, on follow up developed metachronus cancer.

Poster Number-123 Abstract No-107 **AKEY TO FUTURE PARADIGM SHIFT IN THERAPEUTIC APPROACH OF CANCER**

Gupta A, Palaskar JS, Narang RB, Kapoor P
Sinhgad Dental College and Hospital, Pune, India

Introduction: Over the last 10 years, cancer research has been increasingly shifted to the tumormicroenvironment (1).Extracellular Cellular Matrix (ECM)can mediate dual roles as tumor suppressors at the early stagesbut paradoxically as tumor promoters at the later stages of tumor progression (2). Collagen, the most important architecture of ECM can no longer be considered as a static and passive background upon which metastasis takes place (3). Few studies [Fan H. et al (2012), Bedal K. B. in (2014)], (4,5) have been done suggesting the stromal collagenous changes in tumor microenvironment. However, collagenous stroma in tumor margins has never been evaluated, which is the focal point of present study.

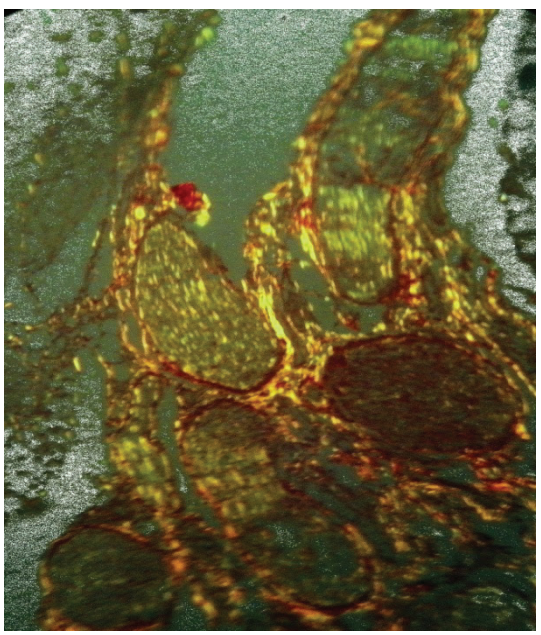
Methods: Resected tumor free margins of Oral Squamous Cell Carcinoma procured from Smt. KashibaiNavle Medical College, Narhewill be stained by Picrosirius Red. The stained margins will be analysed for their maturity based on colorunder Polarizing Microscope followed by quantification using specialized histopathological software. Post-operative follow up of the patient will be done for 3-5 years.

Results: Thin and immature collagen fibres will take up green color, intermediate will take up yellow to orange and mature and thick fibres will take up red color of picrosirius red stain. A hypothesis and classification has already been proposed based on intensive pilot study doneindifferent fields, correlating the percentage of type of collagen fibres and tumor prognosis.

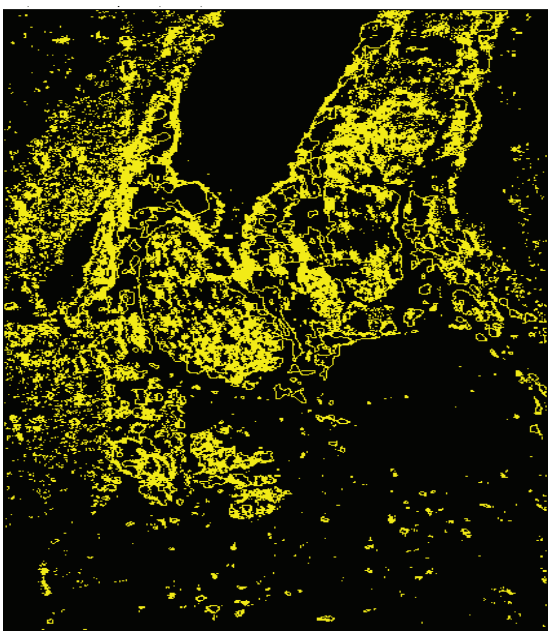
Colour hue of collagen fibers	**Percentage of fibers**	**Prognosis**
green-yellow	>=40%	poor prognosis
orange-red	< 60%	
green-yellow	20-40%	intermediate prognosis
orange-red	60-80%	
green-yellow	< 20%	good prognosis
orange-red	>= 80%	

Conclusion: Increased number of thin and immature collagen fibres will promote the tumor progression and metastasis which hence can be correlated with the grades of the tumor and further with survival rate of patients. This will bring a paradigm shift in the way OSCC is treated. New avenues will open up to create a plethora of tailor made techniques targeting the collagenous stroma of ECM.

The novelty has already been protected by filing a **Patent vide 201621035053.**



Original histopathological picturewith mix of both "mature" and "immature" fibers



Area covered by "immature" fibers

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Poster Number-124 Abstract No-115 **ROLE OF MYOEPITHELIAL CELLS IN PATTERNING IN ADENOID CYSTIC CARCINOMA.**

Natarajan S, Ravi M, Boaz K

Department of Oral Pathology and Microbiology, Manipal College of Dental Sciences, Mangalore, Light House Hill Road, Mangalore 575001, Manipal University, Karnataka, India

Introduction: Adenoid cystic carcinoma (ACC) accounts for 22% of the malignant tumours of minor and major salivary glands. ACC presents histologically as ductal/tubular, cribriform and solid islands indicating a multifaceted histogenesis of ACC. The cells involved in development of tumour are primarily the ductal and myoepithelial cells, the interaction of which yields the different patterns. The aim of the present study is to evaluate distribution of myoepithelial cells based on the expression of α-smooth muscle actin (α-SMA) in ACC and elucidate its role in histopathological patterning.

Methods Paraffin embedded sections of ACC were retrieved and stained with monoclonal α-SMA (Biogenex Laboratories). Expression of α-SMA was evaluated in the ductal/tubular patterns, islands and nests from 199 fields of ACC.

Results The results showed that α-SMA-positive cells lined the luminal surface of cribriform spaces and periphery of small islands. Expression was dispersed in large islands whereas the small nests showed complete positivity for α-SMA.

Conclusion In ACC, the pattern of expression of α-SMA supports the involvement of myoepithelial cells in epithelial organisation explaining the diverse histological patterns. The cribriform, tubular and solid architectural patterns that we observed in ACC were a result of varying proportions of myoepithelial cells and ductal cells. Larger islands failed in their attempt to form lumina resulting in cribriform spaces due to higher numbers of myoepithelial cells, while lesser numbers of myoepithelial cells resulted in solid islands. The tubular pattern results from fairly equal proportion of ductal and myoepithelial cells, whereas predominance of myoepithelial cells alone resulted in smaller nests. The poorer prognosis of the solid variant of the ACC could be attributed to lower proportion of myoepithelial cells that have inherent tumour suppressor and anti-angiogenic properties.

Keywords: α-SMA, myoepithelial cells, tumour patterning, Adenoid cystic carcinoma

Poster Number-125 Abstract No-120 **THINK BEYOND TRADITIONAL SELECTIVE SELECTIVE NECK DISSECTION**

Gondi TJ, Ilapakurthy B, Mortha S, Rao S, Rao SC, Rao ST

Basavatarakam Indo-American Cancer Hospital and Research Institute, Telangana, India

INTRODUCTION & OBJECTIVE: To assess the involvement of the submandibualr gland by the disease and to propose a modification in neck dissection in carcinoma tongue.

METHODS: A retrospective analysis of submandibular gland involvement by the disease process in carcinoma tongue who underwent neck dissection from July 2012-September 2016.

RESULTS: 534 patient charts were reviewed who underwent neck dissection in carcinoma tongue. 386 patients were male, 148 patients were female between the ages of 12 to 85 years with a range of 73 years. Submandibular gland involvement was found in four (0.7%) of the 534 neck dissections.

CONCLUSION: Submandibular gland involvement is unlikely in carcinoma tongue; hence, it can be preserved with meticulous lymph nodal dissection around the gland to improve cosmetic appearance if not gland function. We propose neck dissection with preservation of submandibular gland if it is not directly involved by the primary tumor or by gross extranodal spread of the lymph nodes that qualifies as functional neck dissection.

Poster Number-126 Abstract No-122 **PMMC IN PRESERVED MANDIBLE: WHY LESS OFTEN USED?**
Rao LMCS, Nemade HK, Mortha S, Ilapakurthy B, Rao ST
Basavatarakam Indo-American Cancer Hospital and Research Institute, Hyderabad
Introduction & Objective: To study the role and feasibility of the PMMC flap reconstruction in intact mandible for buccal mucosa and GBS tumour.
Material, Methods and Results: Our study included patients who were operated between July 2012 to Sept 2016 for carcinoma buccal mucosa/GBS with marginal mandibulectomy and reconstruction with PMMC flap. 153 patients underwent the above surgery and 114 patients received adjuvant therapy. None of the patient required revision reconstruction. Very few patients had minor complications and were managed conservatively. There was no delay in commencement of adjuvant treatment. Majority of the patients have acceptable cosmesis and mouth opening with minimal morbidity including donor site. With minimum 3 months and maximum 50 months follow up no patient presented with osteoradionecrosis.
Conclusion: PMMC flap reconstruction after marginal mandibulectomy is robust and cosmetically acceptable option with minimal complications.

Poster Number - 127 Abstract No-124 **THINK BEYOND TRADITIONAL SELECTIVE SELECTIVE NECK DISSECTION**
Gondi TJ, Rao LMCS, Mortha S, Ilapakurthy B, Rao T S
Basavatarakam Indo-American Cancer Hospital and Research Institute, Hyderabad, India
INTRODUCTION & OBJECTIVE: To assess the involvement of the submandibualr gland by the disease and to propose a modification in neck dissection in carcinoma tongue.
METHODS: A retrospective analysis of submandibular gland involvement by the disease process in carcinoma tongue who underwent neck dissection from July 2012-September 2016.
RESULTS: 534 patient charts were reviewed who underwent neck dissection in carcinoma tongue. 386 patients were male, 148 patients were female between the ages of 12 to 85 years with a range of 73 years. Submandibular gland involvement was found in four (0.7%) of the 534 neck dissections.
CONCLUSION: Submandibular gland involvement is unlikely in carcinoma tongue; hence, it can be preserved with meticulous lymph nodal dissection around the gland to improve cosmetic appearance if not gland function. We propose neck dissection with preservation of submandibular gland if it is not directly involved by the primary tumor or by gross extranodal spread of the lymph nodes that qualifies as functional neck dissection.

Poster Number -128 Abstract No-126 **TIME TO THINK BEYOND MARGINAL MANDIBULECTOMY?**
Gondi TJ, Rao LMCS, Nemade K.H, Fonseca Daphne, Rao S.T,
Basavatarakam Indo-American Cancer Hospital and Research Institute, Hyderabad
INTRODUCTION AND OBJECTIVE: To study the bone involvement in patients who underwent marginal mandibulectomy for carcinoma of buccal mucosa.
METHODS: A retrospective analysis of pathological bone involvement by the disease process in carcinoma of buccal mucosa who underwent marginal mandibular resection from July 2012-September 2016.
RESULTS: 178 patient's charts were reviewed who underwent marginal mandibular resection for carcinoma of buccal mucosa. Pathological bone involvement was detected in 46 patients (25.84%).
CONCLUSION: In about more than two thirds of the patients with carcinoma of buccal mucosa bone is pathologically free hence the alternate avenues for managing the mandible need to be explored. It is difficult to predict the tumour invasion into the mandible by oral cancer pre-operatively, and consequently the decision to preserve or sacrifice the mandible is largely individualistic.

Poster Number-129 Abstract No-129 **MICRORNA EXPRESSION AS PREDICTOR OF LOCAL RECURRENCE RISK IN ORAL SQUAMOUS CELL CARCINOMA.**

Ganci F[1], Sacconi A[1], Manciocco V[2], Sperduti I[3], Battaglia P[4], Covello R[5], Muti P[6,7], Strano S[8], Spriano G[2], Fontemaggi G[1], Blandino G[1].

Regina Elena National Cancer Institute, Rome, Italy

BACKGROUND: Oral squamous cell carcinoma (OSCC) is the sixth most common cancer worldwide with a high rate of recurrence. MicroRNAs (miRNAs) are gene regulators playing an important role in oral carcinogenesis. The purpose of this study was for us to identify and functionally characterize miRNAs that predict recurrence in OSCC.

METHODS: We collected 92 OSCC with their normal tissue counterparts and we performed miRNAs expression profiling on 74 OSCC and 38 normal tissues. The association between the expression of miRNAs and clinical outcome was evaluated in the follow-up of 69 patients.

RESULTS: Four of the miRNAs deregulated between OSCC and normal tissues are prognostic for recurrence either when considered individually or as a group. Depletion of the expression of prognostic miRNAs inhibit the proliferation of OSCC cells CONCLUSION: MiRNAs are differentially expressed in OSCC versus normal samples. The expression of 4 prognostic miRNA signatures is able to predict recurrence risk independently from other clinical factors in OSCC.

Poster Number-130 Abstract No-130 **THE ADVANCED BUCCAL MUCOSA CANCER INVOLVING MASTICATOR SPACE (T4B): NEW CLASSIFICATION ANDOUTCOME OF NEWER SURGICAL TECHNIQUE (COMPARTMENT RESECTION).**

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Introduction: The buccal-complex tumors with masticator space involvement (T4b) have variable outcome and are treated with different protocols ranging from conventional surgery, NACT-surgery, CTRT or palliative care.

Purpose: This study focuses on outcome for this group of patients after compartment surgical resection.

Method: All the advanced buccal-complex cancer patients treated at Narayana Multi-specialty Hospital,India, from March 2009-January 2014 formed the study-group. All these patients underwent compartment surgical resection and adjuvant therapy based on pathology report. Their charts were reviewed to evaluate oncological and functional outcome. The radiological findings were used to classify these tumors into three categories - Category I (low-medial pterygoid), Category II (intermediate-lateral pterygoid and plates) and Category III (high-pterygomaxillary fissure). The statistical analysis was used to correlate outcome (margin control, local control and DFS) between these categories.

Results: Total 85 cases had T4b buccal cancer. Fifty-nine (69.4%) patients were alive and disease free at median follow-up of 23.7months (range06-56 months). About21 (24.7%) patients died of disease.Local failure was in 16(18.8%). Regional failure in 19(22.4%) patients was seen. About five patients were lost to follow up.The local and locoregional control rateswere 81% and 77.6% respectively. The disease free survival and overall survival were 85% and 84% respectively. All the local recurrences-16 (18.8%) happened at skull base and intra-cranial compartment. 30 patients were classifiedin category I, 47 patients in category II and 8 patients in category III. 16 (18.8%) patients developed local recurrence, of which 4 were from category III and 10 from category II, only 2 from category I. Of the 80 patients who underwent functional evaluation, 71 had good quality of life.

Conclusions: Compartment surgery concept has potential to improve outcome, all patients should not be put in one group and category I & II have good outcome.

Poster Number-131 Abstract No-136 **ANALYSIS OF CONCOMITANT CHEMORADIOTHERAPY IN THE ADVANCED ORAL CANCER**

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Introduction: For the treatment of oral cancer,surgery may be the treatment of choice in resectable situation. However, in the patients with advanced oral cancer, only the surgical resection is not sufficient to expect a favorable outcome. Chemoradiotherapy showed improved survival rate in advanced oral cancer patients. And in the cases of positive resection margin or extracapsular nodal spread, it also can be used postoperatively. In this study, the clinical outcome of the definitive chemoradiotherapy or conjunction with surgery in the advanced oral cancer patients was analyzed.

Materials and Methods: This study was conducted in 30 patients diagnosed as oral cancer in the department of oral and maxillofacial surgery of Kyungpook national university hospital on 2009-2013. Patients' age, sex, onset region, type of cancer, complication, and the survival rate are evaluated.
Results and conclusion: The patients are 17 men and 13 women with an average age of 60.2 years. Eighteen patients are treated with definitive chemoradiotherapy and 12 patients are accompanied with surgical treatment. Most of patients account for squamous cell carcinoma and with the grade of stage IV. Thirteen patients survived until 2014 and a large number of patients have skin rash or oral mucositis during or after CCRT. In this study, we are to analyze prognosis and therapeutic effect of the patients treated with concurrent chemoradiotherapy.

Poster Number-132 Abstract No-139 **MORBIDITY OF SELECTIVE NECK DISSECTION: A CROSS-SECTIONAL ANALYSIS IN 106 PATIENTS**
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Background: Selective neck dissection (SND) is presently the standard of care in node negative Oral Cavity SCC. There are also published articles suggesting it for node positive necks. The objective of this study is to analyze the morbidity of SND in early stage Oral cavity Squamous cell carcinoma (OCSCC).
Methods: This is a cross-sectional study of 106 consecutive patients who attended the Head and Neck Clinic for follow up. All these patients either had T1 or T2 disease. 98 patients (92%) had oral tongue primaries. 93 patients (87%) were clinical and radiological node negative. Morbidity in terms of scar characteristics (complexion, texture, skin movement, soft tissue deficiency), cervical lymphedema, sensation, and shoulder dysfunction and smile asymmetry was analyzed. MD Anderson lymphedema scoring was used to assess neck lymphedema. Sensation from pre auricular, sternocleidomastoid (SCM), infraclavicular and supraclavicular areas were assessed within pin prick and fine touch. Shoulder dysfunction was assessed with Constant Shoulder Score (CSS). A univariate analysis was done to see the correlation of adjuvant therapy and free flap reconstruction with neck morbidity. Statistical analysis was done using SPSS 20. Kruskal-Wallis test and Chi square test was used to test statistical significance.
Results: Scar outcomes were inferior in terms of poor complexion in 15 patients (14.2%), poor texture in 25 patients (23.6%), and limited skin movement over the scar in 9 patients (8.5%), evident soft tissue deficit in 13 patients (12.3%) and lymphedema in 14 patients (13.2%). Cutaneous sensation was absent in 2,9 and 6 patients in the pre auricular, SCM and supraclavicular areas respectively. Smile asymmetry was seen in 29.2% of patients. Constant shoulder score was poor in 7.5% of patients. Patients who received adjuvant (RT/CTRT) had significant scar issues ($p=0.001$), lymphedema ($p< 0.001$) and sensory issues ($p=0.003$). But the difference in shoulder dysfunction and marginal mandibular nerve paresis was not significant in these patients. Patients with flap reconstruction had significantly more lymphedema ($p=0.019$).
Conclusion: SND in early OCSCC is not without morbidity. Smile asymmetry was the commonest problem. Patients receiving adjuvant treatment had significantly more morbidity related to the scar, lymphedema and sensation. This data may be a background to seek less morbid, but oncological safe neck staging procedures like Sentinel node biopsy.

Poster Number-133 Abstract No-181 **TOBACCO AND ALCOHOL ARE MORE IMPORTANT PREDICTORS THAN HPV STATUS IN OROPHARYNX CANCER SUBMITTED TO SURGERY IN AC CAMARGO CENCER CENTER SERIES**
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Introduction: Head and neck cancer comprehends approximately 10 to 12% of the cases among all malignant tumors from the upper aero digestive tract showing significant growth in frequency rate in the United States and Europe. HPV is associated to oropharynx cancer to 63% of the cases, with better specific and overall survival rates. Treatment of oropharynx squamous cell carcinoma, are surgery and chemoradiation adjuvant or chemoradiation alone, in HPV associated.
Objective: Estimate the importance of the presence of HPV on a surgical series of oropharynx cancer, on disease-free survival and overall survival.
Methods: PCR was the method used for detection of HPV, It has been estimated the prevalence of HPV and its corresponding 95% confidence interval.The disease-free survival timeline and the overall survival were estimated using the product limit estimator Kaplan-Meier and Cox proportional hazards model.

Results: Patients were aged between 34 and 78, showing an average of 56.9 years of age. There were 76 men and only 10 women. Most ofthem were white (83.7%). The main local is the tonsils in 69.8%. Clinical stagings III and IV were found to be the most common (71.4%). Extensive surgeries such as bucopharyngectomy were performed in 76 patients (88.4%). In order to treat ipsilateral neck dissection 81 patients underwent neck dissection (94.2%). Contralateral neck dissection was applied in 21 patients (24.4%). The prevalence of HPV was of 57%, and 16 was the most common type, presented in 83.6% of the cases. Smoking was the only association statistically significant, showed all nonsmoking having HPV. The disease-free survival rates were of 73.9%, 65.9% and 57.9% to 12, 24 and 60 months respectively. This study has shown statistical difference to the ones under 55 years of age and presenting compromised margins, with worse rates. HPV presence did not influence the disease-free survival or the overall survival. The overall survival rates were of 75.6%, 54.7% and 43.0% to 12, 24 and 60 months respectively. Worse rates were found in alcoholic patients.
Conclusion: In these surgical series, HPV association, was not an important factor when considering smokers and or alcoholic patients.
Descriptors: Human papillomavirus, squamous cell carcinoma, oropharynx

Poster Number – 134 Abstract No – 192 **CONDITIONAL RELATIVE SURVIVAL OF ORAL CANCER IN KOREA**
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Introduction: Conditional relative survival demonstrates the dynamic change in survival probability in regards of sustained survival. This study assessed the 5 year conditional relative survival (CRS)of oral cancer patients in Korean population and analyzed the factors that affected it.
Methods: We extracted oral cavity cancer patient (C00-C06) data from the Korea Central Cancer Registry, whom the patients were diagnosed between 1993 to 2013. CRS was calculated according to gender, age, subsites, histology and stage of cancer at diagnosis.
Results: Five year relative survival of oral cavity cancer was 57.2%. CRS of oral cavity cancer mostly increased during the first two years and reached a plateau, which was 86.5% after five years of survival. Female patients showed superior CRS than male (90.0% vs 83.3% at conditional 5 years survival). Patients under 65 showed superior CRS than those over (88.3% vs 86.1% at conditional 5 years survival). CRS differed significantly according to subsites (Mobile tongue 91% vs Floor of mouth 73.9% at conditional 5 years survival). Squamous cell carcinoma reached CRS of 87.3% compared to 85.5% for the other histologic types at conditional 5 years survival. Localized disease reached CRS of 95.7% compared to 82.9% for regional metastasis after 5 years of survival.
Conclusion: Oral cavity cancer patients benefitted from sustained survival in regards of CRS. CRS analysis revealed the temporal distribution of death risk in these patients, which differed by gender, age, subsites, histology and stage at diagnosis.

Poster Number – 135 Abstract No – 196 **ESTIMATION OF SALIVARY LACTATE DEHYDROGENASE LEVELS IN ORAL SQUAMOUS CELL CARCINOMA – A BIOCHEMICAL STUDY**
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Introduction: Early diagnosis and treatment of oral cancer can help reduce the morbidity and mortality associated with the disease. Oral health professionals can play a pivotal role in prevention of Oral cancer. Saliva has been used as a diagnostic tool for oral diseases because it is non-invasive, requires minimal training and can be used for the mass screening of large population samples.Lactate dehydrogenase enzyme (LDH) concentration in saliva could be a specific indicator for oral lesions that affect the integrity of the oral mucosa. The objectives of the present study were to estimate and compare the salivary LDH levels in Oral Squamous Cell Carcinoma (OSCC) patients and healthy controls.
Methods: A study was undertaken comprising 30 OSCC patients and 30 healthy controls.Unstimulated whole saliva was collected, assayed for LDHl evels using a standard kit and measured spectrophotometrically at 340 nm. The

OSCC patients were further grouped into well-differentiated,moderately differentiated and poorly differentiated OSCC based on their histological tumor differentiation.The results obtained were subjected to statistical analysis using Kruskal–Wallis and Mann–Whitney Utests.
Results: The results of the present study showed that the mean salivary LDH levels in the study and control group were 457.06±88.93 IU/L and 178.35±120.54 IU/L respectively, the difference of which was statistically significant ($p<0.001$). Spearman's correlation showed significant difference between salivaryLDHlevelsandhistological differentiation of OSCC ($r = -0.689$, $P < 0.01$).
Conclusion: Thesalivary LDH levelswerehigher in OSCCpatientswhen compared to the healthy controls.The salivary LDH levels were found to be the highest among the poorly differentiated OSCC.

Poster Number-136 Abstract No-197 **A CASE REPORT: NK/T CELL LYMPHOMA PATIENT WITH NON-RESPONSIVE OSTEOMYELITIS SYMPTOMS**
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Introduction: A 45 - year - old male patient visited the oral and maxillofacial surgery department of Chonnam National University Hospital. He was referred from local clinic for evaluation of unhealing extraction socket. With clinical examination, radiologic examination, nuclear medicine and biopsy, a diagnosis of osteomyelitis was confirmed. However, soft tissue regeneration was delayed until 2weeks and 2nd biopsy was performed and squamous cell carcinoma was diagnosed. We corrected the treatment direction according to the biopsy result and successfully performed the oral cancer surgery including the reconstruction after 2months from the first operation. However, with histopathologic examination of the cervical lymph node removed through neck dissection, extranodal NK-T cell lymphoma, nasal type were diagnosed. The patient was transferred and chemotherapy was started.
Extranodal NK/T-cell lymphoma, nasal type is rare non-Hodgikin lymphoma, predilection for the nasopharynx, palate, skin, GI tract, more prevalent in Asians, and strongly associated with Epstein-Barr Virus infection. Histopathologically, this lymphoma can sometimes be accompanied by florid pseudoepitheliomatous hyperplasia of the overlying epithelium, mimicking well-differentiated squamous cell carcinoma. But it can be differentiated by pathologic finding like angiocentric growth, invasion or EBV immunohistochemical staining. Treatment is in controversial, but early RT is the best treatment.
Extranodal NK/T-cell lymphoma, nasal type is rare in OMS territory, but we can encounter this disease. Hereby, we report a case of extranodal NK-T cell lymphoma nasal type with literature review and discuss the clinical manifestation, differential diagnosis, and treatment.

Poster Number-137 Abstract No-198 **RETROPSPECTIVE STUDY ON FACTORS AFFECTING THE PROGNOSIS IN ORAL CANCER PATIENTS WHO UNDERWENT SURGICAL TREATMENT**
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PURPOSE: To evaluation of the factors affecting the prognosis in oral cancer patients undergone surgical treatment.
METHOD: Between Novemver 2000 and October 2015, a total of 162 patients with primary oral cancer were identified and included in our study.
RESULTS: The most types of primary oral cancer is squamous cell carcinoma (76.7%) and second common type is adenoid cystic carcinoma(6.1%). Overall of 5-year survival rate is 74.8% and the common site of primary oral cancer is tongue and second common site is floor of mouth (17.6%). The most stage of primary oral cancer is stage IV. At Kaplan-Meier method, the survival rate of age group (<40 years), but there is no significantly, TNM stage I, negative neck node, no recurrence/metastasis is associated high 5-year survival rate.
CONCLUSION: Overall 5-year survival rate in SCC is 75% and significant factor associated 5-year survival rate was positive neck lymph node, N stage and incidence of recurrence/metastasis. Survival rates have been found to be low in patients who have been confirmed to have cancer at the floor of mouth, lower gingiva and retromolar area.

Poster Number-138 Abstract No-199 **LARGE CELL NEUROENDOCRINE CARCINOMA PRESENTED IN THE PAROTID GLAND: REPORT OF A CASE**

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Large cell neuroendocrine carcinoma (LCNEC) is a well-established entity in the family of malignant pulmonary tumors and is defined as a poorly differentiated and high-grade neuroendocrine tumor with morphological and biological features of atypical carcinoid and small cell carcinoma. Although this tumor commonly appears in the lung, it has been reported in various organs. However, LCNEC in salivary gland is rare and yet there has been no treatment recommendation because of its rarity.

A 71-year-old male patient who had swelling and tenderness on right parotid area visited Dept of Oral & Maxillofacial Surgery, Chonnam National University Hospital. Clinically, soft tissue mass on the right parotid area and neck nodes on the right submandibular area were palpable. Fine needle aspiration cytology (FNAC) result was necrotizing lymphadenitis, but followed incisional biopsy result was hyperplasia of salivary gland and chronic inflammation. Preoperative radiographic evaluation revealed lymphomatous lesion in parotid gland and metastatic lymph node on right neck. Total parotidectomy and radical neck dissection were done. Immunohistochemically the tumor presented features of LCNEC. Then patient was referred to Dept of hemato-oncology for chemotherapy and radiotherapy, but he refused to receive the therapies. 7 weeks after the surgery, radiographic evaluation and FNAC result revealed recurrence of the cancer.

Hereby, we report a rare case of large cell type neuroendocrine carcinoma with review of literature.

Poster Number - 139 Abstract No-201 **MANDIBULAR METASTASIS OF THE HCC: A CASE REPORT**

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Metastasis of HCC from primary sites to the lung, adrenal gland, and regional lymph node is common, while oral and intraosseous metastasis is very rare. Since the jaws do not contain any lymphatic vessel, most metastatic paths are hematogenous ways. Metastatic HCC to the jaws occurs most frequently in their 50s and 60s with the male predominance.

Although pain and swelling in the affected regions are the most common signs and symptoms, paresthesia of the lower lip and the chin has been occasionally reported. Treatment of the mandibular metastasis depends on the tumor type and the degree of metastatic spread. As the mandibular lesions are usually encountered in the context of widely disseminated areas, palliative treatment is recommended. Surgical treatment should be considered only when the solitary mandibular metastasis.

A fifty-three years old male patient visited Department of Oral and Maxillofacial Surgery in Chonnam National University Hospital with chief complaints of paresthesia and swelling of left mandibular region, and normal intraoral findings. The past medical history revealed that he is a carrier of HBV. He had been diagnosed as HCC, underwent Bisegmentectomy (2008), TACE (2009). After that, he showed metastasis to the skull, brain, lung, he underwent cranectomy (2009) in Y hospital. Additionally, he underwent radio and chemo therapy. We tried bone biopsy, but failed because of pulsating vessels. So we tentatively diagnosed as a central type hemangioma. During surgical excision, frozen biopsy of the lesion revealed that the result was the metastasis of HCC. So we additionally performed hemimandibulectomy, internal fixation with reconstruction plate and Lt SOHND and he made an uneventful recovery. Here, we report a rare case of mandibular metastasis of HCC and discuss the treatment and outcomes.

Poster Number-140 Abstract No-215 **DETECTION OF CERVICAL LYMPH NODE METASTASIS WITH MAGNETIC RESONANCE IMAGING IN HEAD AND NECK SQUAMOUS CELL CARCINOMA AND ITS CORRELATION WITH HISTOPATHOLOGICAL DIAGNOSIS: A PROSPECTIVE STUDY OF 12 CASES**

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Introduction: The presence of cervical lymph node metastasis and its identification is important for the treatment and prognosis prediction of head and neck squamous cell carcinoma. Clinical palpation is not satisfactory for the accurate diagnosis of cervical lymph node metastasis. Magnetic resonance imaging (MRI) has been increasingly used to evaluate the status of cervical lymph node. The primary objective of this study is to investigate the MRI features of

cervical lymph nodes metastasis of head and neck squamous cell carcinomas, and its accuracy to diagnose the presence of metastasis.
Methods: A Prospective Observational study which included evaluation of 56 nodal levels and 498 lymph nodes in 12 patients with head and neck squamous cell carcinoma were analyzed on MRI and compared with their histopathological diagnoses.
Results: Of the 498 lymph nodes in 56 nodal levels, 20(4%) lymph nodes were proved pathologically as metastasis, level II was the most commonly involved. False-positive and false-negative rates of MRI diagnoses were higher in levels I than in levels III, IV, and V. On MR images, Central nodal necrosis was seen in 20 nodal levels were proved histopathologically as metastatic nodes. Extracapsular nodal invasions in 8 nodal levels, Perineural Invasion seen in 11 nodal levels and Lymphovascular Invasion seen in 10 nodal levels . The diagnostic criteria of metastasis as the minimal nodal diameter of >/= 8 mm or central nodal necrosis. The diagnostic sensitivity was 87.50%, specificity was 75%, and disease prevalence was 66.67%.
Conclusion: The incidence of cervical lymph nodes metastasis head and neck squamous cell carcinoma is highest in level II. MRI diagnostic criteria of cervical lymph nodes metastasis are nodal size, central nodal necrosis, and irregular contour of lymph nodes were assessed. MRI accomplishes the criteria of the minimal nodal diameter being >/= 8mm for a metastatic lymph node and therefore may diagnose lymph node metastasis with optimum accuracy.

Poster Number- 141 Abstract No-220 **IMMUNOHISTOCHEMICAL EXPRESSION OF P63 IN ORAL PREMALIGNANT DISORDERS AND ITS CORRELATION WITH ORAL SQUAMOUS CELL CARCINOMA**
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Introduction: Oral squamous cell carcinoma (OSCC) represents 95% of all cancers of head and neck, and its incidence has increased by 50% in the past decade. Accumulation of genetic alterations (mutations, loss of heterozygosity, loss or gain of chromosome material) is the basis for the progression from a normal cell to a cancer cell. OSCCs are frequently preceded by oral potentially malignant disorders (PMDs).It is difficult to predict the malignant transformation of these PMDs. Thus early detection of genetic changes in PMDs can facilitate detection of those lesions, which may have potential to progress to malignancy. p63 is a protein coded by p63 gene which is a homolog of p53 gene. It has a critical role in cell cycle regulation and is associated with epithelial tumorigenesis. The present study aims to evaluate the role of p63 in carcinogenesis by its expression in PMDs (Leukoplakia, Oral submucous fibrosis and Lichen planus) and OSCCs using immunohistochemistry (IHC).
Aims and Objectives: To evaluate the expression of the p63 IHC marker in oral premalignant disorders and to compare its expression in OSCC.
Materials and Methods: Tissue sections of 105 cases of PMDs (35- Leukoplakia, 35- OSMF, 35- Lichen planus) and 35 cases of OSCCs will be stained for IHC marker p63. The percentage of positive cells and staining patterns will be assessed for all the lesions. The results will be statistically analysed using SPSS software.
Results and Conclusions: The results will be presented

Poster Number – 142 Abstract No – 221 **ROLE OF NEOADJUVANT CHEMOTHERAPY IN ORAL CANCER – OUR EXPERIENCE**
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INTRODUCTION: Neoadjuvant chemotherapy (NACT) for advanced oral cavity cancers has been used in practice for many years. In a review of relevant literature, the indications or actual benefits have not been clearly defined or elucidated; Over a period of time, at our institution, we have defined certain indications for NACT, set out the objective and noted the outcomes. This study documents this experience.
METHODS: This is a prospective study of 10 consecutive patients of locally advanced oral cancer treated with NACTat our institution from May 2016 to December 2017. Histologicallyproven disease was staged based on relevant imaging (CT or MRI scan). The indications for NACT were defined as extensive skin involvement, extensive tongue involvement necessitating a near-total or total glossectomy, and involvement of the infratemporal fossa and pterygoid

plates. Two cycles of chemotherapy (Taxanes, Platins, 5-Fluorouracil) were given; patients were re-imaged and evaluated before undergoing the appropriate definitve surgical resection. Post-resection histopathology reports were again evaluated and compared with previous imaging disease extent. All cases were evaluated and discussed at every point in time at our multidisciplinary tumour board meetings

RESULTS: From May 2016 to April 2017, 10 patients received NACT. Mean age of the patients was 44.5 years (range 30 – 65). 8 patients received 3 drug regimen whereas 2 patient received 2 drug regimen. Complete response was found in 4 patients, partial response in 4 patients and stable diseasein 2 patients. All patients underwent surgery with R0 resection status. Prechemotherapy imaging with regard to tumor size and extent and involvement of lymph nodes were compared with post chemotherapy imaging. These parameters were also compared between post chemotherapy imaging and histopathology findings. This study is accruing and will continue till April 2017 and results will be included in the final presentation for IAOO 2017.

CONCLUSION: This prospectivestudy will help in defining the indications of NACT in locally advanced oral cancers, associated benefits and implications in practice as well as form the basis of a future randomised clinical trial.

Poster Number – 143 Abstract No – 226 **A BATTLE WITH ORAL CANCER – ARE WE CLOSE IN DEFEATING THE MIGHTY?**

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The oral squamous cell carcinoma is the commonest malignancy in the head and neck region. Across the world more than 300,000 H&N cancer cases are reported each year and in India alone it is estimated to be more than 8000 new H&N cancer registered every year. Tremendous breakthroughsare achieved in understanding the biology of oral cancer, surgical techniques, precision radiotherapy and chemotherapy with newer drugs, hitherto the 5 year survival rate of patients has not reduced below 50% since past several decades. This paper attempts to share a little over a decade of experience in understanding the mighty oral cancer management as a beginner with passion and will to help the diseased.

Poster Number- 144 Abstract No- 247 **ANALYSIS OF SPREAD OF TUMOR ALONG THE MUCOCILIARY DRAINAGE PATHWAYS IN ADVANCED SQUAMOUS CELL CARCINOMA OF ORAL CAVITY INVOLVING THE MAXILLARY SINUS.**

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Introduction: locally advaced oral cavitySquamous cell carcinoma (OSCC) has a poor prognosis. Extension of disease into maxillary sinus merits total Maxillectomy. Despite achieving free margin of resection the survival is still poor. The mucociliary drainage along maxillary sinus mucosa might lead to spread of cancer along the pathway. We therefore analysed the patient of OSCC with disease extending to maxillary sinus.

Material & Method: This is a retroscpective study of a prospectively collected data of patients who underwent Maxillectomy in TMH from the year 2012 to 2014. The minimum follow up was 24 month. Total 30 patients of SCC who underwent Total maxillectomy with or without Ethmoidectomy were included. Patients undergoing ethmoidectomy were compared for survival and recurrence for those who did not. Univariate and multivariate analysis was done for all the factors using SPSS 21 software.

Result: The median follow up of the cohort was 26.5 months. The mean Disease free survival was 31 months. Post Maxillectomy 17 (56%) patients had recurrence. Maxillary sinus mucosa was involved in 16 patients. The total 7 out of 16 patients underwent ethmoid sinus clearance. The disease free survival of patients who underwent ethmoid clearance was 30 months compared to 25 months of those who did not. The mean recurrence rate for patients who underwent ethmoidectommy was 28.5% compared to 55.5% recurrence in patients who did not undergo ethmoid clearance.

Conclusion: Local recurrence is low in patients who undergo ethmoidectomy. The disease free survival is higher in patients undergoing ethmoidectomy. Needless to say a prospective study is warranted in conjunction with pathological examination to analyse the path of spread of tumor. Ethmoidectomy with total maxillectomy is warranted in patients with involvement of maxillary sinus mucosa.

Poster Number-145 Abstract No-265 **RECURRENCE OF ORAL CANCER IN RELATION TO PATHOLOGICAL FEATURES**

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Introduction: Oral Cancer is a common malignancy of head and neck region, we explore factors associated with the recurrence in relation to pathological features.

Methods & Results: A retrospective study done on patients operated for oral cancer from the year 2011-2014. A total of 210 cases who underwent surgery as a primary treatment. Out of which 51 cases excluded from the study. The outcome of 159 patients with squamous cell carcinoma of the oral/oropharyngeal mucosa treated by primary surgery and simultaneous neck dissection and followed up for a minimum of 2.1 years is reported and related to the pathological features of the tumour. The mean age was 49.9 years and 72.3% were males. Surgery was used as a single treatment modality in 159 patients 32 patients had Stage I lesions, while 34, 20, and 73 patients had Stage II, III, and IV disease, respectively. Recurrences are 8, 7, 5 and 29 respectively. Extracapsular spread (ECS) in the cervical lymph nodes is seen in 26(16.3%) cases of which recurrences are seen in 20 (76.9%) cases. Close margins are seen in 29(18.2%) cases out of which recurrences are seen in 14(48.2) cases. Out of 49 recurrent cases, local 12 cases, regional 9 cases, locoregional 3cases, second primary 11cases, Distant 14 cases. Perineural invasion (PNI) was seen in 10 (6.2%) cases, recurrences are seen in 7 (70%) cases. Lymph vascular invasion wasseen in 15 (9.4%) cases, recurrences are seen in 5 (33.3%) cases.

Conclusion: Most of the recurrences are seen in stage IV .Distant metastasis are associated with ECS spread. Stage I recurrences are mostly associated with closed margins. Second primaries are not commonly associated with any of the given parameters.

Poster Number-146 Abstract No-292 **ONCOLOGICAL OUTCOMES IN GINGIVOBUCCAL COMPLEX CARCINOMAS**

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Introduction: Gingivobuccal complex is the anatomical site which includes the following subsites as defined byPathak etal and Jalisi etal – Buccal mucosa, Gingivobuccal sulcus, Lower Gingiva, Retromolar Trigone. Such a heterogenous grouping requires subsite wise assessment of long term outcomes and possible prognostic factors.

Materials and Methods: A retrospective analysis was carried out from January 2011 to April 2016.

Results: Out of 320 files screened, 176 files were found to have complete data. Subsite wise distribution was as follows – Buccal mucosa (67.04%), GBS – 14.20%, RMT 12.5%, Lower alveolus 6.25%. TNM distribution was as follows – T1- 3.75%, T2 16.56%, T3 – 16.25%, T4 – 63.43%; N0 – 45.6%, N1 – 25.62%, N2a – 7.81%, N2b – 12.8%, N2c – 5%, N3 – 3.125%. 75% patients underwent surgrty followed by adjuvant radiotherapy, 5.68% patients received concurrent chemoradiation, 1 4.77% and 4.5% patients were managed by palliative radiotherapy and best supportive care, respectively. Overall survival and disease free survival for various subsites was –

Subsite	T1	T2	T3	T4
Buccal Mucosa	3Y – OS 49.41% DFS 49.41%	3Y- OS-64.9% DFS-52.%	3Y- OS 59.4% DFS- 62%	5Y- OS 51.7% DFS91.8%
RMT		3Y- OS-100% DFS- 100%	3Y- OS 100% DFS- 50%	5Y- OS- 83.11% DFS- 82.5%
GBS			5Y-OS- 72.1% DFS- 65.4%	2Y- OS 67.1% DFS27.2%
Lower Alveolus				3Y- OS- 48.48% DFS- 47.04%

Survival analysis for prognostic factors is as follows:

PROGNOSTIC FACOTOR	OS	DFS
Skin Involvement	2Y- 36.3%	2Y- 59.4%
Mandible Involvement	2Y- 42.3%	2Y- 64.9%
Skin + Mandible Involvement	2Y- 18.7%	2Y- 25.3%
PNI	3Y- 49.5%	3Y-31.8%
Margin Positivity	3Y- 30.3%	30.3%
ECS	3Y-25.9%	3Y- 33.5%
LVE	3Y- 51,2%	3Y-51.2%

Conclusion: Our study shows better survival outcomes in RMT followed by buccal mucosa, GBS and lower alveolus. Prognostic variables like both mandible and skin involvement, PNI, LVE, ECS and positive margins have poor outcomes on survival irrespective of subsite

Poster Number-147 Abstract No-304 **STINGBLADE: TARGETING THE SURGICAL SITE WITH STING AGONISTS TO CLEAR MINIMAL RESIDUAL DISEASE IN HEAD AND NECK SQUAMOUS CELL CARCINOMA**

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Introduction: Recently, we and others have demonstrated that novel agents containing cyclic dinucleotides (CDN), which activate the STimulator of INterferon Genes (STING), are strong inducers of type I interferon (IFN) and tumor necrosis factor-alpha (TNFα) and can cause rapid regression of a range of advanced tumors. We hypothesize that this approach may be used in combination with a biocompatible hydrogel as a strategy to boost immune-mediated tumor rejection of HNSCC following subtotal resection and thus reduce recurrence.
Methods: Immune competent FVB mice were challenged with SCCVII squamous cell carcinoma subcutaneously in the flank and subjected to partial tumor resection after 10 days. 20% of the tumor was left in place and treated with matrigel containing either phosphate-buffered saline (PBS) or CDN before wound closure. Some of these mice were also treated with anti-CD8 depleting antibodies immediately before resection to remove adaptive immune responses. These experiments were then repeated using the TC1 squamous cell carcinoma cell line in C57BL/6 mice, some of which were deleted for the genes for IFNAR1 or STING. Mice were followed for local tumor recurrence and wound healing was assessed.
Results: CDN-hydrogel prevented recurrence in 100% of the mice, whereas all of the mice treated with PBS-hydrogelrecurred. Control of recurrence was initiated by Type I IFN, was CD8 dependent, and depended on host, not tumor expression of STING and IFNAR1. Punch biopsies and incisional tensile strength assessed at various time points following surgery demonstrated no difference in wound healing between the CDN and PBL treated groups.
Conclusion: We have demonstrated in two preclinical models of HNSCC that the delivery of CDN-impregnated hydrogelsto a partial resection results in complete cure. This therapy requires direct administration to the tumor and may be a useful adjunct to surgery, either alone or combined with other immunotherapies for the treatment of HNSCC.

Poster Number – 148 Abstract No – 305 **THE "DRAWER-LIKE" RESECTION AND RECONSTRUCTION WITH TITANIUM MESH** : **A NOVEL SURGICAL TECHNIQUE FOR TRESTMENT OF GIANT OSSIFYING FIBROMA IN THE MAXILLA**

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Objectives: The Aim Was To Introduce A New Surgical Method For Treatment Of Ossifying Fibroma (Of) In The Maxilla With Dislocation Of Eyeball And Evaluate The Postoperative Outcomes And Prognosis.
Methods: The Study Included 6 Patients Of Maxillary Of Who Were Treated With The "Drawer-Like" Resection From 2013 Through 2015. The Surgical Procedure Was Total Removal Of The Orbital Floor And Majority Of The Maxilla With The Preservation Of Alveolar Ridge And Reconstruction With Titanium Mesh. Postoperative Appearance And Function Were Assessed And Recurrence Rate Was Statistically Observed.

Findings: Good Appearance And Reduction Of Eyeball Have Been Well Achieved In All The Patients. Long-Term Follow-Up Showed That The Recurrence Rate Was Low. It Needs To Be Emphasized That The Original Occlusal Relationship And The Masticatory Function Have Been Preserved.
Conclusions: With This New Method, The Original Occlusal Relationship Can Be Well Preserved, Meanwhile, Bulging Of Maxilla And Eyeball Displacement Have Been Corrected.
Key Words: Ossifying Fibroma; Radical Resection; Orbital Floor; Reconstruction

Poster Number -149 Abstract No-306 **'STUDY OF ASSOCIATION OF PREMALIGNANT LESION OF ORAL CAVITY WITH THE USE OF ARECA NUT IN THE STATE OF ASSAM, INDIA'**
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Purpose: In Taiwan several studies reported that areca nut may increase the risk of oral premalignant lesion. However in India, since most areca nut chewers prefer to take tobacco with the quid, it is difficult to comment the association of these diseases with the habits of chewing areca nut. In Assam and the other North East Indian states, where chewing areca nut is regarded as a social culture, we conducted a this study to know the association of oral premalignant lesion with the use of areca nut without tobacco.
Material and methods: This was a cross sectional study and oral screening was done in 2286 people, in different districts of state of Assam, India from, January 2007 to November 2007. 65 people were excluded as they only chewed tobacco without areca nut.
Results: We have screened 1146 male and 1140 female, a total of 2221 people. Out of 2221 people, 1485 (66.9%) chewed areca nut with tobacco, and 736 (33.1%) people only chewed areca nut. In the group of areca nut chewer without tobacco, there were 25 people who had premalignant lesions and 381 people had premalignant lesions in the oral cavity who chewed areca nut with betel nut.
Conclusions: Areca nut chewing is a risk factor for development of oral premalignant lesions and depends on frequency and duration of use of areca nut in Assam, India where people still considered it as social custom.

Poster Number – 150 Abstract No – 316 **3D VISUALISATION SUPPORTED RESECTION PLANNING IN CASE OF OSTEORADIONECROSIS**
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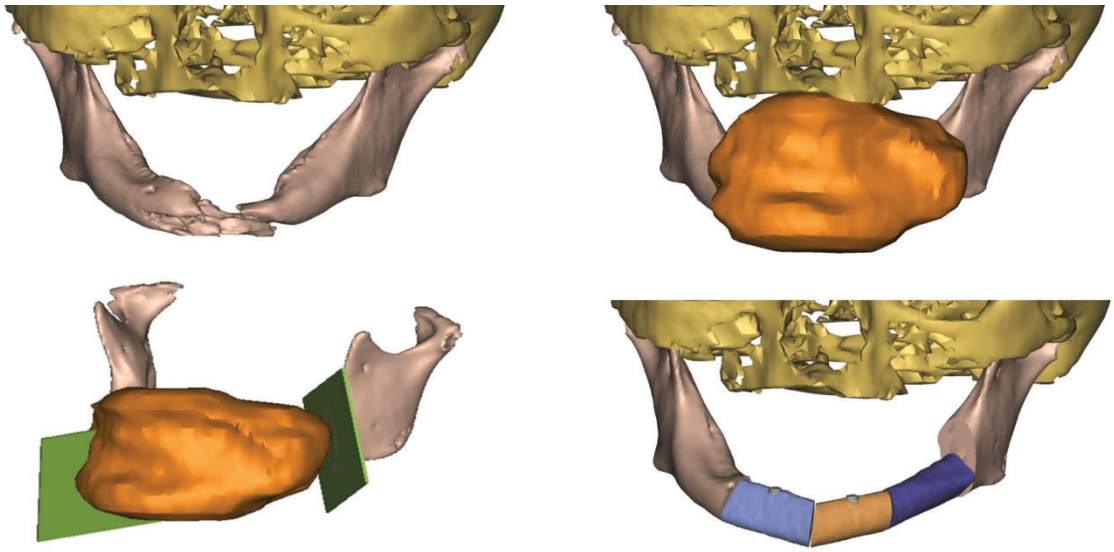
Introduction: Current methods for resection of osteoradionecrosis are not supported by 3D virtual information presenting the exact effective isodose values. This study aims to develop a method for 3D visualization of the radiotherapy planning onto the affected jaw. The primary outcome is a 3D virtual model of the effective radiotherapy dose the patient has received in and around the area of the osteoreadionecrosis. This information will support the decision making for surgical removal of the affected bone
Methods: The radiotherapy data of the effective isodoses is translated from the radiotherapy planning environment towards the 3D virtual planning software (Pro plan CMF), using a validated conversion algorithm. The isodose lines are segmented as a 3D virtual model and projected onto the 3D model of the jaw. The resection margins are planned using these 3D visualization, after which surgical cutting guides can be fabricated.
Before actually performing this concept as described above, the visualization of the effective isodoses is performed on historical case data. The margins that are planned with this information will be compared to the actual executed resections in these cases.
Results: A workflow for 3D visualization of received radiotherapy in and around the area of osteoradionecrosis is developed. Application of this workflow to, at first, an historical series will quantify the potential added value of this method in order to plan and completely remove affected bone tissue.
Conclusion: This workflow is again an example of combining information for 3D virtual planning, within the existing software architecture. The potential improved resection planning may save the patient additional surgical procedures for additional bone removal and does not require purchasing of additional software.



Visualisation of 56Gy radiation field and subsequent reconstructive planning

Poster Number-151 Abstract No-324 **ESTIMATION OF RESISTIVE INDEX OF ORAL SQUAMOUS CELL CARCINOMA AND CORRELATION WITH TUMOR THICKNESS USING COLOR DOPPLER ULTRASONOGRAM. – A PROSPECTIEVE STUDY**

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BACKGROUND INFORMATION: Color Doppler Ultrasonography (CDUS) has been used to detect blood flow signals in vessels of malignant tumors by means of continuous pulsed-wave Doppler and colour flow mapping techniques.Vessels with low impedance flow have low pulsatility and resistivity indices. This low-impedance tumor flow is helpful in differentiating malignant from benign tumors.Tumor thickness has been shown to be one of the most important features in predicting lymph node metastases in oral cancer.Also, changes in blood flow in malignant tumors have also been of some significance in predicting tumor response to radio and chemo-therapy.Hence, this study is designed to assess the usefulness of CDUS in quantifying oral squamous cell carcinoma (OSCC) vascularization and correlating it with tumor thickness and there by correlating it with occurrence of local metastasis.
OBJECTIVE: To assess the Tumor thickness and Resistive Index of oral squamous cell carcinoma using CDUS.
METHODS: A prospective study was conducted in which, 28 cases diagnosed with oral squamous cell carcinoma were enrolled. Intraoral Ultrasound was performed using a high-frequency Doppler ultrasound probe (14 MHz), to determine the Resistive Index (RI) and maximum tumor thickness. All patients had real-time, gray-scalesonography and CDUS with spectral wave analysis. The RI values were correlated with the maximum tumor thickness.
RESULTS: The mean value for the resistive index in patients with oral squamous cellcarcinoma was 0.50±0.11. The correlationbetween clinical tumor size and RI in patientswith malignancy was statisticallysignificant as the value obtained was 0.05.
CONCLUSION: We conclude that after clinical examination, CDUS must be used as the first modality for investigation as it isreadily available and does not involve ionizingradiation. RI can be added as a parameter to assess the loco-regional tumor metastasis.

Poster Number – 152 Abstract No – 326 **MERGING HEAD AND NECK TUMOR BOARD WITH CANCER DATABASE; A TERTIARY REFERRAL CENTER'S EXPERIENCE**

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Introduction: In the current era it is crucial to utilize the technological advancements and capture crucial relevant data for patient retrieval as well as serve the purpose for forming robust data storage for future research and reduce redundancies. We believe that the data entered for the purpose of tumor board presentations could serve as the foundation of a prospective oncological database. We sought to combine these two entities: tumor board

presentation and prospective oncologic database on a web-based, electronic application in order to produce an electronic tumor board presentation platform.
Methods: REDCap, a web based research database application for data capture, was used to design a tumor board system capable which includes a 'listing/scheduling module circulated to involved parties, a comprehensive patient data sheet capturing diagnosis details, presentation, treatment details, investigations findings, endoscopic photographs, histo-pathological details, survival status and previous oncologic history and section to record tumor board decisions in 'real time'.
Results: The system was routinely applied to the weekly multi-disciplinary tumor board (TB) since September 2015 at National Cancer Centre Singapore. The information is presented in a concise patient summary sheet for tumor board discussion and recommendations were recorded in real time which waswitnessed by all members of the board. The latter includedpre-determined decision points for database population and free-text sections for future recall and references. The data is automatically linked to our Head and Neck database for future research. To date, there are over 700 records in the database, with ongoing improvements on the workflow and presentation module. A number of ongoing research projects are based on this database and will be published in due course.
Conclusions: Redcap TB data entry has culminated in storage of accurate data that can be retrieved for clinical use (patient visits) and research. It is well accepted by end users with a thrust to add on further modules including details of flap reconstruction, chemotherapy and radiation therapy details. This is the first effective application combining electronic tumor board and oncological database management.

Poster Number – 153 Abstract No – 338 **MOLECULAR PROFILING IN SURGICALLY TREATED RECURRENT ORAL CANCER PATIENTS FOR IDENTIFICATION OF NOVEL TARGETS**

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Introduction: Head and neck cancers are the most prevalent cancer in India, mainly attributed to deleterious habits like smoking or chewing, and consumption of alcohol. Though decision on the mode of treatment is guided by several factors including the stage, site of the disease and surgical margin, surgical resection of the tumour remains the main stay in patients with early stage (I, II) disease. In advanced stagepatients (III, IV) a combined approach of treatment is adopted.Despite improvement in treatment methods, the cure is not higher than 30%. An important cause of treatment failure in patients treated with surgery alone is loco regional recurrence; identification of novel biomarkers for recurrence might significantly contribute to predict/diagnose second neoplasm and thus better management of the disease.
Methods: A retrospective cohort of ≥30 patients with Head and Neck Squamous Cell Carcinoma (HNSCC) who underwent surgery as first line of treatment will be analysed for a well-chosen set of markers by immunohistochemistry, qRT-PCR and/or serum-ELISA. The expression of the markers will be correlated to clinical and pathological variables including response to treatment and then correlated to recurrence or survival. An *in vitro* model system will also be developed by explant or single cell digestion method and screened for the novel biomarkers of recurrence, tumorigenic and invasive potential.
Results: By meta-analysis inflammatory and apoptotic markers have been identified for the study.Protein and antibody reagents for the same have been developed. Patient screening is in progress. Development of *in vitro* model system is in progress.
Conclusion: Identification of novel biomarkers in surgically treated patients might help clinicians to diagnose and stratify the patients at risk of disease recurrence and hence decide on the adjuvant therapies to follow and manage the disease accurately.

Poster Number – 154 Abstract No – 339 **EVALUATION OF APOPTOTIC BIOMARKERS IN PROGNOSIS OF ORAL CANCER IN YOUNG PATIENTS**

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Introduction: Oral Squamous Cell Carcinoma remains one of the leading causes of mortality in India with smoking, chewing tobacco, *Areca nut* being major causes. Recent studies have shown 60% increase in incidence of oral cancer in the young population in last 2-3 decades. Increased incidences of local recurrence in ~ 50% of this population have not been attributed to the known risk habits. Unlike in oropharynx attribution to HPV in oral cavity tumors in the Indian subcontinent have been low. No specific molecular markers have been shown to be of value in young patients with oral cancer; however apoptotic and inflammatory markers like Bcl_2, TNFα, IL-6 etc. have been recently demonstrated as relevant diagnostic and prognostic tools. The purpose of the study is to compare the expression of these markers in oral cancer in young adult population between two groups, with and without deleterious habits. The prognosis will also be correlated to the HPV infection status of the patients.
Methods: Tumor and serum samples from at least 20 oral cancer non-alcoholic, non-smoking patients (≤45 years old) with no habit of chewing tobacco etc. will be collected. As control, 20 patients with risk habits and matched age group will be included in the study. Markers will be identified by meta-analysis. Their expression levels will be analyzed by qRT PCR and IHC or ELISA. HPV infection status of both the groups will be determined by checking the p16 level. Reagents for the screening will be developed in-house.
Results: Sample collection is in progress. Markers have been identified by meta-analysis. Screening reagents, antibodies for Bcl_2, TNFα and IL-6 have been developed. Screening and validation in patient samples are in progress.
Conclusion: The prognostic relevance of these apoptotic pathways in oral cancer of the young will help clinicians to manage the disease more accurately.

Poster Number – 155 Abstract No – 341 **HUNT FOR MOLECULAR CONNECTION BETWEEN DIABETES AND ORAL CANCER**

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Introduction: There are 382 million diabetics worldwide with 65 million in India. Epidemiological data suggest that patients with diabetes have a higher risk of cancer.Association between diabetes and oral canceris unclear till date. Insulin receptor has two splice-isoforms IRA and IRB. Hyperglycemia has been shown to induce cancer through IRB to IRA switch and overexpression of IGFII. In this study we aim to establish a correlation between IRA expression and oral cancer by IHC and qRTPCR. We also look for the cause of the switch by studying correlated expression level of various splicing factors and mitogenic ligands in tissue and serum.
Methods: In 50 tumor samples from oral cancer patients who already had diabetes before tumor was first reported, expression of target genes (Insulin receptors and splicing factors) byIHC and qPCR will be performed. Serum samples from the same patients will be tested for mitogenic ligands of IR by ELISA. A control group of at least 25 oral cancer patients with no history of diabetes will be included in the study. Patients with HPV, HIV, HCV and/or HBsAg will be excluded from the study. Screening reagents (proteins and antibodies against the markers in discussion) are produced in house.
Results: Collection of patient-samples at two hospitals is in progress. Protein and Antibody reagents for study have been identified and developed.Establishment of correlation between serum marker(s) and IRA/IRB isoform switch is in progress.
Conclusion: Ongoing study is likely to identify mechanism of IR isoform switch in oral cancer with diabetes. If isoform switching can be established as the connection between diabetes and etiology and/or prognosis of oral cancer and the molecular trigger can be established one can (i)predict the risk of oral cancer among diabetic patients (ii) look at therapeutic intervention to mitigate the risk

Poster Number – 156 Abstract No – 344 **OUTCOMES AFTER CONTEMPORARYMULTIMODALITY MANAGEMENT OF BUCCAL CARCINOMA – FACTORS PREDICTING FAILURES**

Murthya PS[1], Low H[2], Hui- Tsu[4], Subramaniama N[1], Balasubramaniana D[1], Sivakumarana V[1], Thankappan K[1], Clark RJ[2], Kuriakose MA[3], Iyer S[1]
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Background: Buccal carcinomas are a common subsite amongst oral cancers in India. There is heterogeneity in the available literature with regards to the factors predicting disease control due to the smaller numbers reported, combined analysis withother oral cancers and lack of uniform surgical management protocols. Anatomical extra mucosal involvement (bone, skin,infratemporal fossa)has traditionally been associated with poor outcomes.
Objective: Theaim was to study the patterns of failure and to determine factors predicting local and regional failure amongst patients with buccal carcinomas treated surgically with curative intent from a single institution.
Study Design: retrospective study
Methods: Retrospective review of patients with buccal carcinoma was done from 2004 to 2014, who were treated at Amrita Institute of Medical sciences, Kochi. Clinical and pathological parameters were extracted with chart review.
Results: A total of 173 patients were included in the study who were previously untreated. Mean age of presentation in the cohort is 56.8 years. Study included 28 patients in stageI (16.2%), 36 in stage II (20.8%), 27 in stage III (15.6%) and 82 in stage IV (47.4%). The mean follow up period is 2.59 yr (0.3- 11.3 yr). All patients were treated with curative intent surgery followed by adjuvant therapy (when indicated). The 3year and 5 year OSand DFSare 89%/89% and 63%/57%respectively. 5 year local and regional control is 63% and 80% respectively. Skin involvement (p=0.019), PNI (p=0.001) and tumour differentiations (p=0.001) are independent predictors for local control on multivariate analysis. Infratemporal fossa involvement and cortical bone involvement did not play role in local control. Pathological features that predict for poor regional control are ECS (p=0.007), PNI (p=0.017), and DOI>10mm(p= 0.015), increased N-category (p=0.004) and poor differentiations (p=0.017). Extra mucosal site involvement did not affect overall survival in advanced carcinomas.
Conclusion: Buccal carcinomas carry a good prognosis if treated with surgery and appropriate adjuvant therapy. Extra mucosal site involvement does not portend a poor prognosis. Patients with skin involvement have a higher risk for local recurrence. This is perhaps one of the largest single institution series from the subcontinent.

Poster Number – 157 Abstract No – 345 **SURGICAL MANAGEMENT OF OSTEORADIONECROSISAND THEIR OUTCOMES**

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Background: ORN remains a dreaded complication amongst patients receiving curative intent radiation. Though the incidence has fallen in the recent past, there remains a subset of patients who experience ORN years after treatment. Surgery remains the mainstay in their management but there is a lack of literature from the subcontinent with regards to the outcomes after surgical management.
Aim: To report the outcomes after surgical management of ORN with emphasis on the outcomes following reconstructive surgery.
Study type: Retrospective
Materials and methods: Retrospective analysis of hospital data between . Prior treatment, surgical details and outcomes were studied
Results: A total of 17 patients were identified. The mean age of presentation was 61 years. The primary tumour sites include alveolus (29.4%), tongue (17.6%) buccal mucosa (11.8%). The common presentation include pain (88.2%), fistula (23.5%) trismus (41.2%) exposed bone (64.7%)fracture (17.6%) .13 patients were stage III(76.5%), 3 patients staged II(17.6%) and 1 patient staged I(5.9%) staging as proposed by schwartz et al.
All patients had a delayed occurrence of ORN (mean 6.79 years). The site of ORN was body of mandible(82.4%) body and arch of mandible (11.8%) upper alveolus (5.9%). A total of 16flaps were done with free fibula flap amongst the most common (n = 7) . A total of three flap failures were notedand were salvaged by pedicled flaps. The failure was not apparent in immediate post op but at 9.71(mean) days. All patients had acceptable cosemosis and no fistula formation. Ten pateints received pre operative hyberbaric oxygen therapy and its association wih flap failure(0.3) and wound complications(p=0.1) was not statistically significant. All patients had relief of the pain after the procedure.
Conclusion: ORN tends to remain a problem in patients hitherto treated with non comformal RT who are disease free but on long term follow up. Free flaps are the standard of care. The surgeon should be aware of the higher rates of flap failure when compared to non ORN reconstruction and the delayed occurrence of flap failure due to poor local tissue bed characteristics. Symptomatic and esthetic improvement is noticed in all patients. This is the first reported series of outcomes of surgical ORN management.

Poster Number – 158 Abstract No – 348 **DESIGNING MULTI-CENTRAL CLINICAL TRIAL FOR THE PREVENTION OF SECOND PRIMARY TUMOR IN HEAD AND NECK CANCER**

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Introduction: With early detection and improved loco-regional control Second primary tumour (SPT) is emerging as a major pattern of disease failure. The successful control of the incidence of SPT will be a step towards improving the overall survival of HNSCC. Previous SPT trials using chemopreventive agents, retinoid, shows mixed results. This presentation discuss the study design and planning of a recently initiated multi-center clinical trial for the prevention of SPT.

Methodology: Study design: The project proposes a phase IIb/III, placebo-controlled, double-blind randomized clinical trial, using Curcumin and Metformin in patients with previous HNSCC in an attempt to lower the incidence of SPT.

Drug design: Combination of the drug is suggested, which may act on multiple mechanisms for tumour prevention. Preclinical studies were conducted on cell lines and mouse model using Curcumin, Metformin and combination of both.

Study cohort: Patients with history of HNSCC with stage no higher than T1/2/3, N0/1, M0 who were treated with curative-intent within three to twelve months. All eligible patients will be randomized into any of the 4 arms: Curcumin; Metformin; Combination of Curcumin and Metformin; or Placebo. The primary endpoint is incidence of SPT. Disease recurrence, overall survival and correlative biomarker assays are the secondary endpoints.

Results: Preclinical studies on cancer cell lines and animal model showed synergistic effect of Curcumin and Metformin in chemoprevention. The dosage of drug was decided according to the preclinical (Curcumin) studies carried out as well as previous studies (Metformin). Considering the cumulative incidence of SPT in control group as 12% and 7% in the drug treated group with duration of follow up of 5 years totally from recruitment, the number of samples required in each group will be 340 patients, a total of 1496 patients will be required in all 4 groups. The phase II B will include the first 200 patients who will be closely monitored over a period of 1 year. This cohort of the patients as well as the remaining 1300 subjects will be included in the Phase III toxicity and efficacy evaluation. Diagnosis of SPT that arise anywhere in the aero-digestive tract, will be made by radiological and/or histological methods.

Conclusion: Designed for multi-central double blinded 2x2 factorial clinical trial for the prevention of SPT in HNSCC using the combination of Curcumin and Metformin

Poster Number – 159 Abstract No – 350 **ASSESSMENT OF MASTICATORY EFFICIENCY AND QUALITY OF LIFE IN ORAL CANCER PATIENTS**

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Background: The clinical management of oral squamous carcinoma causes sequelae that can compromise patients quality of life (QOL).

Aims: To assess chewing efficiency, maximum bite force and QOL in patients who have undergone surgical management with or without adjuvant treatment for oral cancer.

Methods: Retrospective cross-sectional study using two coloured chewing gum to assess chewing efficiency, EORTC QOL Questionnaire and Bite force measuring recorder.

Results: A total of 80 patients were assessed and the median follow up was 22.5 months. The mean mouth opening was 33.7mm and mean bite force was 13.3kgf. The bite force was significantly worse in advanced stage ($p=0.009$) disease. The mouth opening was significantly worse both on objective and subjective assessment in those who received adjuvant treatment ($p=0.002$), underwent marginal mandibulectomy ($p=0.03$) and free flap reconstruction ($p=0.04$). The mean chewing efficiency was 77.8(±15).

Conclusion: Treatment of oral cancer results in significant functional morbidity which depends on stage of disease, extent of resection and reconstruction. Proper treatment planning can reduce this morbidity

POSTER NUMBER – 160 ABSTRACT NO. – 361 **PHOSPHATURIC MESENCHYMAL TUMOR OF THE NASAL CAVITY AND PARANASAL SINUSES: A CLINICAL CURIOSITY PRESENTING A DIAGNOSTIC CHALLENGE**

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Introduction: Phosphaturic mesenchymal tumor (PMT) is rare mesenchymal neoplasm associated with tumor-induced osteomalacia (TIO) due to elevated serum FGF-23. PMT commonly involves extremities and rarely sinonasal region.This is generally missed because it's rare and morphologically non-specific.PMT occurring at sinonasal region is further missed as most clinician/pathologists are not aware of occurrence of this entity at sinonasal region. Familiarity with the associated TIO is essential to investigate for and manage any associated bony morbidity.
Methods: Retrospective analysis of sinonasal PMT cases diagnosed in department of Pathology from 2005-2016. Clinical, radiological, laboratoty details(serum phosphate, calcium, alkaline phosphatase, and fibroblast growth factor 23 (FGF-23)levels, details of surgical procedures and post-operative course were reassessed by retrospective review of electronic medical records database.The histomorphologic findings were then correlated immunohistochemically.
Results: Six cases of sinonasal PMT were identified (median age:50 years), of which five presented with TIO.All were composed of stellate to spindled cells, with focal staghorn vasculature in 3 cases.One of the recently diagnosed case revealed non-ossifying fibroma like appearance which closely mimic's Not Otherwise Specified (NOS) of maxilla.Typical smudgy matrix was seen focally in all cases.Grungy calcification which characteristically occurs in PMT of extremities is absent at this site. Osteoclastic giant cells were noted in 5 cases.Necrosis was absent in all cases with low mitotic counts. Immunohistochemically,the tumor cells showed positivity for vimentin and Bcl 2; while negative for CD34, SMA and S100 Protein.
Conclusions: Rarity and lack of awareness of this entity prevents clinicians from ordering relevant investigations.Broad morphologic spectrum and absence of specific morphological features, like grungy calcification, atypical locations makes the histologic diagnosis challenging. High index of suspicion is necessary in patients presenting with soft tissue mass and features of TIO, however unusual the location may be. Accurate diagnosis of PMTs is imperative, as complete excision leads to dramatic resolution of TIO symptoms.
Keywords: Phosphaturic mesenchymal tumor; Sinonasal; Oncogenic osteomalacia; Tumor-induced osteomalacia; Phosphaturia; Mesenchymal tumors

Poster Number – 161 Abstract No – 363 **QUALITY OF LIFE AFTER TOTAL AND NEAR TOTAL GLOSSECTOMY**
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Introduction: Glossectomy is a functionally debilitating surgery as it hampers the normal speech and swallowing physiology. This in turn results in higher probability of aspiration, poor nutrition and hence long term dependence on tracheostomy and gastrostomy or nasogastric tubes. As a sequelae to the treatment, the quality of life in these patients is significantly altered. It is important to be able to identify the factors which affect the quality of life such as to facilitate improvement. In this study quality of life of patients who underwent total and near total glossectomy has been assessed. A correlation with the extent of resection, type of reconstruction, use of tracheostomy and gastrostomy/nasogastric tubes has been made.
Methodology: This study will assess the quality of life of patients using the EORTC QOL questionnaires. This would include patients who underwent glossectomy for T3 and T4 tumors with soft tissue reconstruction followed by adjuvant treatment as necessitated as per histopathology. These patients had their airway secured by a tracheostomy and feeding established via a gastrostomy or nasogastric tube.
Quality of life questionnaire:
1. EORTC QOL H&N 35
2. EORTC QLQ 30
Results: Study is ongoing and results are awaited
Conclusion: Quality of life is an important parameter in assessing the efficiency of a surgical procedure.

Poster Number – 162 Abstract No – 364 **TO ASSESS THE ONCOLOGICAL OUTCOMES IN ADVANCED CARCINOMA OF THE ORAL TONGUE**
[1]Ghosh A, [2]Kekatpure V, [1]Pillai V, [1]Kuriakose MA, [1]Hedne N,
[1]Mazumdar Shaw Cancer Center, Narayana Hrudayalaya, Bangalore [1]Cytecare Hospital, Bangalore,
Introduction: Advanced carcinoma tongue necessitates multi modality treatment- surgery followed by chemo-radiation, but there are varying protocols followed at different centres ranging from surgery followed by adjuvant therapy to neo-adjuvant treatment .Our study we try to assess the oncological outcome for upfront surgery followed by adjuvant therapy.

Materials and methods: Retrospective analytical study done on data collected from January 2010 to January 2017. 60 patients with stage IV oral tongue carcinoma who were operated between January 2010 to January 2015, with curative intent and had had not received induction chemotherapy were included in the study. All the patients were discussed in multidisciplinary tumour board and underwent standardised Total- Glossectomy with bilateral Neck Dissection and soft tissue reconstruction followed by adjuvant therapy (radiation or chemo-radiation)
Results: 60 patients were included in the study. Male-46, Female- 14
Nodal status: N0-9, N1-9, N2a-5, N2b-19, N2c-16, N3-2
Adjuvant Therapy: CT+RT -32, RT-14, Defaulted-4
Disease Free Interval: (Median)- 7 months, (Mean) -11 months
Recurrence: 23
Loco-regional: 3 and Distant Metastasis: 20
Conclusion: In the study population loco-regional control was good and failure was in most cases due to distant metastasis. We are further assessing the pathological findings in relation to distant metastasis.

Poster Number – 163 Abstract No – 377 **SALIVARY GLAND TUMOURS: AN INSTITUTIONAL EXPERIENCE**
Augustine J, Kumar P, Urs B. A, Singh, Mohanty S
Maulana Azad Institute of Dental Sciences New Delhi
Introduction: Salivary gland tumours constitute a group of often-bewildering array of head and neck neoplasms that have often posed reasonable complexity in diagnosis, management and prediction of prognosis. Here, we attempt to review our experience with these tumours and discuss our learnings.
Method: The histopathology archives of the department of Oral Pathology over 9 years were reviewed to study the distribution of different types of salivary gland tumours for their clinical, radiological, cytological,histopathological and immunohistochemical presentation. The detailed histopathological character of these benign and malignant tumours has been studied along with immunohistochemical comparisons.
Results: Of the 36 cases of salivary gland tumours reviewed, 12 benign and 24 malignant tumours were observed. These included pleomorphic adenoma (9 cases), myoepithelioma (3 cases), mucoepidermoid carcinoma (10 cases), adenoid cystic carcinoma (5 cases), epithelial myoepithelial carcinoma (4 cases), polymorphous low grade adenocarcinoma (3 cases), acinic cell carcinoma (1 case) and adenocarcinoma (1 case). The minor salivary glands were the most common location encountered with 23 cases occurring on the palate along with one case each on the upper lip, buccal mucosa, retromolar region and floor of the mouth. Among the major glands, 7 cases were observed in the parotid gland with 1 case each in the submandibular and sublingual gland. Males were affected in 19 cases as against 17 females. The age distribution, clinical and radiographic presentation, diagnosis and managementhave been discussed. The histopathological characteristics, challenges in diagnosis and immunohistochemical comparisons of these complex tumours have been elucidated.
Conclusion: The institutional experience of varied presentation of salivary gland tumours has added practical insights to their diagnosis, pathophysiology and management. The rarer variants have always been enigmatic and special emphasis on their nature is warranted.

Poster Number – 164 Abstract No – 394 **POTENTIAL LOCAL COMBINATION THERAPY FORORAL MUCOSAL PRE-CANCER/CANCER**
Rajput M [1]* Anura A[1], Bhandaru N[2]*, Paul R R[3], Mukherjee R[2],Chatterjee J[1]
[1]School Of Medical Science And Technology, Indian Institute Of Technology Kharagpur, Kharagpur, West Bengal, India, [2]Instability And Soft Patterning Laboratory, Department Of Chemical Engineering, Indian Institute Of Technology Kharagpur, Kharagpur, West Bengal, India, [3]Guru Nanak Institute Of Dental Science And Research, Kolkata, West Bengal, India
We have fabricated honey-silk fibroin based novel and smart therapy patches for oral mucosal cancer. Generally, post tumor resection surgeries, there is high recurrence chances of cancer and need second surgical intervention which also interferes with healing of wound and proper restoration of tissue. This motivated us to fabricate a therapeutic patch using different honey/silk fibroin formulations. The fabricated therapy patch offers the near ideal situation; as they are able to favor the proliferation of healthy cell and at the same time inhibit/retard the proliferation of cancer associated cells. The obtained differential proliferation rate of cells is due to the presence of honey which is known for its wound healing and anti-cancer properties within silk fibroin also involves change in several physical parameters of the patch such as mechanical stiffness, feature height of patterns, thereby limiting the growth of cancer cells.

Later, membranes were tested with normal, pre-cancer primary cells and cancer oral cell line and found differential selective behavior of cells. Proliferation of normal cells was favored whereas pre-cancer and cancer cells were inhibited on same substrate which is further validated by molecular gene expression analysis.The unique feature of this work is the desired selectivity of the same therapy patch towards the healthy and the cancer associated cells which is helpful for inhibiting the recurrence chances of cancer with fast wound healing at the surgical area along with early detection of cancer.

References:

Burke KA, Roberts DC, Kaplan DL. Biomacromolecules.17, 237–245, 2015.
Fan C, Fu J, Zhu W, Wang DA.Acta biomaterialia. 33, 51-63,2016.

Keywords: Honey/silk fibroin, Therapeutic Patch, Mussel Protein, differential behavior, fast wound healing.

Poster Number – 165 Abstract No – 397 **INITIAL RESULTS OF A PROSPECTIVE DATABASE FOR HEAD AND NECK CANCER IN BRAZIL**

Kohler HF, Santos M, Kowalski LP, Vilela A R, Leal F
A C Camargo Cancer Center, Sao Paulo, Brazil

Introduction: Head and neck squamous cell carcinoma is a major health issue in Brazil, but few data are available for its evaluation. To address this issue, a multicenter prospective study is under way with data collection for all patients with newly diagnosed squamous cell carcinoma. This study includes general and specialized hospitals from our geographic regions of Brazil. Public, non-profit and private hospitals were admitted in this study.
Methodology: Inclusion criteria include primary HN SCC, regardless of clinical stage, and not submitted to previous treatment except biopsy. Skin cancer and patients submitted to previous oncologic treatment were excluded. Informed consent was obtained from all patients.
Results: After one year of recruitment, 431 were prospectively enrolled. Most patients are male (84.97%) and present clinically advanced primary tumors (cT3/4, 57.65%) and metastatic nodes (56.28%). Surgery was included in the treatment of 30.87% of patients with a higher proportion of patients in private hospitals being operated ($p = 0.022$). Also, patients with advanced clinical stage were more likely to be treated by non-surgical techniques ($p=0.017$).Radiotherapy was most commonly performed using 3D planning ou IMRT, although 2D techniques still prevail in some services. The most frequent non-surgical treatment was concomitant chemoradiation with cisplatin.
Conclusion: We observe that most patients present with advanced clinical stage. Treatment is dependent on the hospital setting and clinical stage. Early-stage tumors and privete hospitals increase the probability of surgery while advanced stage and public hospital increase the likelihood of chemoradiation. Radiotherapy is usually administerd by with 3D plaaning or IMRT and although the use of cetuximab is recorded, most patients receive platinum-based regimens.

Poster Number – 166 Abstract No – 412 **MMP-9 AND E-CADHERIN CORRELATION IN EARLY ORAL CANCER PATIENTS– ONE YEAR REVIEW FROM A PRIVATE HOSPITAL IN THE INDIAN SUBCONTINENT**

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Introduction: Oral Cancer ranks among the three most common cancers in South-east Asia with high prevalence among men. In India, it accounts for thirty percent of all cancers. The majority of patients are from poor socio-economic state and present at advanced stages. Hence, most of them prefer to be treated at public hospitals. But at private hospitals, we treat patients of all stages with the ratio skewed towards early stage oral cancer. Thus, the **aim of this study was to perform a clinico-pathological correlation of all early oral cancer patients since January to December 2015 and correlate MMP9 and E-cadherin in relation to prognosis and recurrence.**
MATERIAL & METHODS: All the patients diagnosed clinically as cT1 and cT2 oral cancers were included from January to December 2015. Any patient with prior treatment or recurrence was excluded from the study. All the clinical data (age, sex, mode of evaluation, clinical staging), treatment and pathological data was tabulated and compared. Slide and blocks were retrieved and IHC staining for MMP9 and E-cadherin was done. Extent of staining was tabulated and MMP9 and E-cad were correlated.
RESULTS: There were 45 cases of clinical T1 and T2 oral cancer with male: female ratio of 36:9. The age ranged from 27 – 80yrs. The most common site was tongue. There was pathologic lymph nodal metastasis in 19 patients of which only ten were diagnosed clinically. There is a loss of Ecad in majority of cases showing a loss of membrane staining in 26 cases. MMP9 overexpression is seen in 11 cases.

CONCLUSION: The pre-operative differentiation and T stage correlated well clinically and pathologically, but the nodal staging did not. MMP9 over expression and Ecad loss of expression is inversely correlated. Our future plan is to correlate biomarkers to predict lymph nodal spread, recurrence and survival outcomes.

Poster Number-167 Abstract No-417 **TEMPORALIS FASCIAL SLING FOR CORRECTION OF BELL'S PALSY**

C Satish
Ramaiah Institute of Medical Sciences, Bangalore

INTRODUCTION: Bell's palsy or LMN type of facial nerve palsy is a common occurrence after total radical parotidectomy for parotid tumors. Corneal scarring leading to blindness/diminished vision and salivary drooling due to loss of competence of oral commissure are common troublesome adverse outcomes. Correction of such Bell's palsy include several techniques like gold weight implant, tarrsoraphy, slings and muscle transfers. Temporalis fascial sling is a simple, easy technique to correct epiphora and prevent corneal scarring. It also helps maintain lip position and facial symmetry at rest

METHODS: We present the case of a 50 year old lady who had Bell's palsy of her right half of face following Total parotidectomy for Adenoid cystic carcinoma of parotid in December 2015. She underwent a temporalis fascial sling based on the fascia and tempralis muscle over her right parietal bone in August 2016. The fascia and the muscle were lifted off the temporal bone and tunneled into slits in upper and lower eyelids and fixed at medial canthus. Second sling was tunneled into orbicularis oris muscles at nasolabial groove and fixed under tension.

RESULTS: The patient is able to close her right eye with no epiphora or corneal scarring. The facial (lip) symmetry is better although the nasolabial groove does not match with the normal side.

CONCLUSION: Temporalis sling technique is a simple easy safe technique to correct complete LMN facial palsy with loss of facial nerve trunk and prevents corneal scarring, epiphora, ectropion and corrects lip (commissure) asymmetry.

Poster Number-168 Abstract No-418 **SUB MENTAL FLAPS FOR ORAL CAVITY RECONSTRUCTION**

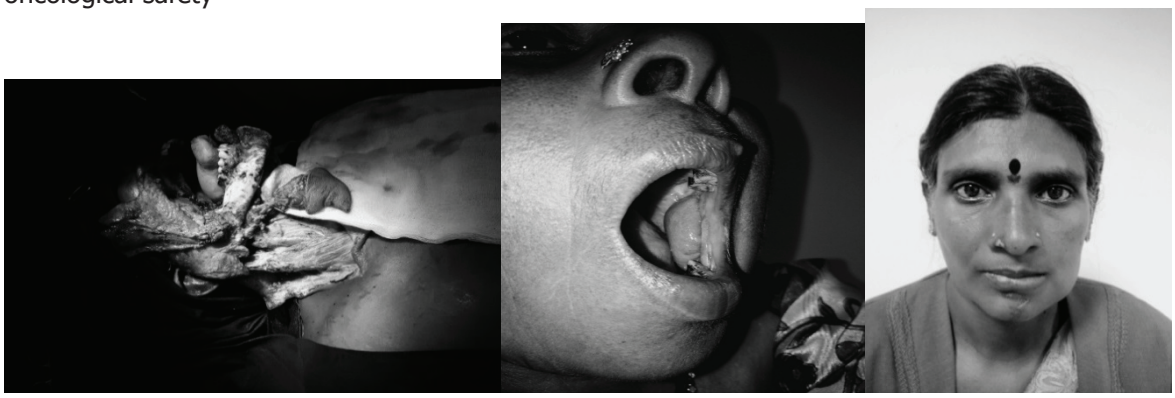
C Satish
Ramaiah Institute of Medical Sciences, Bangalore

INTRODUCTION: Submental flap is a simple, pedicled, local island flap which can be used for reconstruction of defects in the buccal mucosa safely and easily, not requiring complex microvascular technique. The present study aims to assess the usefulness of submental flap in oral reconstruction after ablative surgery for buccal mucosal cancer with respect to flap reliability, aesthesis, function, donor site morbidity and oncological safety.

METHODS: Ten women with clinically node negative buccal mucosal squamous cancer who underwent ablative surgery were reconstructed using submental island flap at MS Ramaiah teaching hospital, Bangalore, between December 2015 and December 2016, were prospectively studied for flap viability, aesthesis, function(speech and swallowing) and locoregional recurrence. The site and stage of tumour, type of resection, management of neck were recorded.

RESULTS: Of 10 patients, ages ranged from 35 to 65years median age being 50.3 yrs. All patients underwent flap harvesting followed by neck dissection followed by wide local excision +/- marginal/segmental mandibulectomy. No patients had flap loss or flap failure. The followup period ranged from 3 month to 25 months. Only 1 patient had

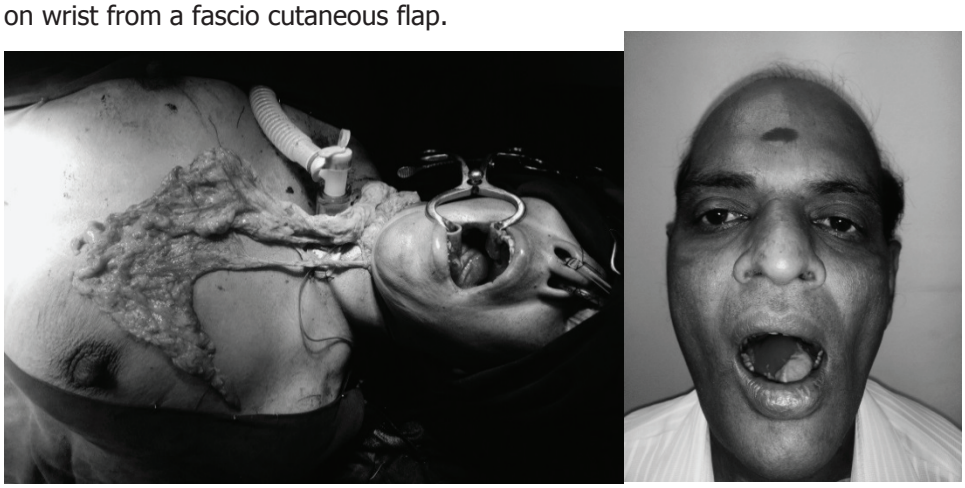
recurrence which was managed by re-surgery and radiation. Donor site healing was good, and scar was well hidden. 7 patients with close margins or node positivity on histopathology underwent Adjuvant Radiotherapy.
CONCLUSION: Long term aesthesis and functional results(speech and swallowing) were good and an acceptable oncological safety



POSTER NUMBER – 169 ABSTRACT NO. – 419 **GASTRO OMENTAL FREE FLAP FOR RECONSTRUCTION OF NEAR TOTAL/TOTAL GLOSSECTOMY**

C Satish
Ramaiah Institute of Medical Sciences, Bangalore

INTRODUCTION: Most tongue cancers, in Indian population, present as large tumors which require Hemi or Near Total Glossectomy. Such patients pose a unique surgical challenge like severe speech and swallowing disruption and life threatening aspiration. Large tongue defects are traditionally reconstructed by Skin based flaps like Radial Forearm Free Flap. Tongue reconstruction with Gastro Omental Free Flap was attempted and its efficacy in terms of aesthesis, speech and swallowing function and donor site morbidity was evaluated.
METHODS: A 44yr old male with cT3N0M0 carcinoma right lateral border of the tongue just crossing midline underwent NEAR TOTAL GLOSSECTOMY + BILATERAL SOHND + GASTRO OMENTAL FREE FLAP in July 2016. A 37 year old lady with cT3N0M0 lesion in centre of dorsal tongue underwent TOTAL GLOSSECTOMY + BILATERAL SOHND + GASTRO OMENTAL FREE FLAP in February 2017. A sleeve of stomach along its greater curvature based on the right gastro epiploic vessels was taken as a free flap and anastomosed to facial vessels in the neck.
RESULTS**:** The final HPE was pT2N0 SCC in the male and pT3N0 in the female. The patients do not have recurrence or problems with xerostomia, speech or swallowing apart from giving good color match.
CONCLUSION: It's a smooth, pliable, secretory mucosal flap with similar colour to match. Long vascular pedicle allows easy anastomosis to neck vessels. Gastric mucosa tolerates radiation well and maintains mucosal secretion preventing xerostomia It is an aesthetic flap with no loss of function of stomach and avoids large ugly skin scarring on wrist from a fascio cutaneous flap.



Poster Number 170 Abstract Number 164 **Risk Factors and Prognosis for Salivary Gland Adenoid Cystic Carcinoma in Southern China: A 25-year Retrospective Study**

Ouyang D[1], Liang L[2], Zheng G[1], Ke Z, Weng D, Yang W, Su Y*1[2], Liao G*1[3]
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*1These authors contributed equally to this work * Corresponding authors*

Background: Adenoid cystic carcinoma (ACC) is characterized by slow growth, frequent local recurrences, and high incidence of distant metastasis. The aim of this study was to evaluate predictive factors for local-regional recurrence, distant metastasis, and survival in ACC.
Methods: A retrospective review of the medical records for patients with salivary glands ACC from 1990-2015 was performed. The clinical parameters were assessed to identify correlations with the development of local-regional recurrence, distant metastasis, and survival of these patients.
Results: Among 228 patients who underwent surgery as definitive treatment, 210 (92.1%) were followed up in the study. Distant metastasis was detected in 64 (30.5%) patients, local-regional recurrence was detected in 58 (27.6%) patients. The estimated 5, 10, and 15-year overall survival rates were 84.7%, 70.8% and 34.0%, respectively. Multivariate analysis revealed that the presence of lymphovascular invasion and a high T classification were very strong adverse factors, which independently influenced local-regional recurrence, distant metastasis, and survival of ACC patients. Positive/close margin and N+ status were independent risk factors for distant metastasis and local-regional recurrence, respectively. Survival of ACC patents was also affected by tumor location.
Conclusions: Presence of lymphovascular invasion and a high T classification were very strong adverse factors and independent predictors for ACC patients' prognosis, which influenced local-regional control, distant metastasis control and survival.
Keywords: adenoid cystic carcinoma, salivary gland, lymphovascular invasion, postoperative radiotherapy
Abbreviations: ACC=adenoid cystic carcinoma, LR=local-regional, DM= distant metastasis, SEER= Surveillance, Epidemiology and End Results, DAHANCA=Danish Head and Neck Cancer Group, RT=radiotherapy, OS=overall survival

MANAGEMENT OF NECK

Poster Number – 171 Abstract No – 10 **ISOLATED PERIFACIAL LYMPH NODE METASTASIS IN ORAL SQUAMOUS CELL CARCINOMA WITH CLINICALLY NODE-NEGATIVE NECK**

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Background: Isolated positivity of perifacial nodal pads in clinically node negative neck is still a contentious issue and unfortunately there is no any significant study on this subject. The purpose of this study is to evaluate the incidence of isolated perifacial lymph node metastasis in patients of oral squamous cell carcinoma with clinically node negative neck. This study will boost up the current concepts and will provide useful information regarding the necessity of routine comprehensive removal of these lymph nodes pads in selective neck dissection in node negative neck.
Methods: This prospective analytical study was started in august 2011 when intraoperatively, we routinely separated the lymph node levels from the main specimen for evaluation of metastatic rate to different lymph node levels in 231 patients of oral squamous cell cancer with clinically node negative neck.
Results: 19 (8.22%) cases out of 231 patients with ipsilateral isolated perifacial lymph node involvement. The incidence of isolated perifacial node did not differ significantly between oral tongue (7.14%) and buccal mucosa (7.75%). Incidence was clinically significant in cases with perineural invasion, advance T stage and higher depth of tumor invasion.
Conclusion: Isolated perifacial node metastasis is high in oral squamous cell carcinoma with clinically node negative neck. The incidence of isolated perifacial involvement is high in cases of buccal mucosal and tongue cancers. A meticulous dissection of the perifacial nodes seems prudent when treating the neck in oral cavity squamous cell carcinoma.

Poster Number – 172 Abstract No – 13 **COMPARISON OF STANDARD MODIFIED SHROBINGERS INCISION VERSUS TRANSVERSE CERVICAL INCISION FOR NECK DISSECTION – OUR EXPERIENCE**

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Aim: To compare the feasibility and outcome of Transverse Cervical incision over Modified Schobinger's incision for neck dissection.

Materials and Methods: Patients having primary oral cavity cancer with positive metastatic nodal disease in the neck requiring ablative surgery. Total 40 patients were included in this study and patients were divided in two groups. Those patients who do not requires lip split incision for tumor ablation were selected in this study. Transverse Cervical incision was done in group A for neck dissection and a standard Modified Schobinger's incision were used and in group B. These two groups were studied to compare the incision design on the basis of criteria's like adequacy of surgical access, flap necrosis or dehiscence, no of lymph nodes retrieved, length of incision, wound contracture, length of hospital stay and cosmetic result.

Results: Result of our study shows that Transverse Cervical incision had adequate surgical access, adequate lymph node retrieval, excellent cosmetic result, less postoperative complications with early discharge of patient as compared to Modified Schobinger's incision for neck dissection.

Conclusion: According to our experience, we believe that this transverse incision in oral cancer patients can be very useful which fulfills all the requirements for neck dissection incision due to adequate surgical access, adequate lymph nodes retrieval, good healing of skin flaps, and an acceptable cosmetic result and without any postoperative complications.

Poster Number – 173 Abstract No – 66 **CLINICAL AUDIT OF ORAL CANCER PATIENTS TREATED AT A TERTIARY CARE CENTRE**

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Introduction: Oral cancer is the one of the most common cancer in Indian subcontinent and is the sixth most common cancer worldwide. The aim of this study is to retrospectively analyse demographics, clinical presentation, management, treatment outcome and prognostic factors.

Method: The study was conducted at Department of Oral and Maxillofacial Surgery, King George's Medical University, Lucknow. All cases of oral Cancer patients treated in the Department from 1-1-2010 to 31-12-2016 were included in the study. The records of all the patients were maintained.

Results: A total of 150 patients were treated and included in the study. Mean age of presentation was 48 yrs with M>F(4:1). The most common site affected was alveolobuccal complex of mandible with left>right. The association of tobacco/betel quid was present in 96% of the cases. Clinical nodal involvement was present in 75% of the cases. Margin negative resection was performed in 90% of the cases. Disease free survival on follow up was seen in 80%.

Conclusion: The association of tobacco/betel quid is most commonly seen in oral cancer patients. Overall staging,Tumor size, nodal status, negative margins influence the prognostic outcome of patient. This emphasises the need for early diagnosis and prevention of oral cancer in Indian population.

Poster Number-174 Abstract No- 86 **PREDICTORS OF CENTRAL COMPARTMENT LYMPH NODE METASTASIS IN CN0 NECK IN PATIENTS WITH PAPILLARY THYROID MICROCARCINOMA.**

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INTRODUCTION: Majority of papillary thyroid microcarcinoma (PTMC) patients have very good prognosis, but still incidence of cervical lymph node metastases is high in these patients. We conducted a study to investigate the predictive factors for occult central compartment lymph node metastasis (CLNM) in PTMC patients.

Materials and Methods: We conducted a retrospective study in our hospital, GCRI Ahmedabad, which is a leading cancer hospital of India. A total of 60 patients of PTMC operated in the time span of 2 years from 2013 to 2015 were enrolled in this study. The relationship between CLNM and the clinical and pathological factors such as gender, age, tumor size, tumor number, tumor location, extracapsular spread (ECS), and coexistance of chronic lymphocytic thyroiditis was analyzed.

Results: Occult CLNM was observed in 40% of PTMC patients. Male gender, tumor size (≥5mm) and Extra capsular spread were independent predictors of occult metastasis in central compartment.
Conclusions: Male gender, tumor size (≥5mm) and ECS were risk factors of CLNM. We recommend a prophylactic central lymph node dissection (CLND) should be considered in PTMC patients with such risk factors.

Poster Number – 175 Abstract No- 88 **SENTINEL LYMPH NODE IN EARLY ORAL CAVITY CARCINOMA—MY INITIAL EXPERIANCE**

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Oral cavity squamous cell carcinoma has variable propensity to metastasize to regional cervical nodes. The presence of nodal metastases is the most important negative prognostic factor for long-term survival.
As current methods, including physical examination and radiologic imaging, lack sufficient sensitivity and specificity, elective neck dissection (END) has been the gold standard for assessing the presence or absence of lymphatic Disease in patients without overt clinical or radiographic nodal metastases (CN0) undergoing surgical management of oral cavity carcinoma.
However, END is associated with its morbidity, including pain, contour changes, shoulder dysfunction, and lip paresis, as well as negative
Impact upon quality of life, furthermore, 70–80% of patients initially
Presenting with early-stage oral cavity carcinoma (T1 or T2, CN0) ultimately prove to be free of lymphatic metastases.
I present my initial experience of SLNB in oral cavity carcinoma.

Poster Number – 176 Abstract No – 123 **POST AURICULAR APPROACHFOR NECK DISSECTION WITH CONVENTIONAL OPEN INSTRUMENTS (NO LAPROSCOPE OR ROBOT- 15 PATIENTS**

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Department of Head &Neck And Skull Base Surgery, Shankus Medicity (SMC) Hospital, Mehsana, Gujarat, India

Introduction: The need for improved cosmetic outcomes has become increasingly emphasized in head and neck surgery with advancements in minimally invasive techniques. Along with theadvent of laproscopically and robotically assisted procedures, more attention has been placed on smaller and more hidden incisions and on the use of natural orifice approaches.
Method: 15 patients were treated by post auricular approach with conventional open instruments (No laproscope or robot).
Results: Selective lymph node dissection was successfully performed in fifteen patients. All levels were accessible through this approach, with additional retraction required for level I, compare to our traditional neck dissection approaches. we found flap tip necrosis in three patients and it was treated conservatively.Rest of all patients had cosmetically acceptable good hidden scar.
Conclusions: Open neck dissection through a post auricular incision is feasible and offers an alternateapproach to traditional incisions. This can be performed without requiring roboticassistance.Although selective lymph node dissection offers improved cosmetic outcomes with this incision when compared to those of traditional neckincisions, further study is required to determine its efficacy and indications.

Poster Number – 177 Abstract No- 127 **SUPRAOMOHYOID NECK DISSECTION IN CLINICALLY NEGATIVE NECK, IN ORAL SQUAMOUS CELL CARCINOMA: STUDY OF 10 PATIENTS**

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Introduction: Most important prognostic factor in treatment of oral squamous cell carcinoma is presence of metastasis to cervical lymph nodes, can reduce the cure rate by 50% and the 5year survival rate less than 20%. Greatest challenge faced by head and neck oncologist and surgeons is the correct identification of the subset of these patients without cervical nodal micro metastasis, clinical palpation of neck is grossly inadequate.

Methods: 10 cases reporting to our department with, oral squamous cell carcinoma with clinically negative neck, were included in our study. All the patients were treated by wide excision of the lesion with adequate safety margins and Supraomohyoid neck dissection was carried out. Patients were kept under observation for recurrence.
Results: Out of 10patients 8patients are still being followed up, and there is no recurrence. One patient reported after one year with recurrence of primary lesion. Second patient reported with metastasis in the lungs. Both the patients did not survive.

Conclusion: With the advanced techniques of imaging and diagnosis, patients should be evaluated before treatment planning. Micro metastasis of squamous cell carcinoma should be kept in mind before addressing the neck.

Poster Number – 178 Abstract No- 153 **MANAGEMENT OF NECK IN ORAL SQUAMOUS CELL CARCINOMA**
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Management of neck for oral squamous cell carcinoma has been an age old issue. Site of the primary lesion, T-staging, depth of invasion, appearance of the lesion play an important role in decision making on neck management. There are some controversies in indication of investigations and their timing for neck management. There are also some controversies in management of clinically negative neck in early tumours, use of adjuvant therapy, planned neck dissection post CCRT, salvage neck dissection post CCRT etc. The presentation addresses to the above mentioned issues.

Poster Number – 179 Abstract Number-17 **Level IIB Neck Dissection in Oral Squamous Cell Carcinoma: Science or Myth**
Ghantousa Y[1], Akrish S[2]; Abdelraziq M[2]; El-Naaj IA[1]
[1]Maxillofacial Surgery Department, Baruch Padeh Medical Center, Poriya, affiliated with the Faculty of Medicine, Bar Ilan University, Galilee, Israel, [2]Pathology Department, Rambam Medical Campus, affiliated with the Faculty of Medicine, Technion – Israel Institute of Technology, Haifa, Israel
Introduction: Selective Neck Dissection (SND) enables us to reduce the morbidity of neck dissection while maintaining the same oncological results, mainly in clinically negative neck N0. The most common morbidity associated with SND is spinal accessory nerve dysfunction and related shoulder disability, which are encountered during dissection of level IIB.
Aim of Study: The aim of our study is to evaluate the incidence of sublevel IIB lymphatic metastasis in clinically N0 oral squamous cell carcinoma (OSCC) patients.
Methods & Results: The study group comprised 48 males (68%) and 22 females (32%). The median number of the lymph nodes removed from level IIB was 6.5. All the investigated necks were clinically classified as N0, of which 14 (20%) turned out to have an occult nodal metastasis, including only one case (1.42%) of level IIB occult metastasis, which originated from the primary tumor located in the tongue and also metastasized to level IIA. The most associated morbidity was shoulder pain and dysfunction, which presented in 60% of the patients.
Also an electronic search was conducted to find relevant studies investigating the prevalence of level IIB metastasis in oral squamous cell carcinoma. 10 studies were included for full text review, including the current study. The overall incidence of level IIB metastasis is 4% (17 patients); of these seventeen patients, only four patients had isolated level IIB nodal metastases (2%).
Conclusions: Neck dissecting, including dissecting level IIB, remains the keystone of treating OSCC. Its prognostic and therapeutic value exceeds its associated morbidity; therefore, dissecting level IIB is recommended in treating OSCC in clinically N0 patients.

Poster Number – 180 Abstract No- 258 **SIGNIFICANCE OF TUMOR THICKNESS INTONGUE CANCER**
Subramanian A, Elengkumaran
Sri Ramachandra University
Oral cavity cancers have a variable and, sometimes, unpredictable outcome after treatment. Even among patients with smaller tumors, clinically staged T1 and T2, survival can range from 60% to more than 90%. This variability in clinical behavior has led to numerous studies examining clinical, pathologic, and, more recently, molecular factors that might clarify why some tumors behave aggressively and others do not. Pathologic involvement of cervical nodes is recognized as being a highly significant prognostic factor whereas T stage, surgical margins, the pattern of tumor invasion and the presence of perineural and lymphovascular invasion have all been reported as having independent prognostic significance. Several previous studies have analyzed the influence of tumor thickness on prognosis in oral cavity carcinomabut, to date, this"third dimension" has not been used routinely in treatment planning. The importance of tumor thickness remains unclear, and a specific thickness, which separates high-risk and low-risk patients, has not been identified. The case series to be discussed in the presentation will consider the various clinical scenarios in the management of tongue cancers, along with prognostic factors and treatment outcomes.

Poster Number-181 Abstract No- 312 **TUMOUR INFILTRATION DEPTH AS A PROGNOSTIC FACTOR FOR NODAL METASTASIS IN ORAL SQUAMOUS CELL CARCINOMA- A REVIEW**

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INTRODUCTION: Squamous Cell Carcinoma is the most common malignant tumour of the oral cavity and the eighth most common tumour in the world. The tongue and the floor of the mouth are the most common sites affected by this kind of tumour, accompanied by concomitant cervical node metastasis. The presence of nodal metastasis is identified as the most important predictor of survival. In current clinical practice, surgical management is provided alongwith adjuvant chemo-radiotherapy when there is a risk of nodal involvement.However, a considerable percentage of patients undergoing prophylactic neck treatment do not have any cervical node metastasis and can be considered overtreatment.

In order to avoid that, researchers have focused on identifying pathologic markers that can predict and stratify the risk of occult nodal metastasis. Tumour infiltration depth has been introduced as a predictor of nodal metastasis in head and neck cancer. It has been consistently associated with the presence of nodal metastasis, but proposed cut off depths for performing neck dissection vary considerably.

CONCLUSION: Growing evidence in the literature shows that tumor infiltration depths are liable parameter for predicting regional node involvement and patient survival in OSCC. The substantial agreement among authors, despite the lack of comparable study groups of measurement techniques,and cut off values paradoxically enforced its reliability. Further studies are clearly awaited to reacha consensus on these topics to develop therapy protocols that are also based on thisparameter.

Poster Number – 182 Abstract No- 322 **THE DISTRIBUTION OF METASTATIC NODES IN CN0-1 PATIENTS WITH TONSILLAR SQUAMOUS CELL CARCINOMA**

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Initially, neck treatment was accomplished through radical neck dissectionor its modifications but the concept of predictability of metastatic spread allowed for selective neck dissections in selected patients with lower morbidity but equally effective oncologic results. But the question remains on which levels should be removed. Initial reports suggested that a lateral neck dissection with removal of levels II - IV was the most adequate procedure for oropharyngeal carcinoma (SHAH) but this finding was in disagreement with a previous report from our institution that favoured the removal of levels I - III (VARTANIAN). A major limitation of both papers is the inclusion of multiple primary sites within the oropharynx, not only tonsillar SCC.

We evaluated 179 consecutive patients submitted to neck dissection and staged as cT0 – 1. The table below presentes the incidence of metastaticc nodes by level and cNstage

Necklevels	Allpatients	cN0 patients	cN1 patients
I	2	2	0
II	41	24	17
V	1	0	1
I + II	5	3	2
II + III	6	0	6
II + V	1	0	1

Necklevels	Allpatients	cN0 patients	cN1 patients
II + III + IV	1	1	0
I + II + III + IV	1	1	0
I + II + III + V	1	0	1

Selective neck dissection was performed using a template encompassing levels I to III in all patients while radical neck dissection led to the removal of levels I to V. The rate of occult neck metastasis in levels I and IV is identical, with two cases for each in cNo patients. When we compare the results of END and MRND, no difference exists in disease-specific survival and neck recurrences.We conclude that in cN0 patients, removaloflevels II - III ismandatorybutlevels I, IV and V maybespared.

Poster Number – 183 Abstract No.- 391 **STUDY OF RETRO AURICULAR ENDOSCOPE ASSISTED NECK DISSECTION**

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Background Conventional operation for oral cavity squamous cell carcinoma includes resection of primary tumour and neck dissection .The neck dissection in majority is accomplished with the adoption of a conventional trans-cervical scar. This in most cases results in a grossly visible scar. The neck is the most easily recognized and exposed area, therefore most patients carry a significant stigma of a visible scar in the neck. Conventional neck incision is also associated with postoperative morbidities such as fibrotic band formation and cervical lymphedema. Recently numerous surgical approaches have been developed such as the transoral (TO), trans-axillary (TA), and retro auricular (RA) approach in conjunction with a Robot in order to avoid these complications. The Robot however is an expensive equipment and not affordable for resource poor settings in a developing country like ours .We therefore explored the efficacy of a Retro auricular Endoscope assisted selective neck dissection in early oral cavity squamous cell carcinoma .The aim of our study was to observe surgical outcomes of Retro auricular Endoscope assisted selective neck dissection.

Method From August 2016 to December 2016, 15 patients of early oral cavity cancer (c T1/T2 N0) were enrolled into this observational study. Demographic data were recorded. Total operation time was recorded .Patients were then observed for other factors such as intra-operative and postoperative complications, pathological factors especially the lymph node yield.

Result Mean total operative time of endoscopic assisted technique was 130 minutes.
Patients with retro auricular neck dissection have better aesthetic outcome as the scar is hidden in the hairline. No serious adverse outcomes were observed.

Conclusion In a resource poor setting where Robotic surgery system is not available, endoscope assisted retro-auricular neck dissection gives us good cosmetic outcomes without any compromise in oncological safety. Minor drawbacks are relatively longer overall operation time.

RADIATION AND MEDICAL ONCOLOGY

Poster Number – 185 Abstract No -5 **EVALUATE THE RESPONSES AND TOXICITIES WITH CONVENTIONAL EXTERNAL BEAM RADIOTHERAPY VERSUS INTENSITY MODULATED RADIOTHERAPY AFTER NEOADJUVANT CHEMOTHERAPY IN LOCALLY ADVANCED OROPHARYNGEAL CANCERS: PROSPECTIVE STUDY**

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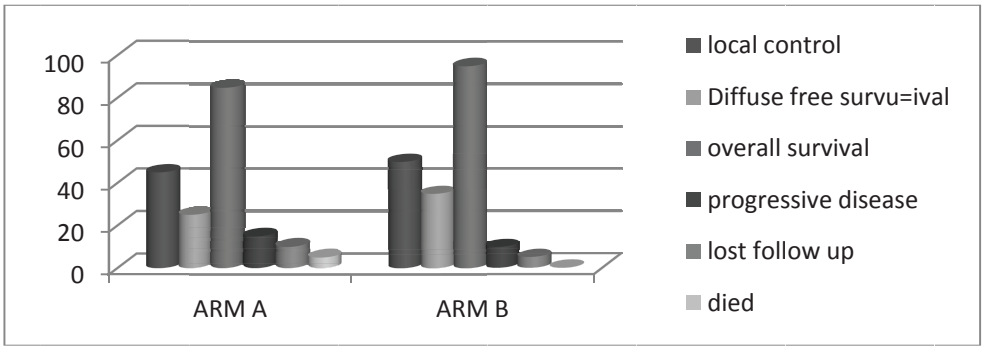
Introduction: Oropharyngeal cancer is primarily a disease of elderly, frequently seen in patients older than age 45. A group of oropharyngeal cancer patients has been considered in our study because of rising trends of its incidence due to tobacco abuse even in youngsters.
Objectives: To evaluate acute and late radiation morbidity and treatment response in both groups.
Methods: Squamous cell carcinoma of oropharynx (stage:T3-T4a N0-N2 M0) including all ages, both sexes 54 patients reporting to KNMH, for a period of February 2014-June 2015, were enrolled and subjected to induction chemotherapy. Complete and partial responders were randomized by computer into 2 arms: Arm A (Conventional EBRT) and Arm B (IMRT). Both groups received 70 Gy/35fractions/7weeks as per institutional protocol.
Results: At 6^{th} month follow up local control(LC), disease free survival(DFS), overall survival(OS) found in arm A versus arm B was 45% vs 50%, 25% vs 35%, 85% vs 95% respectively. Progressive disease and lost follow up was 15% vs 10%, 10% vs 5% respectively. Patients died in arm A versus arm B was 5% vs 0% respectively. Statistically our data was found not significant. Late radiation toxicities were assessed clinically and radiologically at 6 months and results had found not statistically significant.
Conclusion: As observed in our study, 40 patients out of 54 had down staged. With down staging the tumor subsequent to induction chemotherapy, patient improved symptomatically as far as swallowing, anorexia, pain, weight loss were considered, and delivering radiation became easier with less radiation related complications. However, this study definitely showed down staging and better treatment tolerance towards IMRT arm in locally advanced oropharyngeal carcinoma. A long term study for longer follow up required for any statistically significant result. Better response can be expected in early stage disease.

Table: Distribution of patients on the basis of LC, DFS,OS,PD at 6 months

Treatment response	Arm A		Arm B	
	No. of patients	%	No. of patients	%
LOCAL CONTROL	9	45	10	50
DISEASE FREE SURVIVAL(DFS)	5	25	7	35
OVERALL SURVIVAL (OS)	17	85	19	95
PROGRESSIVE DISEASE	3	15	2	10
LOST FOLLOW UP	2	10	1	5
DIED	1	5	0	0

Graph: response after treatment protocol at 6 months



Poster Number – 186 Abstract No – 50 **PERSONALIZED MEDICINE IN ORAL ONCOLOGY – A NEW CHALLENGE**

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Introduction: Despite the advances in the management of many human cancers over the past few decades, improvements in survival are marginal and overall diagnosis and prognosis of cancer patients remain poor. The rapid advent of 'omics technologies' which is a new high throughput molecular analysis and next generation sequencing have heralded a new era of personalized medicine. This new paradigm has reached the mainstream and is being heralded a new era of personalized medicine

Objective: The focus of this review is to provide a descriptive narrative overview of personalized medicine and oral cancer, its recent advances, challenges and future perspectives.

Methods: A critical evaluation of peer reviewed literature describing personalized medicine and cancer published in English within the last 5 years in journal indexed in the Pubmed data base was conducted using mesh search terms. Special focus was based on the oral cancer research.

Results: It is reasonable to believe that the onslaught of new knowledge of cancer biology and the development of targeted therapies has begun a revolution in cancer medicine that will ultimately result in a totally new way of thinking about cancer and usher in a new era of personalized cancer medicine.

Conclusion: The omics have provided a means for molecular profiling that allows tailoring of therapy. Although implementing genomic and proteomic testing into clinical practice is still in its infancy, the rapid development of newer technologies and platforms provide hope for personalized medicine. However there are numerous challenges that need to be surpassed before delivering on the promise of personalized cancer therapy.

Poster Number – 187 Abstract No – 67 **THE CASE OF MALIGNANT MELANOMA OF THE MANDIBULAR GINGIVA WITH MULTIPLE METASTASES INCLUDING BRAIN LESION SHOWING GOOD RESPONSE TO NIVOLUMAB**

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The malignant melanoma is easy to metastasize, and the prognosis is extremely poor. We report the case treated by Nivolumab which is immune checkpoint medicine for systemic metastasis of malignant melanoma at the mandibular gingiva.

Nivolumab was developed as a monoclonal antibody against programmed death receptor-1, an immune checkpoint inhibitor which negatively regulates T-cell proliferation and activation. Intravenous administration of nivolumab was approved for the treatment of unresectable malignant melanoma in 2014 in Japan.

A 76-year-old man had a black pigmentation in his left gingiva of mandible, and swelling was detected in his left neck lymph nodes. Aspiration biopsy cytology of the neck lymph node was performed, and malignant melanoma was diagnosed.

We performed mandibular resection and the left neck dissection under a diagnosis of the left gingiva of mandible malignant melanoma with cervical lymph node metastasis in the end of January, 2015. The recurrence was not found in postoperative radiation therapy, but a systemic metastasis and brain metastasis was detected in Positron emission

tomography(PET)in June, 2015. We provided treatment with γ- knife for brain metastasis and started DAV-Feron therapy by the middle of July, but the metastatic part did not reduce. We start treatment with Nivolumab in the end of August (2 mg/kg was administered every 3 weeks). Before treatment, a systemic evaluation showed a residual and new brain metastasis and a systemic metastasis, but the brain metastasis disappeared three months later. After one year, PET revealed improvement of multiple systemic metastases. We started treatment by Nivolmab and passed for sixteen months. He has almost none of the side effects, and lived without quality of life decreasing. Nivolumab could be a useful choice for patients with multiple metastases of malignant melanoma including brain lesion.

Poster Number- 188 Abstract No-109 **TARGETED GENE THERAPY IN ORAL SQUAMOUS CELL CARCINOMA - A NEW AVENUE IN TREATMENT – PAST, CURRENT AND FUTURE PERSPECTIVE**

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Oral cancer represents a common entity comprising a third of all head and neck malignant tumors. Despite incredible advances in surgery, radiotherapy and chemotherapy over the years, the prognosis remains unchanged for patients with advanced Head and Neck malignancies. This is attributed partly to the aggressive local invasion, late detection, and distant metastasis of the disease. Even with the multimodal approach available to treat oral malignancy the current treatments often are far from reaching the goal to cure the menace completely.

Recently progress is made in understanding the aetiopathogenesis and molecular basis of disease which have opened new horizon leading to more accurate and earlier diagnosis and more effective treatment strategies with fewer adverse effects.

The introduction of mechanism-based targeted therapies and gene therapy are new treatment modalities showing promising results in treatment of oral cancer. The rapidly growing armamentarium of targeted therapeutics can be categorized according to their respective effects. The goal of gene therapy is to introduce therapeutic genetic material into the target cell to exert the intended therapeutic effect. Gene therapy includes addiction gene therapy, suicide gene therapy, immunotherapy, oncolytic virus therapy, inhibition of tumour angiogenesis, gene deletion therapy and antisense RNA. In future it is anticipated that gene therapy will play an imperative role either alone or in combination with existing therapies in definitive treatment of potentially malignant and malignant oral lesions.

Poster Number-189 Abstract No- 149 **REFERRAL PATTERN FOR NEOADJUVANT CHEMOTHERAPY IN THE HEAD AND NECK CANCERS IN A TERTIARY CARE CENTER**

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Background: Use of any treatment modality in cancer depends not only on the effectiveness of the modality, but also on other factors such as local expertise, tolerance of the modality, cost and prevalence of the disease. Oropharyngeal and laryngeal cancer are the major subsites in which majority of neoadjuvant chemotherapy (NACT) literature in the head and neck cancers is available. However, oral cancers form a major subsite in India.

Materials and Methods: This is an analysis of a prospectively maintained data on NACT in the head and neck cancers from 2008 to 2012. All these patients were referred for NACT for various indications from a multidisciplinary clinic. Descriptive analysis of indications for NACT in this data base is presented.

Results: A total of 862 patients received NACT within the stipulated time period. The sites where oral cavity 721 patients (83.6%), maxilla 41 patients (4.8%), larynx 33 patients (3.8%), laryngopharynx 8 patients (0.9%) and hypopharynx 59 patients (8.2%). Out of oral cancers, the major indication for NACT was to make the cancer resectable in all (100%) patients. The indication in carcinoma of maxilla was to make the disease resectable in 29 patients (70.7% of maxillary cancers) and in 12 patients (29.3% of maxillary cancers) it was given as an attempt to preserve the eyeball. The indication for NACT in laryngeal cancers was organ preservation in 14 patients (42.4% of larnyngeal cancer) and to achieve resectability in 19 patients (57.6% of larnyngeal cancer). The group with laryngopharynx is a cohort of eight patients in whom NACT was given to prevent tracheostomy, these patients had presented with early stridor (common terminology criteria for adverse events Version 4.02). The reason for NACT in hypopharyngeal cancers was for organ preservation in 24 patients (40.7% of hypopharyngeal cancer) and for achievement of resectability in 35 patients (59.3% of hypopharyngeal cancer).

Conclusion: The major indication for NACT is to make disease resectable at our center while cases for organ preservation are few.

Poster Number – 190 Abstract No – 152 **TOXICITY, TOLERANCE AND OUTCOMES OF CARBOPLATIN BASED CTRT (CONCURRENT CHEMORADIATION) IN HEAD AND NECK CANCERS IN PATIENTS WHO WERE NOT FIT FOR CISPLATIN BASED CTRT.**

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Background: Cisplatin based chemoradiation (CTRT) is the standard of care in locally advanced head and neck cancers. Limited treatment options are available in patients who are not fit for cisplatin based CTRT. This audit was carried out to study the toxicity, tolerance and outcomes of carboplatin based CTRT in patients who were not eligible for cisplatin based CTRT.
Methods: A total of 63 locally advanced head and neck cancer patients treated between January 2011 - October 2015, were administered carboplatin based CTRT. The dose of carboplatin was AUC-2 weekly for a maximum of 7 cycles. SPSS version 16 was used for analysis. Descriptive statistics is performed. Toxicity is coded in accordance with CTCAE version 4.03. Progression free survival (PFS) and overall survival (OS) were estimated by Kaplan Meier survival analysis.Cox proportional hazard model was used for identifying factors affecting PFS and OS.
Results: The reason for medical unfitness for cisplatin were low serum creatinine clearance in 41 patients (63.5%), sensorineural hearing loss in 18 patients (27.0%), uncontrolled medical comorbidity in 03 patients (4.8%)and old age in 1 patient (1.6%). 53 patients (84.1%) completed radiation and the median number of carboplatin cycles were 6 (IQR 5-7). Grade 3-4 toxicity was seen in 32 patients (50.8%). The rate of grade 3-4 mucositis and weight loss was 22.2% (14 patients) and 17.5% (11 patients) respectively. The median OS and PFS were 27.1 months (95%CI 19.6-34.6 months) and 14.4 months (95%CI 07.1-21.7 months) respectively. The factor influencing PFS was age (HR 1.07, 95% CI 1.001-1.137, p-0.046) while the same factor influenced OS also (HR 1.15, 95% CI 1.044-1.268, p-0.005).
Conclusions: Carboplatin based CTRT is well tolerated in patients unfit for Cisplatin and seems to have superior outcomes than those reported in radical radiotherapy studies.

Poster Number – 191 Abstract No – 228 **REVIEW ON RADIATION INDUCED GENOMIC INSTABILITY**

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People are exposed to ionizing radiation from medical exposures for therapeutic purposes.While medical applications of ionizing radiation are accepted worldwide as essential tools to improve human health, they also represent by far, the largest sources of radiation exposure to the population.When radiation passes through once body, it can deposit the energy into all the biological molecules. In turn the deposited energy alters the structure of biomolecules and its functions. Any alterations in the structure and functions of the cells and tissues due to radiation exposures have deleterious consequences. Ionizing radiation can also impair or damage cells indirectly by creating free radicals. Free radicals are molecules that are highly reactive due to the presence of unpaired electrons on the molecule. Free radicals may form compounds, such as hydrogen peroxide, which could initiate harmful chemical reactions within the cells. As a result of these chemical changes, cells may undergo a variety of structural changes which lead to altered function or cell death.The cell tries its best to repair the damages caused due to ionizing radiation. When these mechanisms are not successful, irradiation of cells can lead to the following: a) chromosomal aberrations b) gene mutation c) delay or stoppage of cell division and d) cell death. Accumulation of these damages, causes genomic instability that may lead to cancer. Cancer is the most notable long-term somatic effect, mutations that occur in germ cells (sperm and ova) that can be transmitted to future generations and are therefore called *genetic* or *heritable* effects. Genetic effects may not appear until many generations later. Ionizing radiation has been proved a major stress that can induce carcinogenesis. Hence, the paper aims in reviewing the impact of radiation in inducing genomic instability which may lead to carcinogenesis.This review is to stimulate thinking on how knowledge of the complexity of radiation-induced DNA damage may contribute to the development of cancer

Poster Number-192 Abstract No-246 **EFFICACY OF MULTIMODAL THERAPY IN THE SURVIVAL OUTCOMES OF ADVANCED STAGE (STAGE III- STAGE IV) ORAL CARCINOMA PATIENTS- AN INSTITUTIONAL EXPERIENCE IN ASIAN INDIAN POPULATION.**

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Aim: Advanced stage oral squamous cell carcinoma (OSCC) remains a challenging disease to treat. Primary ablative surgery followed by post-op radiotherapy (S-RT) remains the mainstay of treatment at various centres. Despite this aggressive dual modality therapy, the disease outcomes have remained constant at 30% local or regional disease recurrence, 25% distal metastasis and 30% 5 year survival.
A retrospective analysis of survival rates of patients having advanced stage OSCC treated with multimodal therapies (Primary tumour ablation and neck dissection followed by post-op radiotherapy (S-RT) or combined chemo-radiation(S-CRT) was performed to analyse the outcome of these modalities for patient survival and whether addition of postoperative chemotherapy (S-CRT) improves survival as compared to other treatment regimens. The major indicators of prognosis were analysed such as location of the primary tumour, TNM staging, stage at initial presentation, therapeutic approach, type of neck dissection, and tumour recurrence.
Material and Methods: Demographic, pathologic, treatment modality and survival data of 128 patients (from June 2008- June 2015) treated at our institute was included in the study for analysis. Patients were grouped by treatment modality. All primary tumour ablations were followed by neck dissections. 69 Patients received S-RT while 55 patients were opted for S-CRT. Overall survival, disease specific survival, disease free survival was estimated with Kaplan-Meier analysis and compared between groups (S-RT and S-CRT) with Cox regression analysis.
Results: Survival was significantly influenced with the type of modality, location of primary tumour and regional spread of disease. Patients receiving S-CRT had improved overall, disease specific, disease free and metastasisfree survival as compared to S-RT group ($p<0.05$). A survival advantage of 10% was achieved in S-CRT group as compared to S-RT group even in patients with extra-capsular spread (ECS) and perineural invasion (PNI).
Conclusion: Addition of adjuvant chemotherapy to S-RT improves survival outcomes in advanced OSCC, especially in patients with regional spread of disease

POSTER NUMBER – 193 Abstract No – 268 **POST OPERATIVE CHEMOTHERAPY AND RADIOTHERAPY IN ORAL CANCER PATIENTS – PREDICTIVE FACTORS FOR CHOOSING A CONCOMITANT TREATMENT REGIMEN AND REASONS FOR DELAY IN INITIATION OF THERAPY.**

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Introduction: Oral cancer ranks in the top three of all cancers in India, which accounts for over thirty per cent of all cancers reported in the country. It is one of the most fatal health issues faced by mankind today. This increased frequency in India is because of the cultural, ethnic, geographic factors and the popularity of addictive habits. Several factors like tobacco and tobacco related products, alcohol, genetic predisposition and hormonal factors are suspected as possible causative factors. For patients who present with locally advanced squamous cell head and neck cancer, standard treatment is either radical surgery or radiotherapy (RT) or a combination therapy. The results or prognosis of standard treatment are poor with long-term survival in fewer than 30% of patients as seen in several studies in the past. Hence various other therapeutic approaches that include the addition of chemotherapy (CT) before definitive RT and/or surgery (neoadjuvant), during RT (concomitant), or following completion of "curative" therapy (adjuvant) are done presently.
But the treatment protocol for the addition or combination of the three modalities – such as surgery, chemotherapy and radiotherapy are dependent on various factors such as progression of the disease, patient factors, clinician factors etc.
Also we see that there is often a delay in the initiation of chemotherapy and radiotherapy post operatively.
Materials and Methods: Retrospective analysis of patients with oral cancer treated in M S Ramaiah group of hospitals from January 2015 to January 2017.
Results: The study is completed and results are awaited.
Conclusion: This paper aims to provide a synopsis of the predictive factors for choosing a concomitant treatment regimen and reasons for delay initiation of therapy through a retrospective analysis of patients with oral cancer treated in M S Ramaiah group of hospitals.

Poster Number – 194 Abstract No – 323 **THE ROLE OF ADJUVANT CHEMOTHERAPY IN PATIENTS WITH ORAL SQUAMOUS CELL CARCINOMA AND EXTRA CAPSULAR NODAL SPREAD.**

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The presence of lymph node metastasesis a significant prognostic cvariable in oral cancer with a significant decrease in survival and the presence of extra capsular spread further worse ns the prognos is with an increased risk of local, regional ordistant failure In this group of patients, the addition of chemotherapy to radiotherapy improves outcomes. We analyzed 249 consecutive patients with oral SCC and extra capsular spread. Mean age at diagnosis was 57.30 years (range, 28 to 94 years). There were 153 males (77.27%) and 45 females (22.73%). Treat ment consisted of primary tumor resection and elective neck dissection in all patients. Selective neck dissection of levels I - III were performed in 54 patients (21.69%), modified radical neck dissections in 123 patients (49,40%) and radical neckdissections in 72 patients (28.92%). Adjuvant therapy consisted solely of radiotherapy in 156 patients (62.65%) and chemoradiation in 42 patients (16.87%). No adjuvant therapy was administered to 51 patients (20.48%). The indication of treatment was based on the decade of treatment and the patients' comorbidities. Patients with auditive diseases and renal failure weren't considered candidates for adjuvantchemotherapy.
The time of follow-up ranged rom 24 to 159 months. There were 90 cases of local recurrence (36.14%)and 63 cases of neck recurrence (25.30%). The neck was the only site of recurrence in 36 patients. By last notice, 144 were dead from disease progression and 42 from other, unrelated causes. Adjuvan t therapy had a significant impacton disease-free, disease-specific and overall survival in un ivariate analysis using the no adjutancy group as reference. The same out comes we reanalyzed comparing exclusive RT versus chemoradiation. In this setting, no significant difference swere shown between the groups.Classification analysis by regression trees couldn't identify a group that benefits from chemoradiation.

Poster Number – 195 Abstract No – 399 **ASSOCIATION BETWEEN NAT- 1 AND NAT- 2 AND RISK OF ORAL PRE CANCER AND CANCER IN NORTH INDIA**

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Background: Two N-acetyltransferaseisozymes, NAT1 and NAT2, are polymorphic and catalyze both Nacetylation(usually deactivation) and O-acetylation (usually activation) of aromatic and heterocyclic amine carcinogens.
Objective: To evaluate the association of NAT1 and NAT2 polymorphisms with the susceptibility of Oral cancer patients in North Indian population.
Methods: A total of 250 patients with oral cancer and 250 healthy volunteers were genotype for the NAT1 and NAT2 gene polymorphism. Genotypes were identified by polymerase chain reaction (PCR) restriction fragment length polymorphism (RFLP). Genotype frequencies were evaluated by Chi-square test and Odds ratio (OR) relative risk.
Result: NAT 1 and NAT2 polymorphism was significantly associated with Oral cancer patients as compared to healthy volunteers.
Conclusion: We conclude that the NAT1 and NAT2 polymorphism is significantly associated with Oral cancer.
Keywords: Oral squamous cell carcinoma, N-acetyltransferases, PCR, RFLP.

Poster Number – 196 Abstract No – 128 **TOXICITY ANALYSIS OF DOCETAXEL, PLATINUM AND 5 FLUOROURACIL (TPF) NEOADJUVANT CHEMOTHERAPY IN PATIENTS WITH HEAD AND NECK CANCERS**

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Background: There is a lack of data systematically addressing the issue of toxicity with TPF/DCF regimen in routine care. We planned this study with the aim of detecting, profiling and quantifying the toxicity of TPF used in Indian head and neck cancer patients receiving neoadjuvant TPF chemotherapy in routine clinical practice (non-trial setting).
Methods: Patients of locally advanced head and neck cancer receiving TPF chemotherapy were selected for this analysis. The patients received 2 cycles of TPF chemotherapy every 21 days. Patients were monitored for the occurrence of adverse drug reactions in accordance with CTCAE version 4.03 during the hospitalization daily (at least until day 8 post start of chemotherapy), then at day 15 & at day 20. Descriptive statistics have been performed. Predictive factors were sought.

Results: The cumulative rate of grade >3 anemia, neutropenia and thrombocytopenia were 12.1%, 56.9% and 5.2% respectively. The cumulative incidence of febrile neutropenia was 20.7% (12 patients, n=58). The cumulative incidences of mucositis and diarrhea were 67.2% and 74.1% respectively. There was no mortality associated with induction chemotherapy and 100% patients completed the planned 2 cycles of TPF. None of the tested factors predicted for any of the adverse events considered in the study.
Conclusion: The magnitude toxicity of TPF in Indian patients in routine practice is high and it differs substantially from the toxicity seen in trial setting.

Poster Number-197 Abstract Number-151 **EXPECTATIONS AND PREFERENCES FOR PALLIATIVE CHEMOTHERAPY IN HEAD AND NECK CANCERSPATIENTS**

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Background: Head and neck cancer patients undergoing palliative chemotherapy have a limited overall survival. Expectations and preferences of such patients towards palliative chemotherapy after explanation of disease prognosis and treatment options are unknown.
Methods: This was a single arm, prospective, observational study in where newly diagnosed head and neck cancer patients warranting palliative chemotherapy. These patients underwent protocol defined counselling. Post counselling, they were administered chemotherapy expectation and preference proforma (CEP).The primary objective of this study was to estimate the percentage of patients opting for an increase in survival as the primary expectation from chemotherapy.
Results: We recruited two hundred patients. All patients except one answered the CEP. Prolongation of life as the primary expectation from palliative chemotherapy was chosen by 82 patients (41.0%; 95%CI 34.4%-47.9%). Symptom relief was the primary expectation or an equally important expectation amongst the remaining 117 patients (58.5%; 95%CI 51.6%-65.1%). There was a statistically significant difference between the preferences of patients having a primary expectation of prolongation of life as opposed to symptom relief regarding the minimum expected number of patients need to treat to get prolongation of life (p value -0.00). The minimum expected increment in life expectancy for taking palliative chemotherapy was "> 1 year" in 190 patients (94.5%; 95% CI 91.5% - 97.7%).
Conclusion: The primary expectation from palliative chemotherapy in head and neck cancer patients is not necessarily living longer in all patients. This study shows that a good conversation about the expectations of palliative chemotherapy in head and neck cancer is very important. The magnitude of benefit preferred by the patients from chemotherapy far exceeded the current standards for drug approval**.**

Keywords: Expectations; Preferences; Palliative Chemotherapy; Head and neck cancers; Decision making; Attitude to health

BASIC SCIENCE

Poster Number – 198 Abstract No-2 **ARSENIC TOXICITY- ITS IMPORTANCE AND ROLE IN HPV INFECTION IN ORAL CARCINOMA IN WEST BENGAL**

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Introduction: The effect of HPV infection has been one of the emerging factors in the development of oral carcinoma, reported in various countries. Since West Bengal is the most arsenic prone state in India, this study also focuses on its toxicity affecting the development of this malignancy. We aimed to find out any possible correlation between HPV 16 infection and oral carcinoma and also between arsenic toxicity and the development of this disease.

This study also deals with any possible relation between the viral factor and metal toxicity, acting together in this malignancy.
Methods: A total of 46785 patients attending our hospital were screened for the presence of oral premalignant and malignant lesions. Out of 1072 selected patients, 119 malignant, 103 premalignant and 100 control buccal swab and smear, hair samples were collected. PCR (with MY09/MY11 primers) was performed using the DNA extracted from the buccal swab samples, to detect the presence of HPV16 DNA. The hair samples were analysed for arsenic estimation by the method of flow injection-hydride generation-atomic absorption spectrometry. The other risk factors' association was also studied.
Results: 33.7% and 8% of malignant and premalignant cases showed the presence of HPV 16 DNA. 60% of the cases showed their arsenic count above the safe limit (0.8µg/g). 20% of the total cases showed both the presence of the viral DNA and an elevated arsenic count.
Conclusion: A considerable percentage of malignant samples showing the presence of HPV16 DNA indicates that there may be a correlation between HPV infection and oral malignancy. A higher percentage of cases showing an elevated arsenic count states a possible link between arsenic toxicity and the development of this disease. A small percentage showing an overlapping percentage of both the factors also poses towards the possible role of each other in this malignancy.

Poster Number- 199 Abstract No- 56 **THERAPEUTIC IMPLICATION OF MTORC2 IN ORAL SQUAMOUS CELL CARCINOMA**
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The aim of the present study was to clarify the association of mTORC2 expression with the cancer progressionand the anti-tumor effects of Torin-1 alone and combined treatment with Cetuximab in OSCC cells. The expressions of Rictor and SGK1 were immunohistochemically evaluated and the relationships between the expressions of molecular markers and clinocopathological factors were determined. Moreover, OSCC cells were treated with Torin-1, Cetuximab or combined agents, and anti-tumor effects of OSCC cells were examined *in vitro* and *in vivo*.Rictor and SGK1 expressions were significantly associated with tumor stage and pattern of invasion in OSCC sections ($P < 0.05$ and $P < 0.01$, respectively). Treatment of OSCC cell lines with Torin-1 resulted in dose and time-dependent inhibition of proliferation with decrease of phosphorylation on downstream molecules. Combined treatment with Torin-1 and Cetuximab resulted in enhanced anti-tumor effects in vitro comapared with either agent alone. Furthermore, treatment of mice bearing OSCC xenografts with Torin-1 and Cetuximab also demonstrated a remarked growth inhibition of tumor volumes.The results suggestedthat new regimens of systemic therapy combined with Cetuximab and Torin-1 may be usefulfor very advanced OSCC patients.

Poster Number – 200 Abstract No – 60 **CHEMOKINE RECEPTOR 7 VIA PROLINE-RICH TYROSINE KINASE-2 UPREGULATES THE CHEMOTAXIS AND MIGRATION ABILITY OF SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK.**
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Introduction: Aberrant regulation in the chemotaxis and migration ability of cancer cells is closely associated with their metastatic activity. The chemokine receptor 7 (CCR7) has recently been shown to play an important role in regional lymph node metastasis of squamous cell carcinoma of the head and neck (SCCHN).
Methods: In this study, we examined the role of proline-rich tyrosine kinase-2 (Pyk2) in CCR7-induced chemotaxis and migration ability of metastatic SCCHN cells.
Results: We showed that Pyk2 is overexpressed in squamous cell carcinoma of the head and neck. We also found that CCR7 induced Pyk2 and cofilin activation. Inhibition of Pyk2 activity using a pharmacological inhibitor, Tyrphostin A9, significantly attenuated CCR7-induced Pyk2 tyrosine phosphorylation, activation of cofilin and sequentially abolished F-actin rearrangment, diminished the chemotaxis and migration ability of SCCHN cells.
Conclusion: In summary, our data suggest that CCR7 via Pyk2 and cofilin regulates the chemotaxis and migration ability of metastatic SCCHN cells.

Poster Number-201 Abstract No- 63 **CCR7 REGULATES CELL MIGRATION AND INVASION THROUGH JAK2/STAT3 IN METASTATIC SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK.**

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Introduction: Squamous cell carcinoma of the head and neck (SCCHN) frequently involves metastasis at diagnosis. Our previous research has demonstrated that CCR7 plays a key role in regulating SCCHN metastasis, and this process involves several molecules, such as PI3K/cdc42, pyk2, and Src.

Methods: In this study, we use western-blot, transwell and immunohistochemical staining to test whether JAK2/STAT3 also participates in CCR7's signal network, its relationship with other signal pathways, and its role in SCCHN cell invasion and migration.

Results: The results showed that stimulation of CCL19 could induce JAK2/STAT3 phosphorylation, which can be blocked by Src and pyk2 inhibitors. After activation, STAT3 was able to promote low expression of E-cadherin and had no effect on vimentin. This JAk2/STAT3 pathway not only mediated CCR7-induced cell migration but also mediated invasion speed. The immunohistochemistry results also showed that the phosphorylation of STAT3 was correlated with CCR7 expression in SCCHN, and CCR7 and STAT3 phosphorylation were all associated with lymph node metastasis.

Conclusion: In conclusion, JAk2/STAT3 plays a key role in CCR7 regulating SCCHN metastasis.

Poster Number – 202 Abstract No- 64 **CCR7 REGULATES CELL MIGRATION AND INVASION THROUGH MAPKS IN METASTATIC SQUAMOUS CELL CARCINOMA OF HEAD AND NECK.**

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Introduction: Migration and invasion of tumor cells are essential prerequisites for the formation of metastasis in malignant diseases. Previously, we have reported that CC chemokine receptor 7 (CCR7) regulates the mobility of squamous cell carcinoma of head and neck (SCCHN) cells through several pathways, such as integrin and cdc42. In this study, we investigated the connection between CCR7 and mitogen-activated protein kinase (MAPK) familymembers, and their influence on cell invasion and migration in metastatic SCCHN cells.

Methods: Western blotting, immunostaining and fluorescence microcopy were used to detect the protein expression and distribution of MAPKs, and the Migration assay, Matrigel invasion assay and wound-healing assay to detect the role of MAPKs in CCR7 regulating cell mobility. To analyze the correlation between CCR7 and MAPK activity and clinicopathological factors immunohistochemical staining was emplyed.

Results: The results showed stimulation of CCL19 and the activation of CCR7 could induce ERK1/2 and JNK phosphorylation, while it had no efect on p38. After activation, ERK1/2 and JNK promoted E-cadherin low expression and Vimentin high expression. The MAPK pathway not only mediated CCR7 induced cell migration, but also mediated invasion speed. The immunohistochemistry results showed that CCR7 was correlated with the phosphorylation of ERK1/2 and JNK in SCCHN, and these molecules were all associated with lymph node metastasis.

Conclusion: Therefore, our study demonstrates that MAPK members (ERK1/2 and JNK) play a key role in CCR7 regulating SCCHN metastasis.

Poster Number-204 Abstract No-87 **ORAL CANCER IN MAHARASHTRA, INDIA: THE INFLUENCE OF CHEWING TOBACCO, DIET AND ORAL HYGIENE**

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Introduction: Two-thirds of the global burden of head and neck cancer cases occur in developing countries, with the Indiansubcontinent accounting for one-third of the global burden. A study was conducted to determine risk factors for oral cancerin Pune, Maharashtra, India.

Methods: A hospital-based case-control study (n=426) at two different hospitals between 2014-2015 was conducted. Histopathologically confirmed cases of oral squamous cell carcinoma and patients with a disease other than cancer from the same hospitals were recruited. We assessed risk factors by administering a questionnaire

through face to face interviews and by conducting oral examinations. Odds ratios and 95% confidence intervals were calculated through unconditional logistic regression, adjusting for relevant potential confounders.
Results: Chewing tobacco emerged as the strongest predictor for oral cancer (OR=8.29; 95% CI 4.73-14.53). Consumption of red meat more than twice a week showed an OR=2.34; 95%CI 1.34-4.09. Daily drinking of very hot tea (OR=3.19; 95%CI 1.99-5.11)and intake of very spicy food (OR=1.79; 95% CI 1.12-2.87) increased the risk. Consumption of vegetarian diet (green,yellow and cruciferouswith OR=0.41; 95% CI 0.24-0.71)and citrus fruits (OR=0.49; 95% CI 0.30-0.80) more than twice weekly showed a protective effect. For assessment of oral hygiene, patient self-reported indicators like bleeding gums, frequency of cleaning teeth daily, topical application of mishri on gums and dental check-ups only when in pain increased the risk significantly. Similarly, interviewer reported indicators showed missing teeth with significant risk (OR=5.76;95% CI 2.41-13.76).
Conclusions: Our study presents an update on tobacco, diet and oral hygiene, re-emphasising the importance of nutrition and oral health. Campaigns at community level need to recognise these common risk factors. Legal bans on sales of chewing tobacco need to be enforced.

Poster Number-205 Abstract No- 96 **EVALUATION OF CYTOTOXICITY OF MORINGA OLIFERA ON SCC-25 CELL LINES BY MTT ASSAY. – AN IN-VITRO STUDY**
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Introduction: Oral squamous cell carcinoma (OSCC) is the most common malignancy of the oral cavity, and remains one of the leading causes of mortality worldwide. Conventional cancer treatment modalities namely chemotherapy, radiotherapy and surgical interventions have numerous drawbacks. These disadvantages necessitate the development of a safer alternative anti-cancer therapy. Plant derived medicines are considered to have fewer adverse effects in comparison to conventional therapies. Moringa olifera a pan-tropical species, widely used for its nutritional benefits is also known for its promising anti-cancer activity on various cancer cell lines of colon, liver, breast, lung etc. The present study is to evaluate the possible anti-cancer activity of Moringa olifera leaf extract on OSCC.
Materials and methods: Cytotoxicity of methanolic leaf extract of Moringa olifera was evaluated on SCC-25 cell lines by MTT assay.
Results: Moringa olifera on SCC-25 cell lines showed significant dose-dependent cell growth inhibition with an IC_{50} value of 65.43µg/ml.
Conclusion: The leaf extract exhibited significant cytotoxic activity on SCC-25 cell lines. Our findings add to the growing evidence supporting the role of Moringa olifera as a natural anti-cancer agent and provide a preliminary platform for further investigations on the role of Moringa olifera in treatment of OSCC.

Poster Number-206 Abstract No-100 **USE OF GLUCOSE IN GLYCOGEN METABOLISM IN IODINE NON-STAINED (ORAL DYSPLASTIC/MALIGNANT) EPITHELIUM**
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Background and objectives: Vital staining with iodine solution has been used to distinguish dysplastic/malignant oral epithelium from normal mucosa. It is thought that iodine reacts with glycogen. Oral squamous cell carcinoma (OSCC) cells lacks glycogen and showed no-stain reaction with iodine. Therefore, the purpose of this study is to analyze use of glucose in glycogen metabolism in iodine non-stained (oral dysplastic/malignant) epithelium.
Materials and Methods: Twelve frozen tissue samples of iodine-stained and -unstained mucosa were obtained from 22 cases of OSCC. Serial frozen sections were cut and examined with hematoxylin-eosin (HE), periodic acid Schiff (PAS) methods and immunohistochemical staining for the enzyme glycogen synthesis (Glucokinase, GK and Phosphoglucomtase3, PGM3) and the enzyme glycogen phosphorylase (Glucose-6-phosphatase, G6P and Phosphoglucomtase3,PGM3).
Results: There was no significant difference in immunoreaction for PGM3 between iodine stained and non-stained epithelium. While, iodine non-stained epithelium presented significantly higher immunoreactions for GK and G6P in basal and parabasal layers compared to iodine stained epithelium. Moreover it was characteristic in G6P in particular.
Conclusions: The results of this study suggested that dysplastic/malignant oral epithelium had higher activation in utilization of glucose (higher activation of glucokinase and glucose-6-phosphatase), which results in an activation of glycolysis, while no activation of glucose metabolism to glycogen.

Poster Number - 207 Abstract No-108 **ASSOCIATION OF SINGLE NUCLEOTIDE POLYMORPHISM WITH THE RISK OF ORAL SQUAMOUS CELL CARCINOMA**

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Introduction: Oral squamous cell carcinoma (OSCC) is the sixth most common human cancer worldwide and the most common malignancy of the oral cavity. It accounts for over 30% of all cancers in India. Almost 80,000 cases are diagnosed annually. It is a multifactorial disease, affected by environmental factors such as alcohol and tobacco, chemical carcinogens, ultraviolet or ionizing radiation and micro-organisms as well as genetic factors.
It arises as a consequence of multiple molecular events that develop from the combined effects of an individual's genetic predisposition and exposure to environmental carcinogens. Chronic exposure to carcinogens may damage individual genes as well as larger portions of the genetic material, such as chromosomes. Genetic damages may activate mutations or amplification of oncogenes that promote cell survival and proliferation.SNPs in certain genes may confer susceptibility to OSCC development. A significant number of genetic single-nucleotide polymorphisms (SNPs) have been associated with OSCC; however, the contribution of these gene interactions in the development of OSCC remains unclear. Therefore, the identification of novel and effective biomarkers is necessary to improve the prognosis of OSCC.[1]

Methods: Based on the GWAS and Meta-Analysis reports we have shortlisted following Biological/Molecular Processes for SNP study in OSSC:

- Apoptosis: eg- CASPASE 8, BCL2, CASP1 and CASP10
- Metabolism: eg-MTHFR- *MTHFR C677T, MTHFR A1298C and CBS 844ins68*
- Transcription regulation: miRNA SNPs: (rs1057035 in 3'UTR of *DICER*, rs3803012 in 3'UTR of *RAN* and rs10773771 in 3'UTR of *HIWI*)
- Tumor suppression: eg- p53, MDM2, MDM4
- DNARepair: eg- XRCC1,XRCC2,XRCC3,XRCC4
- Metastasis: eg-MMP2,MMP9
- Ethical clearance
- 150 subjects with OSCC and equal number of healthy control
- Informed consent
- Data and sample collection
- PCR-RFLP
- Data analysis

Results: Awaited

Conclusion: Association of SNP with OSCC if established, will help in early diagnosis, to know the prognosis and decide the treatment for the same.

Poster Number-208 Abstract No- 110 **EXPRESSION OF CYCLOOXYGENASE 2 IN ORAL SUBMUCOUS FIBROSIS: AN IMMUNOHISTOCHEMICAL STUDY**

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Introduction: Cyclooxygenase 2 (COX-2), an inducible prostaglandin G/H synthase, is overexpressed in several human cancers. Oral submucous fibrosis (OSF) is a chronic disorder characterized by fibrosis of the mucosa lining the upper digestive tract and has the potential for malignant transformation. OSF is associated with inflammatory changes in at least some stages of the disease. Prostaglandin is one of the main inflammatory mediators and its production is controlled by various enzymes such as cyclooxygenase (COX). The genetic and pharmacological data strongly indicate that COX-2 should be investigated as a potential target for the prevention and treatment of cancer.

Mterials and methods: The study was done on formalin-fixed, paraffin-embedded tissue specimens obtained from departmental archives. The study group comprised histologically confirmed specimens (n = 10 each) of oral submucous fibrosis early (OSF G 1), moderate (OSF G 2), advanced (OSF G 3) and normal oral mucosa for comparison. The stained sections were assessed by three oral pathologists to classify the histologic grades. Immunohistochemical reactions were performed on paraffin embedded samples.

Results: Positive COX-2 exhibited cytoplasmic staining. COX-2 protein found to be absent in normal oral mucosa but was expressed in increasing intensity in oral submucous fibrosis. Strong immunostaining for COX-2 was detected in grade I and grade II compared to advanced stages. Statistical results are awaited.
Conclusions: Early detection and prompt intervention can prevent malignant transformation of OSF. Our study indicates that COX-2 may be an important marker of disease progression, might be a reliable prognostic indicator. Immunohistochemical marking and confirmation of the present results in a larger study may assist in treatment planning and improve clinical outcome

Poster Number – 209 Abstract No- 112 **AMYGDALIN - A RAGE OR REPRIVE**
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Introduction: Malignant tumors are the major disease and cause of concern to human health, and have been listed as the premier diseases which have threatened human health by World Health Organization (WHO). In recent years the development of antitumor drugs has been gradually transformed from cytotoxic drugs to improving the selectivity of drugs, overcoming multidrug resistance, development of new targeted drugs and low toxicity with high specificity drugs.Vitamin B17 is one such product. Vitamin B-17, commonly known as "Amygdalin", or "Laetrile", is a natural substance that can be found in a variety of species in the Vegetable kingdom. The greatest concentration is found in the seeds of the rosaceous fruits, such as apricot kernels and other bitter nuts. Amygdalin is also called bitter apricot, laetrile, almond, it is a cyanogenic compounds and belongs to the aromatic cyanogenic glycoside group. Moreover it has numerous pharmacological effects on the various system of the body. It has anticancer function by decomposing carcinogenic substances in the body, killing cancer cells, blocking nutrient source of tumor cells, inhibiting cancer cell growth. This study is designed to investigate the effect of Vitamin B17 on oral squamous cell carcinoma Cell Lines.
Materials and methods: Amygdalin from apricot kernels will be freshly dissolved in cell culture medium (1–10 mg/ml) and applied to tumor cells in culture flasks for 24 h . Controls will remain untreated. In all experiments, treated tumor cell cultures will be compared to non-treated cultures.
Oral Squamous cell line (KB mouth cell line) will be obtained from National Centre for Cell Science, Pune and Cytotoxity of the cells will be observed based on the morphological changes.
Results: Awaited
Conclusion: Based on the literature review, Amygdalin has a noteworthy antineoplastic activity on the oral cancer cells.

Poster Number – 210 Abstract No – 125 **PROGNOSTIC GENE EXPRESSION PROFILING OF BUCCAL AND GINGIVOBUCCAL ORAL SQUAMOUS CELL CARCINOMA IN SMOKELESS TOBACCO CHEWERS**
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Introduction: Oral squamous cell carcinoma (OSCC) is the eighth most common malignancy worldwide and is the leading cancer among menin the Indian subcontinent. Chewing betel quid comprising of betel leaf, areca nut and slaked lime with or without tobacco is traditional and popular in India and is known to cause oral cancer. Consequently, themost affected oral sites are buccal mucosa and the gingivobuccal sulcus. OSCC has a poor prognosis due to its invasive nature, and despite advances in diagnostics and treatment, the five year survival rate is below 50% and has not improved in the last three decades. The focus is now on understanding the molecular basis of cancer in order to identify potential markers which can help in early detection, determine prognosis and serve as therapeutic targets.
A study with high –throughput RNA sequencing(RNA-Seq) technology was executed to construct comprehensive mRNA expression profiles of buccal and gingivobuccal OSCC to understand the molecular changes that determine the prognosis.
Methods: Histopathologically confirmed OSCC cases (8nos.)with complete clinical, histopathological,treatment and followup data were chosen based on the site of presentation; Buccal mucosa (4 samples), Gingivobuccal sulcus (4 samples) and Normal tissue samples(3)for mRNA expression profiling. The tissue samples were obtained during surgical resection of the primary and immediately preserved in RNA later and stored at -80°C. The patients had not received pre-operative chemotherapy, radiotherapy or any other anticancer treatment prior to surgery.
Illumina NextSeq500 was applied for profiling the human transcriptome. Customized bioinformatics pipeline was used for RNA-Seq data analysis, to investigate mRNA expression in OSCC and normal samples.

Results: Data analysis was performed to understand functional aspectsof gene expression, gene ontology and pathway prediction.
Conclusions: This study will provide an insight into novel genes expressed in buccal and gingivobuccal OSCC with prognostic significance.

Poster Number – 212 Abstract No – 145 **MOLECULAR MARKERS FOR PREDICTING SUSCEPTIBILITY AND MALIGNANT TRANSFORMATIONOF ORAL POTENTIALLY MALIGNANT DISORDERS: A CRITICAL REVIEW OF EVIDENCE TO DATE TO GUIDE FUTURE STEPS**
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Introduction: Genetic and epigenetic markers offer a scope to improve precision in'screening and early detection' of oral potentially malignant disorders (OPMD). We critically evaluated single nucleotide polymorphisms (SNPs) and aberrant DNA methylation patterns, two frequently studied markers for predictingOPMD risk (susceptibility)and malignant transformation of OPMD respectivelyto ascertain knowledge gaps in the literature to guide future research.
Methods: We conducted comprehensive review of studies conducted worldwide, published in English languageon SNPs(January2000 – February2016) and DNA methylation in OPMD(all studies prior to April2015), using combined key-search in PubMed as well as in Web-of-Science and Embase databases (for DNA methylation). After adequate quality check, 47 studies on SNPs and 21 studies on DNA methylation were included for review.
Results: SNPs: With no genome wide association data, candidate gene association studies (majority of studies with N<200cases) were largely pathway driven explorations. Based on significant associations reported by ≥2studies, suggestive markers for OPMD susceptibility included SNPs in GSTM1 (null), CCND1 (G870A), MMP3 (-1171-promotor region), TNFα(rs800629), XPD (codon751) and Gemin3 (rs197412) as well asp53 (codon72) in Indian populations. An equal or greater number of studies reported null associations for these SNPs and mixed associations for additional SNPs in XRCC (rs25487), GSTT1 (null) and CYP1A1m1 (MspIsite).
DNA methylation:Majority of reviewed studies were small (4 to 156 affected cases), cross-sectional (N=18 out of 21) with poorly defined controls lacking validation. Hyper-methylated loci reported in ≥3studies included p16, p14, MGMT and DAPK. Longitudinal studies reported greater p16 hyper-methylation in lesions transformed to malignancy compared to regressed lesions (57–63.6% versus 8–32.1%; p< 0.01). The one study that explored epigenome-wide methylation patterns confirmed these loci and identified 3 novel hyper-methylated loci (TRHDE, ZNF454, KCNAB3).
Conclusion: Evidence on reliable markers for OPMD is limited to date. High-throughput genotyping approaches characterising germline and somatic genetic alterations and large epigenome-wide methylation explorations of OPMD and cancerare needed to validate the reported signals of disease susceptibility and progression respectively and to identify robust risk-loci of disease. Such efforts are likely to be relevant to public health in high incidence zones of oral cancer such as in South Asia.

Poster Number – 213 Abstract No – 155 **EMERGENCE OF GGT4, GGTLA1 VS. LOSS OF GGT7 IN PROLIFERATIVE TISSUE OFORAL SQUAMOUS CELL CARCINOMA AND NORMAL ORAL MUCOSA**
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Background:ϑ-glutamyltranspeptidase (GGT) is a membrane-bound enzyme which plays a role in the metabolism of glutathione and facilitates amino-acid transport. GGT activity participates in metabolic and growth control of normal and tumor cells by processing biologically active peptides. GGT have become topical enzymes in cancer detection. We report on up-regulation of active GGT enzymes in human oral squamous cell carcinoma (OSCC) determined by immunohistochemical (IHC) study.
Materials and methods: This prospective study included 11formalin-fixed paraffin embedded (FFPE) specimen of OSCC and normal oral mucosa were obtained from consecutive 11patients with previously untreated OSCC who were diagnosed and treated at Shinshu University School of Medicine form from September, 2012 to March 2013.After radical removing resection of OSCCthey were confirmed GGT activity using new probe. All samples presented GGT activity. Serial FFPE sections were cut and examined with hematoxylin, eosin and IHC staining for GGT1, GGT2, GGT4, GGT7, GGTLA1, and Ki67.

Results: Immunohistochemical profiles for 2 categories of epithelialconditions, normal oral mucosaand OSCC will bedescribed separately. Some isoformsof GGT could distinguish OSCC tissue from oral mucosa.Anti-GGT1 antibodynever appeared in oral normal mucosa and OSCC tissue. Anti-GGT2 antibody reacted all normal oral mucosa and OSCC tissue.Anti-GGT4 and GGTLA1 antibody reacted parabasal and OSCC tissue. The distributionsof them were similar to Ki67. GGT7 presented in granular cell layer and keratinized layer in normal oral mucosa and cancer pearl in OSCC tissue.
Conclusions: GGT4 and GGTLA1presented parabasal layer and OSCC tissue. The distributions of them were similar to Ki67. It is suggested that high cell proliferation induced elevated amino acid metabolism, resulting in an increasing GGT4 and GGTLA1. GGT7 might present in inactive tissue both normal oral mucosa and OSCC. GGT isoform might play different role each other.

Poster Number – 214 Abstract No – 159 **META ANALYSIS OF ORAL CANCER MANAGEMENT - A WALK THROUGH CENTURIES**
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Classical radical neck dissection (RND) remained the standard practice for management of lymph node metastasis in the neck for nearly three quarters of the past century. However, the philosophy of surgical management of neck metastases has changed considerably over the past few decades. With better understanding of the patterns of nodal spread and nodal level classification, improved anatomic and functional imaging, importance of extracapsular spread (ECS), and better adjuvant therapies, the routine use of RND has been replaced with functional (FND), modified radical (MRND), and selective (SND) neck dissections, to preserve vital structures in the neck and achieve better functional results. During the first half of the 20th century, developments included preservation of the accessory nerve in selected cases, elective neck dissection performed in association with resection of various primary tumors, bilateral neck dissection and limited neck dissection. Martin's technical precepts were followed until the latter part of the 20th century when modifications in technique began to find general acceptance. By the late 20th century, the concept of selective neck dissection, consisting of resection of only the nodal groups at greatest risk for metastasis from a given primary site, was studied and developed. These limited dissections are now widely employed for elective, and in properly selected cases, therapeutic treatment and staging of the neck, and have been proposed for limited cervical recurrences after various chemoradiation protocols. Prospective studies have demonstrated similar rates of neck recurrence and survival after elective selective neck dissection compared to elective modified radical neck dissection. Neck dissection, as evolved over the past century, is a fundamental tool in management of patients with head and neck cancer, but still multicenter case control studies across the globe is the need of hour to arrive at a standard neck dissection protocol.

Poster Number – 215 Abstract No – 160 **Spindly Expression In Oral Squamous Cell Carcinomas**
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Introduction: Oral squamous cell carcinoma (OSCC) is the most frequent head and neck cancer worldwide, with low survival rates, despite advances in detection and therapy options. Chromosomal instability (CIN) plays a crucial role in carcinogenesis and is frequently implicated in OSCC.In normalcycling cells, errors in chromosome attachments to themitotic spindle activate the spindle assembly checkpoint(SAC) which prevents transition from metaphase to anaphase until the attachment errors are rectified.Anaphase onset requires SAC silencing, a process that involveskinetochore dynein-mediated removal of Spindly protein. Our aim was to investigate the expression of Spindly in OSCC and its relationship to clinicopathologicalfactors.
Methods: Using tissue microarray technology, we analyzed the expression of Spindly by immunohistochemistry in 61 primary OSCC samples. Univariate (Kaplan-Meier and Log-rank test) and multivariate analysis (Cox regression) was conducted to inspect its influence on survival.

Results: Spindly expression was observedin all of the 61 (100%) OSCC tissue microarrays.High expression was detected in 75.4% of tumors; the remainder expressed only weak levels.Apart from treatment modality, no significant correlation was found between Spindly levels and the assessed clinicopathologic factors.In univariate analysis, tumor size, N status, tumor stage, treatment modality ($p \leq 0.001$), and Spindly expression ($p = 0.048$) were statistically significant prognostic factors.
Inmultivariate analysis, we found an independent prognostic value for Spindly expression, with tumours expressing high Spindly levelscorrelating with lower cancer-specific survival ($p = 0.041$; HR of 6.427; 95% CI 1.080-38.264).
Conclusion: Our data suggest promising clinical potential of Spindly as biological marker of cancer and prognosis.(work under the funds: "AdoralLeuk-CESPU-2016", "SpindlyTarget-CESPU-2016" and "MitOralC-CESPU-2016").

Poster Number – 216 Abstract No – 163 **HIGH EXPRESSION OF PHOSPHORYLATED AKT AND MTOR IN SALIVARY GLAND ADENOID CYSTIC CARCINOMA IS ASSOCIATED WITH IMPROVED SURVIVAL**
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Sun Yat-Sen University
Background: Previous genomic studies revealed PI3K/Akt pathway mutation in human salivary gland adenoid cystic carcinoma (ACC). No validation of its prognostic value has been reported.
Methods: P-Akt, pan-Akt, p-mTOR, mTOR, PI3K, IGF-1Rβ were detected on 120 salivary gland ACC/adjacent salivary gland pairsimmunohistochemically and correlated with clinicopathological data.
Results: Expression of cytoplasmic and nuclear p-Akt, cytoplasmic p-mTOR, nuclear pan-Akt, and nuclear IGF-1Rβ were higher in ACC than in adjacent salivary gland. P-Akt, p-mTOR, PI3K, and IGF-1Rβ expression were correlated with one anotherin both cytoplasm and nucleus. Low p-mTOR expression in both subcellular compartments were associated with local-regional recurrence, poor disease-free survival and overall survival. Low nuclear p-Akt (Ser473)and p-mTORexpression were independent predictorsfor poor overall survival and disease-free survival respectively.
Conclusions : High level of Akt/mTOR activation in ACC iscorrelated with a significantly improved survival. P-mTOR and nuclear p-Akt are prognostic biomarkersof salivary gland ACC.
Keywords PI3K/Akt/mTOR, Adenoid Cystic Carcinoma, Prognostic biomarker, Salivary Gland Cancer, IGF-1R

Poster Number – 217 Abstract No –165 **IN VITRO CYTOTOXIC EFFECT OF SYNTHETIC PEPTIDES DERIVED FROM LACTOFERRICIN BOVINE SEQUENCE AGAINST OSCC CELL LINES**
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Oral squamous cell carcinoma (OSCC) is the most common oral malignancy and accounts more than 90% of all oral cancers. This disease is managed by surgery, radiotherapy and some cases by chemotherapy, but regardless of the treatment, all have limitations and considerable side effects [1]. Synthetic peptides have demonstrated cytotoxic properties that make them an interesting option for OSCC treatment. Bovine lactoferricin (bLfcin) is a peptide with recognized cytotoxic activity. Short synthetic peptides derived from this peptide that contains RRWQWR motif have comparable antibacterial and anticancer activity than bLfcin complete sequence [2, 3].
The aim of this study was to evaluate the effect of changes in the primary structure of the synthetic peptides derived from bLfcin on cytotoxic activity against human OSCC cell lines. Peptides were synthesized in solid phase by Fmoc/tBu strategy, and later were purified and characterized by RP-HPLC and mass spectroscopy MALDI-TOF. *In vitro* cytotoxicity against SCC-9 and FaDu ATCC cell lines, cultured for 2, 6 and 24 hours in presence of several concentrations bLfcin derived peptides. The cytotoxic effect induced by peptides was evaluated using resazurin assay. Het-1A keratinocytes is a non-tumorigenic cell line and it was used as control. Our results showed that some shorter linear sequences derived from bLfcin display cytotoxic activity against human OSCC cell lines (IC_{50} around 50 μM). On the other hand, synthetic polyvalent structures derived from RRWQWR core exhibited higher cytotoxic activity than linear peptides (IC_{50} around 6.25 μM). In addition, all molecules have minimum cytotoxic effects against Het-1A that is non-tumorigenic cell line, suggesting anticancer selective activity.
In conclusion, this study showed that shorter synthetic peptides derived of bLfcin exhibit similar or better cytotoxic activity than bLfcin considering them as potential therapeutic candidates for OSCC treatment.
Key words: OSCC, lactoferricin, synthetic peptide, anticancer activity

Poster Number – 218 Abstract Number – 166 **SURFACE PROPERTIES AND CORROSION BEHAVIOR OF THREE-DIMENSIONAL PRINTED TITANIUM MANDIBULAR RECONSTRUCTION PLATES AND COMMERCIALIZED PLATES**

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Introduction: Three-dimensional (3D) printing technology has been evolving in fabricating patient-specific mandibular reconstruction plates from pure titanium. We have started to use 3D printed titanium plates in mandibular reconstructive surgery. In this pilot experiment, we aimed to examine the difference of surface element compositions and surface roughness of 3D-printed mandibular reconstruction plate, when compared with the commercialized traditional mandibular reconstruction plates. The corrosion behavior of different plates in human serum was also studied and compared.

Methods: After virtual surgical planning and computer designing, the 3D printed mandibular reconstruction plates were printed by selective laser melting 3D printer using grade 2 pure titanium. The traditional and 3D-printed titanium mandibular reconstruction plates were cut into standard pieces. Surface topography was detected using the scanning electron microscope (SEM) and atomic force microscope (AFM). Surface element composition was examined using the X-ray photoelectron spectroscopy (XPS). Titanium corrosion in human serum was produced by immersing in human serum for 14 days. Metal released into the human serum was subjected to ion detection using the inductively coupled plasma atomic emission spectroscopy (ICP-AES).

Results: Surface roughness was more significant in 3D-printed titanium plates. The surface element composition of 3D-printed titanium plates was almost pure titanium when compared with the titanium oxide film in traditional plates. Titanium ion release in human serum of the traditional and 3D printing groups was 281.78±34.48 (n=3, nM/g) and 140.12±2.50 (n=3, nM/g), respectively. The difference between them was insignificant (p=0.10). Corrosion pits and fissures were detected in both groups after immersion in human serum.

Conclusion: Although the 3D-printed titanium mandibular reconstruction plate was endowed with a rough surface of pure titanium, the metal release and surface corrosion were equivalent when compared to the traditional titanium plates. The experimental results should be confirmed in future study with more samples in each group. The 3D-printed titanium plate seemed favorable as an implant material for mandibular reconstruction.

Poster Number – 219 Abstract No – 170 **POTENTIAL INVOLVEMENT OF MIR-375/KLF5 IN THE MALIGNANT TRANSFORMATION OF ORAL SQUAMOUS CELL CARCINOMA**

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Introduction: The objectives were to profile early diagnostic biomarkers of oral malignant transformation and try to reveal the molecular mechanisms.

Method: Oral squamous cell carcinoma (OSCC) patients with long clinical history of oral lichen planus (OLP) were involved in this study. Total RNA were isolated from paired OSCC, premalignant and adjacent normal mucosa samples of same patients and analyzed by Next generation sequencing (NGS), both in transcriptomes and small RNAs. Key microRNAs (miRNAs) were screened from the huge data. After clinical sample validation, target genes of the critical miRNAs were predicted via bioinformatics. Immunohistochemistry (IHC) was used to identify the expression of functional genes. Western blot, quantitative real-time PCR (qPCR) and dual luciferase assay were used to determine the miRNA-gene regulation in OSCC cell lines. Further proliferation and apoptosis analyses were conducted to reveal the gene biological function.

Results: NGS results showed that the alteration of miR-375 was the most significant miRNA during the malignant transformation. It decreased from normal oral mucosa to OLP and OSCC tissues gradually. IHC showed high KLF5 expression in OSCC tissues comparing with OLP and normal tissues. Western blot and qPCR revealed negative regulation of miR-375 and KLF5. Dual luciferase assay confirmed that miR-375 combined with the 3'-UTR of KLF5. Overexpression of miR-375 decreased cell proliferation and improved apoptosis in OSCC cell lines. Further integrated analysis revealed that BIRC5,

Poster Number – 220 Abstract No – 195 **ASSESSMENT OF THE COMPLEX ROLE OF NEUTROPHILS IN ORAL SQUAMOUS CELL CARCINOMA AND IT'S CLINICO-PATHOLGICAL CORRELATION**

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Introduction: Current advances in understanding the etiopathogenesis of Oral Squamous Cell Carcinoma (OSCC) have implicated the inflammatory process to play a key role in cancer initiation, growth and metastasis. Amongst the various inflammatory cell types, the presence of macrophages and more recently neutrophils have been documented in a wide variety of tumors which are often associated with poor clinical outcomes. Emerging evidence suggests that Tumor Associated Neutrophils(TAN) in response to signals derived from cancer cells, can release factors that act on tumor cells, endothelial cells and other immune cells. The correlation between increased tumour infiltrating neutrophils and poor prognosis has been investigated in different types of cancers, including renal cell, hepatocellular and small cell lung carcinomas. The literature does not conclusively demonstrate the role between TAN and OSCC. The aim of the present study was to assess the neutrophil density in lesional tissues and correlate it with various clinic-pathological features including regional lymph node metastasis in OSCC.
Methods: Lesional tissues of 49 excisional OSCC patients were retrieved and subjected to Immunohistochemical analysis (IHC) with Neutrophil Elastase . The normal oral epithelial tissues were evaluated to identify baseline levels of neutrophils and the neutrophil distributions in the tissues adjacent to the tumours were established.
Results: In the present study, the IHC localisation of Neutrophil Elastase levels was significantly higher (p value - 0.042) in the OSCC patients with lymph node metastasis (61.3%) as compared to patients with N_0 neck (31.6%).
Conclusion: The present study was the first of its kind which directly evaluated the presence of Neutrophil Elastase as a prognostic marker for predicting local metastasis of OSCC. The higher levels of detected neutrophils in the lesional tissues of patients presenting with local metastatic lesions clearly establishes a direct correlation of lesional Neutrophil Density and tumor invasion.

Poster Number – 221 Abstract No – 200 **IMMUNOPROFILING OF AMELOBLASTOMA: UNDERSTANDING THE BIOLOGICAL ASPECT OF HISTOLOGICAL VARIANTS OF AMELOBLASTOMA**

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Introduction: Ameloblastoma is a common odontogenictumour originating from the remnants of dental lamina. Mostly seen in posterior mandible, it is locally aggressive lesion and shows a tendency for recurrence. Cases of ameloblastoma metastasizing have also been reported in literature.
Since past 5 years, 37 cases of different ameloblastomas have been reported in our institute. Due to increased incidence of ameloblastomas, extensive treatment and the risk of a metastasizing lesion, there is a need to understand the biological accepts of the lesion for better treatment options. Hence, the aim of the present study was to investigate the immunohistochemicalexpression of Ki-67 as a proliferation marker, VEGF as an angiogenesis marker and MMP 9 as a marker for stromal invasion in histological variants of ameloblastoma.
Methods: All cases of ameloblastoma tissue were retrieved from the archives of department of oral pathology and microbiology, Dr D. Y. Patil Dental College and Hospital. All tissues were subjected to the immunohistochemistry procedure with Ki67, VEGF, MMP9.
Results: In present study immunoprofiling carried out for all the cases, two cases of acanthomatousameloblastoma showed weak expression of VEGF marker. Mild expression for MMP9 was identified in 5 cases of follicular ameloblastoma. Ki 67 expression was not consistence in odontogenic epithelium of cases included inthe study. None of the markers showed propensity for any particular histopathological variant of ameloblastoma.
Also,Clinicopathological and histopathological data were not statistically significant when in comparison with histological types of ameloblastoma.
Conclusion: In view of the biological behaviour of ameloblastoma, we need to explore various other markers from future treatment prospective which will aim at the better quality of life for a survivor of the disease. In the present study low sample size is one of the limitations; studies should be carried out with more sample size for better result.

Poster Number – 222 Abstract No – 212 **INCIDENTAL FINDING OF METASTATIC PAPILLARY THYROID CARCINOMA FOLLOWING NECK DISSECTION IN ORAL SQUAMOUS CELL CARCINOMA: THE CLINICOPATHOLOGICAL AND SURGICAL CHALLENGES**

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Introduction: Lymph node status is one of the most important predictors of prognosis in head and neck cancers. The incidental discovery of a metastatic deposit from a synchronously occurring occult carcinoma during a neck dissection performed for a separate primary head and neck tumour is an unusual clinical entity. The challenge in treatment and assessment of prognosis of the patient is manifold.
Methods: We present the case of a 46-year-old male patient who was diagnosed with a moderately differentiated squamous cell carcinoma of the buccal mucosa on incisional biopsy. The excisional biopsy was done with supraomohyoid neck dissection.
Results: The excisional biopsy confirmed the findings of the incisional biopsy but also revealed two distinct tumors in the cervical lymph nodes. Level I showed metastatic squamous cell carcinoma while level II showed metastatic papillary thyroid carcinoma.
Conclusion: The finding of a metastatic papillary thyroid carcinoma had been incidental without any presenting signs and symptoms related to thyroid carcinoma. This paper presentation would review and highlight the staging of such tumors, importance of imaging of the head and neck region before excision, selection of the type of neck dissection, histopathological examination of all the lymph nodes, the therapeutic strategy and prognosis in these patients.

Poster Number – 223 Abstract No – 219 **CORRELATION OF EXPRESSION OF AQUAPORINS 1 & 4 WITH HIF1-A IN VARIOUS GRADES OF ORAL SQUAMOUS CELL CARCINOMA**

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Introduction: Aquaporins (AQPs) are a family of small membrane transport proteins involved in the permeation of small molecules and regulation of various cell functions, such as migration, adhesion, proliferation, and differentiation, thereby playing an important role in osmo-regulation, organogenesis, regeneration, neovascularisation and cancer biology. Chronic hypoxia induces the expression of numerous genes by activation of hypoxia-inducible transcription factors (HIF), mainly HIF-1a and HIF-2a. Further, participation of Hif-1a in the transcriptional regulation of some AQPs has also been demonstrated. However, the data available on the correlation of AQPs 1 & 4 with the expression of Hif-1a in Oral Squamous Cell Carcinoma is minimal at the best.
Objectives: To study the correlation in the expression of AQPs 1 & 4 with the expression of HIF-1a in various grades of Oral Squamous Cell Carcinoma (OSCC).
Methods: (a)Sample size: (n=39) Sixteen cases of well differentiated OSSC, fifteen cases of moderately differentiated OSSC and eight cases of poorly differentiated OSSC, which had earlier been diagnosed on routine H&E stain were studied.
(b)Methodology: Formalin fixed, paraffin embedded tissue were stained as per the standard protocol for using LSAB kit and Anti Aquaporin antibody after antigen retrieval.
Results: The expression of AQP 1 & 4 showed a positive correlation with the expression of Hif1A in various grades of OSSC.
Conclusions: The findings suggest that AQPs 1 & 4 may play an important role in **OSCC cell survival, angiogenesis & metastasis** and may be potential targets for tumour therapy.

Poster Number – 225 Abstract No – 255 **THE GENOTOXIC, CYTOTOXIC AND APOPTOTIC POTENTIAL OF BACOPAMONNIERI ON ORAL CANCER CELL LINES BY DNA FRAGMENTATION.**

George R, Krishna N R, Gayathri R, Priya V
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Introduction: Squamous cell carcinoma is the most common malignancy in the oral cavity. Currently used chemotherapeutic drugs have devastating adverse effects on patients which necessitates introduction of more natural and less toxic chemotherapeutic agents.
B. Monnieri is a perennial herb seen in the wetlands of south india and other tropical climates. Research has earlier proved its antioxidant and cell protective properties. It has been shown to inhibit acetyl cholinesterase and activate choline acetyl transferase.
Aim: The aim of this study was to determine the genotoxic, Cytotoxic and apoptotic potential of the herb, B. Monnieri on oral cancer cell lines by DNA fragmentation.

Methods: Extracts were taken from samples of B.M. KB cell lines were centrifuged, incubated and placed in growth medium. The DNA was isolated from the new cell lines.Genotoxicity was analysed on these DNA by agarose gel electrophoresis.Apoptotic induction potential of BM was studied on kb cell line by analysing the activity of caspase 3 and caspase 9. Cell proliferation rates or viability levels are indicators of cell health. Cytotoxicity analysis was performed by MTT assay where the positive control used was cyclophosphamide.
Results: The viability of KB cell lines show a gradual alteration as the concentration of extract is increased. Caspase induce programmed cell death. Apoptotic induction potential of caspase 3 and 9 on KB cell line was studied and percentage activation of caspase 3 was more than that of caspase 9.
It seems that there is anticancer action of B. Monnieri against KB cell lines which may be due to the synergistic effect of the secondary metabolites such as flavonoids present in the extract.
Conclusion: Chemotherapeutic agents destroy both cancer cells and also natural cells. Medicinal herbs like B. Monnieri have been known to selectively target cancer cells . Thus the tumouricidal effects of these herbs should be evaluated in detail and further studies conducted to finally bring out therapeutic regimens based on these natural remedies if found effective. This eventually will result in lesser adverse systemic effects and make anticancer drugs safe.

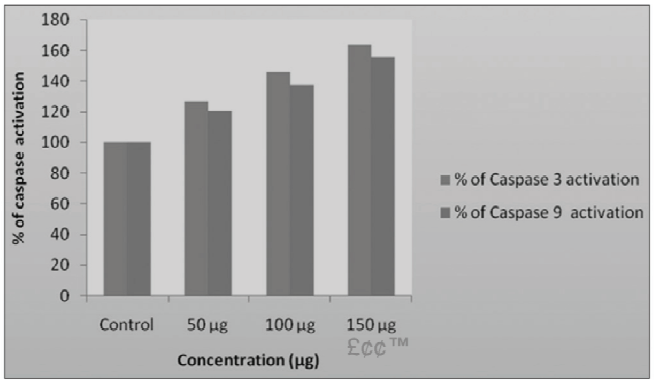
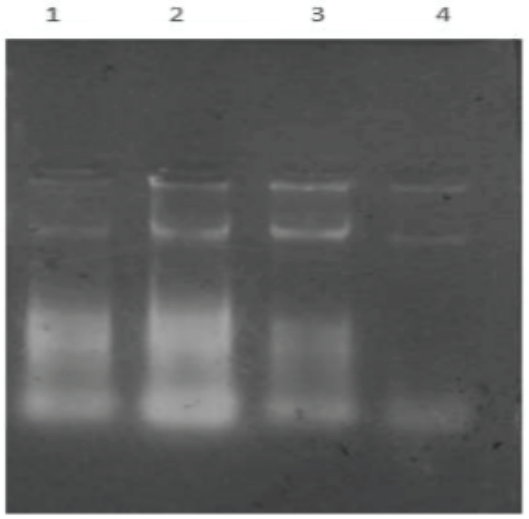


Fig. 1: Caspase-3 activity of Bacopa monnieri extracts using Oral cancer cell lines (KB).



Lane 1 - DNA from KB cells treated with 100µg sample
Lane 2 – DNA from KB cells treated with 200µg sample
Lane 3 – DNA from KB cells treated with 300µg sample
Lane 4 – DNA from untreated KB Cells

Poster Number – 226 Abstract No – 288 **ATR INHIBITION ENHANCES 5-FLUOROURACIL SENSITIVITY IN HUMAN ORAL CANCER CELLS**
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Introduction: 5-Fluorouracil (5-FU) is widely used as an anticancer agent. It has been commonly used either alone or in combination with other drugs and/or radiation for the treatment of colorectal, breast, head and neck, and other types of cancers. 5-FU belongs to the class of anti-metabolite chemotherapeutics and is thought to be an inhibitor of the enzyme thymidylate synthase (TS) which plays a role in nucleotide synthesis. Consequently, 5-FU induces single- and double-strand breaks (DSBs). ATR is activated in response to replication stress (single-stranded DNA associated with replication complexes and stalled replication forks) induced by UV and chemotherapeutic drugs. The work described here was designed to examine the effect of ATR inhibition on 5-FU sensitivity for human oral cancer cells.
Methods: The human oral squamous cell carcinoma cell lines used were SAS and HSC3. Cellular 5-FU sensitivity was evaluated with colony formation assays. Apoptosis was detected and quantified with Hoechst33342 staining assay.

The cell cycle distribution was assayed by determining the DNA content. 5-FU-induced DSBs were measured with flow cytometry using γH2AX antibodies.
Results: ATR inhibition synergistically enhanced the cytotoxicity of 5-FU, promoting the induction of apoptosis. 5-FU with ATR inhibitor induces more DSBs than only 5-FU.
Conclusion: These findings suggest that ATR might be a potential therapeutic target for 5-FU chemotherapy.

Poster Number – 227 Abstract No – 302 **EXPRESSION OF STEM CELL MARKER CD44 IN SELECTED BENIGN AND MALIGNANT SALIVARY GLAND TUMORS**
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PNU, KSU
Background: Salivary gland (SG) tumors are considered among the most unique neoplasms as they exhibit complex and sometimes overlapping histological features.The histogenesis of SG neoplasms remains unclear and several pathways have been proposed. CD44 is a hyaluronic acid receptor plying an essential role as an adhesion molecule for extracellular matrix components.
Aim: To study the expression of CD44 in selected benign and malignant salivary gland tumors and to investigate whether these markers contribute to the different biological behaviors of the selected tumors.
Methods: The CD44 expression was examined in 31 tumors (17 pleomorphic adenoma, 8 mucoepidermoid carcinoma, 3 adenoid cystic carcinoma, 3 myoepithelioma) by immunohistochemical technique.
Results:CD44 was expressed in neoplastic cells of all tumor types. In pleomorphic adenoma, the expression was more prominent in areas with ductal differentiation as compared to myxoid areas. In all tumors under study, the proportion of tumor cells with positive staining ranged from more than 1/3 - 2/3 of the cells to 100 percent, except in adenoid cystic carcinoma in which two out of three cases the positive cells were more than 1/10 to 1/3.
Conclusion: CD44 is expressed in epithelial neoplastic cells of pleomorphic adenoma, myoepithlioma, mucoepidrmoid carcinoma, and adenoid cystic carcinoma. The relatively weak CD44 expression in plasmacytoid cells and myxoid areas of pleomorphic adenoma might indicate maturity phase compared to areas with ductal differentiation.There was not differential staining of CD44 among the selected tumors. Further studies with larger number of cases and proper documentation are required.

Poster Number – 228 Abstract No – 332 **EFFICACY OF TRAIL BASED TREATMENT IN CHEMOTHERAPY RESISTANT HEAD AND NECK CANCER**
Sudheendra H V[1] Kulsum S[1], Ravindra[2], Muralidharan AP [1], Chevour P[3], Siddappa G[1] Kuriakose MA[1,2], Suresh A[1]
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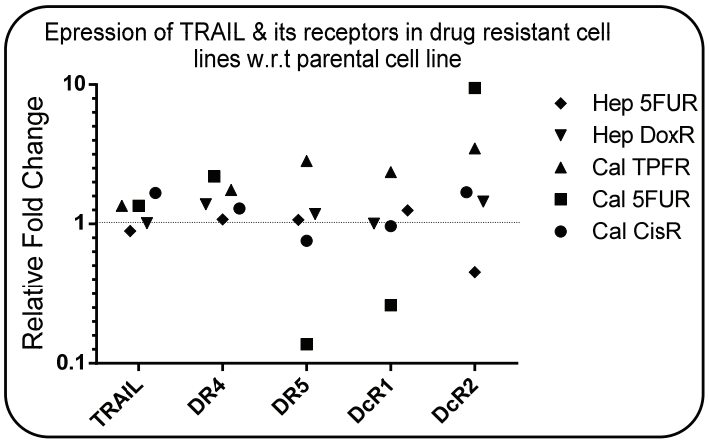
Introduction: TRAIL in combination with the traditional chemotherapy is reported to have synergistic potential in overcoming this resistance, investigations into its applications in head and neck cancers (HNSCC) are warranted. This study attempts to i) profile TRAIL and its receptors in chemotherapy resistant HNSCC ii) correlate its anti-tumor activity in context of CSC like sub-population iii) explore the possibility of TRAIL mediated therapy.
Methods: The profiling of TRAIL, its death (DR4 & DR5) and decoy receptors (DcR1 & DcR2) was carried out by qPCR and Flow cytometry in drug resistant Cal-27 and Hep-2 cell lines previously developed in the lab [S Kulsum et al]. The profiling was also carried out in chemotherapy treated (N=12) and treatment naïve (N=18) patient samples with HNSCC by qPCR and immunohistochemistry. An *in vitro* functional assay to evaluate the effect of rhTRAIL (10-100ng) on the resistant cell lines was done.
Results: TRAIL and its receptors expression in resistant cell lines (Figure1). In patient cohorts, treatment naïve group showed upregulation of TRAIL (44%) and DR4 (55%), while treated cohort showed (41.6%). Comparing these two cohorts showed upregulation of TRAIL and DR4 in 41.6% and DR5 in 33.3% of treated patients. Flowcytometry indicated an increased receptor expression in Cal-27 CisR (DR4-14.6% & DR5-35.8%) as compared to parental (DR4-6% & DR5-5.3%). The assessment of CD44 and DR4/DR5 co-localisation in cell lines and patient cohort is currently underway. Treatment of Cal-27 CisR and parental cell lines with rhTRAIL showed decreased cell survival in chemotherapy resistant cells (Cis-R:28% and TPF-R:61%).

Conclusion: The upregulation of DR4/DR5 in drug resistant cell lines and in patient cohort, indicates the possible benefits of TRAIL mediated therapy in resistant tumors, which was proven in *in vitro* cell survival assay. Further studies are ongoing to establish the mechanistic pathways of this treatment.

Figure1:



Poster Number – 229 Abstract No – 334 **CIRCULATING TUMOR CELLS ASSOCIATED WITH HEAD AND NECK SQUAMOUS CELL CARCINOMA METASTASIS**

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Introduction: Distant metastasis in head and neck cancer denotes incurability. Current imaging modalities lack sensitivity to detect sub-clinical metastasis. Circulating tumor cells(CTC) have been speculated as marker for metastasis in many solid tumors. The aim of this study is to isolate CTC from advanced and metastatic head and neck cancer patients, characterize and evaluate their efficacy as predictor of metastasis.

Methodology: Metastasis marker data base was created by retrieving raw microarray from Array Express(EBI) data base using specific search criteria followed by meta-analysis(Genespring.v13, Agilent, USA].Patient validation was carried out by i)CTC marker evaluationin blood from the advanced HNSCC by qPCR ii)CTC isolation/validation (Pluriselect kit) by spikingCal27 cell line in normal bloodand subsequent FACS analysisiii)CTC isolation/characterization in patients(n=10 each from metastatic and stage III-IV patients) by qPCR, ICC and cell based assays. Further, immunohistochemical validation of the selected markers was also carried out in retrospective patient tissues with(N=5) and without metastasis(2 year follow up; N=15) and those who developed metastasis during follow up(N=15).

Results: Meta-analysis of expression series[Affymetrixplatform;n=3] downloaded from the databases with 3 different technologies, identified 4 concordant genes(LDOC1,TRIM2,KLK10,SERPINB1) while, subset of CTC markers were also compiled using a literature based survey.Marker profiling in blood identified CD133, CK14 and ALDH1A1 with high expression in Stage III-IV patients. Initial FACS analysis with CAL-27 spiked blood indicated the feasibility of CTC isolation; further validation is ongoing. CTCs isolated from metastatic patients (n=3) showed over expression of CK14, the patient cohort and markers are being expanded for the isolation/validation using cell based assays. Immunohistochemical analysis with ALDH1A1 and CD44 indicated a statistically significant difference in ALDH1A1 expressionbetween the patients with and without metastasis (p=0.04).

Conclusion: Meta-analysis revealed LDOC1,TRIM2,KLK10, and SERPINB1 as possible markers and CTC for metastasis patients with HNSCC were isolated and needs further clinical validation.

Poster Number – 230 Abstract No – 362 **DIFFERENTIALLY EXPRESSED GENE CLUSTERS AND CHROMOSOMAL ALTERATIONS IN ORAL CANCER: INSIGHTS FROM PROTEOMICS**

Sivadasan P[1,2], Balakrishnan L[2], Gupta M.K[2], Jayaram S[2], Suresh A [1], Kuriakose MA[1,3], Sirdeshmukh R[2,3]

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Introduction: Identification of differential expressed proteins and mapping them to chromosomal loci reveals co-regulated or co-deregulated gene clusters that may be involved in tumorigenesis. The aim of this study is to understand this in the context of oral cancer.
Methods: Published data on differentially expressed proteins in oral squamous cell carcinoma (OSCC) was compiled and screened for quality to generate a high confidence integrated data resource. The data was mapped to chromosomal loci with reference to neXtProt database. Functional annotations were carried out and potentially secretory proteins were mapped using prediction tools and experimental support (KEGG, Exocarta, SignalP, and TMHMM).
Results and Discussions: We constructed a database of differentially expressed proteins in OSCC consisting of 845 candidates. Mapping of these proteins to chromosomes revealed Chr 12, Chr 10 and Chr 17 to be the top 3 altered chromosomes; chromosome 12 coded for the maximum number of altered proteins. The major clusters were found to localize on Chr1q21.3 which codes for S100 proteins, Chr12q13.13 which code for type II keratins, and Chr17q21.2 which code for type I keratins. These gene clusters are localized in well-established amplicons of these chromosomes. Proteotypic peptides for these gene clusters are being compiled and prioritized to explore their significance as biomarkers. Some of them are already detected as differentially expressed in saliva of OSCC patients.
Conclusions: Deregulated gene clusters especially keratins suggest inter and intra-chromosomal cross talk and can be studied to identify cis/trans acting regulatory factors.

Poster Number – 231 Abstract No – 366 **MACROPHAGES IN PERINODAL FAT AND THEIR ASSOCIATION WITH EXTRA NODAL EXTENSION(ENE) OF TUMOUR INHNSCC.**
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Introduction: Cancer is caused when cells lose their ability to control their growth and the immune system loses its ability to identify these rogue cells. Cancer cells develop a phenotype that is similar to normal native cells due to which these cells cannot be differentiated immunologically. Immune surveillance is the phenomenon that describes the role of innate immune system in recognising the threats to the system without a history of prior exposure of the same. It plays a key role in identifying the cancers cells as "different". Tissue macrophages or histiocytes as they are sometimes known as are a part of this innate immune response. Their role in tumour immunology in animal models has been extensively studied.Tumour spread to nodes and its extranodal extension is considered a poor prognosis indicator. The role of inflammation in this process needs further clarification.
AIM: to determine the association between the presence of macrophages (CD68 +ve cells) in perinodal fat and ENE in HNSCC
Materials and Methods: Neck dissection specimens from previously untreated, biopsy proven cases of HNSCC were studied. Pathologically node negative neck dissection specimens served as control and pN+ necks were divided into ENE positive and negative groups. Perinodal fat was assessed for expression of CD 68 marker by immunohistochemistry. CD 68 is a marker for tissue macrophages, which indicates the presence of an inflammatory process in the tissue. Patients followed up for 2 years and all regional/distant failures were recorded.
Conclusion: A pilot study has shown presence of macrophages in the perinodal fat. This shows that inflammation and tumour may coexist. This study is an attempt to identify and study the role of inflammation in nodal tumor spread and its extranodal extension.

Poster Number – 232 Abstract No – 367 **INTEGRATED PROTEOMICS AND TRANSCRIPTOMIC DATA OF DRUG-RESISTANT ORAL CANCER CELL LINES**
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Background: Inherent or acquired resistance to Taxol, Platinum and 5-fluoro uracil (TPF)contributes to treatment failure in a subset of HNSCC (Head and Neck Squamous cell carcinoma) patients. The aim of this study is to identify

functionally relevant markers of resistance/response in the HNSCC cell line Cal27 by integrated analysis of proteomic andtranscriptomicdata.
Methods: Differential proteome and transcriptome(mRNA/miRNA) expression profiling of the parental cell line (Cal-27P) and its drug resistant versions-Cisplatin(CisR), 5FU (5FUR) and Cisplatin+5FU+Docetaxel (TPFR)(1, 2),were carried out by iTRAQ - based LC-MS/MSanalysis and RNA-seq. Functional classification and pathway analysis of the differentially expressed proteins (DEPs) was carried out using UniProt and KEGG database. Adatabase on resistance/response markers in HNSCC was also developed based on literature search. A comparative analysis of the cell lineand the database will be carried out to identify the cancer-specific molecules associated with resistance/response.
Results and Discussion: There were 229 DEPs observed in CisR; 113 in 5FUR, and 511 in TPFR. Two proteins COPA and HIST1H1B, associated with inhibition of apoptosis in mesothelioma and DNA methylation respectively were common DEPs for all the drug resistant cell lines.These DEPs were also compared with the IHC data on head and neck cancer from HPA to confirm its presence in tissue and we found that 150, 83 and 364 DEPs from CisR, 5FUR and TPFR, respectively to overlap.Integrated analysis of the proteome and transcriptome data is ongoing.
Conclusion: DEPs in CisR, 5FUR, TPFR cells of Cal27 cell line which are detectable in HNSCC tissuewere identified. The integrated data analysis which is being carried out will ensure comparison of global differences pertaining to chemo-resistance and thereby enable identification of a panel of clinically and functionally relevant candidate predictive markers.
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POSTER NUMBER – 233 ABSTRACT NO – 381 **A COMPARATIVE APROACH FOR ORAL NEOPLASIA: RETROSPECTIVE STUDY ON CANINE AND HUMAN ORAL NEOPLASIA**
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Introduction: Comparative pathology is an increasing field of research with important contribution not only for understanding the etiopathology of the diseases but also to find new treatments possibilities to benefit both humans and veterinary species, such as dog. We aim to evaluate the frequency and distribution of oral neoplasms in domestic dog, a model for comparative oncology, and compare with the distribution of oral neoplasms in humans in the north of Portugal.
Methods: The histopathology reports of oral neoplasms located on oral cavity and lip in dogs, diagnosed between 2010 and 2016 were reviewed from a veterinary laboratory, concerning the following clinicopathological parameters: age, gender, and histopathologicdiagnosis. A comparison of neoplasms of the same locations and variables was performed with human histological reports from a human pathology service of north of Portugal.
Results: In dogs, malignant neoplasms accounted for 258 cases (56.5%) and benign neoplasms accounted for 199 cases (43.5%). Melanoma was the most common malignant neoplasm diagnosed (n=113, 24.7%), followed by squamous cell carcinoma (n=60, 13.1%). fibroma(n=165, 36.1%) and epithelial cell papilloma (n=11, 2.4%) were the most common benign neoplasms. In humans, there were 483 (54.5%) malignant and 403 (45.5%) benign neoplasms. Squamous cell carcinoma (n=373; 42.1%) was the most frequent malignancy followed by oral lymphoma (n=25; 2.8%). Pleomorphic adenoma (n=112; 12.6%) was the most frequent benign neoplasm followed by epithelial cell papilloma (n=96; 10.8%).
Conclusion: Interestingly, oral melanoma was the most common oral malignant neoplasm differing to humans whereas oral melanoma is a rare disease. Nevertheless squamous cell carcinoma are frequent in both human and canine species. This study represents a chance to explore canine oral neoplasms, as a preclinical model and use that knowledge in a translation manner to benefit either species by a "One health, One Medicine" approach

Poster Number – 234 Abstract No – 395 **ELUCIDATING THE IMPACT OF CHEMICAL AND MECHANICAL ASSAULTS ON NORMAL ORAL FIBROBLAST TOWARDS MYOFIBROBLASTIC TRANSITIONS**

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Myofibroblast are multifunctional modified mesenchymal cells that play vital role in wound healing as well as in tissue fibrosis by producing excessive amount of extracellular matrix protein such as collagen. Many immunohistochemical studies on OSF indicated higher presence of myofibroblast markers in fibrotic sub-mucosal area which suggest that fibroblast-to-myofibroblast transdifferentiation leads to excessive synthesis and accumulation of ECM component resulting in submucosal fibrosis. Moreover, various studies on OSF tissue suggest a significant upregulation of profibrotic factors i.e. TGF-β, which was reported as an important activator of myofibroblastic transition. Along with that, areca nut consumption is considered as a sole important causative agent of this OPMD. However, the role of areca nut and TGF-β in the context of fibroblast response has not been elucidated. Therefore, to understand their role in OSF pathogenesis, oral primary fibroblasts (PFO) were treated with arecoline and/or TGF-β along with mechanical assaults. The treatment of arecoline and TGF-β in the PFO cell is evidenced to trigger de-novo synthesis of α-SMA leading to 60-70% of PFO population showing presence of stress fibres intertwined with contractile fibres of α-SMA. Further, the supermaturs focal adhesions showing vinculin expression were attached to α-SMA positive stress fibers and fibronectin fibers were aligned parallel to the stress fibres. The present result indicates that arecoline and TGF-β synergistically affect the myofibroblatic transdifferentiation in PFO cells. This is also supported by the increased expression of the ECM proteins in the treated cells. This is also supported by the increased expression of the ECM proteins in the treated cells. Therefore, these data established that myofibroblatic transition of fibroblast is influenced by synergistic effect of TGF-β and Arecoline leading to pathogenesis of OSF.

Poster Number – 235 Abstract No – 177 **TARGETING OF INTERLEUKIN-13 RECEPTOR A2 FOR TREATMENT OF HEAD AND NECK SQUAMOUS CELL CARCINOMA INDUCED BY CONDITIONAL DELETION OF TGF-B AND PTEN SIGNALING.**

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Introduction: Human head and neck squamous cell carcinoma (HNSCC) is known to be difficult to treat and has only a 50% five-year survival rate. With HNSCC, novel therapeutics are needed along with a means of rapidly screening anti-cancer agents in vivo, such as mouse models.

Methods: In order to develop new animal models, tumors resembling clinical cases of human HNSCC were induced in the head and neck epithelium of a genetically engineered mouse model. This mouse model was generated by conditional deletion of two tumor suppressors, Transforming Growth Factor-β Receptor 1 (TGFβRI) and Phosphatase and Tensin homolog (PTEN), in the oral epithelium. We discovered that the tumors derived from these Tgfbr1/Pten double conditional knockout (2cKO) mice over-expressed IL-13Rα2, a high affinity receptor for IL-13 that can function as a tumor antigen. To demonstrate a proof-of-concept that targeted therapy against IL-13Rα2 expression would have any antitumor efficacy in this spontaneous tumor model, these mice were treated systemically with IL-13-PE, a recombinant immunotoxin consisting of IL-13 fused to the Pseudomonas exotoxin A.

Results: TGFBR1/PTEN 2cKO mice when treated with IL-13-PE displayed significantly increased survival when compared to the untreated control mice. The untreated mice exhibited weight loss, particularly with the rapid onset of tongue tumors, but the treated mice gained weight while on IL-13-PE therapy and showed no clinical signs of toxicity due to the immunotoxin. Expression of IL-13Rα2 in tumors was significantly decreased with IL-13-PE treatment as compared to the controls and the number of myeloid-derived suppressor cells (MDSC) was also significantly reduced in the pleens of the IL-13-PE treated mice.

Conclusions: Our study demonstrates that the Tgfbr1/Pten 2cKO mouse model of human HNSCC is a useful model for assessing antitumor activity of new cancer therapeutic agents, and that IL-13-PE has therapeutic potential to treat human head and neck cancer.

REHABILITATION AND SUPPORTIVE CARE

Poster Number – 236 Abstract No – 26 **PROPOSAL OF PREOPERATIVE NUTRITION INDEX PREDICT SURVIVAL OF ELDERLY PATIENTS WITH ORAL CANCER: THE CUMULATIVE EFFECT OF PREOPERATIVE ANEMIA, SERUM ALBUMEN AND BODY MASS INDEX INFLUENCES CLINICAL OUTCOME IRRESPECTIVE OF COMORBIDITY**

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BACKGROUND: The risk factors for elderly oral cancer patients' survival are multifarious. Here, we developed a novel nutrition index to predict prognosis of these patients.
METHODS: The data of patients with oral cancer (Age > 60 years) treated was collected. Clinicopathological parameters and the nutrition index along with comorbidity indexes were analyzed for overall survival (OS), disease free survival (DFS) and disease specific survival (DSS).
RESULTS: Patients with age ≥75, palate site, recurrent tumors, advanced pathological T, pathological N positive, severe tumor grade, preoperative anemia, low serum albumen and low BMI along with high-risk nutrition index instead of the comorbidity indexes, showed poorer OS, DFS and DSS. Multivariate Cox analysis showed the nutrition index was an independent indicator for OS ($P < 0.001$), DFS ($P < 0.001$) and DSS ($P < 0.001$).
CONCLUSIONS: We developed a novel nutrition index as an independent predictor for prognosis of elderly oral cancer patients.

Poster Number – 237 Abstract No – 84 **MANAGEMENT OF DENTAL CARIES FOR PREVENTION OF OSTEORADIONECROSIS IN PATIENTS WITH HEAD AND NECK CANCERS**

Sakiko S, Funahara M, Naruse T, Yanamoto S, Umeda M
Nagasaki University

Introduction: Osteoradionecrosis (ORN) of the jaws is a serious late complication in patients with head and neck cancer undergoing radiotherapy (RT). We previously performed multicenter retrospective study of 392 patients undergoing RT, and found that periapical periodontitis of the mandibular molar, tooth extraction after RT, and progressive dental caries after RT were correlated with development of ORN. The aim of this study is to investigate the status and risk factors of multiple dental caries after RT.
Methods: Thirty-one patients with head and neck cancer who underwent RT (RT group) and 25 patients who underwent surgery alone (control group) were included in this study. Demographic factors and treatment-related factors were examined by medical record. The correlation between these variables and number of dental caries after RT was analyzed by Fisher's exact test and Mann Whitney u-test. Risk factors relating occurrence of multiple dental caries were also analyzed statistically.
Results: Numbers of dental caries at 1- and 2 years after RT in the RT group was significantly higher than those in the control group. When RT field included bilateral salivary gland or bilateral jaws, multiple dental caries often occurs. Some patients who received RT to the unilateral jaw or unilateral side exhibited multiple caries in the irradiated jaw alone.
Conclusion: The current study suggests that possible mechanisms of multiple dental caries after RT are direct damage to the tooth as well as dry mouth caused by destruction of the salivary gland. We are now performing a prospective interventional study for preventing dental caries after RT by topical fluoride application using spacer and toothpaste.

Poster Number – 238 Abstract No – 184 **ORAL CAVITY CARCINOMA: UNCHANGING TRENDS**

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Introduction: Oral cavity carcinoma is a common tumour of head and neck but an uncommon presentation to our clinic at the institution. The majority of patient present at a late stage of the disease and prognosis is dismal despite treatment.

Methodology: A retrospective study of oral cavity carcinoma at Hospital Universiti Sains Malaysia was carried out from January 2010 to November 2016. Details of clinical presentation, imaging findings, histopathological diagnosis and treatment outcomes were reviewed.
Results: There are only 7 patients identifies who predominantly are Malays. The age of patient ranges from 36 to 47 years old. All cases are oral tongue carcinoma subsites. The majority of patient is a stage III and IV diseases where multidisciplinary management were instituted. Most patients however succumbed to disease despite treatment.
Discussion: The majority of patient present at late stage and some refused treatment. In selected cases despite treatment, patient had progressive disease. Multiple factors such as waiting time and expertise availability are discussed in enumerating the true spectrum of this disease locally.
Conclusion: Managing oral cavity carcinoma is vital in the armamentarium of head and neck cancer management. Despite multimodality treatment, the outcomes remain dismal.

Poster Number – 239 Abstract No – 411 **ELECTROCHEMOTHERAPY AS PALLIATIVE CARE IN ORAL CAVITY CANCER**
Pichi B, Pellini R, Spriano G
National cancer institute of Rome Regina Elena
Introduction: The World Health Organization has defined palliative care as "the active total care of patients whose disease is not responsive to curative treatment". The goal of palliative care is achievement of the best quality of life for patients and their families
The start of the palliative phase is defined as the period from the moment the patient is diagnosed by multidisciplinary team to be suffering from incurable cancer, or chooses not to be treated, until death. In the palliative stage of the disease, treatment is aimed at prevention and relief of symptoms, resulting in the best possible quality of life. During this phase, however, the patient may still undergo palliative treatment, i.e. surgery, radiotherapy or chemotherapy.
The primary endpoint of this study is to evaluate the efficacy of electrochemotherapy as palliative treatment.
: Electrochemotherapy is an emerging treatment strategy consisting in the combination of electroporation and chemotherapy.
Methods: Twenty-four patients with a loco-regional M0/M1 relapse not suitable for a cure with a radical intent by surgery or RT and not suitable for systemic therapy and/or already treated with it, have been submitted to a phase 2b clinical trial using electrochemotherapy.
Results: Overall survival probability at 12 months was 46.5% (median OS: 9 months). The multiple application of electrochemotherapy treatments was associated with a improved survival ($p=0.02$). Pain, need for medical assistance and bleeding events significantly reduced 1 month after electrochemotherapy ($p<0.001$).
Conclusions: Electrochemotherapy is effective as palliative treatment of non-resectable head and neck malignancies. Main advantages are: improved quality of life, local tumor control, limited side effects.

Poster Number – 240 Abstract No – 31 **SONOPORATION:A PROMISING TECHNIQUE TO CURE ORAL CANCER**
Singh D, Chandra S
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The field of sonoporation and ultrasound-enhanced drug/gene delivery has expanded tremendously during the past decade.Ultrasound causes bubbles to form cell membrane pores through which DNA/RNA are transferred. This phenomenon is known as sonoporation. Microbubbles lower the threshold of cavity formation. Sonoporation is less toxic and not associated with tumorogenicity as compared with retroviral and adenoviral vectors.
Sonoporation does not require surgical procedure and enhance gene transfer with lipofection.Sonoporation-mediated gene delivery is done by, a morphogen, growth/differentiation factor which induces differentiation of pulp stem cells intoodontoblasts. Thus, its simplicity and non-invasiveness will provide a new approach for microinjecting various substances into living tissues.
This presentation aims at focussing the best modality to cure cancer in clinical dentistry. With so many advantages, the negative effects of this technique are minimal. Current limitation of sonoporation are low of gene transfer and damage of target cells. The process may be time consuming.The use of complexes with chemicals and diagnostic ultrasound are promising approaches to overcome these limitations. Minor tingling and burning sensation, irritation of the tissues have been the side effects at site of application.
With this we can envision a whole gamut of newer technologies and products in the foreseeable future dentistry.

Poster Number – 241 Abstract No – 113 **OSTEONECROSIS OF THE JAWS AFTER CANCER THERAPY: AN ORAL PHYSICIAN'S PERSPECTIVE FOR PREVENTION DIAGNOSIS AND MANAGEMENT**

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Introduction: Patients with Osteonecrosis of the jaws after radiotherapy or more often due to bisphosphonate therapy, first report to the dentist with their symptoms. The prevention, diagnosis and management of this condition is a challenge as only general guidelines based on expert opinion is available and no standard international protocol are present to guide the dentists

Methods: A retrospective review of clinical features, radiological features, risk and precipitating factors in patients with osteonecrosis of the jaw reporting in Oral medicine department over the past 24 months is presented

Results: All patients who developed osteonecrosis of jaws, had undergone extractions of one or more teeth more than 2 years after radiotherapy of jaws or had been on bisphosphonates in the past three years for management of multiple myeloma, breast cancer or prostate cancer. All patients had either received high total radiation dose or had received IV Zoledronic acid as the bisphosphonate during cancer therapy.Diabetes, Anaemia, poor oral hygiene, steroid therapy and immunosuppression were the common co -morbidities present. None of the patients had been advised pre/post treatment dental review or prophylaxis.

Conclusion: There is a need to create awareness in the oncologist community that osteonecrosis of the jaws can be prevented by timely referral of the cancer patient for dental review and treatment not only before but after cancer therapy for maintenance of oral hygiene. Alternatives to bisphosphonates for anti-bone resorptive therapy in malignancies should be employed. The dentists should also be aware that routine extractions are not advisable and conservative/endodontic measures should be considered. Since the condition is chronic and difficult to treat, due to irreversible changes in the bone, it should be best managed by specialists in tertiary care centres. Standard protocols for dental treatment and prophylaxis should be prepared for guidance of dentists.

Poster Number – 242 Abstract No – 16 **INDICATIONS FOR ELECTIVE TRACHEOSTOMY IN RECONSTRUCTIVE SURGERY IN ORAL CANCER PATIENTS.**

Abdelraziq M, Barak M, Ghantous Y, Naaj IEA
Baroch Podeh Medical Center- Bar Ilan University

Background: Oral cancer surgery carries a high risk of upper airway obstruction; yet optimal airway management approach remains controversial.

Aim of Study: The purpose of the present study was to evaluate the use of tracheostomy in oncological patients undergoing oral cancer surgery with intra oral flap reconstruction.

Methods: The study cohort included 75 patients with oral cancer, who underwent major intraoral resections and reconstruction with vascularized flaps.

Results: Thirty-six percent of the patients received elective tracheostomy (27 patients). Mean hospital stay of the patients withtracheostomy was 28.4_12.5 days compared with 9.7_2.1 days in the non-tracheostomy patients. A scoring system rendered from this study suggests that patients with a total scoring at or above 8 should be considered for elective tracheostomy.

Conclusions: With appropriate postoperative monitoring, selected patients can be managed without routine elective tracheostomy, yet, patients with comorbidities, mostly elderly patients, which undergo surgical resection and reconstruction in high-risk areas that can result in a bulky flap that pose danger to the postoperative airway, should receive elective tracheostomy.

Poster Number – 243 Abstract No– 186 **DOES CHEMORADIATION IMPROVE PROGNOSIS OF ORAL CAVITY CARCINOMA?**

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Introduction: Chemoradiation plays an integral role in the management of head and neck cancer especially in stage III and IV diseases. However in selected cases, the sequalae of chemoradiation outweighs its benefit which warrants impeccable clinical justification from the treating primary team.

Cases History: We highlight 2 cases where the patients were treated with adjuvant chemoradiation and sustained significant comorbidity from the treatment. Both patients suffered from severe haematological toxicity and progressive cancer cachexia and despite medical management, patient worsened and pronounced dead during ward admission.
Discussion: The majority agrees that chemoradiation potentially will improve patient prognosis and survival of head and neck cancer patients. Nevertheless it comes with the price of significant multisystem toxicity and not all patients can withstand these complications. This ultimately disrupts the patient's quality of life at the prime time where the patients deserve it.
Conclusion: Chemoradiation causes intolerable toxicity in selected cases. The majority of patients need to be optimized physically and socially prior starting of treatment and it is prudent to thoroughly counselled the patients and the immediate family members regarding chemoradiation and its complications.

Poster Number-244 Abstract No- 208 **THE EFFICACY OF USE OF TABLET SEPTILIN AS AN IMMUNOMODULATOR**
Balakrishnan S
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The aim of this study was to perform a clinical study on the efficacy of use of Tablet Septilin as an immunomodulator. 30 students have been administered with Tablet Septilin,1 tablet b.d. for the period of two months. Objective of the study was to compare the changes in the blood like Haemoglobin, Total WBC counts, RBC counts, Differential counts, Platelet counts and IgG levels before and after intake of Tablet Septilin.
Conclusion will be made according to the differences studied in the blood investigations before the medication, one month after, and 2 months after the intake of Tablet Septilin.

Poster Number-245 Abstract No-284 **ASSESSMENT OF QUALITY OF CARE MEASUREMENTS FOR ORAL SQUAMOUS CELL CARCINOMA AND ITS RELATION WITH PROGNOSTIC FACTORS**
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Introduction: The attention to quality of care in the treatment of head and neck cancer have increased in the last years, becoming a valuable self-evaluation tool for health care providers, that could result inimproved oncological results and lower costs. The aim of this study is to analyze retrospectively some quality of care hallmarks in the oral cancer surgical treatment and correlate it with prognosis factors.
Methods: Retrospective review of about 3000 medical electronic charts from January 2014 to December 2015, of whichwere identified 102 patients with oral squamous cell carcinoma diagnosistreated for the first time with curative intention in our tertiary cancer center, with minimal follow-up of one year.Statistical analysis were performed to verify possible relations between quality of care measures and prognostic factors or recurrence.
Results: The demographic data is shown in *Table 1*. Surgical acuity had impact on all negative outcome indicators studied (surgical site infection, transfusion, reoperation and length of stay), excepting readmission. Similarly, presence of two or more comorbid conditions was significatively related to higher rates of surgical site infection and transfusion. Analysing recurrence rates, we found that 5 (83%) of the 6 patients with positive margins recurred, as well as 3 (60%) of 5 with close margins and 16 (18.4%) of 87 with free margins (p=0.001). Other prognostic factors as node status and tumor depth > 10mm also showed significant positive relation with recurrence rates.
Conclusion: In this study, the only quality measure that showed relation with recurrence was margin status, a well known prognostic factor that can be improved by adequate treatment. Surgical acuity and presence of more than 2 comorbid condition had a significant impact on early outcome quality indicators such as surgical site infection and blood transfusion, highlighting the need of multiple stratification for proper quality assessment.

Median age (year)	62.5
Sex	**n(%)**
Male	60(58.8)
Female	42 (41.2)

Male: Female	3:2
Site	**n(%)**
Lip	8 (7.9)
Gum	17 (16.7)
Jugal mucosa	1 (0.9)
Hard Palate	5 (4.9)
Tongue	41 (40.2)
FOM	15 (14.7)
Retromolartrigono	13 (12.8)
N/D	2 (1.9)
Acuity	**n(%)**
Low	30 (29.4)
High	72 (70.6)
ASA	**n(%)**
1	12 (11.8)
2	71 (69.6)
3	17 (16.7)
4	2 (1.9)
Alcohol	**n(%)**
No	63 (61.8)
Former	14 (13.7)
Actual	23 (22.6)
N/D	2 (1.9)
Tobacco	**n(%)**
No	40 (39.3)
Former	23 (22.5)
Actual	37 (36.3)
N/D	2 (1.9)

Pathological Stage	n(%)
T_1	36 (35.3)
T_2	27 (26.5)
T_3	5 (4.9)
T_{4a}	33 (32.4)
T_{4b}	1 (0.9)

*Table 1.*Demographic data

Poster Number-246 Abstract No-319 **THE BURDEN OF CANCER WORLDWIDE**
Bashetty J
The global burden of cancer continues to increase largely because of aging and growth of the world population alongside an increasing adoption of cancer causing behaviours, particularly smoking, in economically developing countries. Based on GLOBOCAN 2012, there were 14.1 million new cases and 8.2 million deaths in 2012. The Indian Council of Medical Research (ICMR) said in 2016 the total number of new cancer cases was expected around 14. 5 lakh and the figure is likely to reach nearly 17.3 lakh new cases in 2020.There would be about 1.5 lakhs cancer cases at any given time in Karnataka and about 35,000 new cancer cases were added to this pool every year. This is owing to the poor availability of prevention, diagnosis and treatment of the disease. All types of cancers have been reported in Indian population and causes of such high incidence rates of these cancers may be both internal and external or environmental factors. In view of these facts this review describes the status of various types of cancer in India taking an account of previous 5 years and in comparison, at global level. In addition to this effort also will be made to predict the effect of increasing number of cancer patients on the Indian economy.

Poster Number- 247 Abstract No-308 **Quality Of Life & Support Needs A 4th Dimension For Oral Cancer Survivors? CAN WE PROVIDE? ANSWER - BIGYES. LET US SEE HOW?**
Mohaoatra M
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Death is inevitable & unavoidable. But, between life & death everybody wants a good quality of life (QOL),so also the oral cancer survivors. Major share of death today goes to cancer death. In India, head& neck cancer accounts 30% of all cancers. Annually about 1.3 lakhs people are dying due to oral cancer. There are four pillars for cancer treatment. Diagnosis,treatment, reconstruction & rehabilitation. Rehabilitation is important & necessary to provide QOL. The face & mouth are the exposed & core part of the body.This is not only for appearance but also for communication,speech,mastication & swallowing.Treatment of head & neck cancer causes disfiguring & disruption of the most beautiful exposed part of the human body which alters the QOL .Areas which alter the QOL are body image,speech,mastication, swallowing & psychosocial aspect of life.
Today,five years survival rate has increased up[to 50%. Therefore,good QOL is essential for all cancer survivors till their end.This is possible if we open up a 4th dimension .This presentation will highlight the different field on supportive needs for oral cancer survivors to provide a "good Quality of life".

Poster Number – 248 Abstract No-57 **THE LARGE FREE ABDOMINAL FAT GRAFT USED FOR RECONSTRUCTION IN MAXILLOFACIAL SURGERY**
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Introduction: Resection of giant maxillofacial tumor will leave a large dead space that can cause facial depression deformity and infection. How to repair was an important problem plaguing the surgeon. In the past three years, we

use the large free abdominal fat graft to repair the defects achieving good results. we hope the surgeon can pay more attention to this technology that has been practised more than 100 years.
Methods: We counted patients who applied the large free abdominal fat transfer for reconstruction after maxillofacial tumor resection in affiliated stomatologied hospital of China Medical University from January 2013 to December 2016. Postoperative follow-up less than 6 months and the size of the fat less than 30cm³ were excluded.
Results: Seven patients (four female, three male) between the ages of 42 and 66 were included in our study. There were 5 patients with malignant tumors of the parotid gland and 2 patients with benign tumors of the skull base. The largest transplanted volume of fat was 10 * 8 * 2.5 cm³ and the smallest was 4 * 4 * 2 cm³. Two cases occurred the complications with the sterile liquefied fat and the necrosis in the volumes of 10*8*2.5 cm³ and 10*6*0.8 cm³. All of them recovered after our treatment. We did not found the complication of donor site and the Frey's syndrome.
Conclusion: The large free abdominal fat grafting is easy to perform and saving time, as well as suiting for repairing of the giant dead space after the maxillofacial tumor is removed, which should be paid more attention to by the surgeon.

Poster Number- 249 Abstract No- 211 **ADVANTAGES OF 3D PRINTED MODELS IN THE REHABILITATION OF IMPLANT SUPPORTED PROSTHESIS IN A RECONSTRUCTED JAW FOLLOWING ABLATIVE SURGERIES**
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Private Practioner[1], PMN Dental College[2], KIDWAI Cancer Hospital[3]
Introduction: Complex defects resulting from Head and Neck oncologic resections are traditionally reconstructed using wide range of flaps. Following reconstruction of the Jaw with Micro vascular Free Fibula graft, to Rehabilitate the same jaw with Implant Supported Prosthesis is a horrendous task for the Prosthodontist as the Shape, Size and the Orientations of the Fibula graft is a subject of imagination, added to this if the patient has Trismus following Surgery/Radiotherapy, then Rehabilitation becomes next to impossible. At this juncture, 3D Printed models of the reconstructed jaw can be used to get the orientation of the Fibula graft and thereby making a surgical splint, which will enable us to place the Implants parallel and help in supporting a prosthesis.
Methodology: Totally 5 cases, in which Jaw was reconstructed by Microvascular Fibula Graft was subjected to 3D Printing, and a surgical splint was prepared to execute the placement of Dental Implants under Local Anesthesia.
Results: 3D Printed models of the reconstructed jaw helped in proper, parallel placement of Dental Implants to support a Prosthesis.
Conclusion: 3D Printed models of Reconstructed Jaw is an excellent tool to provide proper Shape, Size and Orientation of the Fibula graft to suit the patients defects, its an Excellent Tool in case of Trismus and finally saves time of surgeons.

Poster Number- 250 Abstract No- 236 **MEASURING SWALLOWING-RELATED QUALITY OF LIFE OF HEAD AND NECK CANCER PATIENTS IN SINGAPORE**
Yee K[1], Roche E[1] Zheng J[1], Loy J[1], Tan Y[2], Teo I[2], Wong S[1]
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Introduction: Swallowing difficultiesare a common side effect of head and neck cancer and its treatment.Inability to eat and drink safely and comfortably has a major impact on quality of life (QOL). This is especially so in Singapore, where there is significant cultural emphasis on enjoying food. Currently, head and neck cancer patients with swallowing difficulties work primarily with speech and language therapists to improve their swallow function. In this study, weinvestigatedthe valueof swallowing-related QOL questionnaires in relation to general measurements of emotional distress to illness, and functional swallowing statusin this patient group.
Methods: 20 patients who have undergone head and neck cancer treatment at the Singapore General Hospital completed the Swallowing Quality of Life questionnaire (SWAL-QOL),MD Anderson Dysphagia Inventory (MDADI), andthe Hospital Anxiety and Depression Scale (HADS). Functional feeding status wasmeasuredusing the Functional Oral Intake Scale (FOIS).Relationships among the three questionnaires and the FOIS were determined using Spearman's correlation analyses.
Results: Correlations between the SWAL-QOL total scoreandthe MDADIcomposite (ρ=0.79, p<0.001) and MDADI subscale scores (ρ = 0.59-.0.74, p<0.01)were strong.Swallowing-related QOL was not strongly associated with anxiety (MDADI: -0.41, SWAL-QOL: -0.44), or depression (MDADI: -0.40, SWAL-QOL: -0.51). There was also low correlation between swallowing-related QOL measures and functional feeding status (-0.02≤ρ≤0.52, p>0.02).

Conclusion: Swallowing-related QOL may be equally measured with theSWAL-QOL or the more condensedhead-and-neck-specific MDADI. These self-administered questionnairesmeasure swallowing-related QOL concerns that may be distinct from general anxiety or depression in response to head and neck cancer, or from the patient's overall feeding status. Swallowing-related QOL questionnaires can add value to comprehensive management of swallowing difficulties in Singapore head and neck cancer patients.

Poster Number-251 Abstract No- 257 **UNLOCKING THE JAW: INTRAMUSCULAR CORTICOSTEROIDS- A NEW KEY TO RELIEVE TRISMUS IN POST RADIOTHERAPY ORAL CANCER PATIENTS**

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Introduction: More than one-third of patients suffer trismus after radiotherapy for oral cavity cancers, and this is associated with a significantly reduced quality of life. To the authors' knowledge, this is the first report of successful therapy with intramasseter injections to relievemyofascial pain causing trismus, and clinically demonstrable great improvement in maximal inter-incisor distance.

Background: Our patient has a history of T4aN0M0 right maxillary squamous cell carcinoma for which he underwent right inferior maxillectomy and modified radical neck dissection in April 2016. Following an uneventful post-operative recovery, he continued with biweekly oro-dental treatments and intensive speech rehabilitative exercises, before commencing on adjuvant radiotherapy six weeks later. One month upon completion, he had developed severely impaired mouth opening of less than two fingerbreadths, and suffered from malnutrition and dehydration. Decision was made for admission to facilitate intervention.

Methods: Whilst inpatient, he underwent routine jaw exercises with the speech therapists daily, but initial efforts were hampered due to his pain and anxiety. Next, we enlisted the help of a physician trained in musculoskeletal rehabilitative medicine to perform a bedside ultrasound of the patient's head and neck musculature corresponding to the area of maximal pain. A mixture of 20mg of triamcinolone and 30mg of 1% xylocaine was injected using ultrasound guidance into the patient's right masseter muscle and also to the upper third of the right sternocleidomastoid muscle corresponding to the region of the patient's pain. A fan shaped distribution was used to deposit 0.5ml aliquots of the mixture throughout the muscles. In addition, the anti-bacterial mouthwash was switched to one that contained anti-inflammatory and topical anaesthetic agents, to ameliorate the pain contributed by radiotherapy induced intra-oral mucositis.

Results: Having achieved significant alleviation of his pain, DY's mood and progress in therapy improved dramatically. His mouth opening improved at a rate of about 2mm per day, and at the point of discharge, he was able to achieve a maximal inter-incisor distance of 24mm (equivalent increase in height of 9 tongue depressors). Functionally, he was able now to remove and reinsert his maxillary obturator with ease, and resume oral feeding with modified soft diet.

Conclusion: Multiple modalities may be necessary to relieve severely debilitatingtrismus in patients post-radiation for head and neck cancers. The use of localized injection of triamcinalone and lignocaine to the muscles appears to have significant benefit as an adjunct in this process to reduce pain and improve maximal mouth opening distance.

Poster Number-252 Abstract No-290 **POSTOPERATIVE ASPIRATION-RELATED LRTI ANALYSIS IN THE PATIENTS WITH THE ORAL AND MAXILLOFACIAL DISEASES AND THE TRACHEOTOMY**

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Objective: Aspiration is one of main causes of lower respiratory tract infection, or LRTI. This study aims to investigate the incidence rate and risk factors of postoperative aspiration-related LRTI in the patients with oral and maxillofacial diseases and tracheotomy.

Methods: A perspective study was performed between October 2015 and March 2016. Clinical materials were recorded (age, sex, tobacco, radiotherapy, gastroesophageal reflux, choking, systemic disease, BMI, preoperative albumin level, disease onset time). Preoperative swallowing function were assessed byboth objective evaluation method (tongue mortality, mouth opening degree, water swallowing test) and subjective one (M.D. Anderson Dysphagia Inventory, or MDADI). Postoperatively, patients underwent a dye test for the detection of aspiration. We investigate the relationship between aspiration and LRTI, MDADI. The data was analyzed with SPSS 19.0 for the univariate and multivariate analysis to screen the influencing factors.

Results: Postoperative aspiration was detected in 24 patients in the 34 patients enrolled (70.6%). In aspiration cohort, 11 contracted LRTI, while no patient developed LRTI in non-aspiration cohort($P < 0.05$). Preoperative MDADI score in aspiration cohort was lower than that in non-aspiration cohort ($P > 0.05$). Patients with MDADI score less than 60 were all detected with aspiration. Univariate analysis revealed that age, sex, tobacco history, MDADI score were statistic different between two cohorts ($P < 0.05$). Multivariate logistic analysis showed that having tobacco history and lower MDADI score are the independent risk factors of aspiration ($P < 0.05$).
Conclusion-: This study indicates tobacco history and MDADI score are important risk factors for aspiration-related LRTI in tracheotomized patients undergoing oral surgery.

Poster Number-253 Abstract No- 297 **SWALLOWING EVALUATION FOR LATERALISED MANDIBULAR COMPOSITE DEFECTS RECONSTRUCTED BY FREE AND REGIONAL FLAPS: A RETROSPECTIVE ANALYSIS FROM A TERTIARY CANCER CENTRE**

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INTRODUCTION: The objective of the present study is to evaluate the swallowing efficiency of patients reconstructed with free (both bony and soft tissues) and regional flap (PMMC) for lateralised mandibular composite defects.
METHODS:A sample consisting of 40 patients (39 males, 1 female) consecutively selected from the institutional database with lateralised segmental mandibular defects (Brown's Type I, II) along with the adjoining buccal mucosa and skin were evaluated. The defects were reconstructed either by free flaps (ALT, FIBULA) or regional flaps (PMMC) including bipaddling for composite defects if skin and mucosa. All patients received adjuvant CTRT or RT based on final histopathological reports. Following the completion of treatment, patients were evaluated for swallowing efficiency by Functional Oral Intake Scale (FOIS) which ranged from 1st to a maximum period of 8 months. The primary endpoint was to evaluate swallowing efficiency of defects reconstructed by free flaps compared to regional flaps. The secondary endpoint was to evaluate the role of adjuvant therapy or composite defects on swallowing efficiency.
RESULTS: An univariate analysis shows statistically no differences in swallowing efficiency between the free flaps and local flaps (Chi square 6.062; df 4; p=0.195). Similarly CTRT or RT was not found to cause any differences in swallowing efficiency though the aspiration risk was statistically higher in CTRT group than RT group (Chi square 4.433; df 1; p=0.035)
CONCLUSION: Regional flaps (PMMC) does not perform inferiorly for lateralised defects when compared to free flaps in terms of swallowing efficiency (FOIS SCORE). Though free flaps requires more surgical time along with the need for surgical expertise, a regional flap is able to perform equally well in terms of functional rehabilitation for selective cases.

Poster Number- 254 Abstract No-356 **FUNCTIONAL OUTCOMES IN TOTAL GLOSSECTOMY- RETROSPECTIVE ANALYSIS FROM A TERTIARY CANCER CENTER**

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Introduction: Total glossectomy with laryngeal preservation is a functionally debilitating surgery as it affects the speech and swallow mechanism. As sequelae patients are prone to aspiration, poor nutrition and long term dependence on gastrostomy and tracheostomy tubes. Functional outcome assessment of these patients following surgery and chemoradiation is an indicator of their quality of life.
Methodology: This is a retrospective chart analysis of the patients treated from 2009 to 2016. All patients underwent total glossectomy+soft tissue reconstruction, followed by adjuvant chemoradiation. Patients underwent intraoperative tracheostomy and percutaneous endoscopic gastrostomy placement. Data was collected by recall and reassessment. There are 10 patients in our series who were able to participate and were stable on follow up and included for the study.
Inclusion criteria
1. Patients who underwent total glossectomy with laryngeal preservation followed by adjuvant treatment.
2. Survival of one year post treatment
Parameters that were assessed included

1. Whether laryngeal suspension was performed or not.
2. Dome of the flap post reconstruction and completion of treatment and at time of follow up.
3. Duration of tracheostomy and gastrostomy and time to decannulation following completion of treatment.
4. Complications during treatment.
5. Speech intelligibility assessment using the Ali Yavar Jung National Institute Hearing Handicap(AYJNIHH) scale.
6. Swallow assessment using videofluroscopy swallow study (VFSS) to identify aspiration and pooling. Rosenbach penetration aspiration scale was used to describe the same.
7. Quantification of the Dysphagia using the Dysphagia severity scale and Swallowing performance scale.

Results: The mean time to decannulation in our series was 2.6 months and all patients were able to resume a pureed diet by a mean time period of 3.1 months. Patients with a protuberant flap and laryngeal suspension had better swallow and speech outcomes.

Conclusion: Total glossectomy is a morbid surgery, if rehabilitated well can achieve good functional outcome. Decannulation can be attempted 6 weeks after chemoradiation and PEG can be removed after 6 months after Fiberoptic endoscopic evaluation of Swallow (FEES) and Videofluroscopic swallow study (VFSS).

Poster Number-255 Abstract No-360 **ROLE OF SPEECH SWALLOW REHABILITATION IN THE MANAGEMENT OF CARCINOMA OF BASE OF TONGUE UNDERGOING ORGAN PRESERVATION- A CASE REPORT**

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Introduction: Base of tongue is a vital junction in the upper aerodigestive tract. Organ preservation protocol results not only in oncologic clearance but is also associated with side effects. Therefore speech and swallowing functions get impacted.

Methods: Mr. B aged 37years underwent organ preservation protocol for lesion of base of tongue, stage T4aN3M0 and had no other neurologic history resulting in speech and swallowing issues was taken as subject of the study. Data was collected at two time frames: one before treatment to understand tumor effects and 3 months after CTRT to understand the deficits secondary to treatment. Speech was recorded using the PRAAT software. Kannada Articulation test, speech intelligibility was rated using Ali Yavar Jung National Institute of Hearing Handicap (AYJNIHH) scale, mean phonation duration, GRBAS and Voice handicap index were used to assess the patient's speech parameters. Fiberoptic endoscopic evaluation of swallow (FEES), Rosenbach penetration-aspiration scale, Swallow Functional Measure, Dysphagia Severity scale, Swallowing Performance Scale and Performance Status Scale for head and neck was used to evaluate the severity of dysphagia, normalcy of diet achieved, public eating comfort and understandibility of speech.

Results:3 month follow up revealed laryngeal edema, hold up of solids, and pooling of liquids without gross aspiration and significant handicap in voice. The patient underwent voice therapy which consisted of relaxation techniques, vocal hygiene, and adequate hydration. Visually assisted swallow therapy (VAST) using FEES as an objective tool was used to confirm which manoeuvre is suitable and to gradually initiate oral feeding safely. Speech intelligibility rating before and after treatment remained the same: could be understood but felt not normal. Articulation test results revealed no articulatory errors.

Conclusion: Speech and Swallow assessment and rehabilitation should be integrated with the organ preservation protocol at the earliest for the best functional results.

Poster Number-256 Abstract No-370 **One-Stage Functional Jaw Reconstruction: Retrospective Evaluation of Clinical Outcomes**

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Background: An important goal of reconstruction of jawbones is functional stomatognathic rehabilitation. At present, this remains a challenge either because of non-ideal bony position or because of the time taken for comprehensive rehabilitation, especially in patients undergoing radiotherapy. One-stage jaw reconstruction technique reconstructs the jaws in an ideal functional position along with osseointegrated implants and functional occlusal prosthesis at the time of primary reconstructive surgery.

Aim: To describe planning and execution of one-stage functional jaw reconstruction; to evaluate success rates of the reconstruction, implants and prosthetic restoration achieved in these patients.

Materials and methods: Patients who underwent one-stage functional jaw reconstruction using free fibula flap, in MSCC from Jan 2013 to December 2016 were considered for the study. Planning and execution utilized either "denture-guided-technique" or CAD-CAM. Outcome parameters evaluated were time taken for prosthetic rehabilitation, functional position of the reconstruction as well as functional position of the implants.
Results: The technique was carried out in 15 patients that included 3 patients of maxillary and 12 of mandibular reconstruction, 5 patients underwent adjuvant radiotherapy. Seven were planned with denture guided technique and eight were planned using computer aided & designed 3D printed models. Patients were prosthetically rehabilitated on an average of 28(SD=8) weeks post surgery. Two patients had partial flap necrosis. All patients had functionally ideal position of the reconstruction and implants. No differences in outcome were noted in patients who recieved post op radiotherapy.
Conclusion: One stage jaw reconstruction can be predictable form of functional reconstruction. This is also feasible in patients who undergo radiotherapy.

Poster Number-257 Abstract No-382 **VERTICAL DISTRACTION OSTEOGENESIS IN A RECONSTRUCTED MANDIBLE WITH A VASCULARIZED FREE FIBULA GRAFTFOR DENTAL IMPLANT PLACEMENT AND ITS ACCESSION FOR PROSTHETIC REHABILITATION: A REPORT OF 2 CASES**
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Introduction: Free fibulae graft are the treatment of choice in mandibular resection cases for reconstruction of extensive bony defects. But there are some limitations for functional rehabilitation of these vascularized fibula grafts with relation to bone dimension for the placement of dental implants and required prosthesis.
Patients: Segmental vertical distraction of the reconstructed mandible was performed in two patients following tumour surgery in 2013. Their ages were 30 & 45 years; Mandibular discontinuity was repaired with a microvascular fibular bone graft. Both grafts had a vertical bone deficit ranging from 8 to 11 mm when compared with the non-resected part of the mandibles.
Methods: Both patients underwent horizontal osteotomy of the fibular graft and a 3mm vertical height was attained, followed by placement of intraoral alveolar distractors.After 5 days of latency period, distraction protocol was performed at a distraction rate of 1mm/per day. A consolidation period of 3 months followed. Afterwards the distraction device was removed and osseointegrated dental implants were placed in the distracted area simultaneously. As a result, the vertical discrepancy between the fibula and the native mandible was corrected. The amount of vertical height achieved after distraction was 17 millimeters.
Results: The increase of vertical bone height was stable and enabled placement of dental implants without any complications.
Conclusion: It is clear that vertical distraction osteogenesis of vascularized fibulae transplant is a common & will be reliable procedure that optimizes implant placement for ideal prosthetic rehabilitation.

CLINICAL RESEARCH

Poster Number 258 Abstract Number 188 **PREVALENCE OF INFECTION IN POSITIVE FDG-PET/CT SCAN IN HEAD AND NECK FOR LYMPHOMA SURVEILLANCE**
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Introduction: FDG-PET/CT scan (2-fluoro-2-deoxy-d-glucose - positron emission tomography scan) is a functional scan widely used in management of lymphoma. Both malignancy and infection can lead to positive FDG-PET/CT scan result.The head and neck region has abundance lymphoid tissues which can easily infected.

Method: A cross sectional study was performed from March 2015 to September 2016 to look for the prevalence of head and neck infection with positive surveillance FDG-PET/CT scan in lymphoma patients. All patients underwent complete history, physical examination and clinical endoscopy.
Result: There were 62 samples sent for culture and sensitivity as well as histopathological study of all subsites with positive FDG-PET/CT scan (SUV median – 7.8). The prevalence of clinical infection in positive FDG-PET/CT scan was 8.06%. For prevalence of subclinical infection in positive FDG-PET/T
scan was 41.94%. The microbial pattern showed predominant Staphylococcus aureus. Other pathogens included Staphylococcus coagulase negative, Klebsiellasp, Methicillin resistant Staphylococcus aureus, Proteus sp, Enterobactor sp,Haemophilus influenza, Escherichia coli, Streptococcus pneumoniae, Streptococcus pyogenes and Beta-hemolytic Streptococcus. Prevalence of histopathological evidence of lymphoma in positive FDG-PET/CT scan was very low at 1.9%.
Conclusion: Infection in head and neck region results in positive FDG-PET/CT scan for lymphoma surveillance.

Poster Number 259 Abstract Number 313 **CELLULAR CANNIBALISM IN AMELOBLASTOMA: A PRELIMINARY STUDY**
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INTRODUCTION: One of the histopathological features of ameloblastoma is stromal degeneration, which can compromise the blood supply to the stellate reticulum like cells of ameloblastic follicle. Moreover, increasing size of ameloblastic follicle brings the central stellated reticulum like cells away from the nutritional source of stroma. With this aspect in mind, we hypothesize that central stellate reticulum like cells might resort to 'cellular cannibalism' for survival in nutritional depleted environment. Thus the aim of the study is to identify cellular cannibalism in stellate reticulum like cells of ameloblastoma.
METHODS: Hematoxylin and eosin stained tissue sections of 50 ameloblastoma cases will be thoroughly screened at high power magnification (400X) for cellular cannibalism in stellate reticulum like cells. Cases showing only frank cellular cannibalism will be selected. 10 randomly selected cases will be subject to immunohistochemical analysis using CD68 and lysozyme (phygocytic markers).
RESULTS: Awaited
CONCLUSION: Cellular cannibalism in stellate reticulum like cells of ameloblastoma could be one of the aspects, which has not yet been studied till date. If identified, this will be a new addition to the pathogenesis of ameloblastoma.

Poster Number 260 Abstract Number 223 **SURGICAL ERRORS AND RISKS IN HEAD AND NECK CANCER PATIENTS**
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Surgical errors can have fatal consequences for the treated patients. It can lead to functional impairment and has impact in future chances for disease related survival. Despite all precaution and surgical care, errors and mistakes cannot always be avoided. For that it is important to be able to deal with mistakes and to establish an appropriate and clear communication and management for such events. The manuscript comments on recognition and prevention of risks and mistakes in the preoperative, operative and postoperative phase of head and neck cancer surgery.
Introduction Head and neck cancer patients are ranked 8th of all cancer derived deaths worldwide. Beside the overall survival organ function such as swallowing and speech is of high relevance for patients after cancer treatment. Surgical mistakes might have a high impact on both outcomes. Head and neck cancer treatment should be performed at cancer centers involving all medical specialists that are necessary for the decision process and treatment. Before surgery preoperative diagnostics and patient selection are the first important responsibility of the surgeons involved. However, despite modern technical support and highly qualified medical staff mistakes cannot always be avoided. Therefore, it is an important part of the surgeons training and competence not only to be able to early identify potential risks but also to have thorough knowledge of the correct management and communication after mistakes occurred.
Conclusion Knowledge of possible risk sources is one of the basic principles for the avoidance of mistakes. However such mistakes cannot always be obviated in the clinical routine and therefore a proper handling of possible

complications, consequences for future treatments and an adequate communication process with the patient is of importance. All this will continuously influence a positive development of surgical skills and improve the future treatments.

Poster Number 261 Abstract Number 412 **RISK FACTORS IN ORAL SQUAMOUS CELL CARCINOMA HIGHLIGHTING DIFFERENCES BETWEEN VARIOUS AGE GROUPS**

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Aims and Objectives–

1. To assess the risk factors for squamous cell carcinoma of oral cavity, and find the independent relative risk for each of the risk factors.
2. To highlight the differences in risk factors between young adults and older patients.

Methods and materials: Hospital based case–control study with 76 cases and 76 age–matched controls with structured questionnaire detailing about the habits of tobacco and alcohol. The primary outcome was oral cancer with age as an effect. Pearson's Chi Squared tests and Likelihood ratios were measured. Multiple logistic regression analysis was performed to account for confounding factors and to effects of multiple risk factors.

Results: Out of 152 patients, chewing tobacco, combination of tobacco + betel nut and amount consumed/day were significantly associated with oral cancer. Alcohol consumption and smoking were not associated with oral cancer. When all the three habits were combined, chewing and alcohol consumption had an odds ratio of 27.38 to cause oral cancer. 17 pts were aged less than 40 yrs and chewing tobacco was associated with oral cancer in this group. Of these 17 pts, 1 patient did not have any risky habits, but had oral cancer.

Conclusion: Tobacco Chewing in any form, especially in combination with betel nut or alcohol carried significant risk to cause oral cancer. There was no difference in risk factors in patients who are aged less than 40 years.