CR120: ISOLATED PERIFACIAL LYMPH NODE METASTASIS IN ORAL SQUAMOUS CELL CARCINOMA WITH CLINICALLY NODE NEGATIVE NECK

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Background: Incidence of perifacial nodal pad in node negative neck is still controversial issue, and unfortunately no clinical study is reported yet. 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. Current study will shed light on current controversy and will provide valuable clinical and pathological information towards the practice of routine comprehensive removal of these lymph node 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:** Current study demonstrated that 19 (8.22%) out of 231 patientsshowedipsilateral 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.

Key words: Node negative neck, oral squamous cell carcinoma, perifacial nodes, selective neck dissection

CR121: PROSPECTIVE ANALYSIS OF 231 ELECTIVE NECK DISSECTIONS IN ORAL SQUAMOUS CELL CARCINOMA WITH NODE NEGATIVE NECK: TO DECIDE THE EXTENT OF NECK DISSECTION

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Objective: Is to evaluate the incidence of level IIB and IV lymph node metastases in patients of oral squamous cell carcinoma with clinically node negative necks. Study will provide useful information to deciding the extent and necessity of routine comprehensive removal of these lymph node groups in selective neck dissection in node negative necks. **Study Design:** Prospective analytical study. **Methods:** A total of 231 patients of oral squamous cell carcinoma with node negative necks undergoing elective neck dissections were prospectively analyzed. Each nodal level in neck was separately marked and sent for histopathological analysis and then incidence of metastases at level IIB and IV was seen. **Results:** 71 (30.73%) out of 231 cases had microscopic metastatic lymphadenopathy. Lymph node metastases from oral cancers were seen predominantly at levels IB and IIA. Metastases at levels IIB and IV were very rare (0.86% and 0%, respectively). Metastases at level IIB was associated with metastases at the level IIA in both cases (100%) and with level IB in 1 case (50%). 27 (11.68%) out of 231 cases had positive IIA nodes and conversely, only 7.4% (2/27) of all level IIA metastases had positive nodes at level IIB. **Conclusion:** This is the largest prospective study in oral cancer with clinically node negative necks. Selective neck dissection from I-III may be adequate for majority of patients with oral cancers. Level IIB and IV need not to be dissected in clinically node negative patients and determining status of level IIA intraoperatively could guide dissection of level IIB.

CR122: EVALUATING CERVICAL LYMPH NODE METASTASIS: A COMPARATIVE STUDY OF CT SCAN AND PHYSICAL EXAMINATION WITH CYTOLOGICAL RESULTS

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Background: The most important prognostic factor in squamous cell carcinoma of the head and neck is the presence or absence of clinically involved neck nodes. The presence of metastases in a lymph node is said to reduce the 5-years survival rate by about 50%. The appropriate diagnosis of the presence of metastatic node is very important for the management of squamous cell carcinoma of the head and neck. The aim of this work was to conduct a comparative study of CT scanning and Physical examination with Cytological evaluation,in detecting the cervical lymph nodes metastasis in known cases of squamous cell carcinoma in the head and neck. **Methods:** This study was carried out on 60 consecutive patients with a histologically proven non-cutaneous Head and Neck Squamous Cell Carcinoma (HNSCC). Every patient was subjected to clinical examination for cervical lymph nodes, CT scan on the neck with intravenous contrast and were compared with results of Cytological evaluation. **Results:** Clinical palpation for cervical lymph nodes had a sensitivity of 82.9%, specificity 69.2%, Positive predictive value 90.6% and Negative predictive value 52.9% The sensitivity of CT scan in detection of cervical lymph node metastasis in our study is 97.8%, the specificity is 84.6%, the positive predictive value is 95.8%, while negative predictive value is 91.6%. CT scan was better than clinical palpation. **Conclusion:** CT increase the accuracy of lymph node metastasis detection. CT is better than clinical palpation.

CR123: INCIDENCE OF SECOND PRIMARY MALIGNANCY IN HEAD AND NECK CANCERS: OUR EXPERIENCE

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Background: Second primary malignancy (SPM) is the major long-term cause of patient mortality with head & neck squamous cell carcinoma (HNSCC). SPM significantly worsens prognosis, & for that reason patient must be monitored for early diagnosis. Approximately 1/3rd of HNSCC deaths have been attributed to SPMs, which is nearly triple the no. of deaths as a result of metastasis. Reports of SPM incidence vary from 2-30%. These involve the upper aerodigestive tract (UAD) as well as remote sites. Our aim was to analyze the occurrence of Second primary

malignancy in patients with HNSCC. **Methods:** A Retrospective analysis of patients treated for Primary HNSCC who developed SPM between January 2008 & December 2015 was done in North East Cancer Hospital & Research Institute. Demographic & clinical data were recorded from patient's medical charts & analyzed with descriptive statistics. **Results and Discussion:** A total of 2679 patients were diagnosed with HNSCC during this period, & 75 (2.8%) developed SPM. Of the SPM patients; Male, female ratio was 4:1 (60:15), with a median age of 49 years old. 9 (12%) were synchronous SPM & 66 (88%) were metachronous SPM. The most frequent anatomical SPM sites were head & neck subsites & esophagus in this study with an overall survival of 25.33%. **Conclusion:** HNSCC patients must be carefully monitored because of the increased risk of SPM, especially when there is a continuous history of tobacco & alcohol consumption.

Key words: Head and neck squamous cell carcinoma, second primary malignancy

CR124: TRANSCERVICAL APPROACH TO BENIGN PARAPHARANAGEAL TUMORS

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Introduction: Parapharyngeal space (PPS) is one of potential confined fascial planes of head and neck that may be involved by various pathological processes. Being rare, they represent an ominous challenge in its clinical assessment and appropriate surgical intervention. **Materials and Methods:** A study of 19 cases of parapharngeal space tumors (PPST) which presented to our tertiary care Institute from January 2012 to October 2015, were included in this study. All cases were studied by their clinical examination, fine needle aspiration cytology, radiology (computerized tomography and magnetic resonance imaging), extent of excision, postoperative complications and definitive biopsy. All patients underwent surgery by transcervical approach and were followed up for a minimum period of 6 months. **Results:** The most common tumour of the parapharyngeal space was pleomorphic adenoma (n = 9), followed by schwannomas (n = 7), and carotid body tumour (paraganglioma) (n = 3). Fifteen patients were operated via extracapsular Dissection (ECD), and four patients with intracapsular dissection (ICD). Post-operative complications were vocal cord palsy in two cases, marginal mandibular palsy, horner's syndrome, hypoglossal palsy in one case respectively. **Conclusion:** The transcervical approach is a versatile approach for complete excision of tumours with excellent Surgical exposure and minimum morbidity. It can also be combined with excision of submandibular gland in order to Improve exposure. In cases of large schwannomas, ICD is recommended to favor a complete excision.

CR125: ENDOSCOPIC MODIFIED DENKER'S PROCEDURE: A NOVEL APPROACH TO BENIGN SINONASAL TUMORS

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Objective: To evaluate the potentials and advantages of endoscopic modified Denker's procedure for benign sinonasal tumors. **Methods:** This retrospective analysis was performed in the department of otorhinolaryngology in a tertiary referral centre. A total of five patients with sinonasal inverted papilloma were included who underwent endoscopic resection. Preoperative symptoms, computed tomography, tumor staging, intraoperative findings and surgical outcomes including recurrence were recorded and analysed. Skull base erosion, intradural or intraorbital extension, extensive frontal sinus involvement, abundant scar tissue due to previous surgery, or concomitant presence of squamous cell carcinoma was considered absolute contraindications for a purely endoscopic approach. All patients were followed by periodic endoscopic evaluations. **Results:** All patients were in stage III of Krouse staging system. All of them underwent endoscopic resection as primary surgical modality with endoscopic dacryocystorhinostomy as the adjunctive procedure. No intraoperative complications were encountered. No recurrences were noted in any of the patients with a mean follow up of 18 months. **Conclusions:** If preoperative assessment rules out malignancy, endoscopic resection viz endoscopic modified Denker's procedure is an excellent approach and could be successfully used to achieve complete resection of sinonasal tumor such as inverted papilloma. Subperiosteal dissection in the involved areas and regular follow-up evaluation are the keys for success.

CR126: OUTPATIENT PAROTIDECTOMY IN THE UNITED STATES: NATIONAL TRENDS AND SAFETY PROFILE

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Objectives: (1) Identify national trends in practice of outpatient superficial parotidectomy. (2) Analyze safety and outcomes of outpatient superficial parotidectomy versus inpatient procedures. **Methods:** A retrospective evaluation of data from the National Surgical Quality Improvement Program (NSQIP) for the years 2006 through 2012 identified 1,584 patients who underwent a superficial parotidectomy. Outcomes were compared between patients who underwent their procedure in an outpatient setting (n = 975) versus those requiring inpatient admission (n = 609). Preoperative variables and comorbid conditions were assessed to establish comparability between the groups. Postoperative complications and readmission rates were evaluated using t-tests, chi-squared tests, and Fisher's Exact tests. **Results:** During the study period, more than 38% of patients underwent superficial parotidectomy in an inpatient setting. Outcomes for outpatient procedures were comparable to inpatient procedures when considering incidence of surgical site infection, wound disruption, risk for post-operative bleeding, and re-admissions to the hospital, and other medical or surgical complications. When comparing outpatient procedures to inpatient procedures, there was a trend towards reduced mean length of hospitalization (0.92 days versus 1.77 days, p = 0.07) and risk of returning to operating room (0.6% versus 1.5%, p = 0.08), though the difference was not statistically significant. **Conclusions:** This study using a large national database emphasizes the following: (1) Outpatient superficial parotidectomy is safe when compared to inpatient procedures. (2) Outpatient procedures demonstrated a trend towards improved utilization of hospital-based services (reduced return to operating room and length of hospitalization). (3) There is significant opportunity to improve acceptance and adherence for outpatient superficial parotidectomy over inpatient procedures.

CR127: ORAL SQUAMOUS CELL CARCINOMA: NEED FOR LEVEL V NECK DISSECTION IN T3–T4 LESION WITH N0–N1 NECK

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Objective: To assess the need for level V neck dissection with N0 - N1 neck in T3 - T4 oral squamous cell carcinoma. **Design:** Non-interventional; Descriptive. **Study Period:** January 2011 to August 2012. **Setting:** Dow University of Health Sciences & Civil Hospital Karachi, Pakistan; a tertiary care teaching hospital. **Sampling:** Non probability, purposive. **Patients and Method:** Histologically proven cases of Squamous Cell Carcinoma of oral cavity with T3 - T4 lesion and N0 - N1 Neck on basis of clinical examination & CT-Scan findings were included in this study. All patients underwent Modified Radical Neck Dissection type-I (MRND) along with excision of the primary growth. **Results:** Out of 67 Patients fulfilling selection criteria 22 (32.03%) were found to have metastatic neck nodes on histopathological examination. At level-I metastatic lymph nodes were positive in 19 patients; Four had positive nodes each at level-II and III, while three had them at level IV. However none of the lymph nodes recovered from level V had metastatic carcinoma. Primary lesion was involving cheek/lip in 50 cases and tongue in 17 cases. Histopathology revealed moderately differentiated SCC in 33 and well differentiated in 16 patients. **Conclusion:** Our study suggests that level V neck dissection is not needed in oral SCC with N0 - N1 neck even in T3 - T4 lesions. However as the sample size is small, further study with larger number of cases is required to establish future guidelines for the extent of neck nodes clearance in oral cancer.

CR128: MOLECULAR PORTRAIT OF ORAL TONGUE SQUAMOUS CELL CARCINOMA SHOWN BY INTEGRATIVE META-ANALYSIS OF EXPRESSION PROFILES WITH VALIDATIONS

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Background/Hypothesis: Oral Tongue Squamous cell carcinoma (OTSCC), themostfrequently affectedoralcancer sub-site, isassociated withapoor therapeuticoutcome and survival despite aggressive multi- modality management. Till date, there are no established biomarkers to indicate prognosis and outcome inpatients presenting with tongue cancer. There is anurgent need forreliable molecular prognostic factors to enable identification of patients with highrisk of recurrence and treatment failure in OTSCC management. The first objective of the current study was to derive a molecular portrait of OTSCC gene expression profiles by a meta-analysis of the microarray datasets (n = 5) comprising of 111 tumours and 79 normals followed by the second objective with validations on prospective and retrospective series of patient samples for prognostication. **Methods:** Expression datasets according to our inclusion and exclusion criteria were downloaded from GEO database and Individual datasets were analysed after normalisation using BRB arrays tools to derive the differential expression profiles. This was followed by meta-analysis of the expression profile datasets using INMEX tool. The data-setswereprocessed, annotated, and a data integritycheck was performedpriortometa-analysis. The FDR was fixed at 0.01. The Cochran's Q test was used to calculate the weighted sum of squared differences between individual study effects and pooled effects across the studies. The QQplot was observed and since the estimated Q values deviated significantly from the Chisquared distribution, random Effect Model with a significance of 0.05 was used for meta-analysis. We derived the heat map and further derived the protein-protein interaction networks for the differentially expressed genes (DEG) using STRING and GENEMANIA tools. Gene Ontology processes were also derived for functional analysis of the DEG. This was followed by validation in prospective (n=39) and retrospective (n=167) series of OTSCC patient samples using qPCR and Immunohistochemistry. **Results and Discussion:** Our meta-analysis results showed 2405 genes differentially expressed comparing OTSCC tumors and normals. The topup regulated genes were found to be involved in Extracellular matrix (ECM) degradation and Epithelialtomesenchymal transition (EMT) pathways. The topdown regulated genes were found to be involved in detoxicationpathways. Members of matrix metalloproteases (MMPs) were chiefly upregulated along with other ECM pathway genes and EMT related family of cadherins were found to be downregulated. Validation studies in prospective samples showed a significant upregulation of MMP9 mRNA expression in OTSCC primary tumors comparedto adjacent apparent and absolute normals. Evaluatingtheprognosticvariablesby univariate and multivariate Coxproportional hazard model, patients with MMP9 over expression had an increased hazard of poorer DFS (HR = 2.288; P value = 0.037 and HR = 2.259; P value = 0.044) respectively. Kaplan Meier survival curves showed patients with low expression of MMP9 having astatistically significant (Logrank = 4.779; P value = 0.029) better disease free survival (DFS) (67.7%) comparedto patients with MMP9 over expression (47%). Also, there was a significant higher nodal and loco-regional recurrence among patients whose tumors showed loss of E-cadherin membrane expression at the invasive tumor front of the OTSCC ($\chi 2 = 14.115$; P value = 0.028). Combined over-expression of MMP9 and loss of E-cadherin membrane positivity in the invasive tumor front (ITF) of OTSCC had a significant association with poorer DFS (Log Rank = 16.040; P value =0.001). Our results suggest that along with known clinical indicators of prognosis like occultnode positivity, assessment of MMP9 and E-cadher in expression at ITF can be useful to identify patients at highrisk and requiring a more intensive treatment strategy for OTSCC. **Conclusion:** Meta-analysis study of gene expression profiles indicates that OTSCC is a disease of ECM degradation leading to activated EMT processes implying the aggressive nature of the disease. The triggers for these processes should be studied further. Newer clinical application with agents that can inhibit the mediators of ECMdegradation may be a key to achieving clinical control of invasion and metastasis of OTSCC.

CR129: RECONSTRUCTION OF OROMANDIBULAR DEFECTS BY VASCULARIZED FREE FLAPS: THE RADIAL FOREARM FREE FLAP AND FIBULAR FREE FLAP AS MAJOR DONOR SITES

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Introduction: Free flap reconstruction has become common choice in the reconstruction of defects after head and neck surgery. Though there are many advantages compared with local and regional flaps, the expertise required, extra time taken and the extra effort are the constrains of free flaps. Hence, free flaps are not considered often at busy tertiary care centres in India. **Methodology:** Retrospective review of the free flaps done for oral cancer at Malabar cancer centre during the period of June 2009 till June 2016. The factors considering the choice of the flaps and outcome of the flaps were reviewed. **Results:** There were 820 oral cancer surgeries during the period. Of these 92 patients underwent free flaps reconstruction. Young age was the most common criteria for choosing free flap. Others included comorbidities, Performance status and complexity of the defect. The flap survival was 95%.

CR130: NARROW BAND IMAGING IN LARYNGOPHARYNGEAL LESIONS MIMICKING MALIGNANCY

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Introduction: NBI is a new optical image enhancement technology based on illumination with a narrow band of light wave. The wave length is centered on 415 (blue light) and 540nm (green light). NBI established its role in the diagnosis of early upper aerodigestive tract malignancy. The present study signifies its role in identifying benign laryngeal disease which sometimes mimics malignancy. **Materials and Methods:** This is a retrospective analysis of fourteen selected cases of benign upper aerodigestive disease which mimic early malignancy. All the cases were referred by other ENT Surgeons for suspected malignancy. Clinical diagnosis was done purely by NBI. The other supportive investigations like X Ray chest, Blood investigations (TLC, DLC, ESR), ANCA, Montoux test, Sputum for AFB and biopsy was also done. The patient were followed regularly on weekly interval by WL/NBI to observe the response of medical treatment. **Results:** Of 14 cases, 8 cases had Laryngeal tuberculosis; 3 cases with Laryngopharyngeal reflux with huge interarytenoid pachydermia; 3 cases with extensive Laryngeal fungal infection;. Hoarseness of voice was the commonest presenting complaint. Difficulty in breathing was reported in 2 cases and odynophagia in 4 cases. The NBI findings were variable with hyperplastic lesion of vocal folds in 4; subglottic & vocal fold oedema in 2; extensive granulation tissue with ulceration almost occupying the glottis chink in 2; interarytenoid induration, hyperemia, congestion in 3; 1 case with ulcerative growth right pyriform sinus, multicentric superficial mucosal lesions over true and false cord in 2. **Conclusion:** The present study signifies the role of NBI in ruling out malignant lesions which mimic like malignancy. So any lesion which gives impression of Dysplasia or ulcerative growth on White light/NBI in UADT region should be thoroughly investigated before undertaking for any surgical intervention (Transoral laser surgery).

CR131: OSTEOSARCOMA OF HEAD AND NECK REGION: AN INSTITUTION EXPERIENCE

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Introduction: Osteosarcomas of Head and Neck (H&N) region constitute 1-2% of osteosarcomas and have poor prognosis. **Aims and Objectives:** To analyse the demographic profile, disease characteristics and survival of osteosarcoma of H&N regions. **Materials and Methods:** Medical records of 17 patients treated for osteosarcoma of H&N region between the years 2001-2014 in Cancer Institute (WIA), Chennai were reviewed. **Results and Discussion:** The mean age was 37 years (14–76) among 14 patients treated with curative intent. In contrast to higher incidence among males in the literature, our study revealed M:F ratio of 1:1.4. The most common site was mandible (64.3%) followed by maxilla in 28.5%, higher incidence of mandible in comparable to other series (28-56%). Conventional osteoblastic variant was the most common histological variant (56%), followed by chondroblastic variant in 35.1% which varies from 8-46% in the literature. Three patients with large tumour at presentation received Neoadjuvant chemotherapy (CT). All variants except low grade osteosarcoma were offered post operative adjuvant treatment with 7 and 3 receiving radiation and both radiation with chemotherapy respectively, while others refused. The median follow up period was 50 months and the 5 year overall survival (OS) was 47.6%, higher than in the metanalysis (37%). There is a trend towards improved survival with adjuvant treatment and maxillary osteosarcomas. R0 resection (78.4%) was higher than other series and is statistically significant. **Conclusions:** In our series, the osteosarcomas of H&N region are more common in females and mandible is the most common site. Maxillary osteosarcomas, R0 resection and post operative adjuvant treatment show trend towards better OS.

CR132: THE ROLE OF PER-OPERATIVE INTRA-ORAL SONOGRAPHY IN ACHIEVING ADEQUATE TUMOR CLEARANCE AT THE DEEP SURGICAL RESECTION MARGINS IN SQUAMOUS CELL CARCINOMA OF THE ORAL TONGUE

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Objectives: To objectively determine adequate and uniform three dimensional (3-D) deep resection margins using sonography in squamous cell carcinoma of oral tongue and to correlate with the pathological margins. **Methods:** A prospective non-randomized pilot study with a sample size of 15 of patients having SCC of tongue. A finger sonographic probe was use to mark the deep soft tissue margin of 1.5 cm from the deep edge of the tumor using a large curved round bodied needle. The depth of the tumor and the post op resection margin was again measured sonographically immediately following the excision of the tumor specimen. This was correlated with the final histopathological depth of the tumor and the margin. The findings were analyzed using descriptive statistics and correlation co-efficient calculated using SPSS17. **Results:** The mean deep soft tissue pathological margin was 1.2 cm (SD-0.41). Sonographically measured tumor depth had a positive correlation of 0.955 while the deep soft tissue margin had a correlation of 0.261 with the final histopathology. **Conclusion:** Intra-operative sonography using the finger-probe is feasible and simple technique to measure the depth of tumor in the carcinoma of the oral tongue and helps achieving the desired resection margin. Discrepancy in correlation of the deep soft tissue margins may be attributed to the technical difficulties encountered in the technique along tissue shrinkage after resection.

CR133: LASER CORDECTOMY IN EARLY GLOTTIS CANCERS: VOICE ANALYSIS AND INITIAL EXPERIENCE

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Introduction: Glottic cancers present with hoarseness and can be detected at an early stage. Radiotherapy had been the mainstay of organ preservation treatment as they had better functional outcome than open surgical procedures. But transoral microlaryngeal surgery with LASER can give equal oncological outcome with similar functional outcome and can avoid the morbidity associated with radiotherapy. **Materials and Methods:** All the patients treated by laser cordectomy with CO2 laser at Malabar cancer centre, fom Jan 2014 till June 2014 were included in the study. The preoperative voice and post operative voice at the end of one week and one month were recorded and analysed by the speech pathologist by using GIRBAS perceptive scale and spectroacoustic parameters using praat voice analysis software. The healing of the area was visualised using flexible laryngoscope at one week and one month. **Results:** There were 12 laser cordectomies done during the study period. Of these three had carcinoma *in situ* (Tis) and nine had squamous cell carcinoma (8 T1a, 1 T1b) as the diagnosis before the surgery. Four patients had type I cordectomy, three each had type II and type III and one each had type IV and V cordectomies. **Conclusion:** Laser cordectomy is a feasible option in early glottis cancers with preservation of voice. The voice is better in type I and II cordectomies and the voice improves over time. A strict frozen controlled excision gives oncological safety.

CR134: ONE STAGE FUNCTIONAL JAW RECONSTRUCTION: RETROSPECTIVE ANALYSIS 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 Mazumdar Shaw Hospital from January 2013 - March 2016 were included. 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 14 patients that included 3 patients of maxillary and 11 patients of mandibular reconstruction, 5 patients underwent adjuvant radiotherapy. Seven patients were planned with “denture-guided-technique” and 7 with CAD-CAM. Patients were prosthetically rehabilitated on an average of 24 (SD=8) weeks post surgery. Two patients had partial flap necrosis. All patients had functionally ideal position of the reconstruction as well as implants. No differences in outcomes seen when considering patients with or without adjuvant radiotherapy. **Conclusion:** One stage jaw reconstruction can be predictable form of functional reconstruction. This is also feasible in patients who undergo radiotherapy.

CR135: SURVIVAL ANALYSIS OF ORAL CAVITY SQUAMOUS CELL CARCINOMA PATIENTS ATTENDING TERTIARY CARE CENTRE OF NORTH INDIA: A RETROSPECTIVE STUDY

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Background: Oral cancers continue to be the major cause of morbidity and mortality in our country. Despite giving the best treatment, the prognosis remains poor in such patients. **Aim:** To evaluate 2-year and 5-year survival rates of patients with oral cavity squamous cell carcinoma attending tertiary care centre of north india, and to predict the most common associated prognostic factors affecting survival rates. **Methods:** This record based retrospective cohort study involved 249 patients with pathologically confirmed oral cancers and underwent primary surgical resection between October 2009 and December 2014. It comprised of analysis of complete clinical and follow-up data. Kaplan-Meier analysis was used to analyse 24 months & 60 months survival, comparisons among groups were analysed using a log-rank test, and multivariate analysis was conducted using the Cox proportional hazard model to look for different variables affecting the overall & Disease-free survival. **Results:** Most patients were diagnosed at stage IV (n = 174; 69.9%) or III (n = 39, 15.7%) and underwent wide local excision, selective or modified radical neck dissection, reconstructive surgeries with flaps followed by radiotherapy +/- chemotherapy. 2-year & 5-year disease-free survival for oral cavity tumour patients was observed to be 72.3% & 58.3% respectively, with mean survival of 63.17 months (95% CI: 58.342-68.002). Similarly, 2-year & five-year overall survival was 84.3% & 55.9% respectively, with mean survival of 65.143 months (95% CI: 60.823-69.601). **Conclusion:** Age at diagnosis, stage of the tumour, treatment, residual tumour and recurrence were significant risk factors that predicted the survival in oral cavity tumours.

CR136: THE OUTCOMES OF INFRAHYOID MYOCUTANEOUS FLAP RECONSTRUCTION IN ORAL CANCER SURGERY

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Background and Objective: Reconstruction of post surgical defects in oral cavity is a challenging aspect for a head and neck surgeon. Locoregional flaps are frequently used for reconstruction when a free flap surgery is not suitable or cannot be performed. Infrahyoid musculo-cutaneous flap which is based on superior thyroid vessels has emerged as a reconstructive option for oral defects but is still not a popular choice in practice. In this study

we have reviewed our experience of infrahyoid flap reconstruction for oral cancer surgical defects and report the success rate and complications. **Patients and Methods:** Retrospective study of fifteen cases in which infrahyoid flaps was used as reconstruction method in management of oral cancers from September 2014 to April 2016 at Malabar Cancer Centre, Thalassery, Kerala, India. **Results:** In the fifteen cases in which infrahyoid flaps was used, 12 were men, 3 were women and the median age was 60 yrs. The tumour subsite was tongue (8 cases), floor of mouth (4 cases), lower alveolus (2 cases), gingivo-labial sulcus (1 case); and the median dimension of flap used was 7 x 4 cms. On follow up, the flap was well taken up in all cases, although 2 patients had partial skin necrosis initially. Donor site was satisfactorily healed in all cases and no wound leak was seen. **Conclusion:** The infrahyoid flap is a good reconstructive choice because of its reliability and convenience, for medium sized soft tissue defects in the oral cavity.

Key words: Infrahyoid flap, myocutaneous flap, oral cavity reconstruction

CR137: ROLE OF UNSEDATED TRANS NASAL OESOPHAGOSCOPY USING A SLIM GASTROSCOPE IN EVALUATION OF LARYNGEAL: HYPOPHARYGEAL CANCER

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Aim: Currently rigid scopy under anesthesia (GA) is the standard of care for evaluation of laryngeal & hypo-pharyngeal lesions with few drawbacks such as cost & morbidity of GA, trauma to teeth, inadequate evaluation in trismus, risk of emergency tracheostomy in case of airway compromise. Our objective was to investigate the feasibility & efficacy of Trans nasal Esophagoscopy (TNE) using a slim gastroscope. **Design:** Prospective study**. Materials and Methods:** Sixty three patients with suspected laryngeal-hypopharyngeal tumours were evaluated with TNE to assess the completeness of evaluation & adequacy of tissue for diagnosis. All endoscopies were done using 5.5-5.9 mm diameter standard slim gastroscopes. All patients with malignant diagnosis were referred to joint clinic for further management. Those with inadequate evaluation & inconclusive/negative biopsies were planned for a rigid scopy. **Results:** 63 patients underwent TNE for mapping of disease, of these 35 patients underwent biopsy. Mean procedure time was 9.4 minutes. Approximately 4-7 bits of tumour tissue were taken. Tissue obtained for sampling was adequate for histology in all 35 patients. Biopsy confirmed invasive carcinoma in 32 (91.4%). Three patients with negative biopsy on TNE were referred to rigid scopy of which 2 patients were confirmed to have no disease & one had carcinoma. Thus the adequacy of sampling by TNE is 97%. All patients had adequate mapping of disease on TNE. Five patients (7.9%) had synchronous malignancy in oesophagus. All except 1 patient tolerated the procedure well, while 73% experienced no discomfort (Gloucester Comfort Score (GCS)-1). One patient developed stridor during TNE requiring abandonment of procedure. Thus TNE avoided the need for rigid laryngoscope in 95% of patients. **Conclusion:** TNE is a safe, well tolerated and demonstrates good efficacy in disease mapping and & tissue diagnosis of larynx-hypopharyngeal tumours. An additional benefit is simultaneous screening for synchronous oesophageal carcinoma and biopsy of suspicious lesions.

CR138: A PILOT STUDY OF SENTINEL LYMPH NODE BIOPSY IN ORAL CANCER USING BLUE DYE

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Background: Sentinel Lymph Node (SLN) biopsy using a combination of radioisotopes and blue dyes have a good accuracy rate in predicting subclinical neck nodal metastases in head and neck cancers. However, the limited availability of lymphoscintigraphy facilities in India requires exploration of alternative methods of SLN detection. We evaluated the feasibility of using methylene blue dye alone in detecting SLN in Oral cancer patients who underwent standard Neck dissection. **Materials and Methods:** 20 patients with oral squamous cell cancers (N0, N+ and Post irradiated) underwent SLN biopsy using peri tumoural methylene blue dye injection. After accurately assessing the stage and grade of the cancer, the patient was posted for surgery under general anesthesia. Just before giving incision in the neck for elective neck dissection, 5 ml of 1% Methylene blue dye was injected in to the mucosa around either the tumour mass or around the biopsy cavity if a previous excision has been performed. The time duration between injecting the dye and raising the neck flap was within 20 min. Blue stained lymph node were appreciated, dissected out and sent for histopathological examination. Then the planned neck dissection was performed. **Results:** The mean age of patients was 43 years (range: 25–60 years). The most common sub sites were tongue (60%). Sixty percent (n = 12) of the patients were tobacco/betel users and 40% (n = 8) were alcoholics. SLN was identified in 8/9 in N0 neck and 7/9 in N+ neck cases. No SLN was identified in Irradiated neck. SLN identification rate was 88.8% in N0 and 77.7% in N+ Neck. In 11 patients (55%) more than one SLN was identified. Mean SLN yield was 2 (median = 2) with the highest yield in Tongue cancers (mean = 2.25). SLN was positive for metastasis on Standard Histopathological Examination in 1/8 in N0 neck and 3/7 in N+ neck cases. **Conclusion:** Methylene blue dye alone can be successfully used for SLN identification in early oral cancers with a good accuracy. This method will be of use especially in resource limited countries and centres where nuclear medicine facilities are not widely available. However, it has to be validated by larger randomised multi institutional trials for wider applicability.

CR139: PROSPECTIVE STUDY TO DETERMINE THE ROLE OF SENTINEL LYMPH NODE BIOPSY IN THE MANAGEMENT OF EARLY SQUAMOUS CELL CARCINOMA OF ORAL CAVITY WITH CLINICALLY N0 NECK

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Objective: To investigate the validity of sentinel lymph node biopsy in staging the neck for early oral cancer [T1-T2, N0]. **Study Design:** Prospective clinical study. **Study Area:** Indraprastha Apollo Hospital, New Delhi. **Patient:** Patient with Primary untreated T1/T2, N0 oral squamous cell carcinoma. **Intervention:** An SLNB was performed after radiocolloid injection. Preoperative lympho-scintigraphy was done to locate the sentinel node. Intraoperatively gamma probe identified the radioactive sentinel node. Completion functional neck dissection was done. Histopathological result of sentinel node and neck dissection specimen was done.

Main Outcome Measured: Primary outcome measured was negative predictive value (NPV) of sentinel node biopsy procedure. Secondary outcome measured was accuracy and false negative rate(FNR) of the procedure. **Results:** SLNB was performed in 40 patients with T/T2, N0 oral squamous cell carcinoma patient. Sentinel node was successfully identified in 37 (92.5%) patients. Eight patients showed metastasis either in sentinel node or in cervical node or both. Four patients (11%) showed a false negative results where nonmetstasis found in sentinel node, but nodal metastasis was detected in other cervical node. The accuracy of the procedure was 0.89 (95% CI 0.74 to 0.92), negative predictive value of the procedure was 0.86 (95% CI 0.68 to 0.92). **Conclusion:** Sentinel lymph node biopsy can be a valid alternative to elective neck dissection early oral squamous cell carcinoma. But further multicentre studies and followup is needed before it could be standard of practice.

CR140: PSYCHIATRIC MANIFESTATIONS IN HEAD AND NECK CANCERS IN POST OPERATIVE PERIOD

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Background: The objective of the study was to examine the psychiatric manifestation of the head and neck cancer patients during their post surgery hospital stay only. **Methods:** Retrospective study with non-interventional method. Measurement done on the basis of ICD 10 criteria for mental and behavioral disorders, MSE (Mental status examination) and history taking. **Results:** At the baseline, within the duration of one year (Jan 2015 to Feb 2016), 32 patients out of 187 were diagnosed with psychiatric manifestations during their post surgery hospital stay. Prevalence rate of psychiatric manifestations was found to be 17.11% where 25% patients have undergone mild to moderate depressive episodes, 46. 87% patients encountered with anxiety disorders. Somatoform disorder found in 8.12% of the cases and adjustment disorder found with 12.5% of the cases, However, Patient have encountered psychosis and substance abuse withdrawal symptoms with 12.5 and 6.25% in each respective domain. **Conclusion:** There is significant prevalence of psychiatric manifestation in head neck cancer patients in postoperative period which has not been studied till now**.** The future research plans would be to do the psychological counseling before surgical procedure to assess the impact of pre-surgery psychological counseling.

CR141: CORRELATION BETWEEN HISTOLOGIC GRADE OF CARCINOMA ORAL TONGUE AND CERVICAL LYMPH NODE METASTASIS

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Background: Squamous cell carcinoma (SCC) of oral tongue has higher predisposition to lymph node metastasis which reduces survival by 50%. In clinical practice, TNM classification is used for treatment planning which does not provide information on the biological characteristics of the tumor. In addition to TNM, aim of this study was to assess correlation between histologic grade, lymphovascular - perineural invasion with lymph node metastasis. **Methods:** This prospective cross sectional observational study was conducted at Narayana Hrudayalaya, Bangalore. 30 patients with T1 to T3, N0/+ oral tongue SCC were included from 01-03-2014 to 30-04-2015. Incisional biopsy was taken from the primary tumour and pathological evaluation for differentiation of the tumour and assessment of lymphovascular and perineural invasion was done. Post operative HPE included differentiation, lymphovascular invasion (LVI), perineural invasion (PNI). The pathological findings were correlated using chi square test. **Results:** Majority presented with T2 stage. 27% had nodal metastasis. There was higher occurrence of lymph node metastasis in MD and PD which was not statistically significant. We observed significant correlation between LVI and PNI to lymph node metastasis ($p \leq 0.001$). **Conclusion:** There is a high trend of lymph node metastasis seen in moderately and poorly differentiated SCC of oral tongue, which can be assessed in preoperative biopsy, guiding us to go for aggressive management of cervical nodes in early tongue cancer. LVI and PNI have a significant correlation to lymph node metastasis. We can thus assess the aggressiveness of the tumor, predict the prognosis, plan appropriate management for the neck and adjuvant treatment.

CR142: WHY DO OUR YOUNG FAIL: AN ANALYSIS OF TREATMENT FAILURE IN THE UNDER 40 HNSCC

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Background/Hypothesis: Head and neck squamous cell carcinoma is primarily a disease of older adults, occurring most frequently in patients older than age 40. Epidemiological studies over last 20 years have shown a steady rise in the incidence of these cancers in younger adults (age 18–40 years. Numerous early reports concluded that the disease was more aggressive and the prognosis poorer in young adults compared toolder adults. The purpose of this study is to identify factors that may be associated with adverse prognosis. **Methods:** Analysis of treatment outcomes was performed in patients of < 40 age group, treated for HNSCC between 2012 and 2014 at CRI, SRHU, Dehradun. The disease factors, patient factors, treatment details and outcome details (loco-regional, distant failure) at 6 months follow up were collected. A univariate and multivariate analysis was used to identify the factors associated with treatment failure. **Results and Discussion:** A total of 200 patients <40 years age, with previously untreated HNSCC were treated at this center between 2012 and 2015. At 6 months follow up patters of failure and factors correlating with loco-regional and distant failure were identified. **Conclusion:** In young patients with HNSCC the treatment outcome is defined by the initial stage of the disease. Failure is common thus treatment should be aggressive.

CR143: CLINICAL OUTCOMES OF DIFFERENT TREATMENT MODALITIES FOR MUCOSITIS IN HEAD AND NECK CANCER UNDERGOING CHEMO-IRRADIATION

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Background and Aim: Oral Mucositis associated with head and neck chemo-irradiation is a debilitating problem associated with

patients undergoing treatment for the same. The role of various modality involved with the treatment of oral Mucositis need to be evaluated. With advent of chlorhexidine, benzydamine and povidone iodine as established modality, the role of each needs to be evaluated for the treatment of the same. The aim of the study is to investigate the role of three modalities of mouth wash to prevent oral mucositis related to chemo-irradiation and its comparative status. **Materials and Methods:** A Randomized, Prospective, Single Institutional Case Control Study performed comparing the influence of benzydamine, chlorhexidine and povidone iodine (Betadine) on oral mucositis in head and neck cancer patients undergoing chemo-irradiation. 90 Biopsy proven untreated Patients will be allocated in 3 arms and subjected to chlorhexidine, povidone iodine and benzydamine treatment for the duration of treatment were analyzed for the complications related to mucositis. The grading for complications was done as per the RTOG Toxicity grading scale and the patients evaluated at baseline and every week till the completion of treatment and thereafter at 1 and 3 months to assess the acute toxicities. The Quality of Life would be assessed using the EORTC QoL-C30 and H&N-35. **Results:** The toxities would be graded for the three arms and later compared using ANOVA. The QoL would be analyzed using Wilcoxon Rank test. The duration for upgrading of Mucositis and the duration of presence of mucositis would also be analyzed in all three arms. The assessment of nutrition would also be done through analysis of weight changes during the entire course of treatment. Thus, the three modalities of treatment of mucositis would be compared for chemo-irradiation related toxicities. **Conclusion:** Benzydamine hydrochloride is safe, well tolerated, helps not just in delaying the progression of mucositis but also reduces the intensity of pain as compared to other treatment modalities.

Key words: Benzydamine, chlorhexidine, head and neck cancer, oral mucositis, povidone iodine, QoL

CR144: VALUE ADDITION OF ULTRASOUND OVER SESTAMIBI SCAN IN DIAGNOSED CASES OF HYPERPARTHYROIDISM: RETROSPECTIVE DATA FROM A SINGLE INSTITUTION

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Introduction: Sestamibi Scan has often been the only imaging investigation for parathyroid localization, however the value addition of ultrasound is quite significant. **Aims:** To establish the value addition of ultrasound over Sestamibi in diagnosed cases of hyperparathyroidism. Aim of this study was to evaluate the cases where on ultrasound, additional information was gained over and above the sestamibi scan, which was of vital importance in diagnosis and in surgical planning and management in patients with hyperparathyroidism. **Methods:** This was a retrospective study conducted at a single institution in India. Patients diagnosed with HPT from year 2013 to 2016 were included. Biochemical and radiological parameters were evaluated. Biochemical parameters evaluated were serum calcium levels and Parathyroid hormone PTH Vitamin D and phosphates were also monitored. Clinical symptoms were recorded to establish primary secondary or tertiary hyperparathyroidism. Radiological investigations done were recorded, which included Tc-99-sestamibi scintigraphy (MIBI) scan), ultrasound examination, Methionine PET (C-11 methionine PET scan). A total of 200 Patients diagnosed with Hyperparathyroidism were studied retrospectively. Among them 180 patients (90%) underwent both sestamibi Scan (Tc-99-sestamibi scintigraphy (MIBI) scan) and ultrasound examination and 15 patients (7.5%) had only sestamibi scan done, 2 patients (1%) underwent Methionine PET (C-11 methionine PET scan) and 3 Patients (1.5%) had no Radiological imaging done. **Ultrasound Equipment:** High resolution linear ultrasound was performed on Siemens 2000 AND Siemens X700 ultrasound machine with good colour Doppler capabilities.

Ultrasound Findings of a Parathyroid Nodule:

- They are usually discrete oval or bean-shaped, but larger adenomas can be multilobulated
- Parathyroid adenomas tend to be homogeneously hypoechoic to the overlying thyroid gland located posterior to the thyroid gland, anterior to the longus colli muscles, usually medial to the CCA
- An echogenic line that separates the thyroid gland from the enlarged parathyroid gland can usually be seen
- Larger adenomas are more likely to have cystic change, lobulations, increased echogenicity due to fatty deposition, and occasional calcifications
- Ectopic parathyroid have varied locations

Ultrasound Doppler Findings of a Parathyroid Nodule

1. Parathyroid adenomas tend to be hypervascular lesions
2. An extrathyroidal artery leading to a parathyroid nodule may be seen in majority cases of patients and provides a guide
3. This Characteristic extra thyroidal feeding vessel (typically a branch off the inferior thyroidal artery enters the parathyroid gland at one of the poles. (ECCENTRIC VASCULARITY IS CHARACTERISTIC)
4. Internal vascularity is also seen in a peripheral distribution
5. Feeding artery tends to branch around the periphery of the gland before penetration. Characteristic arc or rim of vascularity
6. Adjacent thyroid may show asymmetric hyper vascularity that may give a clue in localizing parathyroid nodule.

Results: Of the 180 patients (90%) which underwent both sestamibi Scan and ultrasound examination, Sestamibi was positive in localizing parathyroid nodule in 162 (90%) of cases, and ultrasound was positive in localizing the nodules in 175 patients (97%) cases. Of the localized sestamibi nodules 90%, only 82% were true localization, and 8% were false localization as confirmed by surgical results. Of the localised nodules by Ultrasound (97% cases), 99% were true localization, and 1% were false localization as confirmed by surgery. Ultrasound localized the nodules in sestamibi negative cases (7%). Also with ultrasound, additional nodules (additional one nodule or more than one additional nodule) (not shown by sestamibi) were found in 16% cases. (87% of Diagnosed hyperparathyroidism patients met criteria for surgery and underwent parathyroidectomy. Only operated patients are included in the data). **Conclusion:** (1) Ultrasound finds a parathyroid nodule in cases of hyperparathyroidism (PRIMARY, SECONDARY OR TERTIARY) where sestamibi is negative or equivocal helping better patient management. (2) Ultrasound finds additional nodules in cases where sestamibi showed only one nodule (SECONTARY AND TERTIARY HYPERPARATHYROIDISM) which changes the plan of surgery and preoperative counselling of patient. **Additional Benefits:** Ultrasound helps in sestamibi positive cases of hyperparathyroidism to give a precise accurate three dimensional localization of the parathyroid nodule and its depth level and anatomical relationship with the important landmarks and vascular structures in the neck. It determines the size of the nodule (s) accurately which correlated well with surgical findings. All these help in guiding the surgeon by better planning and saving operating time and patient morbidity.

Key words: Hyperparathyroidism, parathyroid adenoma, primary secondary and tertiary parathyroid nodules, sestamibi, ultrasound neck for parathyroid nodules

CR145: ROLE OF L GLUTAMINE IN REDUCING SEVERITY OF ORAL MUCOSITIS INDUCED BY CHEMORADIATION IN LOCALLY ADVANCED HEAD AND NECK CANCER PATIENTS

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Aim and Introduction: The incidence of mucositis in the oral cavity, pharynx and larynx is high among patients with head and neck cancer (HNC) receiving chemo-radiotherapy (CRT), resulting in significant pain and impairment of quality of life. The present study investigated whether L-glutamine (glutamine) decreases the severity of mucositis in the oral cavity, pharynx and larynx induced by CRT. **Material and Methods:** Patients were randomized to orally receive either glutamine or placebo at a dose of 10 g 3 times a day throughout the CRT course. Mucositis was assessed using the National Cancer Institute Common Terminology Criteria for Adverse Events version 3.0. The primary end point was mucositis severity. Seventy biopsy proven patients with head and neck cancer receiving primary or adjuvant radiation therapy were randomized to receive either oral glutamine suspension daily 2h before radiation in the study arm (10 g in 1000 ml of water) (n = 35) or placebo before radiation; control arm (n = 35). **Results and Analysis:** Total 30 patients in the glutamine arm and total 33 patients in placebo developed mucositis. Grade 3 mucositis and grade 4 mucositis in the study arm (who received oral glutamine) were significantly less in the glutamine arm. The mean duration of grade 3 or worse mucositis (grade 3 and grade 4) was significantly less in study arm with $P < 0.001$. Mean time of onset of mucositis was significantly delayed in patients who took glutamine in comparison to control arm with $P < 0.001$. Overall, glutamine was associated with a significant reduction of mucositis, WL, and enteral nutrition. **Conclusion:** Glutamine delays oral mucositis in the head neck cancer patients. Moreover, it reduces the frequency and duration of grade 3 and grade 4 mucositis. More of the patients not receiving glutamine developed severe malnutrition when compared with those receiving this supplement, but there were no differences in other outcomes such as interruption of RT, hospitalization, use of opioid analgesics, or death during RT. Glutamine may have a protective effect during RT, reducing the risk and severity of OM, preventing weight loss, and reducing the need for nutritional support.

Key words: Head and neck cancer, L-glutamine, oral mucositis, radiation therapy

CR146: PIEZOELECTRIC BONE SURGERY IN ORAL CANCER: PRELIMINARY RESULT FROM A TERTIARY CARE CANCER CENTER IN NORTH INDIA

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Introduction: Piezoelectric bone surgery is a new technique for bone surgery which uses ultrasonic vibrations for cutting the bone. It provides great precision and safety and due to its microvibrational principle it cuts only mineralised tissue to minimise injury to soft tissue and neurovascular bundles. We performed this analysis to report our initial experience of piezoelectric surgery. **Methods:** In a pilot study we used Surgybone (Silfradent piezoelectric ultrasonic bone surgery system, Italian) in oral cancer patients to see the feasibility of gaining access in oral cavity. A retrospective analysis of prospectively maintained oral cancer database in department of surgical oncology, Dr BRA-IRCH, AIIMS was performed. All oral cancer patients who underwent surgery by using Surgybone from January 2010 to May 2015 were identified. Intra operative and postoperative outcomes were analysed. **Results:** A total of 53 oral cancer patients underwent surgery by using Surgybone. In sixteen patients marginal mandibulectomy were performed and 37 underwent access mandibulotomy. All procedures were done successfully by using Surgybone. During intra operative period it provided constant control of both incision depth and length so minimised damage to surrounding tissue. Bone loss and local thermal effects were less in comparison to other conventional instruments like pneumatic and electrical saw. In postoperative period no impaired wound healing or osteonecrosis was seen. All patients had uneventful recovery. In addition main advantages were ease of handling, ergonomic design to access difficult intraoral area. **Conclusion:** Piezoelectric bone surgery system has better ergonomics, precision and safety than other manual or motorised instruments. It minimises blood loss, avoids soft tissue and neurovascular injury so helpful in complex anatomical areas. Its use minimise damage to bone so bone healing is more efficient in post operative period.

CR147: COMPLETION THYROIDECTOMY: FACTORS PREDICTING MALIGNANCY IN THE CONTRALATERAL LOBE

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Background: Completion thyroidectomy is a neck re-exploration performed when the biopsy report of a hemi thyroidectomy is an unexpected malignancy or when an incomplete resection has been performed on the ipsilateral thyroid lobe. In spite of the various risk models available to decide upon the extent of surgery, we end up performing a good number of completion thyroidectomies. These surgeries are associated with an increased risk of hypoparathyroidism (9 – 15%) and also the danger of recurrent laryngeal nerve injury (up to 6%). Hence, this study was performed to determine the pathologic factors which would predict the occurrence of malignancy in the contralateral lobe. **Materials and Methods:** A retrospective review of the case records of all patients who underwent completion thyroidectomies between January 2010 and December 2014 was done. A total of 90 patients underwent completion thyroidectomy during this period. The hisopathology reports of the original surgery were analysed with respect to the following variables: tumor type, tumor stage, presence of extra-thyroidal spread, presence of capsular invasion, perineural spread, lymphovascular invasion, nodal positivity and multifocality of the tumor. Statistical analysis was done using the chi-square test and odds ratio. **Results:** A total of 28 patients (31.1%) were detected to have malignancy in the contralateral lobe. All these were histologically well differentiated thyroid cancers with 25 being papillary carcinomas and 3 being follicular. The two factors which were statistically significant in predicting the occurrence

of malignancy in the contralateral thyroid lobe were multifocality of the tumor (p <0.04) and central compartment node positivity (p < 0.05). The other variables which were analysed were not found to be significant. **Conclusion:** Completion thyroidectomy has to be performed in patients with multifocal tumors and with positive nodes in level VI.

CR148: STUDY OF SERUM SURVIVIN LEVELS IN ORAL SUBMUCOSAL FIBROSIS AND SQUAMOUS CELL CARCINOMA

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Background: Dysregulation of apoptosis is one of the key mechanism responsible for cancer cell survival and growth. Survivin is an inhibitor of apoptosis protein that has gained a lot of popularity as a potential tumor marker for various malignancies. The objective of this study was to evaluate the role of survivin in predicting the malignant transformation of oral submucosal fibrosis by comparing its serum levels in patients with oral squamous cell carcinoma, submucosal fibrosis with healthy individuals. **Methods:** The serum of the patients along with healthy controls was collected after histopathological diagnosis, the staging or grading of OSCC and OSMF respectively, Serum survivin levels was measured using kit based sandwich ELISA. **Results:** We found that the serum level of survivin was significantly (p < 0.05) elevated in healthy controls in comparison to OSCC and OSMF patients. However, there was no significant difference in the survivin expression levels between OSMF and OSCC patients.

CR149: SPECTRUM OF ENTERAL ACCESS PROCEDURES FOR PERI-OPERATIVE NUTRITIONAL MANAGEMENT OF ORAL CANCER PATIENTS

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Introduction: Peri operative nutritional management of oral cancer patients undergoing major surgery is a vital component of management and various options are available. However there is paucity of literature and lack of clear guidelines regarding these procedures. A Review of the spectrum and outcomes of enteral access procedures performed for peri operative nutritional management of oral cancer patients undergoing surgery in a tertiary care cancer centre over a period of 20 years was performed. **Methodology:** A retrospective review of prospectively maintained computerized data-base of Oral cancer patients operated in the Department of Surgical Oncology AIIMS between 1995 - 2015 was performed and the details pertaining to the peri-operative enteral access procedures including the types, frequency of usage and out comes were analyzed. A correlation was performed between disease profile, extent of resection and type of enteral access procedure performed. **Results:** A total of 1401 major resections were performed for oral cancer patients during this period. 1301 (92.86%) patients could be managed with simple nasogastric tube feeding (Freka-Fresenius kabi) for short term peri-operative nutritional needs. Only 100 patients (7.13%) required open feeding Jejunostomy/Gastrostomy and Per Cutaneous Endoscopic Gastrostomy (PEG) for anticipated long term peri-operative nutritional needs. A total of 39 patients had open feeding jejunostomy/Gastrostomy prior to introduction of PEG in 2005. PEG was performed in 61 patients between 2005 and 2015. The clinical profile of patients undergoing these procedures was as follows - mean age 52.6 years, 85 Male & 15 Female patients, Site distribution - Central Arch mandible (54%), Major tongue resections (16%), Floor of mouth (16%) and Alveolobuccal (13%) and Lip (1%). As far as enteral access procedure related morbidities were concerned only one patient had peri-jejunostomy leak and one patient had post PEG hyper insufflation requiring an exploratory laparotomy. **Conclusions:** Peri-Operative nutritional support is important and various methods are available for enteral access but no clear cut guide lines are available regarding their usage. Our experience has shown that majority of oral cancer patients requiring short term (4 to 6 weeks) enteral access can be managed with simple naso-gastric tube feeding, where as a small sub set of patients undergoing major resections of central arch, FOM, tongue and alveolo buccal complex require long term enteral access due to extensive resections. PEG offers an excellent option in these patients and open jejunostomy/gastrostomy can be recommended if the expertise for PEG is not available.

CR150: SACRIFICING THE BUCCAL BRANCH OF FACIAL NERVE DURING PAROTIDECTOMY

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Background: The need for and consequence of sacrificing the buccal branch of facial nerve during parotidectomy is unknown. We sought to determine the indication, frequency and functional outcome of buccal branch sacrifice. **Methods:** Prospective study of all cases of parotidectomy at a tertiary referral center. **Results:** Out of 100 consecutive cases of parotidectomy, the buccal branch was sacrificed in 23 cases. This sub-group was more likely to have anterior or deep lesions (p < 0.001), retrograde facial nerve dissection (p = 0.037) and immediate post-operative upper and lower facial weakness (p = 0.051 and 0.002 respectively). However, if the temporo-zygomatic and cervico-mandibular branches were anatomically preserved, full facial (including buccal) function was restored. **Conclusion:** Deep or anterior lesions may warrant sacrifice of the buccal branch for adequate access and excision. However, this does not result in long term impairment of facial function.

CR151: EXCISION OF STERNOTHYROID MUSCLE DURING SURGERY FOR DIFFERENTIATED THYROID CANCER: OCCULT INVASION AND VOICE OUTCOMES

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Objective: During thyroidectomy for both benign and malignant disease, strap muscles are not typically removed. We examined the benefit of routinely excising the sternothyroid muscle in encompassing occult extra-thyroidal extension in differentiated thyroid cancer and analysed voice outcomes in this cohort. **Methods:** Retrospective analysis of prospectively collected data of patients with differentiated thyroid cancer. Those with preoperative imaging revealing no evidence of strap muscle invasion,

undergoing excision of sternothyroid muscle during surgery, and completing preoperative and postoperative voice assessment were included. Incidence of microscopic invasion of sternothyroid and voice outcomes were documented. **Results:** Fifty cases met the inclusion criteria, of which 30 had a preoperative diagnosis of malignancy and 20 were considered indeterminate or benign. The incidence of microscopic sternothyroid invasion was 22%, with 9 (30%) in the former group and 2 (10%) in the latter group. Overall, 28 (56%) cases exhibited extra-thyroidal extension. Both observer and patient-rated voice outcomes showed no significant change. During the follow-up period, one patient with microscopic positive margins developed local recurrence. **Conclusion:** Routine excision of sternothyroid muscle during thyroidectomy helps to accurately stage the disease and addresses extra-thyroidal extension, but does not impair voice outcomes.

CR152: APPLICATION OF TRANSORAL ROBOTIC SURGERY IN POSTERIORLY LOCATED CARCINOMA TONGUE

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Background: Surgical treatment of Cancer Middle 1/3 Tongue extending to the circumvallate papillae or base tongue conventionally requires an access mandibulotomy for appropriate excision of posterior margin. TransOral Robotic Surgery may allow for a similar excision with a TransOral procedure thus limiting morbidity. **Methods:** Prospective evaluation of a continuous cohort of 19 cases of Cancer Middle 1/3 Tongue wherein surgical margins would conventionally necessitate an access mandibulotomy. Patients with clinical T staging of T2 to T4 were included. The median follow up time was 24 months. **Results:** Appropriate excision with negative margins were achieved in all patients. All patients had a simultaneous neck dissection (SOND - 7; MND - 9; RND - 3) (concurrent-14; presurgery-; 3, delayed-2). Ligation of the feeding artery (facial artery/lingual artery) simultaneous with the neck dissection was undertaken in 18 patients. 15 patients had supplementation of the floor of mouth with a sternocleidomastoid muscle flap to prevent communication between the oral cavity and neck. Pathological TNM staging post surgery staged as Stage II (n - 6), as Stage III (n = 9), as Stage IV (n = 4). The average time to discharge was days 5.24 days. Only major complication encountered was that of a orocervical communication in one of our initial patients. 14 patients had post surgical radiation and 2 patients received adjuvant chemoradiation. Loco-regional control at 24 and 48 months was noted as 79.2% and 46.8% respectively. Overall survival and 24 and 48 months was 84.2% and 68.8% respectively. **Conclusion:** TORS provides a low morbidity TransOral surgical alternative with comparative survival and low complication rates for Cancer of the mid 1/3 tongue.

CR153: ONCOLOGICAL AND FUNCTIONAL OUTCOMES AFTER TRANSORAL ROBOTIC SURGERY IN OROPHARYNGEAL MALIGNANCIES

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Background: Malignancies arising from oropharynx are usually treated non surgically either by radical radiotherapy or by concurrent chemoradiotherapy. Prior to the advent of laser and transoral robotics, surgical approach to oropharynx required highly morbid procedures like mandibulotomy, lateral pharyngotomy, midline vallecular approach or pull through techniques. Following these procedures patients usually require trachesotomy and prolonged nasogastric feeds. TORS for oropharynx helps circumvent these morbidity issues while having oncological results comparable to RT/CTRT without associated toxicity. **Methods:** Prospective cohort study involving patients with malignancies of oropharyngeal subsites (tonsil, tonsillolingual sulcus, base of tongue, vallecula and soft palate) stages T1-T3. Median follow up time was 17 months. **Results:** 31 patients of oropharyngeal malignancy (tonsil – 10, base tongue - 13, tonsillolingual sulcus – 3, soft palate 2, vallecula – 3) were found to be suitable for excision by TORS. Most common histology was squamous cell carcinoma (n = 28) followed by mucoepidermoid carcinoma (n = 2, base of tongue and valleclua) and papillary carcinoma thyroid (n = 1, base of tongue). Two patients had residual lesion in the tongue base post chemoradiation. Oncologically clear margins were obtained in all patients. Neck dissection was performed for N+ tumours and for patients with bulky and deeply infiltrative tumours (interval - 8, concurrent – 6, Selective neck dissection - 7, comprehensive neck dissection - 7). Out of 31 patients adjuvant treatment was given in 17 patients (RT – 10, CTRT – 7), thereby deintensifying treatment in 14 patients. Loco regional control at 24 and 48 months was 78.1% and 55.5% respectively. Overall survival at 24 months and 48 months was 89.7% and 88.6% respectively. Secondary hemorrhage emerged as an important complication perioperatively (n = 3). ECA ligation was required in 1 patient and there was one incidence of peri-operative death secondary to hemorrhage. To improve functional outcomes following resection of tonsil and soft palate, facial artery myomucosal flap (n = 1) and palatal rotation (n = 1) was used for reconstruction. On an average oral feeds could be initiated after 6.03 days (range – 1-12 days). PEG was required due to aspiration following tongue base resection in a 95 year old patient. No patient required tracheostomy. **Conclusion:** TORS in properly selected group of patients with oropharyngeal malignancy gives oncological results comparable to chemoradiation. It allows treatment de intensification. It is devoid of major swallowing and speech morbidity and has a low complication rate.

CR154: THE STERNOCLEIDOMASTOID FLAP REVISITED

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Introduction: Sternocleidomatoid flap is a type 2 flap which can be used as muscle only, musculofascial, musculocutaneous or as myoosseous flap. The skin paddle has a tenuous supply from perforators because of which myocutaneous flap has a predilection for necrosis. This study presents our experience with superiorly based muscle only flap. **Aims and Objectives:** To assess the efficacy of sternomastoid muscle only flap in repairing floor of mouth or pharyngeal defects and the oncological safety of using this flap in N+ neck. **Materials and Methods:** Prospective analysis of clinical data of all patients who underwent SCM flap repair from Feb 2012 – April 2015. **Results:** Over a period of 3 years 25, patients were found to have undergone repair of oropharyngeal defects using SCM flap. In the technique we followed, only the sternocleidomastoid sternal head was harvested without the overlying skin. This helped in reducing bulk and ensuring supply from occipital artery when superior thyroid artery had to be

sacrificed for oncological purposes. The primary was located in tongue (n = 15), floor of mouth (n = 2), base of tongue (n = 5), epiglottis (n = 1) and one patient with medullary carcinoma of thyroid with laryngeal and pharyngeal extension. This flap was used during 16 transoral robotic surgeries. Other approaches which were used were conventional transoral in 3, mandibulotomy in 4 and pharyngotomy in 1 patient. This flap was used in the setting of prior CTRT in 2 patients. Incidence of flap necrosis was 4.5% (n = 1). Oral feeds could be started after 9.2 +/- 3.2 days. Mean hospital stay was 8.9 +/- 6.32 days. Use of this flap was found to be safe oncologically with an overall survival of 100% and disease free survival of 75.4%. No nodal recurrences were noted in any patient. **Conclusion:** Orocervical communication and salivary leak adds significantly to postoperative morbidity and delays initiation of adjuvant treatment. Superiorly based SCM muscle only flap is a simple flap which can circumvent this and has also been found to be safe oncologically in an N+ neck.

CR156: FREE FLAP - ARE THEY A BOON? A QUALITY OF LIFE ANALYSIS

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Background: We always assess the treatment being administered to the cancer patients in terms of 5-year survival often ignoring the quality of life which the patient has. Life is not something to be quantified without making it better. It is not just about prolonging the duration of survival. This study is being carried out in our institution to emphasize on this aspect of patients' life rather than just counting the years he lives after being diagnosed and treated for cancer. During this study all the University of Washington quality of life (UW-QOL) data collected in the institute since July 2014 of the patients who underwent free flap microvascular reconstruction after ablative oral cavity cancer surgery was analyzed. **Methods:** This ongoing study comprises of 51 patients who underwent surgery for oral cavity squamous cell carcinoma followed by free flap reconstruction at SMS Medical College and Hospital since July 2014. The patients were asked to complete the UW-QOL questionnaire (validated Hindi version). The questionnaire represents the patient's own perception of their level of QOL. Version 4 of the UW QOL, in use since 2000, has 12 domains, a question that asks patients to choose up to three domains of most importance to them and three global questions about their health-related and overall QOL. Overall QOL includes not only physical and mental health, but also many other factors, such as family, friends, spirituality or personal leisure activities that are important to the enjoyment of life. **Results and Discussion:** The cohort comprised 51 patients. Mean age was 56.6 years. 82.35% were men and 17.65% were women. T3/T4 advanced tumors were present for 35.29%. All the patients had free-flap surgery and 41 patients (80.4%) had adjuvant radiotherapy. The patients rated swallowing, speech and chewing as top 3 domains of concern. Overall, when asked what their HRQOL had been like during the previous 7 days, patients replied as: 2 (3.92%) outstanding, 17 (33.33%) very good, 20 (39.21%) good, 9 (17.64%) fair, 2 (3.92%) poor and 1 (1.96%) very poor. Overall, QOL not only includes physical and mental health but also many other important factors, and the patients rated their overall QOL in the previous 7 days as: 3.92% outstanding, 33.33% very good, 33.33% good, 23.53% fair, 3.92% poor and 1.96% very poor. **Conclusion:** UW QOL provides an important tool to assess the quality of life a patient leads after he is cured of the disease. The study pins the importance to the patient's aspect of the treatment outcome. Stage of the disease and radiotherapy were seen to affect domain scores. Studies have shown that patients reconstructed with free flap had a better appearance and better shoulder function as well as better role emotion when compared to those patients reconstructed with other loco-regional flaps. The composite score and overall QOL as assessed using the UW-QOL scale (version 4) were modestly high in our series of patients who had undergone free flap reconstruction.

CR157: FACTORS CONSIDERED IN SELECTING THE IDEAL PATIENT FOR FREE FLAP RECONSTRUCTION FOR ORAL CAVITY DEFECTS IN TERTIARY CARE CANCER CENTRE

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Introduction: Free flap reconstruction has become common choice in the reconstruction of defects after head and neck surgery. Though there are many advantages compared with local and regional flaps, the expertise required, extra time taken and the extra effort are the constrains of free flaps. Hence, free flaps are not considered often at busy tertiary care centres in India. **Methodology:** Retrospective review of the free flaps done for oral cancer at Malabar cancer centre during the period of June 2009 till June 2016. The factors considering the choice of the flaps and outcome of the flaps were reviewed. **Results:** There were 820 oral cancer surgeries during the period. Of these 92 patients underwent free flaps reconstruction. Young age was the most common criteria for choosing free flap. Others included comorbidities, Performance status and complexity of the defect. The flap survival was 95%.

CR158: EVALUATION OF EXTRACAPSULAR EXCISION IN THE MANAGEMENT OF BENIGN PAROTID TUMOURS

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Introduction: Benign parotid tumours require surgical management in the form of superficial parotidectomy which removed the entire superficial lobe of the parotid gland. We evaluated the feasibility of extracapsular excision to remove the tumour with a margin, to assess morbidity without compromising on oncosurgical principles. **Objectives:** The primary objective was to compare the incidence and severity of facial nerve palsy between the two groups of patients who underwent either extracapsular excision or superficial parotidectomy. The secondary objectives were to assess surgical margins and cosmesis following either operation. **Methods:** This was a randomized control trial with 44 patients; 22 who underwent extracapsular excision and 22 who underwent superficial parotidectomy. Post operatively, the incidence of immediate facial nerve palsy in both the groups was documented on post operative days 2, 7 and 10. This was graded with the Modified House Brackmann Score. **Results:** The incidence of facial nerve palsy was comparable between extracapsular excision

and superficial parotidectomy. There was no statistically significant difference in the margin status of excised specimens between both the groups. Extracapsular excision provided superior cosmesis compared to extracapsular excision. **Conclusion:** Extracapsular excision is an acceptable alternative to superficial parotidectomy in the treatment of benign parotid tumours. It is superior cosmetically while not compromising on surgical clearance. Long term studies are needed to compare recurrence rates between the two operations.

CR159: FUNCTIONAL AND AESTHETIC OUTCOMES OF VARIOUS LIP SPLITTING INCISIONS IN HEAD AND NECK CANCER PATIENTS: OUR EXPERIENCE

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BACKGROUND: The vertical lip splitting incision along with a mandibulotomy or mandibulectomy increases access to intraoral, pharyngeal, and parapharyngeal tumors. It has been used in head and neck surgeryfor access since the mid-19th century. Over the years, this incision has been modified to improve the aesthetic outcomes especially focusing on the chin pad contouring and postoperative scarring. **Materials and Methods:** 108 patients were included in this study who had undergone lip splitting incisions ie. Midline(9%), midline with circummental(18%), through the commissure(11%), and our modification of incision which is 1 cm medial to angle of mouth curving into the mental crease and going around the chin (62%). Different techniques of lip split incisions were made and their aesthetic & functional outcomes were clinically assessed in each post-op visits using the parameters like appearance, Lip sensation, Lip movement and Oral continence. **Results:** The various incisions had complications due to scar contracture leading to lip deformity, and loss of repose. Our modification had the least scarring which followed the natural crease of facial skin. **Conclusion:** A number of modifications of lip split incisions have been used to approach various regions of the oral cavity. The modified lip split incision used in our cases has offered adequate access and exposure, good aesthetic outcomes with minimal scar contracture, and optimum functional results.

CR160: A MODIFIED TECHNIQUE OF RAISING PMMC FLAP WITH IMPROVED VASCULAR SUPPLY OF RANDOM PART OF FLAP TO REACH BEYOND USUAL EXPECT BOUNDARY SAFELY

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The pedicled pectoralis major myocutaneous (PMMC) flap is versatile, and is widely used for the treatment of surgical defects following head and neck cancer resection. Although free-tissue transfer of a vascularized free flap is often preferred, the clinical benefits of the PMMC flap should not be overlooked. The conventional technique of harvesting a PMMC flap involves island of skin confined to the distal margin of muscle. However, this approach is able to reach upto zygomatic arches without compromising the distal skin vascularty. Utilizing the concept of breast mysentery and it blood supply to breast described by Wuringer and colleages, we modified the technique of raising the flap so that vascularity of the skin over the rectus muscle is retained distal to PMMC muscle margin. Random skin flap can reach 6 to 8 cm above zygomatic arch without increasing the potential risk of distal flap necrosis. We have done 3 consecutive cases of modified Pmmc flap recently. Two cases were temporal bone resection with extensive skin involvement extending upto parietal bone and other case of maxillectomy including reconstruction of floor of orbit.

CR161: QUALITY OF LIFE IN PATIENTS WITH RECONSTRUCTIONS AFTER RESECTIONS FOR ORAL CAVITY CANCERS

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Objective: To determine effects of reconstruction in advanced oral cavity cancers in achieving a quality (QOL) of life, which can help patients to cope with their routine day to day activity. **Methodology:** 32 patients of stage III and IV oral cavity cancers attending the outpatient services of department of otolaryngology and head and neck surgery at our tertiary care center who were taken for resection surgeries along with reconstruction and consented for QOL assessment and follow up on retrospective basis through personal visit and telephonic interviews were included in the study. Voice related quality of life (VRQOL), Swallowing related QOL (SWALQOL), Quality of life (WHO QOLBREF II) and disability assessment scale (WHO DAS II) were used for assessing the various QOL parameters at diagnosis and during post-operative period. **Results:** There was significant improvement in the QOL in patients with treatment ($p < 0.05$). However, patients with stage 3 tumors, those reconstructed with free flaps and those reconstructed with pectoralis major myocutaneous flaps respectively had better QOL parameters compared to patients with stage IV tumors, those reconstructed with local flaps and those reconstructed with deltopectoral flaps with or without other flaps respectively. **Conclusions:** Patients with lower stage tumors have better QOL even after reconstruction. If available, free flaps should be preferred over local flaps. Delto-pectoral flaps should be a less preferred option in terms of QOL. Every patient should be counseled accordingly while any reconstruction plan is included in the management of cancers of oral cavity.

CR162: LOW COST HOME BASED, LOW DOSE, ORAL, NEOADJUVANT METRONOMIC CHEMOTHERAPY PROTOCOL IN LOCALLY ADVANCED/BORDERLINE ORAL CANCERS: FEASIBILITY STUDY

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Background: A large majority of oral cancer patients in india present in a advanced stage with borderline resectable/inoperable stage to busy resource constrained tertiary cancer centres. Conventional chemotherapy protocols are associated with issues like toxicity, tolerance, cost and compliance. The present study was conducted to assess feasibility of low cost home based

chemotherapy option. **Methods:** Single Arm feasibility study was done in a borderline resectable/inoperable oral cancer patients. Home based metronomic therapy consisting of oral methotrexate 15 mg/m^2 once a week and oral celecoxib 200 mg twice daily for eight weeks was used. RECIST Criteria 1.1 was used to assess response to therapy. **Results:** Study included 60 patients. Mean age was 51.98 years with male predominance (80%). 55patients adhered to the treatment, compliance rate being 91.60%. Affordability (Rs 700 per month) and tolerance to therapy was 100% and no grade III or IV toxicity was seen. Overall 18 patients had stable disease (32.73%), partial response was seen in 15 patients (27.27%) and disease progressed in 22 patients (40%). At the end of 8 weeks 26 (43.3%) patients were deemed resectable. **Conclusion:** Neoadjuvant low cost, home based metronomic chemotherapy using oral methotrexate and celecoxib seems to be a viable option in managing advanced oral cancer in resource constrained set ups.

CR163: SENTINEL LYMPH NODE BIOPSY WITH METHYLENE BLUE DYE ALONE IN EARLY STAGE ORAL SQUAMOUS CELL CARCINOMA

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Background: Sentinel lymph node (SLN) biopsy has a good accuracy using combination of lymphoscintigraphy and blue dye technique in oral cancer; however, the limited availability of lymphoscintigraphy facilities in many developing countries requires exploration of alternative techniques. Objective of this study was to evaluate the feasibility and role of SLN biopsy in identifying the occult lymph node metastasis using methylene blue dye alone. **Material and Methods:** We conducted a prospective study in 65 patients (M-F ratio 4:1) with early oral cancer (cT1/T2, cN0) in a high volume tertiary care cancer centre in India from 2013 to 2015. SLN were sent for frozen section, routine histopathology and IHC for cytokeratin. Elective neck dissection was done as per institutional protocol. **Results:** Mean age of patients was 47 years (20-77) and tumor sub sites were buccal-mucosa (41.5%), tongue (40%), and lip (18.4%). Mean follow-up was 7 months (range 2-17). SLN identification rate was 92.3%. Average blue node was 2.02 ± 1.15. Sensitivity, specificity, PPV, NPV and accuracy for frozen section and histopathology were 85.7%, 98.1%, 85.7%, 98.1% and 96.7% respectively. There were no skip metastases to level III or IV; level wise distribution was as level Ia-22.2%, Ib-44.4%, and IIa-33.3%. Pathological stage was as T1-24%, T2-63%, N1-10.7% and N2-3.0%. Recurrence was seen in 10.7%. **Conclusion:** Results of our study showed that methylene blue dye alone can be used successfully with good sensitivity and NPV in limited resource countries.

CR164: MICROVASCULAR FREE FLAP RECONSTRUCTIONS FOR HEAD AND NECK CANCER: A SINGLE INSTITUTION EXPERIENCE

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Introduction: Micro vascular free flaps re establish anatomical and functional continuity in resected Head & Neck cancers while ensuring optimal oncological clearance but require infrastructure, support services and a well trained surgical team. **Aims and Objectives:** To present our clinical experience of microvascular free flap reconstructions after surgical ablation in a high volume, limited resource institution. **Materials and Methods:** 103 patients with head & neck cancers underwent radical resection and 68 patients underwent free radial forearm flap (FRAFF), 28 Free fibula flap, 7 Anterolateral thigh flap (ALT) reconstructions from June 2013 to March 2016 in Mahavir Cancer Sansthan, Patna. **Results:** Most patients were young (mean age 43.9). Average operating time was 7, 9 and 6.5 hours for FRAFF, Fibula, and ALT respectively. Average hospitalization period was 8, 16 and 8 days for FRAFF, fibula and ALT respectively. Overall complication rate was 16.5%. Major complications requiring return to operation theatre occurred in 9 pts. Flap loss rate was 4.8%. Minor complications occurred in 8 patients. 1 was a partial flap loss, 2 wound infections, one plate exposure. Donor site partial graft loss occurred in 5 patients. Cosmetic and functional outcome was perceived as satisfactory by over 96.2% patients. **Conclusion:** Microvascular free flap reconstruction is safe and feasible in a high volume center with low resources in expert hands with appropriate post operative monitoring. Vascular complications occur most likely in first 5 days which require close monitoring and can be salvaged with early intervention. The cosmetic and functional outcomes of free flap reconstructions are excellent.

CR165: UNDERSTANDING THE POSTOPERATIVE RADIOTHERAPY DOSE REQUIREMENT IN STANDARD COMBINED MODALITY PRACTICE FOR HEAD AND NECK SQUAMOUS CELL CARCINOMA: ANALYSIS OF SALIENT SURGICAL AND RADIOTHERAPY PARAMETERS

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Background: The postoperative radiotherapy (PORT) dose for head and neck squamous cell carcinoma (HNSCC) has evolved since 1960s, and continues to be debated. This study compared two sequential cohorts to identify the PORT dose requirement as per defined features in HNSCC. **Methods:** Adult postoperative HNSCC patients, treated between 1993 to 2004 had two distinct sequential dose regimen cohorts; group 1 - patients received 56 Gy or less from 1993 to 1998; group 2 - delivered 60 Gy or more from 1998 to 2004. The 2-D and 3-D techniques were used over this period. **Results:** Consort diagram of study population A total of 478 patients were entered; group 1 = 185 and group 2 = 293. Compliance to complete PORT course was higher in group 1 (94% vs.84%). Mucosal toxicities of grade 3-4 (11.4% vs. 28.3%), hospitalization (3.2% vs. 17.4%), naso-gastric feeding (11.9% vs. 29.7%) showed higher frequencies in group 2. The mean and median follow-up calculated for group 1 and 2 respectively were: 37.01 vs. 28.5 months and 13.8 vs. 13.1 months respectively. The 5-year disease-free survival (DFS) was better in group 2, but did not reach statistical significance: 54% vs. 63% (p = 0.150). Multivariate analysis of various prognostic factors influencing the 2-year DFS derived the statistical significance for three factors-age ≤50 years (0.041), ≥4 nodes positive (p = 0.029) and overall treatment time ≥100 days (p = 0.042). **Conclusions:** This cohort study of two different dose

schedules showed the benefit of higher DFS for the higher dose of >60 Gy for age 50 years or less, four or more positive nodes and total treatment time extending beyond 100days. For all other HNSCC patients, the lower postoperative dose did not compromise the results and can potentially reduce the morbidities and healthcare costs.

CR166: A PROSPECTIVE STUDY TO IDENTIFY PREDICTORS OF TRISMUS IN PATIENTS TREATED FOR ORAL CAVITY MALIGNANCIES

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Background: Trismus, an after effect of management of Oral cavity malignancies has been seen to create a detrimental effect on the QOL of the patient. The progress in cancer treatment has resulted in improvement of survival outcomes, which makes them live longer, but with the morbidities of the treatment. Clear prospective studies in a homogenous group are still lacking in this aspect. This prospective study aimed at finding the incidence and predictors of trismus in a cohort of patients being treated for Oral cavity malignancies. **Methods:** 100 patients satisfying the inclusion criteria were enrolled into the study and the demographic, clinical and treatment details were recorded and these patients were prospectively followed up at 1 week after surgery, start and completion of adjuvant and at 3 and 6 months after surgery. During each follow up, IID was measured. EORTC 30 and 35 and MFIQ questionnaires were used to assess the QOL scores and mandibular function scores at 3 and 6 months follow up. In the event of trismus, appropriate management was started. SPSS 20 was used for analysis. Fishers exact t test and Mann Whitney test were used to test for statistical significance. **Results:** The incidence of trismus was 16, 47, 42.6, 60.4, 30 and 22.2% at presentation, 1 week after surgery, start, completion of adjuvant, 3 months and 6 months after completion of surgery respectively. The predictors of trismus at 6 months were presence of pre–operative trismus (p - 0.008), lip split approach for access of tumour (p = 0.007), marginal mandibulectomy (p = .034)and presence of trismus at start of adjuvant (p = 0.031). For subsites of oral cavity other than tongue, cutting of 2 or more muscles of mastication showed a trend for being a predictor in developing trismus at 6 months (p = 0.053). The QOL scores and MFIQ scores were significantly inferior in the trismus group. **Conclusion:** Despite the inclusion of appropriate intervention at occasions of diagnosis of trismus, the incidence of trismus at 6 months in this cohort of patients was 22.2% and the predictors identified thus should be so a robust factor in the evolution of trismus and hence patients with these risk factors should be started on preventional strategies, the efficacy of which have to be looked into in future studies.

CR167: HOW ADVERSE ARE THE ADVERSE PROGNOSTIC MARKERS IN HEAD AND NECK SQUAMOUS CELL CARCINOMAS

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Background/Hypothesis: Extracapsular nodal spread, positive margins, pT3 or pT4 primary, N2 or N3 nodal disease, nodal disease in levels IV or V, perineural invasion and lymphovascular invasion have been traditionally recognized as the adverse prognostic factors in the management of HNSCC. However, data regarding the importance of these markers in the Indian patient population has been sadly lacking. This study is aimed to identify the relevance of these known factors in the treatment outcome of Indian patients with HNSCC. **Methods:** All new patients treated with surgery for HNSCC between Jun 2012 and Jun 2014 at CRI, SRHU, Dehradun were included in the study. Adjuvant treatment was advised as per standard recommendations. The defined adverse prognostic 2 factors were identified from clinical and histopathological records. Treatment outcome analysis was done at 6 months and 2 years post completion. The data was analyzed using appropriate statistical tools. **Results and Discussion:** A total of 300 patients with previously untreated HNSCC were treated at this center between 2012 and 2014. All these patients were evaluated at 6 months and 2 years. Extracapsular nodal spread of disease and Perineural invasion were found to be major cause of poor outcome in this patient population. **Conclusion:** Apart from the known adverse prognostic factors like extracapsular nodal spread and positive surgical margins, other lesser evaluated factors like perineural invasion also play an important role in treatment failure. Further study on these prognostic markers needs to be done for recommending adjuvant treatment.

CR168: EXPRESSION OF MATRIX METALLOPROTEINASES 2 AND 9 IN LARYNGEAL SQUAMOUS CELL CARCINOMA AND THEIR CORRELATION WITH SHORT TERM OUTCOME

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Objectives: To study the expression of MMP 2 and 9 in LSCC and their correlation with short term outcome. **Study Design:** In a prospective study of 15 patients with LSCC hospitalized in a tertiary center, RT-PCR was used to examine the expression of MMP-2 and MMP-9 in tissue samples post surgery and results were compared to recurrence and prognosis. **Results:** The positive expression of MMP-2 and MMP-9 in patients with LSCC was 86.66% whereas 13.33% showed decrease. MMP-2 and MMP-9 were increased in patient with Stage IV A and 85.7% of patients in Stage III showed increase in MMP-2 and MMP-9 and14.3% showed decrease. Patients with metastatic lymphnodes showed 100% increase in both MMP-2 and MMP-9 whereas patients with non-metastatic lymphnodes showed 92.3% increase and 7.7% decrease in MMP-2 and MMP-9. The association between decrease in MMP-2 and MMP-9 to well differentiated and increase in MMP-2 and MMP-9 to poor differentiation was found to be significant (p=0.03). The association between MMP-2 and MMP-9 upregulation and recurrence in follow up was not found to be statistically significant (p = 0.685). **Conclusion:** The results of the present study indicate that the expression of both MMP-2 and MMP-9 are up-regulated in laryngeal cancers with 100% survival in shorter outcome of 6 months.

CR169: MICROANATOMY OF CENTRAL COMPARTMENT OF NECK AND PREDICTION OF HYPOCALCEMIA WITH SERIAL VALUES OF SERUM CALCIUM IN PATIENTS UNDERGOING TOTAL THYROIDECTOMY

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Background: A thorough knowledge of the microanatomy of the central compartment is crucial in relating the structures to one another and identifying them. The aim of the study is to determine the potential role of intraoperative identification and preservation of parathyroid glands, by understanding its microanatomical relationship with the recurrent laryngeal nerve, and predicting the postoperative hypocalcaemia with serial values of serum calcium level. **Methods:** A total of 110 cases where total thyroidectomy done were included in the study. Central neck dissection was performed ipsilaterally when size > 4cms and extrathyroidal invasion noted. The microanatomical relationship of parathyroids in relation to the plane of recurrent laryngeal nerve was observed. Three samples of Serum calcium at immediate postop period, 6 hours after and 12 hours later were graphically depicted in a time value graph to predict the development of hypocalcemia postoperatively. **Results:** A total of 110 patients over a span of two years from 2013 to 2016 were included in the study. Central compartment neck dissection was carried out in 68 (61.8%) patients. The pathological types consisted of 89 (80.9%) papillary carcinomas, 04 (03.6%) medullary carcinomas, 04 (03.6%) follicular neoplasms and 13 (11.8%) benign diseases of thyroid. Left inferior parathyroids were found posterolateral in 64.5% and anterolateral in 29%. Right side parathyroids had variable positions with superior parathyroids in the anterior plane observed laterally in 72% and medially in 26.4% of cases. Right inferior parathyroids were found highly variable in all the planes, 47.2% anteromedially, 38.1% posterolaterally, 5.4% anterolaterally and 9% posteromedially. The graphical representation showed Upsloping curve in 36.3%, downsloping curve in 50.9% and 71.4% of them developed transient hypocalcemia. 12.7% of cases showed a plateau curve. **Conclusion:** A thorough understanding of microanatomical relationship of parathyroids in relation to plane of recurrent laryngeal nerve intraoperatively is advocated in preventing hypocalcemia and nerve injury. Left side parathyroids and right superior parathyroid gland are usually positioned lateral to the plane of nerve whereas right side inferior parathyroid gland showed varied positions. The downsloping curve in graphical representation of serial calcium values postoperatively predicts the patients vulnerable to develop hypocalcemia.

CR170: ORAL AND OROPHARYNGEAL CARCINOMA: AN EVALUATION OF CLINIC-PATHOLOGICAL AND RADIOLOGICAL PRESENTATION AND ASSOCIATION WITH SOCIODEMOGRAPHIC PROFILE OF PATIENTS IN A TERTIARY CARE HOSPITAL

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Background: Among head and neck cancers oral and oropharyngeal cancers predominates in our population. The morbidity and mortality of these cancers are in an increasing trend. This study aimed at studying clinico-pathological and radiological staging of oral and oropharyngeal carcinoma, its association with socio demographic profile and the cause of delay in reporting to tertiary care hospital. **Materials and Methods:** A cross sectional study was conducted among 150 patients of biopsy proven oral and oropharyngeal carcinoma from January 2015 to December 2015, in Maulana Azad Medical College, New Delhi. After thorough history, patients were subjected to clinical examination and contrast enhanced CT from base of the skull to diaphragm. TNM staging, socio-demographic profile, time delay in reporting to the tertiary care hospital and the cause of delay were evaluated and analyzed evaluated using SPSS-PC-17 version and $P < 0.05$ considered as significant. **Results:** 25.3% of patients (N = 38) were 36 to 45 years old and almost 70% patients had low education level. 78.8% of patients (N = 118) were having oral cancer and most common site was buccal mucosa (N = 49, 32.7%). Tobacco chewing was the most prevalent risk factor (N = 124, 82.7%). Patients with low levels of education presented late with late stage disease. There was a significant association between knowledge about tobacco as a risk factor and early presentation of patients. **Conclusion:** There is an increase in prevalence of the oral and oropharyngeal cancers in young population and in low socio economic status. Low literacy level was not only a risk factor and also a reason for delay in health seeking behavior.

CR171: POST LARYNGECTOMY PHARYNGOCUTANEOUS FISTULA PREDICTION SCORE

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Pharyngocutaneous fistula is one of the most common complications of laryngectomy and recently it has been on the rise. Probably due to the increasing radiorecurrent indications. Not only does it increase the length of hospital stay but also delays adjuvant in primary setting rarely ending fatally and delays voice rehabilitation. **Aim:** To analyse various factors responsible for the development of Pharyngocutaneous fistula and device a prediction score based on statistically significance **Materials and Methods:** All patients undergoing laryngectomy with or without reconstruction are included in the study. Factors like pre op hemoglobin, Total protein status, Pre op tracheostomy, Prior radiation and DFI, Comorbidities like diabetes, Immediate post op event, Technique and layers of neopharynx closure. Extent of surgery, Primary TE Prosthesis insertion in salvages, Utilisation of pmmc for reconstruction, Post operative Margin status, Post op hypocalcemia and Hypothyroidism were assessed and significance analysed with appropriate statistical designs. **Results:** Of all factors studied, pre op Tracheostomy. Low total protein level. Prior history of RT and DFI less than 1year, immediate post op events like hematoma and re exploration or cadiac events initiating antiplatelet treatment, post op hypocalcemia, hypothyroidism, positive margins, technique n layers of closure were found significant clinically; no statistical significance was obtained. **Conclusion:** Early prediction of pcf possibility allows timely intervention with pressure dressing, hiking antibiotics appropriately, augmenting suture line or using pmmc flap for neopharyngeal reconstruction intraoperatively, and finally avoid undue delay in adjuvant therapy and or voice rehabilitation. Probably a larger study series can come up with a score that is statistically significant.

CR172: APPLICATION OF SMARTPHONE PHOTOGRAPHY AND 3G WIRELESS INTERNET TECHNOLOGIES IN FREE FLAP MONITORING: A PROSPECTIVE STUDY

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Background: Fate of the microvascular free flaps (MFF) is directly related to the surgeon's skill and experience, diligent postoperative monitoring, and re-exploration at the earliest to salvage the failing flap. In keeping with the times, the smartphone photography and 3G wireless technologies may have a role to play alongside the other methods to monitor MFFs. **Materials and Methods:** A prospective study was doneto assess the feasibility of utilizing the smartphone and 3G wireless internet technologies (S3GWIT) in the postoperative monitoring of MFFs (with a visible skin paddle) for the oral cancer post-extirpation defects. Photographs of each patient were sent postoperativelyto two surgeons using the S3GWITevery six hours for 120 hours. Clinical and photographic methods of monitoring were compared between the findings of three surgeons. The clinical monitoring findings were available to the operating surgeon (OPS) and the observing surgeon-2 (ObS-2) while the photographs were available to the OPS and the observing surgeon-1 (ObS-1). The indications to re-explore and salvage rates were calculated using standard statistical methods. **Results:** Thirty free flaps were studied with 100% survival rate at 120 hours. Five patients were re-explored and salvaged completely. Re-exploration was indicated for the neck hematoma (4 patients) and post-anastomotic venous thrombosis (1 patient in whom the venous congestion was identified on a photograph). The accuracy rate with the use of photographs was 100%. **Conclusion:** The Smartphone photography with 3G internet technology has proven to be a useful adjunct in free flap monitoring with a success rate of 100% in identifying a venous thrombosis and salvage the flap. Incorporation this technique in the current protocols of free flap monitoring may help identify impending flap failures.

CR173: SIGNIFICANCE OF PERI NEURAL INVASION IN LOCALLY ADVANCED BUCCO ALVEOLAR COMPLEX CARCINOMAS TREATED WITH SURGERY AND POST OPERATIVE RADIATION THERAPY

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We analyzed the outcome of bucco alveolar complex (BAC) cancers treated with surgery and post operative radiation therapy and evaluated the influence of pathological factors on loco-regional control and survival. **Methods:** We did a retrospective study of consecutive patients of bucco alveolar complex (BAC) lesions who presented to radiation oncology department between January 2009 and December 2012. A total of 83 patients were analysed. All patients with BAC lesions underwent surgery and post operative radiation (+/- chemotherapy) therapy. Locally advanced stage (stage III/IV) was present in 86.70% of cases. **Results:** The median follow up of the study was 31 months (range 2.8-72 months). Local control rate was 71%. The 2 and 3 year overall survival (OS), disease free survival (DFS) and loco–regional failure free survival (LRFFS) were 92.4%, 68.9%, 78.8% and 82%, 60% and 64.7% respectively. The univariate analysis was done with following factors: Age </> 50 years, Gender, Smoking or Tobacco chewing habitus, Grade, Stage, Nodal positivity, Histopathological factors and Concurrent chemotherapy as prognostic factors. The histopathological factors analysed were PNI, LVI, Close margin and ECE. On univariate analysis only PNI was found to be highly significant with respect to disease free survival, Loco regional failure free survival and overall survival. No other factor was found to be statistically significant for DFS, LRFFS or OS. 18/83 (22%) patients had PNI positive disease. Of these 18 patients, only 7 patients (40%) were disease free whereas out of 65 PNI negative patients, 48 patients (75%) were disease free. This difference was statistically significant (p = .006). Also amongst PNI positive cases, 60% (11/18) of patients had presence of either LVI or ECE compared to 18% (12/65) amongst PNI negative cases. This difference was also statistically significant (p = .003). **Conclusion:** Presence of Perineural Invasion has an independent adverse impact on loco regional control and survival in BAC lesions. More clinical and pathological validation is warranted.

CR174: CALCIUM HOMEOSTASIS AFTER TOTAL THYROIDECTOMY IN DIFFERENTIATED THYROID CARCINOMA

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Background: Post total thyroidectomy, hypocalcaemia can be transient or permanent. Most of the patients are prescribed long term calcium supplementation despite preserving parathyroid glands. We have tried to study the various calcium homeostatic factors to predict the long term calcium levels in differentiated thyroid carcinoma following total thyroidectomy. **Methods:** Study was conducted in PGIMER, Chandigarh and a total number of 43 patients of differentiated thyroid carcinoma were retrospectively analysed who underwent surgery from 2011 - 2015, out of which 28 patients have completed minimum 1 year of follow up. Post surgery patients were given thyroxine and calcium supplementation with regular monitoring of thyroid function test and serum calcium. Serum parathormone (PTH) levels were recorded after minimum of one year of completion of surgery. **Results and Discussion:** Out of 28 patients, 23 and 5 underwent total thyroidectomy and completion thyroidectomy respectively. Total number of 23 patients are on calcium supplementation. Only two patients have low serum PTH out of which 1 patient is without calcium supplementation without any signs and symptoms of hypocalcemia. Pearson's correlational analysis showed no significant correlation between patients on calcium supplementation and serum PTH. Hypocalcemia is a known complication following total thyroidectomy. Hypocalcemia can be transient or permanent depending upon the preservation of parathyroid gland and its vascular supply. Normal calcium and parathormone levels after 1 year of follow up in such patients suggests normal parathyroid function and precludes any formof calcium supplementation. **Conclusion:** Our study reveals optimum calcium homeostasis in patients undergoing total thyroidectomy. A long term follow up ofthese patients is required so that many patients with normal PTH levels may not require calcium supplementation.

CR175: LOW COST THREE DRUG ORAL METRONOMIC CHEMOTHERAPY IN ADVANCED RECURRENT AND METASTATIC HEAD AND NECK SQUAMOUS CELL CARCINOMA

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Introduction: Patients with recurrent inoperable or metastatic HNSCC have poor prognosis. Palliative chemotherapy is expensive and provides marginal benefit and significant toxicity. We decided to study 3-drug oral combination in a metronomic schedule in patients unsuitable for standard palliative chemotherapy. **Objectives:** To determine progression free survival (PFS) and overall survival (OS) in patients with recurrent and metastatic HNSCC treated with 3-drug metronomic chemotherapy (MCT). **Materials and Methods:** Seventeen patients were treated with MCT between October 2014 and June 2016. Oral MCT included erlotinib 150 mg once daily, methotrexate 15-20 mg once a week and celecoxib 200 mg twice daily and was continued until disease progression or intolerance. The primary endpoints were PFS and overall survival. Other endpoints were clinical response, tolerance and toxicity profile. **Results:** The median age was 52 years (range 33-75). The primary site was oral cavity (13), oropharynx (2) hypopharynx (1) and larynx (1). The median time to relapse was 15 months (range1-96 months). With a median follow up of 6 months, the estimated median PFS and OS was 7.76 and 11.8 months respectively. Except one all patients showed clinical response within two months of starting treatment. Dose reduction for erlotinib was done in 7 patients due to rash and mucositis. None required hospitalization and were treated on outpatient basis. **Conclusions:** In patients with recurrent inoperable and metastatic HNSCC, 3 drug MCT as the initial therapy provided favourable clinical response and PFS with acceptable toxicity.

Key words: Head and neck squamous cell carcinoma, metronomic chemotherapy, palliative chemotherapy

CR176: EVALUATION OF NECK MASSES USING DIFFUSION WEIGHTED MRI AT 3 TESLA

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Background: To study the role of conventional MRI with diffusion weighted MRI in characterization of neck masses. **Materials and Methods:** This prospective study included 71 patients who were found to have neck mass either on clinical evaluation or on any other imaging modality. All the patients underwent MRI including DWI at 3 Tesla scanner (Achieva 3.0T Philips, The Netherlands) using b values 0,500 and 1000 s/mm^2. Images were analyzed for lesion morphology as well as diffusion characteristics along with mean ADC value of the lesion. A composite gold standard consisting of histopathology and characteristic imaging features was used. Receiver operating characteristic (ROC) curve was drawn to determine a cut-off ADC value for differentiation of benign and malignant masses. **Results and Discussion:** There were76 lesions (5 bilateral) of which 39 were benign and 37 were malignant. Majority were in sinonasal cavity (35.8%) followed by parotid and parapharyngeal space. Overall conventional MRI had a sensitivity of 89.2% and specificity of 84.6% while DWI had a sensitivity of 83.8% and specificity of 53.8%. Some specific entities eg. nasopharyngeal angiofibroma, lymphoma, pleomorphic adenoma, Warthin tumor showed characteristic pattern of diffusion on qualitative evaluation. ROC) analysis showed threshold ADC value of 1.081 x 10^{-3} mm^2/s with sensitivity of 67.5%, specificity of 66.6% and 95% CI (0.493, 2.055) for differentiation of benign and malignant lesions. **Conclusion:** Despite considerable overlap in diffusion characteristics of neck masses, some specific entities show distinct patterns of diffusion which along with conventional MRI can be helpful in cases of diagnostic dilemma.

CR177: SPECTRUM OF FUNGAL INFECTION IN HEAD AND NECK CANCER PATIENTS ON CHEMORADIOTHERAPY

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Background: Radiotherapy for head and neck cancers (HNC) causes alteration of oral mucosal barrier predisposing it to colonization and infection. Such infections often result in pain and burning sensation thus contributing to major morbidity. **Objective:** (1) To identify the fungi isolated from the patients undergoing radiotherapy for HNC. (2) To determine their antifungal susceptibility and week of colonization. (3) To find out association between oral fungal infection and severity of oral mucositis. **Materials and Methods:** Study was done on 50 patients of HNC treated with concurrent chemoradiotherapy. Three samples (throat, urine, blood) were collected for fungal culture and sensitivity. These samples were collected before the start of radiotherapy, during radiotherapy (2nd and 6th week) and post radiotherapy (10th week). **Results:** Only 49 patients were available for analysis as one patient did not complete follow up. Fungal infection was found in 27/49 patients (55.10%) out of which *Candida albicans* was isolated in 9/49 (18.36%). About 66.66% (18/27) isolates were sensitive to fluconazole. Maximum isolation of yeast was during 6th week of radiotherapy. All grade 4 (2/2) and 71.42% (10/14) of grade 3 oral mucositis were found in patients who were positive for fungal infection. Incidentally, complete remission rates were better in patients with throat swab negative for fungal culture (11/15) compared to those who were positive (5/15). **Conclusion:** *Candida albicans* was found to be predominant yeast. Higher rate of fungal colonization and infection was found in patients with grade 3/4 oral mucositis. Prophylactic fluconazole in HNC patients on concurrent chemoradiotherapy has the potential to reduce the associated morbidity. However, further studies are needed to confirm this finding.

CR178: PROSPECTIVE ANALYSIS OF SERUM TSH AT 2ND AND 3RD WEEK OF THYROXINE WITHDRAWL IN PATIENTS PREPARED FOR I131 UPTAKE STUDY AFTER THYROIDECTOMY IN DIFFERENTIATED THYROID CANCERS

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Aim and Objective: Objective of this study is to show that thyroxine withdrawl after thyroidectomy in well differentiated carcinoma thyroid patients who are prepared for radioiodine theraphy have decreased quality of life during the four week withdrawl period and to show that the raise of TSH to >30u/ml occurs in less than four weeks. **Materials and Methods:** Prospective analysis of 40 patients scheduled for I131 uptake study after thyroidectomy in differentiated thyroid cancers who are on thyroxine withdrawl. Serum TSH levels were measured during 2nd week and 3rd week of thyroxine withdrawl and quality of life assessment done using EORTC QLQ C-30 questionaire. **Results:** 85% of patients attained the value of TSH >30 IU/ml at 2nd weeks and 95% of patients attained TSH >30 IU/m l at 3 weeks. Quality of analysis by QLQ c-30 analysis showed that there was a significant impaired in global health status with a $p < 0.001$. **Conclusion:** It has been shown from this study that significant number of patients have their TSH levels raised >30IU/ml by 2-3 weeks of thyroxine withdrawl. This period of hypothyroidism during the withdrawl has siginificant impact on quality of life in those patients. Hence it can be recommended that thyroxine withdrawal can be limited to 1-2 weeks and proceed with radioiodine scan or ablation effectively by 3rd week.

CR179: LONG TERM HYPOCALCEMIA: PREDICTION (LTHP) IN THYROIDECTOMY

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Introduction: Hypocalcemia is a common sequelae of total thyroidectomy and is usually transient (30%). Only few develop permanent hypoparathyroidism. Till date, no effective risk stratification score to predict hypocalcemia has been available, that can predict post-operative hypocalcaemia. Development of such a score would help to initiate calcium supplementation as early as possible and thus avoid prolonged hospital stay and unwarranted prolonged calcium supplementation in some patients who might not need it. **Aim:** (1) To predict longterm hypocalcemia with pre-operative and Post op 6th hour serum PTH fall, in patients undergoing thyroidectomy for malignancy. (2) To device a weighted score to predict longterm hypocalcemia, after analyzing various clinical and intraoperative variables. **Materials and Methods:** All patients who underwent total or completion thyroidectomy with parathormone within the normal range, from April 2015 to May 2016 at our institution were included in the study after ethical committee clearance. A Prospective observational Study design. Biochemical value less than 7.5 on D1 or D2, or presence of signs or symptoms were considered as positive for hypocalcaemia. Post thyroidectomy Long term hypocalcaemia was defined as, when calcium supplementation was continued for 3 months or more, post operatively. Post op 6th hour PTH level fall was noted in all patients and cut off point for prediction of long term hypocalcemia was determined statistically using paired t test. Factors like PTH level fall, Calcium level fall, histology, central compartment neck dissection,age of patient,intra op parathyroid identification, intraop extracapsular spread/extra thyroidal spread, pre op calcium level and extent of surgery were analysed for statistical significance in predicting hypocalcemia, to device perioperative weighted scoring system. **Results:** A total of 105 patients were included in the study. 73.6% were females. 18% of patients were less than 20 yrs of age, Histology was papillary carcinoma in 82% of the patients. Post operatively, calcium supplementation was initiated for 52%. In majority the calcium supplementation could be tapered and stopped by 2nd month following surgery. In 7.6% of patient's calcium supplementation couldn't be tapered even after 3 months all of these patients had fall in parathormone to more than 80% of preoperative value. 5.7% had normal calcium in the 1st post-operative day but developed hypocalcaemia after 4th post-operative day requiring re-hospitalization. Patients in the less than 20 yr age group were more prone to develop hypocalcaemia with 66% developing hypocalcaemia in the post-operative period. A PTH fall of 45% or more was found to be significant in predicting hypocalcaemia that required calcium supplementation for upto 2 months. All the patients who developed delayed hypocalcemia with initial normal calcium levels had fall in parathormone to more than 45% of initial value. In individuals below 20 years, a PTH fall of 56% or more, was attributed to calcium supplementation with a sensitivity of 83.3%. The various variables studied to establish LTHPS, failed to attain statistical significance with P value<0.01 probably due to the small sample size. **Conclusion:** More than 82% fall in 6th hour post-operative PTH predicts longterm hypocalcaemia even if late onset as in some of our patients. Adolescent individuals are at a higher risk of developing hypocalcemia, post total thyroidectomy, when a fall of 56% or more occurs in PTH levels, advocating calcium supplementation. Weighted score to predict long term hypocalcemia couldn't be developed as none of the risk factors evaluated to correlate with hypocalcemia attained statistical significance.

CR180: ROLE OF NEOADJUVANT CHEMOTHERAPY IN ACHIEVING LOCOREGIONAL CONTROL IN PATIENTS WITH RESECTABLE ORAL CAVITY CARCINOMA

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Objective: To study the role of neoadjuvant chemotherapy in achieving locoregional control in patients with resectable oral cavity carcinoma. **Methods:** 40 patients of stage II, III, IVA of oral cavity cancers randomized in two groups, group C patients received two cycles of cisplatin and 5-FU based neoadjuvant chemotherapy followed by surgery while patients in group S were subjected to upfront surgery. The patients in group C were evaluated for response to chemotherapy as according to WHO criteria for tumour response. While both the groups were evaluated for locoregional control, toxicity and QOL at 3 and 6 months interval after completion of treatment. **Results:** By the end of 6 months follow up of each patient, 21/40 (52.5%) patients were disease free. In group C 13/22 (59.1%) were disease free as compared to 8/18 (44.4%) patients in group S ($p = .563$). Significant alteration in blood parameters were observed in group C patients. By the end of 6 months no residual toxicity was observed in patients in group C. On evaluation most of the patients had a good overall Quality of Life at the end of follow up. **Conclusion:** Our study puts into perspective the role of Neoadjuvant Chemotherapy in resectable oral cavity cancers and highlights the role in achieving better loco regional control than primary surgery with comparable quality of life but the toxicities associated with the chemotherapeutic agents cannot be ignored.

CR181: A STUDY TO EVALUATE THE ROLE OF HUMAN PAPILLOMA VIRUS INFECTION IN HEAD AND NECK SQUAMOUS CELL CARCINOMA AND ITS CORRELATION WITH CLINICAL, HISTOLOGICAL AND MOLECULAR PARAMETERS

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Background: The objective of this study was to evaluate the role of Human Papilloma Virus in Head and Neck Squamous Cell Carcinoma (HNSCC) and its correlation with clinical, histopathological and molecular parameters. HNSCC is the most common cancer in India. It is attributed to tobacco and alcohol consumption. However, mounting evidence indicates that high-risk HPVs (especially HPV 16) account for the development of HNSCC. **Methods:** This descriptive study was carried out at a tertiary care centre in North India. 40 proven cases of HNSCC who were operated upon, were included. Incidence of HPV infection in the histopathology samples was found using DNA-PCR test. Clinical features, histological characteristics and EGFR & p16INK4a expression were evaluated and their relationship with incidence of HPV infection was studied using SPSS 17 software. **Results:** 30% cases tested positive for HPV-DNA. All were males and incidence of HPV at younger age (<40 years) was significantly higher. All patients without history of substance abuse who developed HNSCC were HPV+. No relationship was established between HPV infection and EGFR expression. HPV+ HNSCC had higher degree of lymphocytic infiltration, lower T stage, lower N stage and lower incidence of Occult metastasis. **Discussion and Conclusion:** HPV seems to cause a distinct category of HNSCC that is associated with factors that offer a favourable prognosis. This has widespread implications ranging from conservative approach to surgery for HPV+ HNSCC to possible prevention by vaccination. Larger studies are required to further evaluate this distinct entity and to guide preventive and therapeutic interventions.

CR182: ORAL CANCER PROFILE IN A SAMPLE OF 100 PATIENTS AT TERTIARY CARE CENTER, IN FARIDKOT TOWN OF PUNJAB

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Introduction: Head and neck cancers constitute 5–50% of all cancers globally. (1) In India, Head and Neck Cancers constitute about 30% of all cancers. (2) It is the sixth most common cancer in the world. (3) In India, oral cancer is one of the most common cancer and constitutes a major public health problem. Oral cancers have a multifaceted etiology. (4) A plethora of lifestyle and environmental factors has been identified as the risk factor for oral cancers. However, smoking, tobacco chewing, and alcohol consumption are widely considered to be major preventable risk factors. In addition, the synergistic effects of tobacco and alcohol compounds the problems. The purpose of this study was to evaluate, retrospectively, the epidemiologic profile of patients with oral squamous cell carcinoma. **Methods:** A total of 100 Patients in age group 21 to 70 years, irrespective of gender, with a proven malignancy confined to the oral cavity only were enrolled in the study and were evaluated for the presence of metastasis in subsequent levels of cervical lymph nodes. Patients were analyzed for the age and sex distribution, tumour staging, location and metastasis. Patients previously operated, with distant metastasis, already irradiated, co-morbid medical conditions or those without written consent were not included in the study. Each patient was subjected to full history taking, then a complete head and neck examination was performed, including 0, 45 and 90 degree telescopic examination. **Results:** Oral cavity cancers are common in males. Most prevalent in age group of 51-60 years. Oral tongue is the most common site. Betel nut chewing is the most significant factor. T1 and T2 is the most the most common primary T stage. Neck metastasis occurs most commonly at N2 stage we conclude oral cancers presents at advanced stage and advanced age, which is most probably due to lack of awareness and early self reporting by patient. Hence, it carries a significant morbidity and mortality. so it is very imperative and important to actively screen the patients who have risk factors, and diagnose and treat the lesions of oral cavity like premalignant lesions as soon as possible, and differentiate them from oral cancers, in order to decrease the morbidity and mortality from oral cancers.

CR183: THE IMPACT OF LYMPH NODE RATIO ON THE PROGNOSIS OF ORAL CAVITY MALIGNANCY

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Objective: To study the impact of lymph node ratio (the number of involved nodes divided by the number of nodes examined) on the prognosis of oral cavity squamous cell carcinoma patients. **Design:** Retrospective analysis of the patients with oral cancer treated in a tertiary care centre with minimum of 5 year follow up. **Methods:** In total, 638 patients registered in our hospital and diagnosed with oral cavity squamous cell carcinoma who underwent surgical treatment between 2006 to 2010 were considered for the study. Overall survival (OS), Disease free survival (DFS), local control, Regional control, distant metastasis rates were analyzed. **Results:** Patients were classified into 3 risk groups as R1 (Lymph node ratio <0.04), R2 (lymph node ratio 0.04-0.13) and R3 (lymph node ratio >0.14). LNR (<0.04) showed significant association with survival outcomes. For the patients with LNR <0.04, the 5 year DFS, OS were 78.08% and 72.4%; for the LNR (0.04-0.13) it was 71.03% and 64.28% respectively; for LNR (>0.14) 5 year DFS, OS was 65.93% and 56.04%. On multivariate analysis LNR was seen to be an independent prognostic factor for 5 year DFS and OS rates. LNR categorization showed a statistically significant advantage over pN staging in predicting survival. **Conclusion:** Lymph node ratio is a significant prognostic factor for the survival of oral cavity squamous cell carcinoma patients and should be used for post operative staging to complement the N classification of oral cavity cancer.

CR184: SHEAR WAVE SONOELASTOGRAPHY: NEW TECHNIQUE FOR EVALUATION OF SALIVARY GLAND PATHOLOGIES

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Background: This pictorial review aims to:
1. Illustrate the normal appearance of the major salivary glands on shear wave sonoelastography
2. Highlight the differences in sonoelastography of common focal and diffuse salivary gland pathologies.

Discussion/Content Organization:
1. Description of basic principles of ultrasound elastography
2. Technique of shear wave elastography (SWE)
3. Appearance of normal salivary gland parenchyma on SWE
4. SWE elasticity parameters for characterization of focal and diffuse pathologies:
   - Pleomorphic adenomas show more internal heterogeneity and higher elasticity indices than Warthin's tumors
   - Other benign salivary lesions show low indices comparable to each other and marginally higher than the normal parenchyma
   - Malignant lesions like mucoepidermoid carcinoma and adenoid cystic carcinoma have high elasticity values and heterogeneity
   - Diffuse involvement of salivary glands in Sjogrens syndromedemonstrates increased stiffness and high elasticity values
5. Potential pitfalls and artifacts of SWE.

Conclusion:
1. SWE is a feasible technique for evaluation of pathologies of major salivary glands
2. Elasticity indices vary according to the pathology although there is overlap
3. SWE may have an incremental role in the sonographic characterization of salivary gland lesions.

CR185: FORAMEN OVALE: WINDOW TO SKULL BASE PATHOLOGIES

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Background: This pictorial review aims to:
1. Depict the normal imaging anatomy of the foramen ovale
2. Illustrate the common skull base pathologies causing widening of the foramen ovale.

Discussion/Content Organization:
1. Imaging anatomy of the foramen ovale on cross sectional modalities like CT and MRI
2. Role of advanced imaging techniques (like 3D CISS/FIESTA) in the evaluation of skull base foramina and pathologies
3. Morphological description of common disease entities with enlarged foramen ovale:
   - Infective: Fungal (Aspergillosis/Mucormycosis)
   - Neoplastic:
     - Benign (Schwannoma/Ossifying Fibroma/Pituitary Macroadenoma)
     - Malignant (Perineural spread of Adenoid cystic carcinoma/ SCC buccal mucosa).

Conclusion:
1. A varied spectrum of disease entities ranging from infective to neoplastic can cause widening of the foramen ovale
2. Identification of an enlarged foramen ovale should alert the radiologist to search for possible etiologies.

CR186: MALIGNANCIES OF EAR CANAL AND TEMPORAL BONE: SURGICAL OUTCOMES AND THERAPEUTIC ANALYSIS

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Aim: To predict the outcome of surgically treated temporal bone tumours both clinically and functionally in terms of disease free survival and to analyse the major prognostic factor in achieving good results. **Material and Methods:** 35 patients with ear canal and middle ear cleft carcinoma between 2000 to 2016 were evaluated retrospectively. **Results:** 29 - sub total temporal bone resection, 2 - total temporal bone resection, 2 - lateral temporal bone resection and 2 - sleeve resection. Squamous cell carcinomas - 29 patients, adenoid cystic carcinoma - 03 patients and 01 patient had neuroectodermal tumour of infancy, chondrosarcoma and basal cell carcinoma. The defects were reconstructed with either local flaps or free tissue transfer. Facial nerve repair done end to end anastomosis in 4 patients, and cable graft of greater auricular nerve interposed in 5 patients. Six patients presented with postoperative meningitis. Pinna necrosis seen in 2 cases. Adjuvant CTRT was given in 29 cases who underwent total temporal bone resection, Recurrence rate of 20% in the first two years of follow up. **Conclusion:** The disease free survival rate of 40% for two years in surgically treated advanced stage temporal bone tumours; this is an acceptable rate considering the advanced stage and difficult surgical "terrain." Salvage procedures, cranial nerve palsies of last 4 cranial nerves and inadequate margins had a negative impact on local control while in T3-4 lesions institution of prompt postoperative radiotherapy play a significant role in achieving satisfactory oncologic outcomes.

CR187: SAFETY, TECHNICAL FEASIBILITY, FUNCTIONAL AND ONCOLOGICAL OUTCOME OF SALVAGE TORS IN OROPHARYNGEAL CANCER

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Background: Salvage surgery has been regarded as the only potentially curative option for patients with recurrent oropharyngeal squamous cell cancer (OPSCC). Such surgeries have high morbidity and associated treatment cost. Robot assisted surgery has gained popularity recently in head and neck oncology but its role in setting of salvage remains unexplored. **Objective:** This study was done to evaluate the potential role of Transoral robotic surgery in the arena of recurrent/residual Oropharyngeal SCC. We had explored technical feasibility, safety, functional as well as the oncological outcome of TORS in recurrent/residual OPSCC in this study. **Methodology:** A total of 37patients with recurrent/residual OPSCC who received upfront Chemoradiation/ Radiotherapy were enrolled prospectively from May 2013 to March 2016. After initial evaluation all patients underwent TORS. Feasibility and safety was assessed in terms of setup time operative time, completeness of resection and complications. Speech and swallow was assessed in functional outcome. Oncological outcome was reflected in terms of Locoregionl disease status and disease free survival at 3 years. **Results:** Most of recurrent OPSCC occurred mostly in 6th decade with the mean age of presentation at 53.4 years with male predominance. Most common site was base tongue (35.14%). Mean set up time was 3.09 min (Range, 2-7 min) and mean operative time was 43.35 min. Mean blood loss was 33.11 ml with average hospital stay of 6 days. Post op bleeding was encountered in 8.11% patients

with no other major significant complication. Tracheostomy Tube and percutaneous endoscopic gastrostomy tube dependency was 4.3% and 21.74% respectively. Almost all patients had normal or near normal speech. About 65% patients had good swallowing score at the end of 3 month. Field cancerisation was seen in 40.5%. Base tongue disease was associated with recurrence in 50% cases. At a median follow up of 25 month, the overall survival was 60.11%. **Conclusion and Recommendations:** Our study had demonstrated that the TORS is feasible in Salvage Oropharyngeal cancer and is as safe as traditional Open salvage procedures. The incidence of margin positivity is lower in Robotic assisted surgeries and the morbidities associated with the open procedures have been avoided with the use of this innovative minimally invasive technique. To identify the long term oncologic outcomes associated with robotic assisted surgery, further studies are required.

CR188: ONCOLOGICAL OUTCOME IN EARLY HPV NEGATIVE OROPHARYNGEAL MALIGNANCIES FOLLOWING TORS

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Objectives: This study aimed to see Transoral Robotic Surgery outcome in T1, T2, N0, N1, HPV NEGATIVE Oropharyngeal malignancies without any Adjuvant treatment. **Methods:** We prospectively followed 35 patients operated since march, 2013. Minimum followup period was 6 months. Patients were evaluated for Locoregional recurrence and Distant Mets. **Results:** Incidence of Local recurrence was 2.85% (1/35), Nodal recurrence was 8.57% (3/35) [Ipsilateral 2.85% (1/35) Contralateral 2.85% (1/35) Retropharyngeal 2.85% (1/35)], Distant Mets 0% (0/35). **Conclusion:** Transoral Robotic Surgery is good option for cure in relatively Radioresistant HPV negative early resectable Oropharyngeal malignancies.

CR189: THE EFFECT OF LARYNGECTOMY ON OLFACTION AND THE IMPACT OF OLFACTORY REHABILITATION POST LARYNGECTOMY

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Aims and Objectives: To study the correlation between preoperative and postoperative olfactory status in Post laryngectomy patients and the effect of Nasal Airflow Inducing Maneuver on olfaction in Post laryngectomy patients. **Materials and Methods:** This prospective study included 24 total laryngectomy patients who underwent olfactory testing (using modification of CCCRC test) pre and postoperatively and after rehabilitation with Nasal Airaflow Inducing Maneuver. **Results:** The pre and postoperative VAS scores, Butanol threshold scores, Odour Identification scores were compared with each other and with postrehabilitation scores and were found to be statistically significant ($p < 0.05$). **Conclusion:** There's significant reduction in olfaction post laryngectomy and improvement with nasal airflow inducing maneuver which can be utilized for the holistic rehabilitation of laryngectomy patients.

CR190: SIMULTANEOUS SUBMANDIBULAR GLAND SPARING NECK DISSECTION AND TRANSORAL ROBOTIC SURGERY FOR OROPHARYNGEAL AND SUPRAGLOTTIC MALIGNANCIES

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Objective: This study is aimed to see the incidence of orocervical communication, margin positivity and level 1-B nodal recurrence in patients who underwent simultaneous submandibular gland sparing neck dissection and Transoral Robotic Surgery. **Methods:** We followed 211 patients who underwent neck dissection between March 2013 to march 2016. For level 1-B recurrence minimum six month follow up was taken after taking complete treatment. **Results:** None of the patients developed orocervical communication during the surgery. Margin positivity rate was 5.11% (9/176) in naive and 8.57% (3/35) in salvage cases. Incidence of level 1-B nodal recurrence was 0.53% (1/186). **Conclusion:** Transoral robotic surgery with parallel Neck dissection is safe, feasible and cost effective option.

CR191: COMBINING MONOCLONAL ANTIBODY (NIMOTUZUMAB) BIOMOB WITH CONCURRENT CHEMORADIATION IN LOCALLY ADVANCE SQUAMOUS CELL CARCINOMA OF HEAD AND NECK IN ELDERLY PATIENT

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Materials and Methods: Locally advance squamous cell carcinoma of Head & Neck (except nasopharyngeal carcinoma) reportedin our OPD enrolled in this study. I enrolled 24 pt. for Concurrent chemoradiation with Biomab mostly male of age group more than 60 yr. **Results:** We have 5 yr data favouring Biomab withConcurrent Chemoradiation compliance and tolerance very well.

CR192: TO INVESTIGATE THE VIABILITY OF THYROID TUMOUR TISSUE MAINTAINED IN A MICROFLUIDIC SYSTEM

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Background: Microfluidic culture provides a biomimetic microenvironment enabling *in vitro* tissue studies under pseudo *in vivo* conditions. The current study has determined the efficacy of using a microfluidic device to maintain functional thyroid tumour tissue for use in future treatment assessment. **Methods:** Following ethical approval and written, informed consent, thyroid tumour specimens were taken at time of surgery (n = 9), divided into 5-10 mg pieces and placed into separate microfluidic devices within 1 hour of resection. Specimens were perfused with complete medium (2 µl/min) ± thyroid stimulating

hormone (2mIU/L) and maintained at 37°C for up to 6-days with effluent collected every 2 hours. Tissue viability was measured via detection of lactate dehydrogenase (LDH) in the effluent and morphologically following haematoxylin and eosin staining, with the architecture (n = 5) examined by a head and neck pathologist. Thyroglobulin in the effluent was measured using ELISA. **Results:** The tissue viability (H&E) was maintained for up to 4 days and initial high LDH release due to tissue manipulation reduced to low levels after 1-day, with addition of 10% lysis buffer inducing immediate LDH release, indicating tissue viability. Thyroglobulin levels were high (>118ng/mL) on day 1 and decreased to a steady level of ~10 ng/ml for up to 4 days. No differences were observed, in the results ±TSH. **Conclusion:** The microfluidic system sustains viable, functional thyroid tumour tissue for up to 4 days. This technology has potential to be used for further studies investigating the effects of adjuvant treatment in thyroid cancer.

Key words: Microfluidics, thyroid cancer

CR193: OPERATIVE MANAGEMENT OF T4B CANCERS OF BUCCAL MUCOSA BY COMPARTMENTAL RESECTION AND ITF CLEARANCE: SURVIVAL AND OUTCOME ANALYSIS

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Background: A large proportion of oral cancers presenting in our scenario are locoregionally advanced. cT4b cancers are considered as very locally advanced and a subset of these are unresectable. A small subset of these are amenable to surgical management. We sought to assess the outcomes of Compartmental Resections and Infratemporal Fossa Clearance surgeries done for these cancers. Survival analyses and outcomes are presented. **Methods:** Patients with operable cT4b cancers of buccal mucosa-gingivobuccal complex underwent compartmental resections and ITF clearance. Recurrence and survival data was prospectively maintained. Survivals were calculated using Kaplan-Meier Curve and compared using Log-Rank test. **Results:** Forty one patients underwent composite resections and ITF clearances. Median follow-up was 23 months with a range of 6-31 months. The estimated 2 year disease free survival was 68.8%. Estimated 2 year local control was 79.5%. Significant differences in survival were found with respect to involvement of ITF structures and node positivity. Local recurrences were seen in about 9% of the study population. **Conclusions:** Surgical treatment of selected cT4b oral cancers using compartmental resection and ITF clearance is an oncologically safe procedure and affords good local control. Survivals are commonly affected by the presence of high ITF content involvement and known prognostic factor of node positivity.

CR194: DIAGNOSTIC PERFORMANCE OF THYROID MULTIMODAL: IMAGING COMPREHENSIVE RISK STRATIFICATION SCORING SYSTEM IN CHARACTERISING THYROID NODULES

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Background and Clinical Relevance/Application:
- No single study has used combined scoring based on US features in conjunction with doppler and elastography
- TMC-RSS-System will provide a holistic imaging approach for diagnosing thyroid malignancy.

Purpose:
- Create an algorithm (TMC-RSS-System) using Ultrasound features in combination with doppler, elastography (ES-Asteria-system)
- Test its diagnostic performance to optimise management.

Materials and Methods: April-2015 to January-2016 retrospective analysis of prospectively collected data. All studies were performed on single equipment and Ultrasound, Doppler, Elastography was performed by same observer. Gold standard was pathology. 340 nodules (260 patients), final analysis - 316 nodules. 149 (47.2%) - Benign and 169 (52.8%) - Malignant.

TMC-RSS-System:

Positive Characteristics:
- Each-feature – 3-points: ES- score 3 or 4, malignant appearing nodes
- Each-feature – 1-point: Taller than wider, microcalcification, hypoechogenicity, solid composition, ill-defined margins, central +/- peripheral vascularity
- Each-feature – 0.5-point: Irregular halo, >1cm diameter.

Negative characteristic:
- Each-feature – 3-points: Purely cystic, ES-score-1
- Each-feature – 1-point: spongiform, comet-tail artefact, complete halo
- Each-feature –0.5-point: peripheral vascularity.

Final TMC-RSS-System: Positive predictor score minus negative predictor score.

Results: Mean age - 47.3 yrs. Mean size - 2.3 +/- 1.5 cm. Diagnostic performance of combined TIRADS, vascularity and elastography (sensitivity: 96%, specificity: 95%, PPV: 95%, NPV: 96%, kappa: .911) was statistically ($p > .001$) higher than USG, TIRADS, ES, TIRADS and ES, TIRADS and vascularity. On univariate analysis all the USG features and on multivariate analysis all USG features except taller than wider was statistically significant for predicting malignancy ($p > 0.05$). Similarly spongiform appearance, halo, comet-tail artefact and peripheral vascularity were found to be predictor of benign nodule on univariate analysis. TMC-RSS score had 90% sensitivity, 89% specificity and 91% accuracy for characterising the nodules. On the ROC curve the cut-off for best performance of TMC-RSS score was 5.75. The cumulative risk of malignancy based on TMC-RSS score was 2.4% for <3.0 score, 18% for score 3-6 and 80%.

Conclusion:
- US features with Doppler and ES better identify nodules at risk for malignancy
- TMC-RSS-System algorithm provides high sensitivity, specificity and accuracy which is comparable to FNAC
- Addition of clinical and pathological criteria's to TMC-RSS-System will be the holistic approach.

CR195: INCREMENTAL VALUE OF PREOPERATIVE CT IN THE SURGICAL MANAGEMENT OF PAPILLARY THYROID CANCER

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Background: ETE and TI are difficult to be accurately ascertained by preoperative clinical examination, especially is there is no gross

invasion. As presence ETE and TI alters the management plan, accurate preoperative diagnostic imaging is the need of time. **Purpose:** To evaluate the diagnostic value of USG and CT scan for preoperative prediction of the extrathyroidal extension (ETE) and Tracheal invasion (TI) in patients with PTC. **Materials and Methods:** We analyzed the medical records of 50 patients (61 surgical nodules: 39 u/l, 11b/l) having PTC. Preoperative USG and CT were performed in all. ETE was categorised into 3 groups based on contact of tumor and disruption of thyroid capsule on both imaging modalities. Tracheal invasion was scored as per SHIN classification on CT scan. Considering histopathology as the gold standard diagnostic performance of pre-operative imaging for predicting ETE and TI was calculated. **Results:** Based on HPR ETE was present in 36 (59%) and TI in 15 (24.5%). The frequency of ETE was higher in patients with greater degrees of tumor contact and disruption of capsule, as revealed by both US and CT scans (Sensitivity, specificity, NPV, PPV of 97, 83, 96, 86% and 69, 76, 76, 69%, resp. p value < 0.001). US had limitation in evaluating posterior capsular ETE and hence the performance was lower than CT. A combination of US and CT findings did not increase the diagnostic performance for predicting ETE. CT had high specificity (98%) and NPV (93%) for predicting TI which otherwise was difficult to be evaluated on USG. When compared to USG CT showed significantly better diagnostic performance for ETE in tumors having >50% capsular contact. More than 90 degree contact with trachea and associated fat plane loss between trachea and tumor is a predictor of TI. Incidence of lymphovascular invasion (LVI) and nodal metastasis was found to be statistically higher in patients with ETE +/- TI (p - 0.004). **Conclusion:** Our study suggests that ETE and TI can be predicted most accurately by pre-operative CT scans and if included in the diagnostic work-up CT has the potential to better optimize the management (surgical plan and need for adjuvant Rx).

- If >1 mm normal parenchyma is surrounding the nodule can be demonstrated in both of US and CT, the possibility of ETE <10%
- If the tumor measures >1 cm and has direct contact with the capsule, ETE might be present in >80% cases
- Incidence of nodal metastases and LVI is higher in presence of ETE.

CR196: IS 5 MM MARGIN SUFFICIENT IN THE PRESENCE OF ADVERSE PATHOLOGICAL FEATURES IN T1N0 TONGUES? FACTORS AFFECTING LOCAL CONTROL AND THE DEVELOPMENT OF A SCORING SYSTEM

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Background: The patterns of recurrence and the prognostic factors of early tongue lesions have been previously described in literature. However these report have grouped T1 and T2N0 tongue lesion together. The adverse pathological features have been used to predict the nodal spread but the prognostic factors predicting local recurrences in T1N0 tongue have seldom been described. We aimed to evaluate the adverse pathological features associated with poor local control and the possible need for escalation of therapy. **Methods:** Retrospective analysis of 144 patients of pT1N0 squamous cell carcinoma tongue who underwent wide local excision of the lesion with neck dissection in a single institution were included in our study. Patients who received any adjuvant therapy were excluded. **Results:** The adverse pathological features associated with local control were least margin 5 mm (p = 0.004), infiltrative margin (p = 0.403), depth >4 mm (p = 0.136), lymphovascular invasion (p = 0.301) and perineural invasion (p = 0.342). We derived a scoring system assigning a score to each of these factors out of a total 10 points, based on the hazard ratio for local failure. Patients with a score >5 points had a 5-year local control rate of <60%. **Conclusion:** Having least margin of 5 mm was the greatest predictor of local failure. This would suggest that all patients having a margin of 5 mm need revision, however if they do not have additional adverse pathological feature (score ≤4 points), they still have good local control rates (5-year local control rate of 88%) and may be observed. Those who have margins over 5 mm with a total score ≥5 may still benefit from adjuvant therapy for local control. Those with margins over 5 mm have improved local control rates (p = 0.029).

CR197: SQUAMOUS CELL CARCINOMA OF THE TONGUE IN YOUNG PATIENTS (<45 YEARS): CLINICOPATHOLOGICAL FEATURES AND OUTCOMES

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Background: Recent trends showing increased incidence of oral squamous cell carcinoma in the younger population. However there is paucity of data describing the clinicopathological features and outcomes in Indian patients. The aim of this paper is to describe the above and compare with published literature. **Methods:** We performed a retrospective analysis of 114 patients of tongue squamous cell carcinoma in patients between 18 and 45 years of age. We analysed the clinical features, impact of smoking, pathological staging and adverse pathological features, patterns of recurrence, salvage of recurrences and 5-year overall and disease free survival of these patients. **Results:** Most common stage of presentation was stage I (36%); wide local excision, neck dissection and soft tissue flap reconstruction was the most common procedure performed (51%). These patients had a high incidence of adverse pathological factors – lymphovascular invasion (31%), perineural invasion (39%) and extracapsular spread (36%). Recurrence rate was 36%, of which 77% were local recurrences. Patient with early stage tumours had local recurrences whereas regional or distal recurrences were more common in those with high stage tumours. For all stages, the 5-year disease specific survival and overall survival were 55% and 60% respectively. In patients who recurred, mortality was 66%, with stage at recurrence being a most important predictor of mortality (p = 0.005). In young patients who smoked, stage of presentation was higher (p = 0.009), depth of invasion >5 mm was more common (p = 0.043) and survival outcomes were worse but not significant (p = 0.076). **Conclusion:** When compared to existing literature, our data concurs with a high risk of loco-regional recurrence. The incidence of adverse pathological features was markedly higher in our study. The 5-year overall survival and disease free survival were worse. The increased association of adverse pathological factors

may explain worse outcomes. These features indicate that in our population the tumours of the tongue in patients less than 45 years of age may be a distinct entity and they have a more aggressive behavior when compared to those in the available literature. Further treatment intensification strategies need to be studied to improve outcomes.

CR198: SQUAMOUS CELL CARCINOMA TONGUE IN YOUNG PATIENTS: A COMPARATIVE ANALYSIS BETWEEN AGE GROUPS BELOW AND ABOVE 45 YEARS WITH IMPLICATIONS FOR TREATMENT

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Background: Squamous cell carcinoma of the oral cavity in patients below 45 years is showing an increasing trend. Previous studies have shown conflicting data, with no conclusive evidence of differences in outcome compared to older patients. The aim of our study was to compare outcomes in these two groups. **Methods:** A retrospective analysis of 425 patients of oral squamous cell carcinoma, between 18 and 86 years of age, one hundred and fourteen patients were up to 45 years of age (younger group) and three hundred and eleven patients were above 45 years of age (older group). They were matched for TNM stage. We compared these two groups in terms of pathological staging, adverse pathological features, recurrence rates and pattern or recurrence. Survival analysis of disease free survival, disease specific survival and overall survival was performed using Kaplan Meier's method and Cox regression analysis. **Results:** Compared to patients with age above 45 years, youngerpatients had lower grade of differentiation ($p = 0.012$), higher incidence of lymphovascular invasion ($p = 0.024$), perineural invasion ($p = 0.032$), extracapsular spread ($p = 0.006$). Their incidence of local recurrence was higher ($p = 0.023$). Five-year overall survival rates were 62% in the younger group and 78% in the older group. Disease specific survival was worse in younger patients with lymphovascular invasion, perineural invasion and nodal spread ($p < 0.001$). There was weak evidence for a difference in disease free survival between young and old patients ($p = 0.11$), however after adjusting for the effect of clinically important prognostic factors there was no evidence for a difference in disease specific survival. **Conclusion:** Younger patients with squamous cell carcinoma of tongue have an increased risk of adverse pathological features and local recurrence. The clinical observation that young patients have a worse outcome is due to the association of adverse prognostic features rather than age being an independent prognostic factor. Further study is required to show if they will benefit from intensification of treatment.

CR199: FEASIBILITY, SURGICAL AND FUNCTIONAL OUTCOME OF TRANSORAL ROBOTIC LARYNGEAL CONSERVATION SURGERY: OUR EXPERIENCE IN INDIA

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Objective: There has been a significant paradigm shift in the management of laryngeal malignancies over last few decades. In the Era of Chemoradiation as standard treatment, TORS has emerged as promising modality for laryngopharyngeal malignancies. The goal of our study to evaluate feasibility, surgical & functional outcome of TORS. **Methodology:** From March 2013 till December 2016, 53 Patients underwent transoral robotic laryngeal conservation surgery. We analyzed our data prospectively. **Results:** The median age was 63 years (33 to 87 years). 50 were male & rests 3 were female. 42 were naïve and 11 were salvage. Mean EBL was 33.67ml, and mean duration of surgery was 46.60 min. PEG and TT dependence was 45% (salvage), 9% (naive) and 27% (salvage), 5% (naive) respectively. **Conclusion:** TORS is feasible and providing acceptable surgical and functional outcomes in Laryngopharyngeal malignancies.

CR200: MEDULLARY CARCINOMA THYROID IN THE RET ERA

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Background: The management of medullary carcinoma thyroid (MTC) has evolved to incorporate gene testing. We conducted this study to evaluate the impact of RET mutation testing in the management of MTC. **Methods:** Retrospective study of data between January 2008 and December 2015 from the computerised hospital information system analysed using STATA (v.10). **Results:** MTC accounted for 89/1877 (4.7%) patients with thyroid cancer. The mean age of presentation was 39.6 years (range of 14-70) with M:F = 48:41. Three patients presented with a pheochromocytoma, four were screen detected and the remaining had goitre. FNAC was diagnostic in 67.6% while calcitonin was elevated in 94.9%. RET testing was performed in 69 patients, 24 were positive (34.8%). Seventeen relatives of ten index patients were screened and twelve were RET positive. Patients with hereditary MTC were younger (34.9 vs 39.3) with a female preponderance (M:F = 8:16). Prophylactic thyroidectomy was performed in 3 patients. All patients underwent primary surgery. Persistent hypercalcitoninemia (calcitonin >50 pg/ml) was observed in 50/78 (64.1%). Of these, 41 patients underwent metaiodobenzylguanidine scan, three were positive. The median duration of follow up was 14 months. Twelve patients were lost to follow up and two patients succumbed to their disease. **Conclusion:** MTC accounts for 5% of thyroid carcinoma in our series. Hereditary MTC presents at an earlier age than the sporadic type with afemale preponderance. RET screening should be performed for all patients with MTC as they may be the index case and prophylactic surgery may be offered for those children testing positive.

CR201: TRANS-ORAL MICRO-ENDOSCOPIC KTP-532 LASER ASSISTED EXCISION OF STAGE I-III GLOTTIC CANCER: OUR EXPERIENCE

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Background: Trans-oral laser surgery has shown great promise in the management of early and selected locally advanced glottic cancer. This has replaced the conventional surgery with better patient compliance. **Objective:** To elucidate the role of laser and to evaluate the survival of patients having glottic cancer stage I-III treated with trans-oral micro-endoscopic KTP-532 laser assisted excision. **Methods:** This is a Retrospective observational study was carried out between January 2000 to December 2013. A total of 109 patients of biopsy proven cases of squamous cell carcinoma of glottis in different stages including 35 cases of post radiotherapy recurrence were taken up for the study. All these patients were treated surgically with trans-oral micro-endoscopic KTP-532 Laser assisted excision of primary lesion under frozen/paraffin section control till negative margin is achieved. All patients with clinically and radiologically positive N status underwent neck dissection within 10 days. Average follow up period was 19 months. All cases received post op radiotherapy except the radio-recurrent ones who were managed with salvage surgery alone. **Results:** The age range was 40 years to 82 years. The maximum incidence was found in 6th and 7th decades. 96/109 patients had no disease on their lastfollow up. 69 patient were followed up for a period of 3 years or more with 62 being disease free. Overall, 13 cases had recurrences of which 7 underwent successful revision laser surgery within 3 years, while total laryngectomy was done for rest 6 cases. Neck dissection was carried out in 9 cases in staged manner after 10 days. 35 salvage surgery for radio-residual disease. In all, we had cases T1A – 22, T1B- 24, T2- 41, T3-22. Among the 13 recurrences, T1A had no recurrence T1B had 2 cases, T2 had 5 cases and T3 with 6 cases. 2 patients had lung metastasis after 3 years. Overall survival rate was 88.08% and 3 year specific disease free survival rate was 91.03% calculated using Kaplan-Meir scale. **Conclusion:** This study evaluates the efficacy and survival rate of patients who underwent Trans –oral micro-endoscopic KTP-532 LASER assisted excision for glottic cancer as an effective alternative to conventional open surgeries with better quality of life.

CR202: IMPACT OF MICROVASCULAR FREE FLAP RECONSTRUCTION IN ORAL CAVITY CANCERS: EXPERIENCE OF A TERTIARY CARE CANCER CENTRE

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Background: Oral cavity cancer is a common malignancy worldwide, especially in India where it is one of the three common cancers and accounts for one-third of the world burden (GLOBOCAN 2012). We reviewed the patients of oral cavity cancers treated with radical compartmental surgery and microvascular free flap reconstruction. **Methods:** Retrospective analysis of patients with oral cavity cancers treated in department of surgical oncology between 2009 and 2014 was performed. Patients undergoing radical compartmental resection and reconstruction with free flaps and appropriate adjuvant therapy were analyzed for clinico-pathological profile and prognostic factors affecting disease specific survival (DSS). **Results:** 105 patients underwent standard multimodality treatment. Mean age was 40.5 years with male predominance (86%). Reconstruction was done in 56% patients with free radial artery forearm flap. Four out of six patients had complete flap loss. Pathological node and mandible involvement were seen in 48% and 19% respectively. 71% patients had margin negative resection and 67% received adjuvant therapy. Recurrences occurred in 32 cases and three patients had distant metastasis. At the time of analysis, 73 patients were alive and disease free. 26 patients were dead; all except two were cancer related deaths. The 5-year DSS rate was 76.05%. In univariate Kaplan-Meier analysis and in multivariate Cox regression model, eight factors were found to have a prognostic significance. These included nodal status, clinical stage, margins of resection, extra-capsular spread, perineural invasion, bone invasion, disease recurrence and treatment modality (surgery +/- adjuvant therapy). **Conclusions:** Aggressive management of locally advanced oral cavity cancers can improve oncological outcomes. Compartmental surgery combined with free flap reconstruction allows complete resection without compromising on margins and helps in early rehabilitation.

CR203: ANALYSIS OF TONGUE MOTILITY, SWALLOWING AND SPEECH INTELLIGIBILITY PRE AND POST GLOSSECTOMIES

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Background: Carcinoma of oral tongue is one of the commonest head and neck malignancy in South Asian sub-continent. Tumour itself and treatment impairs the motility of the tongue leading to poor speech and swallowing outcomes. **Methodology:** 25 patients with previously untreated, biopsy-proven carcinoma of oral tongue were consecutively recruited. Using a web-cam based software tongue motility was assessed with measurement of upward, protrusion and right and left lateral deviation distances. Tongue motility score was recorded and sub group analysis 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. Twenty-five phonetically balanced words were used for testing. Swallowing evaluation was done using MD Anderson Dysphagia inventory questionnaire. To quantify swallowing function a short term recording was performed wherein a piezoelectric based movement sensor was tied around the thyroid cartilage and simultaneous EMG from Sub-mental muscle was recorded while performing swallowing task. **Assessment:** The scores of speech intelligibility test and MD Anderson Dysphagia Inventory questionnaire were recorded and relationship between tongue motility, swallowing and speech was assessed. Motility of the tongue, speech function and swallowing assessment was done before the surgery, 1 month after surgery and 6 weeks after adjuvant radiotherapy or 3 months of surgery respectively. **Results:** Twenty five eligible patients were recruited for the study and statistical analysis done. Stage wise analysis revealed that greater the extent of glossectomies, lesser the motility of the neo-tongue (Fisher's test (2 sided) used). It also showed that greater the bulk, lesser the motility, poorer the swallowing and lesser the speech intelligibility. **Conclusion:** Final outcomes of speech and swallowing is determined by the post-operative tongue motility.

CR204: HUMAN PAPILLOMAVIRUS POSITIVITY IN OROPHARYNGEAL AND ORAL CAVITY SQUAMOUS CELL CARCINOMA

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Background: Tobacco and alcohol have traditionally been responsible for majority of head and neck squamous cell carcinoma (HNSCC). Increasing role of human papillomavirus (HPV) in causing HNSCC especially in oropharynx (OPSCC) and to lesser extent, in oral cavity (OCSCC) is attributed to decreasing tobacco use in many countries and changing sexual practices which have increased HPV exposure of the population and oral HPV transmission. The anatomical, epidemiological, biological and clinical characteristics of HPV positive OPSCC patients are different as compared to HPV negative subset. **Methods:** We recruited 60 biopsy-proven cases of OPSCC and OCSCC in our center. Proper history and examination findings were documented. Tissue paraffin blocks from main tumor sites were collected from patients and sent for testing of HPV DNA by polymerase chain reaction (PCR). Reports were collected and analysed. **Results:** Twenty one patients were cases of OPSCC and 39/60 were OCSCCs. Mean age of patient was 55.65 years. 56/60 were male. 50/60 belonged to middle class. Two-third came from rural areas. 37/60 had history of tobacco use and/or alcohol use. 13/60 had high risk sexual behavior. 40/60 were either stage III or IV. All sixty patients in our study tested negative for HPV DNA by PCR technique. **Conclusion:** The reported HPV positivity in HNSCC in India/world varies widely among different studies and can range from 0% to >90%. Our patient cohort had few high risk features which are conducive to HPV exposure and oral HPV transmission. The fixation process used for the tissue biopsy sample may adversely affect subsequent HPV DNA amplification and may have some bearing in HPV DNA positivity reported by PCR.

CR205: EXPLORING THE ROLE OF "GLYCERINE PLUS HONEY" IN DELAYING CHEMORADIATION INDUCED ORAL MUCOSITIS IN HEAD AND NECK CANCERS

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Aim: To assess the efficacy of adding "Glycerine plus Honey" to standard management protocol, in terms of time to delay in oral mucositis ≥ grade 2. **Materials and Methods:** Hundred patients of oral cavity and oropharangeal cancers, planned for concurrent chemoradiation (Dose: 60Gy/30 fractions/6 weeks) were randomized 1:1 to receive either home-made remedy made of "Glycerine plus Honey" added to the standard management protocol to prevent mucositis versus standard treatment alone. CTCAE v 4 (Common toxicity criteria for adverse events) was used for assessing oral mucositis scores weekly. Chi square test was used to compare mucositis scores, weight loss, opioid use, ryles-tube feeding, and unplanned treatment breaks in each cohort. Independent T-test was used to compare means to assess the effect of treatment in delaying mucositis ≥ grade 2. **Results:** Significantly higher number of patients developed grade ≥2 mucositis in control arm [n = 43 (86%)] compared to study arm [n = 30 (60%)] (p = 0.003). CTCAE scores favored Glycerine plus honey at week 4, and on last day of radiotherapy. Whereas, time to first occurrence of oral mucositis grade ≥2 was 23.17 (± 1.01) days for study arm [radiation dose 28.14Gy (± 1.16)], it was 20.65 (± 0.8) days for control arm [radiation dose 31.67 Gy (± 1.44)] (p = 0.05). Study patients had lesser weight loss (2.76 Kg) than control subjects (3.9 Kg) with p = 0.008. There were significantly higher number of patients in control arm who required opioid analgesia, ryles-tube insertion and had unplanned treatment breaks, compared to study arm. **Conclusions:** Glycerine plus honey demonstrated superiority in delaying oral mucositis, and the combination is safe and well tolerable.

Key words: Chemoradiation, glycerine, head and neck cancer, honey, mucositis

CR206: CAROTID BODY TUMOUR WITH UNUSUAL PRESENTATION

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Carotid Body Tumour (CBT) is a type of paraganglioma (PG). PGs are rare tumors derived from neural crest cells. Paragangliomas can occur anywhere along neural crest cell migration from the skull base to pelvis. Para Gangliomas of the head and neck are rare. CBT is the most common type of Para Ganglioma of the head and neck. Paragangliomas (PGLs) are uncommon tumors (incidence 1–2 per 100,000) and based on their locations, the tumors are often given special designations. Only 3% of all PGLs occur within the head and neck of which the majority are located in the carotid body (CBTs), temporal-bone/middle-ear (glomus jugulare), and the vagus nerves in the neck (vagal PGLs). Carotid body tumor is often seen in patients at the age from 50 to 70 years old with higher incidence in female than that in male. Most patients receive medical treatment for accidental finding of the transverse masses in the cervical part, and hence some patients may complain of such symptoms as local tremor or pulse-like vibratory sense in the mass site, and headache, change in voice, vertigo, etc. Involved nerves can lead to the corresponding symptoms in the nerve-dominated area, but symptoms mediated by endocrine changes are rare. Physical checkup can find typical transverse beating masses, characterized by high-transverse mobility but low longitudinal mobility. Color Doppler sonography and digital subtraction angiography (DSA) play a very important role in the confirmation of the clinical diagnosis of CBTs, and DSA is regarded as the gold standard for the final diagnosis of CBTs. With the rapid development of computed tomography technology, subtraction computed tomographic angiography can facilitate the 3D-reconstructed image that can help demonstrate more directly the relationship of the tumor with the surrounding tissues. DSA cannot only provide us with information such as intracranial and extracranial blood circulation and Shamblin's classification but also opportunity for embolization of blood vessels, resulting in decrease in intraoperative blood loss by occlusion of the blood vessels feeding the tumor through ultraselection arterial embolism. Some researchers recently reported that preoperative application of covered stents for blocking the blood vessels feeding the tumor could achieve satisfactory therapeutic effects.

Case Report: A 70-years-old male had a left sided neck swelling for 10 months which increased progressively. He had a feeling of discomfort in the region on and off but had no other symptom. On examination, there was single swelling below the angle of the mandible, firm, non tender, non pulsatile, non fixed to skin. Clinically, it looked like a metastatic mass. Pan endocopy was normal. FNAC from the mass was suggestive of reactive hyperplasia.

CECT neck revealed large hetrogenous mass in carotid triangle, 47 x 51 mm, suggesting a enlarged metastatic node or a neurogenic tumour. On clinical and radiological basis, we planned for the excisional biopsy. Intraoperatively mass was seen arising between Left external and internal carotid vessels. Location of the tumour suggested,it coupd be carotid body tumour. It was surgically excised and sent for HPE, which confirmed the diagnosis of paraganglioma. Post op events had been uneventful.

Discussion: CBTs are rare tumors of neural crest origin. Most commonly they present as a painless lateral neck mass, which is pulsatile and bruit can be heard, with very little mobility. On CECT it presents as a brightly enhancing mass, displacing the carotid vessels. Our case had a unusual clinical presentation,and also available radiological techniques in our institute did not pointed towards the diagnosis of carotid body tumour. Hence, even if typical signs and symptoms of carotid body tumour are not present in a case of neck mass,it should be kept in mind as differential diagnosis and thorough work up must be done to avoid intraoperative complications.

CR207: PUBLIC AWARENESS OF ORAL CANCER IN A TERTIARY CARE CENTER AT FARIDKOT, PUNJAB

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Background: To determine public awareness and knowledge of oral cancer and to determine the source of awareness and information of oral cancer, in a sample 500 general patients presenting to ENT OPD at GGS medical college, Faridkot. **Methods:** A random sample of 500 patients over the age of 18 years presenting to ENT OPD for any complaint related to ENT, were given a 6 question based questionnaire to determine their awareness of oral cancer and what was the source of the awareness. **Results:** Oral cancer was one of the least heard of cancers by the public with only 65% of the participants being aware. The awareness of the link between smoking, alcohol, tobacco chewing, dietary factors and oro dental hygiene was 70%, 50%, 80%, 30%, 20%. 60% had the knowledge that oral cancer is preventable. 60% people were aware of oral cancer due to mass media, 20% through the doctors or other health professionals, while 10% each got information from, patients of oral cancer and from warning labels on cigarettes or tobacco packs. **Conclusions:** This survey highlights a general lack of awareness among the public about oral cancer. There is a clear need to inform and educate the public in matters relating to the known risk factors associated with oral cancer. A media campaign informing the public about oral cancer is clearly required. Mass media, bollywood actors, cricketers have a major impact.

CR208: MODIFIED GASTROGRAFIN VIDEOFLUOROSCOPIC SCREENING TO DETECT PHARYNGEAL LEAK FOLLOWING TOTAL LARYNGECTOMY AND PHARYNGEAL REPAIR

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Aim: Pharyngeal leak is one of the complications of total laryngectomy and in head and neck resections involving pharyngeal repairs. The identification of leak is usually done either by radiological or clinical methods but the technique has not been clearly defined in literature. The aim of this paper is to highlight the use, technique and efficacy of small volume gastrografin (3ml and 5ml) to identify pharyngeal leaks, which are not manifested clinically. **Materials and Methods:** Prospective study of 25 patients referred to the swallowing pathologist in a tertiary care teaching hospital. The study period was from May 2015 to June 2016. The type of surgery, reconstruction and leak rates were studied. The timing of the gastrografin VFS was 12-14 days in cases of salvage surgeries and 7-8 days in primary cases. A modified Barium swallow and fluoroscopy was done using 3 ml and 5 ml gastrografin with lateral and Antero-posterior views. The presence of extraluminal dye was taken as a positive sign for pharyngeal leak. **Results:** A total of 25 cases were studied. 21 were males and 4 were females. 18 were salvage laryngectomies. (11 required pectoralis major flap (PMMC) reconstructions and 7 were primary closures). Out of these 11 manifested with leak on VFS and 2 subsequently developed pharyngocutanoeus fistula (PC). Five were primary laryngectomies (2 gastric pull up, 2 PMMC) out of which 3 showed leak but no subsequent fistula. None of the patients who were started orally after conforming no leak in gastrografin on VFS, developed fistula. In all the patients who had the leak, the feeding tube was continued and the test was repeated in 14 days. None of these patients showed a leak and were started on oral feeds with no development of PC fistula. All leaks were detected with 3 ml of gastrografin. **Conclusion:** The modified gastrografin screening using small volume can reliably identify small pharyngeal leaks. Using a small amount and a standard technique is beneficial for identification of these leaks. All the fistulas treated conservatively healed in 2 weeks.

CR209: IS X RAY CHEST REQUIRED IN ROUTINE FOLLOWUP IN ORAL SQUAMOUS CELL CARCINOMA

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Objective: To evaluate the role of X ray chest in routine follow up of the patient treated for the oral squamous cell carcinoma. **Background:** Use of Xray chest in routine follow up of oral cancer patient is done in majority of the centres even though there are no clear guidelines for the evaluation of chest. **Methods:** Analysis of retrospective data of the patients treated for the oral carcinoma from Jan 2010 to March 2014 for the usefulness of the X ray in asymptomatic individuals. **Results:** X ray chest was done in the follow up of 1261 patients treated for oral cancer and not found useful. **Conclusion:** Routine use of X Ray chest is not advocated in oral squamous cell carcinoma patients on follow up.

CR210: ASSESSMENT OF MASTICATORY EFFICIENCY AND QUALITY OF LIFE AFTER TREATMENT FOR ORAL CANCER

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Background: The clinical management of squamous cell carcinoma of the head and neck have sequelae like mouth dryness, difficulties in swallowing, eating, chewing and speech production which cause significant distress to the patients. In our study we evaluated the masticatory efficiency in patients treated for oral cancer and the treatment variables affecting masticatory efficiency in these patients. **Aims and Objectives:** The primary objective of the study was to assess the chewing efficiency of patients treated for oral cancer. We also assessed their maximum bite force and their quality of life. **Materials and Methods:** All patients who underwent curative intent treatment for oral cancer and completed six months or more post

treatment were assessed using two colored chewing gums to assess chewing efficiency. Their bite force was measured with a transducer and quality of life assessed using the EORTC questionnaires. **Results:** A total of 80 patients were assessed and the median follow up was 22.5 months. The mean mouth opening was 33.7 mm and mean bite force was 13.3 kgf. 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.

CR211: SERUM AND TISSUE VEGF-C IN MALIGNANT TRANSFORMATION OF POTENTIALLY MALIGNANT ORAL LESIONS AND SURVIVAL IN ORAL SQUAMOUS CELL CARCINOMA

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Background: Oral squamous cell carcinoma (OSCC) is a multistep process beginning with potentially malignant oral lesions (PMOLS). VEGF-C, the family of glycoprotein is involved in regulation of lymphatic vessel growth by binding to VEGF receptor -3 (VEGFR-3). VEGF-C promotes spread of cancer cells through lymphatic channels. The aim of this study was to analyse tissue and serum VEGF-C expression and its correlation with clinical parameters and malignant transformation of PMOLs into OSCC and find correlation with survival in transformed and *de nova* OSCCs. **Materials and Methods:** Formalin fixed tissue sections of PMOLS (43 Leukoplakia and 29 Oral submucous fibrosis), 105 OSCC and 50 healthy controls were subjected to immunohistochemistry using antibody against VEGF-C. Serum VEGF-C level were estimated by ELISA method. Five year follow up was done from year 2007 to 2012. **Results and Discussion:** VEGF-C expression was upregulated from PMOLs to OSCC in both tissue and serum. VEGF-C expression was statistically significant with only lymph metastasis in OSCC. Expression of VEGF-C was high in 10/72 malignant transformed cases but was statistically non significant. No association was found between VEGF-C with other factors like age, sex, presence of dysplasia, malignant transformation and adverse oral habits in PMOLs and tumor stage, degree of differentiation and overall survival in OSCC. **Conclusion:** Serum VEGF-C may be surrogate of tissue VEGF-C and it may be an indicator of lymph node metastasis in OSCC patients. It may be therapeutic targets in the treatment of OSCC to suppress lymph node metastasis.

CR212: ROLE OF PTH ASSAY IN PREDICTING THE CHANCE OF POSTOPERATIVE HYPOCALCEMIA IN TOTAL THYROIDECTOMY PATIENTS: PROSPECTIVE PILOT STUDY

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Introduction: Anatomically parathyroid glands are placed close to thyroid gland and they secrete parathyroid hormone (PTH). Hypocalcemia is the most common complication after total thyroidectomy (TT). This is usually due to parathyroid devascularization, stunning, or incidental removal of the parathyroid gland(s). Various studies have correlated postoperative PTH assay and Calcium measurements for early detection of hypocalcaemia in patients undergoing TT. **Aim of the Study:** Identify the correlation between PTH assay and development of postoperative hypocalcemia in patients undergoing TT. **Methods:** Prospective study from January 2016 to July 2016done in the department of surgical oncology, St Johns Medical College Hospital. Inclusion criteria - 20 patients who had undergone TT for various thyroid pathology including malignancy. After ethical clearance, informed consent, post operative PTH assay done after 6 hours of surgery and observed for 48 hours in hospital. Normal value of PTH in our hospital is >11ng/dl. **Results:** Total thyroidectomy was done for 19 patients, out of 19 patients only 7 patients (36.8%) developed hypocalcemia in post operative period. Out of 7 patients, 5 patients showed low PTH levels who developed hypocalcemia, requiring calcium correction. Of the 7 patients 2 patients showed normal PTH level later developed the hypocalcemia, and required oral supplementation of calcium. Age of the patient, and size of the gland did not have an impact on the occurrence of hypocalcemia. Most of patients with thyroiditis developed hypocalcemia out of 4 patients with thyroiditis 3 patients developed low PTH and associated hypocalcemia 75% (3/4). **Conclusion:** Low PTH assay is a good predictor of post operative hypocalcemia and its severity. Patient with normal PTH assay can also develop hypocalcemia (28.57%)require to follow up for 48 hours for monitoring of hypocalcemia. So all patients undergoing TT should be monitored in the hospital for 48 hours.

CR213: RAPID ARC TREATMENT USING SIB-IMRT IN NASOPHARANGEAL CANCERS: ANALYSIS OF DOSIMETRY, SETUP ERRORS AND ACUTE TOXICITY

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Aims and Objective: To evaluate thedosimetry, setup errors and acute toxicityin carcinoma nasopharynx patients treated by Rapid arc therapy using Simultaneous integrated boost intensity modulated radiotherapy. **Materials and Methods:** 15 patients of locally advanced Nasopharangeal cancers treated with rapid arc therapy were evaluated. All patients were planned using 6 MV photons with a 4 arc technique. Immobilization was done using 5 clamp thermoplastic cast and CT imaging was acquired using 2.5 mm slice thickness on Philips CT simulator. For planning images were transferred to Eclipse treatment planning system. The dose prescription was 70 Gy in 33 fractions to gross disease, 59.4 Gy in 33fractions to high risk PTV and 54 Gy in 33 fractions to low risk PTV. Plans were evaluated for doses to tumor volumes and critical structures. Conformity and Homogeneity index were generated for all plans. CBCT were obtained for first three days of treatment. Errors were computed and applied to subsequent fractions using the NAL protocol. PTV margins were generated using Stroom Formula. For statistical analysis data was entered in SPSS v18. **Results:** The $V_{70Gy,}$ $V_{59.4\ Gy}$ & $V_{54\ Gy}$ was 97.68 ± 1.15cc (Mean ± SD), 94.66 ± 1.80cc and 94.99 ± 4.45cc respectively. Doses to critical organs

were well within normal limits. V_{25Gy} for left and right parotid gland was 31.37 + 11cc and 31.34 + 7.09cc respectively. The spinal cord D_{max} dose was 40.60 + 1.95Gy. Brainstem D_{max} dose was 47.39 + 12.6 Gy. The mean monitor units delivered for the treatment were 660.98. The initial Systematic errors seen in the antero-posterior, cranio-caudal and medio-lateral direction were 1.6 mm, 2.0 mm and 1.9 mm respectively. The PTV expansion calculated using Stroom formulae was 4.3 mm, 5.0 mm and 0.48 mm respectively. The Conformity Index and Homogenity index for the high dose region of PTV 70 was 1.22 ± 0.05 (mean ± SD) and 1.12 ± 0.03 respectively. Grade II skin reactions were seen in 87% of patients. Grade II & III mucositis was seen in 50% and 37% patients respectively. 25% patients developed Grade II xerostomia. Grade II trismus was seen in 37% patients. One patient developed Grade I neutropenia. Grade II occipital alopecia was seen in was seen in 26% of patients.75% patients had Grade II dysphagia and anorexia. 75% patients experienced Grade I & II nausea. Grade III vomiting was seen in one patient. 75% patients had Grade II dysgeusia. Grade II pain was seen in 62% of patients. At 6 months follow up one patient had progressive disease. **Conclusions:** Volumetric intensity modulated arc therapy using Simultaneous integrated boost (SIB- IMRT) is well tolerated in Nasopharangeal cancers. A CTV to PTV expansion of 5mm is appropriate for these patients.

CR214: MULTIDISCIPLINARY TELEMEDICINE IN THE MANAGEMENT OF DYSPHAGIA IN HEAD AND NECK CANCERS

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Aim: To evaluate the role of multidisciplinary telemedicine case discussions in the management of dysphagia in head and neck cancers. **Methods:** Retrospective analysis of 26 patients with dysphagia (Aspiration and feeding tube dependant). The Inclusion criteria were, patients treated in the head and neck surgery service in whom a definitive reason for the swallowing dysfunction could not be identifiedand/or there was a difficulty in the improvement of swallowing function inspite of interdisciplinary discussions in the host unit. They were discussed in the telemedicine meeting conducted between host institute (Amrita Institute, Kochi) and Keck Medicine of USC, University of Southern California, USA. The study period was from September 2014 till June 2016. A monthly meeting was organized, on a Internet protocol based videoconference system to share the clinical history, physical examination and swallowing evaluation including laryngoscopic examination and videofluoroscopy. The ongoing swallowing problems and the management were presented and through discussions, a plan for further management was formulated and carried out. Patient confidentiality was taken care. **Results:** 26 patients were discussed, out of which 22 had head and neck malignancies treated with either primary surgery with or without adjuvant treatment. All patients were on either PEG or Naso gastric tube (NGT) feeding prior interventions. The treatment suggestions were concurred in 18 patients with host institute, differed for 3 patients and additive for 5 patients. Swallowing outcomes were measured on FOIS (Functional oral intake scale) pre and post interventions. Pre interventions, the mean FOIS was 1.46 and post interventions, it improved to 3.92 (p = 0.018). **Conclusions:** Multidisciplinary Telemedicine helped the treatment in difficult cases of head and neck dysphagia. It improved the swallowing outcomes in such patients.

CR216: EFFICACY OF PREVENTIVE SWALLOWING EXERCISES IN ADVANCED SQUAMOUS CELL CANCERS OF OROPHARYNX, LARYNX AND HYPOPHARYNX TREATED WITH CHEMORADIOTHERAPY: A PROSPECTIVE RANDOMIZED CONTROLLED STUDY

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Aim: The purpose of this study is to compare the efficacy of prophylactic swallowing exercises in patients with advanced (AJCC stage III-IV) squamous cell cancers of oropharynx, larynx and hypopharynx undergoing chemoradiotherapy against a group who did not receive the therapy. **Methods:** Prospective randomized controlled study of 30 patients. They were randomized to two groups (Exercise and Control). The study period was between Jan 2015 to December 2015. The patients in the Exercise arm received 5 different prophylactic exercises for precise sets and repetitions through out the course of their treatment under the guidance of a swallowing pathologist. Outcomes were measured with FOIS (Functional oral intake scale) questionnaire, Penetration Aspiration scale (PAS scale) on video fluoroscopy (VFS), MD Anderson dysphagia inventory (MDADI) and feeding tube requirement and dependence. Student's t test and wilcoxon's rank sum test were applied. **Results:** Of the 30 patients, 28 were males, 2 were females. 8 patients (27%) had oropharynx primary, 9 (30%) had larynx and 13 (43%) had hypopharynx tumors. All patients underwent concurrent chemoradiotherapy (70 GY in 33-35 fractions) with weekly cisplatin or carboplatin. The difference in the Mean FOIS score, immediate post treatment (control group - 3.27, exercise Group - 4.47, p = 0.047) and post treatment 3 months (control group - 4.93, exercise Group - 6.20, p = 0.001) were statistically significant. The exercise group had better outcomes compared to control group. The difference in the Mean for MDADI score, immediate post treatment (control group - 58.80, exercise Group -70.73, p = 0.046) and post treatment 3 months (control group - 67.93, exercise Group - 83.20, p = 0.002) were also statistically significant, favoring exercise group. PAS was significant at post treatment 3 months (control group - 2.60, exercise Group - 1.00, p = 0.003). Tube dependence rates (control group - 41.25, exercise Group - 41.17, p = 0.84) during treatment were equal for both groups. **Conclusion:** Prophylactic swallowing exercises improve the swallowing outcomes and quality of life in advanced oropharynx, larynx and hypopharyngeal cancers undergoing definitive chemoradiotherapy.

CR217: 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, shoulder dysfunction and marginal mandibular nerve palsy 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). 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%), 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. Marginal mandibular nerve paresis/palsy 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. Marginal mandibular nerve paresis or palsy 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.

CR219: EVALUATION OF FEASIBILITY TO LIMIT DOSE TO CONSTRICTOR MUSCLES IN HEAD AND NECK CANCER PATIENTS TREATED WITH INTENSITY MODULATED RADIOTHERAPY

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Background: Several studies have correlated relationship between dysphagia and dose to constrictor muscles. In India, head and neck cancer patients are diagnosed in more advanced stage. This study is to assess whether we are able to limit our constrictor dose as mentioned in literature without compromising target dose. **Material and Methods:** 45 consecutive head and neck cancer patients treated with intensity modulated radiotherapy between April 2016 to June 2016 were enrolled for the study. Contouring of constrictor muscles in every patient was done according to Christianen *et al*. guidelines and RTOG guidelines were followed for other organs at risk (OARs). At the same time patients received radical/preoperative/postoperative radiotherapy/chemo radiotherapy according to standard guidelines. Both contouring and dose evaluation was done by single oncologist to remove interobserver bias. **Results:** 40% (18) patients of oral cavity, 29% (13) of oropharynx and 31% (14) of hypopharynx were evaluated in our study. In our patients average mean dose to constrictor was 46.89 Gy and average maximum dose was 67.06 Gy. Mean volume of constrictors receiving 50 Gy (V50Gy) was 49.89%. In site wise distribution, V50 Gy was 31.6% in oral cavity, 58.2% in oropharynx and 65.6% in hypoopharynx. Average mean dose in oral cavity patients was 39.2 Gy, oropharynx 52.8 Gy and in hypopharynx 51.2 Gy. **Conclusion:** It is feasible to achieve mean dose and V50 Gy to constrictors according to constraints as mentioned in literature but achieving maximum dose is a challenge. Our future course of action is to evaluate dose volume relationship with dysphagia to improve patient's quality of life.

CR220: CORRELATION OF CRIPTO 1 EXPRESSION WITH LONG TERM OUTCOMES IN HEAD AND NECK SQUAMOUS CELL CARCINOMAS: CAN WE PREDICT FAILURES?

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Background: Cripto-1 (CR-1) is an established biomarker in adenocarcinoma of colon and breast. The present study is aimed to assess the significance of CR-1 expression on long term outcomes in patients of locally advanced squamous cell carcinomas of head and neck. **Aims and Objectives:** To correlate Cripto 1 levels with progression of disease in locally advanced head and neck cancer treated by radical chemo radiation. **Materials and Methods:** Data of 50 patients of squamous cell carcinoma of head and neck who had baseline and post treatment assessment of CR-1 levels was reviewed retrospectively. Correlations were attempted to be drawn between the levels of CR 1 with progression of disease using bivariate and multivariate analysis. CR-1 levels in normal subjects was used as controls. **Results:** 21/50 were NED, 11/50 had residual disease at completion of treatment but did not progress. 13/50 patients experienced progression. The mean decline of CR-1 was highest for patients who had no evidence of disease compared to those who had residual or progressive disease (466 vs. 161 vs. 85 pg/ml respectively). This decline was however not significant on multivariate analysis ($p < 0.184$). **Conclusions:** Although the CR-1 levels were significantly high in patients compared to normal controls and there was marked reduction after treatment, the present study could not correlate between pre and post treatment CR-1 levels with progression of disease due to the small study size.

CR221: PERINEURAL SPREAD AS A PREDICTOR OF SURVIVAL IN ORAL SQUAMOUS CELL CARCINOMAS: A CLINIC PATHOLOGICAL STUDY

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Background: Outcome of patients with oral squamous cell carcinoma (SCC) is adversely affected by the presence of perineural invasion (PNI). This study looks at the impact of PNI on the survival of patients with oral SCC. **Methods:** A retrospective study of 1660 biopsy proven, treatment naïve, OSCC patients who underwent surgery as a primary modality of treatment between January 2012 to march 2015 was carried out. However, controversy still exists regarding administration of adjuvant radiation therapy (RT) when PNI is the only adverse histological feature Factors predicting PNI were calculated using binary logistic regression and survival analysis was done using Cox regression. **Results:** Tongue cancer was seen in 462 (27.8%) patients and 1198 (72.2%) patients had bucco-alveolar complex cancers. PNI was seen in 19.6% patients. The incidence of PNI was significantly higher in tongue cancers (p - 0.000) than in other sites of oral cancers with an odds ratio (OR) of 2.0. PNI was more commonly associated with tumours of higher grade (OR: 1.7), nodal positivity (OR: 1.9), advanced T stage (OR: 1.5) and extra capsular spread (OR: 1.4). On survival analysis, PNI significantly affected both disease free survival (Hazard ratio: 1.7) as well as overall survival (Hazard ratio: 1.7) on multivariate analysis. In subgroup analysis of 121 node negative early oral SCC with PNI, there was significant improvement in overall survival (p - 0.002) when adjuvant RT was administered. **Conclusion:** PNI is a poor prognostic factor and it is significantly associated with other established prognostic factors such as higher T stage, Nodal positivity, poorer Grade and the presence of ECS. Since the presence of PNI worsens disease free survival and overall survival, it may warrant intensification of adjuvant treatment.

CR222: ORAL VERRUCOUS CARCINOMA: TEN YEAR EXPERIENCE FROM A TERTIARY CARE HOSPITAL IN INDIA

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Background: Verrucous carcinoma of the oral cavity (OVC) is an uncommon variant of oral squamous cell carcinoma (OSCC). The clinical presentation and surgical outcomes of OVC are unique however the management protocols for OVC are largely extrapolated from OSCC. **Objectives:** To study the clinical, histopathological demographics and outcome of OVC in a tertiary care referral hospital in South India. To study the need for lymph node dissection and the role of adjuvant therapy for close resection margins. **Methodology:** A retrospective review of all patients diagnosed to have oral verrucous carcinoma between January 2005 and April 2015 was undertaken. Data was collected from hospital records and telephonic interview when possible. **Results:** Thirty patients were diagnosed to have OVC. The most common site of presentation was the buccal mucosa. Twenty three patients had wide local excision of the primary tumour and seven patients had neck dissection as well. None of the patients who underwent neck dissection had node positive disease pathologically. The margins were considered close in nine patients, only one of these patients received adjuvant radiation therapy; despite this, among the patients with close resection margins there was no recurrence or disease related mortality. Among the thirty patients there was only one patient who had recurred locally and there was no disease associated mortality. **Conclusions:** Oral verrucous carcinoma is a unique variant of OSCC which has good prognosis. Routine lymphadenectomy can be avoided.

CR224: DOES THE RECURRENT LARYNGEAL NERVE RECOVER FUNCTION AFTER INITIAL DYSFUNCTION? A CASE SERIES

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Introduction: Total thyroidectomy with appropriate dissection of the central and lateral compartment is the treatment of choice for node positive thyroid cancer. Dissection along the recurrent laryngeal nerve (RLN) can lead to vocal cord fixity and hoarseness even without nerve sacrifice. However there is very sparse literature available on the recovery of these nerves when not sacrificed intraoperatively. **Methodology:** We performed a retrospective study on prospectively collected data in152 thyroidectomy patients with 268 recurrent laryngeal nerves at risk, in patients operated at a tertiary cancer centre. All patients underwent a Hopkin's examination to document vocal cord function in the post-operative period irrespective of voice change or hoarseness. All patients had a follow up Hopkins examination to assess recovery of vocal cord function. **Results:** The immediate post-operative recurrent laryngeal nerve palsy rate was 11%. Thirty three percent of these were redo surgeries. There was recovery of 66.7% of these nerves on follow up ($p < 0.0001$, Binomial Exact test). The mean time to recovery was 10 months. The incidence of permanent RLN palsy was 3.7%. **Conclusion:** Vocal cord dysfunction recovered in most patients without documented RLN injury. Watchful observation should be done, versus immediate intervention to augment vocal cord function, in majority of the patients for atleast a period of ten months.

CR225: DECISION MAKING IN DEFECT-BASED RECONSTRUCTION AFTER RESECTION OF MAXILLARY TUMOURS

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Aim: To discuss the options of reconstruction according to the defect after resection of maxillary tumours and their outcomes in terms of functionality. **Materials and Methods:** A retrospective data of 38 patients who underwent surgical resection of maxilla were collected. An oral questionnaire during the follow-up visit to examine the functionality. **Results:** 29 patients underwent reconstruction with either pedicled flap or free tissue transfer. Only 09 patients were reconstructed with dental obturator. The defects were classified as limited, subtotal, total and extended according to the structures removed. The reconstructive procedures done were split thickness skin graft in 04 patients, local flaps in 13 patients, free tissue transfer in 12 patients (Anterolateral thigh – 08, fibular - 02, rectus - 02). **Conclusion:** Limited maxillectomies involving removal of one wall of maxilla do not usually require a reconstruction, whereas those involving the hard palate with intact alveolar process can be managed with obturator. If the alveolar process is involved, then SSG is required to prevent contraction, aid in healing and secondary forms a ridge for the obturator to fit. Reconstruction with tissue transfer is required for subtotal, total, and extended maxillectomies. Local pedicled flaps

are used when the defect does not involve the buccal mucosa/gingivobuccal sulcus, as the chances of lateralisation of the flap is high in these instances of lateral defects. Large defects involving the extension of orbit, skin, pterygoids, infratemporal fossa, are usually replaced with free tissue transfer.

CR226: SEQUELAE OF ORAL CARE IGNORANCE BEFORE RADIOTHERAPY IN HEAD AND NECK CANCER: IMPACT ON TREATMENT PLANNING AND QUALITY OF LIFE

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Introduction: Radiotherapy, alone or associated with surgery or chemotherapy, has produced a significant increase in cure rates for many malignancies of the head and neck region. The oral sequelae from head and neck radiotherapy are inevitable; however means of decreasing these are proposed and followed globally. Radiotherapy result in several undesired several and complex oral complications that manifest during or after the completion of therapy and may negatively impact on quality of life. Of the long-term survivors treated with head and neck radiation therapy, 77% to 100% have mild-to-severe radiation damage of soft tissues and bones. Further, the patients who did not get any dental evaluation and prophylactic treatment before initiation of radiotherapy present an immense challenge to address their complaints with respect to their oral treatment needs. **Patients and Methods:** This presentation will discuss the severity of adverse effects, oral treatment needs and oral treatment limitations of 43 patients who underwent radiotherapy without any oral care before and/or during radiotherapy. A regime for oral care before, during and post radiotherapy protocol is proposed for the patients undergoing this treatment. **Results:** Most of the patients suffer with mucositis, xerostomia and radiation caries. Few patients had DMFS index score of 100 (signifying complete breakdown of all teeth). In many patients trismus precluded any attempt to treatment where possible. Few patients were amenable to prosthodontic treatment and their oral care was restricted to palliative care. **Conclusion:** Implementation of oral care regime can prevent or, at least, decrease the incidence and severity of these complications Treating dentist should voluntarily approach the radiation oncologist for referrals so as to perpetually treat the patient for oral treatment needs. Severe undesirable side effects are inflicted on HNC patients who take high doses of curative radiation in large areas. These side effects may manifest during or after radiation and may subside or persist for patients remaining life span. The oral sequelae from head and neck radiotherapy are inevitable, however means of decreasing these are proposed and followed worls over. One of such means is the perpetual oral care, which is of paramount significance in improving the oral health elated quality of life post radiation. However, ignoring the oral care before radiotherapy may have a lasting negative effect on patient's quality of life. Implementation of oral care protocols before and after radiation therapy and frequent assessment of lesions during therapy can prevent or, at least, decrease the incidence and severity of complications. Early or acute side effects that are noted during or immediately after treatment; and late side effects that develop months or years after the end of radiation therapy. The degree, progression and no reversibility of these changes are related to the radiation dose, the irradiation field, the degree of hypovascularity and hypocellularity of tissues, the age at diagnosis and the healing capacity of the exposed epithelial cells. **Mucositis:** Usually appears with three weeks of treatment, charasteised by erythema, inflammation, mucosal atrophy, exulceration and ulceration of the oral mucosa with or without pseudomembranes. In our group of patients, mucosal status was affected by many factors like periodontopathy, cheek biting, ulceration due to sharp teeth, poor oral hygiene and many years of radiotherapy.Salivary Gland Dysfunction: Xerostomia occurs early in the radiation treatment. The time period of ongoing decreased salivary function vary amongst patients depending upon the treatment dosage, volume of glandular tissue irradiated, and the salivary gland being irradiated. The salivary gland may recuperate with in few months from the loss and may cause irreversible loss of ability to secrete saliva. Xerostomia leads to disturbed oral functioning affcecting mastication swallowing, speech and oral hygiene maintenance, a burning sensation, cracked lips, and increased susceptibility to oral infections and dental caries. Radiation therapy also changes the quality of saliva,with increased viscosity, decreased buffering potential and change in the electrolyte and antibacteraila components. In our group of patients correlation between dosage and subjective xerostomia feeling. **Radiation Caries:** Radiation caries is not caused directly by irradiation, but results from the sequelae of xerostomia: Decrease of pH, reduced buffering capacity, and increased viscosity. DMFS index was recorded for all the patients and the score varied from 100 signifying all teeth lost to rad caries and only root stumps are remaining with teeth decayed to the level to gums with root caries evident. **Osteoradionecrosis:** Radiation therapy leads to decrease bone healing potential and a minor injury can proceed to a necrosis with or without infection. Tooth extraction and dental disease in irradiated regions have long been recognized as major risk factors for the development of osteoradionecrosis. ORN is more prevalent in mandible and is related to its poor vascularity and higher cortical bone content in comparison to maxilla. This adverse effect usually occurs within one year of therapy. However, the reduced vascularity and radiation induced changes in blood vessels make ORN a imminent disease irrespective of the time from irradiation. The decision to extract tooth before or after radiotherapy has traditionally been based on clinical experience and practically designed protocols. None of the patients from our group had ORN after treatment and no ORN was seen in some patients where extractions were carried out. **Trismus:** An oral opening lower than 20 mm can be considered as trismus. In our group of patients X no had oral opening of And has shown variation with time. **Discussion:** Severe and complex oral morbidity is reported with the use of RT used for the treatment of HNC. Although, the survival rate id increased but it is associated with a compromised quality of life. Damage to these tissues by tumor or therapy can result in significant structural, cosmetic and functional deficits that negatively impact on quality of lifeOral cavity is severely affected with RT and it is prudent to manage the it before the beginning of RT and may continue it forever. Of the longterm survivors treated with head and neck radiation therapy, 77% to 100% have mild-to-severe radiation damage of soft tissues and bones. In our group of 42 patients X reported with mild symptoms of xerostomia and/or mucositis. Severe injury in. To prevent or atleast decrease the incidence of post RT complications it is advisable to undertake all dental treatment before the initiation of RT. All extractions and invasive procdures should be done atleast two weeks before the RT. Oral prphylaxis, resoration of decayed and filled teeth must be performed. Patient to be placed on Oral hygiene maintenance programme, muscle exercises to be taugh before Rt and should be continued during and after RT to maintain appropriate mouth opening for oral procedures. Fluoride mouth washes and/or topical application of varnish, Regualr follow up.

CR227: EVALUATION OF THE PREVALENCE OF FUNCTIONAL PROBLEMS AFTER ORAL CAVITY MALIGNANCY TREATMENT USING PERFORMANCE STATUS SCALE FOR HEAD AND NECK

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Background: In the follow up of patients of treated oral cancers, evaluation is mostly limited to assessment of disease control and survival. The functional problem and quality of life issues of survivors tend to get overseen. **Methods:** A cross sectional study of 500 consecutive patients of stage III and IV oral cancer operated in our institution was conducted to evaluate the functional outcomes of treatment. Patients post 6 months of completion of treatment and locoregionally free of disease with an ECOG status of 2 or less were included. The functional outcome was assessed using the three subscales of Performance Status Scale Head Neck (PSSHN) - eating in public, understandability of speech and normalcy of diet. Each subscale has a score from 0 to 100 with higher scores implicating better function. **Results:** Normalcy of diet was the worst affected functional parameter. Tongue cancer survivors had worse functional outcomes as compared to other subsites ($p = 0.003$ for eating in public, 0.002 for understandability of speech and 0.031 for normalcy of diet). Among the tongue cancer patients, those with resection crossing the midline had worse functional morbidity ($p = 0.000$ for all the three parameters). Patients requiring no flap reconstruction had better functional outcome as compared to patients who required flap reconstruction ($p = 0.000$ for eating in public, 0.009 for understandability of speech and 0.000 for normalcy of diet). Bilateral radiation fields had worse outcome as compared to unilateral radiation ($p = 0.004$ for eating in public, 0.003 for understandability of speech). All patients who had longer time since completion of treatment (>36 months) tend to fare better across all functional subscales of PSSHN. ($p = 0.001$ for eating in public and understandability of speech, 0.000 for normalcy of diet). **Conclusion:** PSSHN is a simple, quick and reliable functional assessment tool specific for head and neck cancers. Assessment of functional morbidity of oral cancers using site specific tools is essential to plan proper rehabilitative measures.

CR286: REVIEW ANALYSIS OF PRIMARY TRACHEO-OESOPHAGEAL PUNCTURE FOR VOICE REHABILITATION IN LARYNGECTOMY PATIENTS

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Background: Tracheo-oesophageal puncture [TEP] for voice restoration after laryngectomy may be done primarily or secondarily. Here we retrospectively analyzed the patients who underwent primary TEP following laryngectomy. **Methods:** 60 patients who underwent total laryngectomy +/Partialpharyngectomy and tracheoesophageal puncture (TEP) with placement of Provox 2 voice prosthesis between Jan 2010 – Dec 2013 were analyzed. TEP related parameters including, life span, reinsertion and TEP related events were recorded. These parameters were correlated with age, litreacy, habitat, comorbids, primary/salvage setting of procedure, Pre Op Tracheostomy, extent of resection, and neck dissection. **Results:** Median follow-up was 32 months. Prosthesis displacement occurred in 7. One had aspiration of prosthesis and one had swallowed prosthesis. 4 underwent silastic wafer placement initially. TEP reinsertion done in 12 patients. TEF stomaplasty done in 2, 4 needed closure of Fistula. All patients were advised for TEP change when needed. Median duration between advice for TEP change or reinsertion and placement is 4 months [range 1-20 months]. Median TEP life span was 17.5 months with maximum of 70 months. There was no significant difference between the Life of prosthesis on correlation with age, litreacy, habitat, comorbids, setting of surgery, extent of resection and neck dissection. Mann Whitney test showed significant difference in life of prosthesis on correlation with pre-op tracheostomy. **Conclusions:** TEP has a good success rate with an acceptable complication in laryngectomy patients. In resource constrained nation like India, patients prefer to take a conservative approach regarding change of TEP. With adequate care TEP change after 1 year is feasible, unlike commonly quoted period of 6 months.

CR287: EVALUATION THE HISTOPATHOLOGICAL STATUS OF SUBMENTAL LYMPH NODES AS A SURROGATE MARKER FOR THE ONCOLOGICAL SAFETY OF SUBMENTAL FLAP

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Background: Oral cavity cancer is the sixth most common cancer worldwide, and comprises 30% of all head and neck cancers. Surgery is the Primary treatment for head and neck cancers. After resection of lesion, reconstruction to close the defect to maintain the normal functioning and achieve cosmosis. There are many options for reconstruction, including local and microvascular free flaps. Submental flap is a local flap which can use for reconstruction of oral cavity defects after resection of lesion. When this flap is harvested submental lymph nodes are taken along with skin and subcutaneous tissue. It will be a good alternative to the radial forearm free flap for reconstruction small to medium defects after proven of its oncological safety. The flap is oncologically safe only if submental lymph nodes are histopathologically negative for metastasis. The aim of present study is to assess the oncological safety of submental flap on the basis of histopathological status of the submental lymph nodes as surrogate marker, irrespective of T or N stage and subsite of primary. **Methods:** This is a retrospective and prospective study included 100 oral cavity cancer patients over a period of two years of June 2013 - May 2015, who underwent neck dissection after all workup, satisfying all inclusion and exclusion criteria and written informed consent at Dharamshila Hospital & Research Centre, New Delhi. After neck dissection Submental lymph nodes sent separately for histopathological examination. Medical records for all the 100 patients were systematically reviewed using case proforma. Statistical analysis of data among groups performed by Chi-Square test. P value of 0.05 was considered as statistically significant. **Results and Discussion:** Majority of patients i.e. 93% had negative submental lymph nodes status. While 7% patient were positive for submental lymph nodes. Out of the patients who had negative lymph nodes the majority (40.9%) had T2 grade tumor and 35.5% had T4a grade tumor. 9.7% of the cases which had negative lymph node status had T1 grade tumor. In majority of the patients (57.1%) having positive submental lymph nodes the tumor stage was T4a. None of the patients with positive lymph node had T1 tumor. This association

was found statistically non significant (p = 0.31). But submental lymph node positivity found in cT1 (0%), cT2 (2.6%), cT3 (13.3%) and cT4a (10.8%), which was statistically significant. Patients with negative submental lymph node status 62.4% were clinically N0. While 26.9% were stage N1. In 9.7% of the cases the stage was N2 and in 1.1% the stage was N3. In patients with positive submental lymph node status 42.9% were clinically N0. Another 42.9% were N1. In 14.3% of the cases the stage was N2 and none were N3. This association was found statistically significant (p This association was found statistically significant ((p = 0.94). **Conclusion:** No significant correlation between submental lymph node positivity and subsite of primary lesion. Submental flap can be safely used in early stage and cautiously in late stage oral cavity lesions for reconstruction.

CR288: POST-PAROTIDECTOMY FACIAL NERVE COMPLICATIONS: OUR EXPERIENCE

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Background: The close anatomical juxtaposition of the facial nerve and its branches with the parotid gland frequently leads to injury during surgical procedures in this region. Anatomical considerations as well as intraoperative factors including surgical techniques and variations in individual anatomy also affect outcomes. **Methods:** We performed a retrospective analysis of 97 patients from 2010-2015 undergoing parotid surgery and analyzed the outcomes in terms of the incidence and degree of facial nerve weakness as a postoperative complication. Functional impairment of the facial nerve was assessed using the House-Brackmann grading system. Patients were followed biweekly for 3 months followed by every 3 months for 2 years. **Results:** The median age was 45 years (Range 16 to 78 years). The most common diagnosis was Pleomorphic adenoma (56.7%) followed by Warthin's tumor (18.5%). The most common malignant tumor encountered was Mucoepidermoid carcinoma (11.3%). All were primary cases except 2 revision surgeries for recurrent pleomorphic adenoma. Facial nerve paresis was seen in 29.8%. The most frequently injured branch was the marginal mandibular nerve. Permanent facial palsy was noted in 6.18% patients. **Conclusions:** Facial nerve injuries were more frequently encountered with extensive disease involving both superficial and deep lobes of the parotid and in revision surgery cases. Patients with immediate facial nerve weakness improved over a period ranging from 1-12 weeks. Permanent facial palsy seen in patients where nerve was already involved by the disease preoperatively or in cases where it was sacrificed due to oncological clearance.

CR289: DOSIMETRIC BENEFITS AND RESOURCE INTENSIVENESS OF PAROTID SPARING ADAPTIVE RADIOTHERAPY: INTERIM ANALYSIS OF THE PARITY STUDY

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Background: This study aims to examine the resource intensiveness and explore benefits of PSART, above and beyond IMRT. **Methods:** Thirty-fivepatients of head and neck cancer undergoing radiotherapy to bilateral neck with at least one parotid receiving mean dose (MD) between 25 to 30Gy were recruited. Parotid MD was verified on 14th and 19th day, by delineating parotid on verification images. If the MD increased by 2%, an adaptive plan (AP) was done attempting to reduce MD by 2% without compromising PTV coverage. Time required and personnel involved during each step were recorded and person hours (PH) were calculated using the formula: (Minutes x Personnel involved)/60. Xerostomia was assessed by a questionnaire (XeQOLS) at baseline, and at 3 and 9 months after treatment. **Results and Discussion:** Sixteen patients underwent radical radiotherapy with remaining receiving adjuvant treatment. Twenty-six were treated on Tomotherapy whilst others were treated on NovalisTx. Twenty-two required an AP with fifteen requiring it after the 14th day with the median reduction in volume of 1.1cc andan increase in parotid MD of 1.1Gy. An acceptable adaptive plan was generated for nineteen patients. A median of 7.5 fractions were delivered with the adaptive plans. Median PH required for normal RTof a patient was 26 while an additional 14.34PH was required in those undergoing PSART. **Conclusions:** PSART definitely improves dosimetry in sparing the parotid, accounting for changes during treatment. However, analysis of QOL data will give us an idea regarding actual benefits to the patient of this resource intensive procedure.

CR290: PREDICTORS OF LYMPH NODE METASTASIS AND OUTCOME IN PAROTID MALIGNANCIES

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Background: Parotid is the most common site involved among salivary gland malignancies with only 15% of parotid neoplasms being malignant. The aim of the present study was to evaluate factors affecting lymph node metastasis and outcome of malignant parotid neoplasms. **Methods:** It is a retrospective study of 215 patients who underwent surgery, where 85 patients underwent appropriate neck dissection out of which 35 underwent dissection of levels II-IV, 50 underwent levels II-V and 130 underwent dissection of level II only. Data was analyzed using SPSS software. **Results:** The M:F ratio was 1.76. While one third (35.8%) patients were clinically node positive, only 27.4% were proven to have nodal metastases by histopathology. Among those with clinically negative neck (64.2%), the occult metastases were seen in 7.4% patients. In multivariate analysis the factors that significantly predicted nodal metastases were - Lymphovascular emboli (LVE) (p = 0.002), pathological facial nerve involvement (p = 0.011), clinical staging (p = 0.004), histological grade (p = 0.000). The significant factors associated with occult metastasis were clinical staging (p = 0.013) and histological grade (p = 0.001). On multivariate analysis, nodal metastasis (p = 0.004) and PNI (p = 0.043) were the only factors affecting overall survival (OS). Extra-capsular spread (ECS) was the most significant factor affecting disease free survival (DFS) (p = 0.009). **Conclusion:** Parotid malignancies have high incidence of nodal metastasis. Clinical staging, histological grade, LVE, pathological facial nerve involvement are the factors predicting nodal metastasis. Nodal metastasis, PNI and ECS are the most important factors affecting the outcome in parotid malignancies.

CR291: STUDY OF CLINICO-RADIOLOGICAL-HISTOPATHOLOGICAL CORRELATION OF MANDIBLE INVOLVEMENT IN SQUAMOUS CELL CARCINOMAS OF THE ORAL CAVITY

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Introduction: Mandible infiltration is the most important prognostic factors for oral squamous cell carcinoma. Assessment of mandibular infiltration has a crucial role in pre-surgical counselling, planning and reconstructive processes. **Materials and Methods:** Total of 28 cases were included in our study as per inclusion criteria- biopsy proven squamous cell carcinoma lesions abutting the mandible. Pre-surgical diagnostic imaging in the form of CT and MRI was done and compared with that of postoperative histopathology examination for tumour involvement. Individual parameters of radiology such as isolated cortical involvement, medulla involvement, and both cortex and medullary involvement, were assessed with respect to CT and MRI. **Results:** The overall diagnostic accuracy of clinical evaluation for tumour involvement in abutting lesion of mandible, shows a sensitivity of 100%, with a specificity of 25%. The overall sensitivity and specificity of CT were 71.42%and 57.14%. MRI has shown an overall sensitivity of 100% and specificity of 47.56% with a negative predictive value of 100%. The diagnostic accuracy of isolated cortical involvement had a significantly lower sensitivity. Specificity of an isolated cortical lesion in CT and MRI was 71.42%and 85.71% respectively. The sensitivity of medullary lesions in CT and MRI was 71.42%and 100% respectively. **Conclusion:** MRI showed to have a high diagnostic accuracy in the assessment of mandibular infiltration in bone abutting lesions. Isolated cortical involvement should not consider as a deciding factor for radical resection such as segmental mandibulectomy.

CR292: ROLE OF PRE-OPERATIVE CT SCAN IN ACHIEVING CLEAR DEEP BONY MARGIN IN CONSERVATIVE MANDIBULAR RESECTION FOR THE LOWER GINGIVOBUCCAL COMPLEX CARCINOMA

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Introduction: In our experience, about 15% of hemimandibulectomy specimens revealed bone involvement. A more conservative resection ofthe mandible without compromising oncosurgical resectional principles may avoid this overtreatment with perhaps better functional results. **Methodology:** A bi-directional study was done on the patients with lower gingivobuccal complex cancers who underwent pre-operative CT scan (puffed-cheek view). The prospective arm contained patientsin whom the free para-mandibular soft tissue distance was >1.5 cm that wascompared with the retrospective matched controls. The study groupunderwent wide excision with marginal mandibulectomy withbone curettings from the medullary cavity beingsent asthe separate “deep bony” margin. Neck dissection was done as indicated. **Results:** In this study, the CT scan prediction of the pathologic bone involvement showed the negative predictive value and the specificity of 100% but at least one compromised margin in 55.6% patient of the study group as compared to 22.2% in the retrospective group. **Conclusions:** The CT scan has a high NPV and specificity for detecting bone involvement. A free para-mandibular soft tissue distance of 1.5 cm from the lower border of mandible allows negativebony margins with marginal mandibulectomy in carefully selected patients. The difficulty in attaining clear soft tissue and mucosal margins highlight the technical problems in achieving these with marginal mandibulectomy due to restricted three-dimensional access and fracturing of tumour in the process.

CR293: COMPUTED TOMOGRAPHY SCAN IN PREDICTING SKIN EXCISION IN ORAL CANCERS: A PROSPECTIVE STUDY

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Background: Positive margin status is an important factor to predict prognosis in oral cancers. Soft tissue in third dimension is an area of concern. Many a times skin is not involved by the tumor but is close and clinician is unsure regarding skin excision to get negative margin. At times preservation of skin results in positive or close soft tissue margins. Judgment to resect or preserve the skin is taken by the operating surgeon and no objective criteria exists to guide the surgeon in this regard. Computed Tomography (CT) scan is routinely used in gingivo-buccal complex cancers. We aimed to find an objective method on CT scan to guide regarding the excision of skin. **Methods:** A prospective observational study in a tertiary oncology center. Project was done as MCh Head Neck surgery student thesis. Histologically proven previously untreated gingivobuccal complex cancers with no obvious involvement of skin were included. Maximum tumor thickness was measured on CT scan. Distance from the outermost edge of the tumor to the skinwas calculated. Fat stranding in the subcutaneous tissue was noted. All measurements determined by single senior radiologist. Patients were subjected to surgery. On resected specimen maximum tumor thickness and distance between the outermost edge of the tumor and skin was noted by senior pathologist who was blinded to the results of radiology. Presence or absence of subdermal lymphatic tumor emboli noted. Statistical analysis done using SPSS statistical software version 20.0 Chicago, IL, USA. CT scan measurements compared with histopathology findings. Correlation method was used for comparison and Pearson coefficient of correlation calculated. Scatter graph was plotted for each variable. Absence or presence of fat stranding compared with absence or presence of subdermal lymphatic tumor emboli on histopathology. **Results:** Fifty patients were included. Median age was 49.5 years. CT scan and histopathology showed no correlation for tumor thickness and for distance between tumor and skin. Pearson coefficient of correlation was 0.37 ($p = 0.008$) and 0.09 ($p = 0.51$) respectively. Fat stranding on CT scan was seen in 45 (90%) patients. None of the patient had subdermal lymphatic emboli on histopathology. **Conclusions:** CT scan is not accurate to predict skin excision in buccal mucosa cancers. Search for a better modality should be done in predicting the excision of skin. Fat stranding on CT scan has no prognostic value in oral cancers.

CR295: CLINICOPATHOLOGY OF SALIVARY GLAND NEOPLASMS: LONG TERM FOLLOW UP FROM A TERTIARY CANCER CENTER IN INDIA

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Background: Salivary gland tumors are relatively uncommon and constitute a highly heterogenous histopathologic group of neoplasms. This retrospective study was conducted to determine the clinicopathologic profile, distribution, local control and distant metastasis at a tertiary cancer center in India. **Methods:** We reviewed our hospital records of salivary gland neoplasms from August 2010 to January 2016. Statistical analysis was performed using two tailed Fischers exact test (graphpad software). **Results and Discussion:** A total of 170 patients who underwent surgery (males = 90, females = 80) were included for analysis. 54 patients (31.76%) constituted benign and 116 patients (68.23%) had malignant histology. 61.7%, 62.5% and 96.7% of parotid, submandibular and minor salivary gland tumors were malignant respectively. On analysing malignant salivary neoplasms, the median age was 47 years and the most common histology was mucoepidermoid carcinoma (59.48%). Parotid gland was the most common site (65.5%). At a median follow up of 36 months, the locoregional control was 90.52% and disease free survival rate was 84.49%. On statistical analysis, high grade mucoepidermoid histology was a significant risk factor for distant metastasis ($p = 0.003$) and adenoid cystic carcinoma was a significant risk factor for locoregional recurrence ($p = 0.05$). **Conclusion:** Salivary gland malignancies have high rate of locoregional control. Amongst various histologies, adenoid cystic carcinomas have a higher predilection for local recurrence whereas high grade mucoepidermoid histology have higher risk of distant failures.

CR297: COMPARISON OF HARMONIC SCALPEL WITH CONVENTIONAL ELECTROCAUTERY IN NECK DISSECTION

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Introduction: Harmonic scalpel is being increasingly used in neck dissection as an alternative to conventional electro-cautery for achieving haemostasis. Harmonic scalpel has been extensively used for thyroid and parotid surgeries and has been shown to reduce the operative blood loss and operative time. But, is harmonic scalpel for neck dissection really useful? We intended to study the role of harmonic scalpel in neck dissection and compared with conventional electrocautery technique for oral cavity carcinoma. **Methods:** A total of 40 patients undergoing selective neck dissection for primary oral malignancy were enrolled in this randomised prospective clinical case control study. The Harmonic scalpel (HS) group consisted of 20 patients, and the electrocautery technique (ET) group comprised of 20 patients. The following variables were examined: Intra operative blood loss, operative time, no of ligatures used, postoperative drain, postoperative hospital stay and shoulder function in post operative period and during follow up. **Results:** Intra operative blood loss was found to be significantly reduced in harmonic scalpel group as compared to electrocautery group. However we found no difference in other parameters like operative time and post op drain and postoperative hospital stay and no of ligatures used between both groups. There was significant rate of improvement in shoulder function in harmonic scalpel group. **Conclusion:** Harmonic scalpel for neck dissection is associated with significantly lesser intraoperative blood loss and an early spinal accessory nerve recovery as compared to electrocautery. There is no effect on operative time and postoperative hospital stay in both groups.

Key words: Harmonic scalpel, intra operative blood loss, modified neck dissection, oral squamous cell carcinoma, operative time and postoperative hospital stay and randomized clinical trial

CR298: SURVIVAL, OUTCOME AND FACTORS AFFECTING THE RECURRENCE IN 181 ADVANCED CASES OF ORAL CANCER TREATED BY RADICAL SURGERY

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Background and Hypothesis: To see factors affecting recurrence in cases of squamous cell carcinoma of oral cavity treated by radical surgery. **Methodology:** All cases of SCC oral cavity - advanced stage (IVa) who underwent radical surgery in our institute in last 6 years were included in our study and analysis done for the factors like close margins, extranodal/perineural invasion, post operative chemo-radiation, histological grade, association of neck nodes. **Results and Discussion:** out of 181 patients, 47 patients developed recurrence. The most important factor affecting recurrence was closest resection margin with p value of <0.001, followed by patient's compliance of completion of chemo-radiation with a p value is 0.001. **Conclusion:** Advanced cases with feasibility of surgery must undergo radical surgery with adequate margins and must undergo for chemo-radiation to reduce the rate of recurrence.

CR299: ROLE OF 18 FDG PET IN GUIDING SURGICAL MANAGEMENT OF CLINICALLY NODE NEGATIVE NECK IN CARCINOMA ORAL CAVITY

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Background/Hypothesis: Results of clinical studies done so far on diagnostic accuracy of 18F-FDG PET, in detecting occult cervical lymph node metastasis in carcinoma oral cavity have been variable, ranging from 0% to 100%. We present preliminary findings of our study conducted in Indian population at a tertiary health care centre. **Methods:** In a prospective study, 12 consecutive patients with histologically proven, early stage (T1-T2) oral cavity carcinoma and no evidence of lymph node metastases by clinical examination or imaging (CT/MRI) underwent 18F-FDG PET/CT before elective neck dissection. Tissues were oriented for the pathologist as to the oncologic levels so as to permit correlation between histopathologic findings and the imaging results. PET/CT findings were compared with histopathology of dissected

nodes, which was the gold standard. **Results and Discussion:** 12 Elective neck dissections were performed. Histopathology revealed nodal metastases in 2 of 12 neck sides. 18F-FDG PET/CT was true-positive in all 2 neck sides, true-negative in all 10 neck sides. Sensitivity and specificity and accuracy were 100%. **Conclusion:** The advantage of 18F-FDG PET/CT is in its ability to identify lymph nodes without morphological changes yet harboring metastases, in patients with oral cancer and N0 neck. A negative test can exclude metastatic deposits with high specificity. With encouraging preliminary results, we wish to take this study further and elucidate whether incorporating 18F-FDG PET in routine preoperative workup can impact surgical management of cNo neck in carcinoma of the oral cavity.

CR300: HAIRLINE INCISION THYROIDECTOMY: TECHNIQUE AND SHORT TERM OUTCOME

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Background: Total thyroidectomy is the treatment of choice for thyroid cancer and it is increasingly being accepted as best modality of treatment for endemic goiter. This leaves an ugly scar in the neck which sometimes gets hypertrophied and may not be acceptable for a young cosmetic conscious person. We present a technique which leaves no scar in the neck through a hairline incision.

Methods:

- Posterior hairline incision starting at ear lobule curving posteriorly towards mastoid and then follows the hairline down
- Subplatysmal flap rose from anterior border of trapezius muscle on ipsilateral side upto anterior border of contralateral sternomastoid muscle
- Thyroid bed approached from lateral aspect of the strap muscles
- Preservation of recurrent laryngeal nerve, superior laryngeal nerve and parathyroid glands is done
- In total thyroidectomy we proceed with identification of opposite recurrent laryngeal nerve in retrograde fashion and complete the total thyroidectomy.

Results: There were no perioperative or postoperative complications. In addition there was no evidence of postoperative vocal cord palsy or paresis. **Conclusions:** We have developed a technique which has no scar in the neck there by a young person is confident and disease free. We were able to perform the procedure with same accuracy and safety. We found that all the parameters of a safe thyroidectomy in the form of preservation of recurrent laryngeal nerve, superior laryngeal nerve and parathyroid glands were possible. We could safely complete total thyroidectomy from this approach.

CR301: EARLY RESPONSE EVALUATION AND TOXICITIES IN HEAD AND NECK CANCER PATIENTS TREATED WITH SIB-IMRT AND WEEKLY CISPLATIN

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Purpose/Objective(s): Radiation with SIB-IMRT has the advantage of executing IMRT in single phase with better dose distribution and organ sparing. We evaluated patients of head and neck cancer treated with SIB-IMRT and weekly cisplatin for response evaluation and acute toxicities. **Materials/Methods:** 35 patients with locally advanced head and neck cancer treated with SIB-IMRT and concurrent weekly cisplatin were prospectively evaluated. After written and informed consent, all patients were immobilised with head and neck thermoplastic mask followed by CT simulation. Critical structures and Planning Target volumes – high risk receiving 70 Gy (PTVHR), intermediate risk receiving 63 or 59.4 Gy (PTVIR) and low risk receiving 56 or 54 Gy (PTVLR) in 33-35 fractions over 6.5-7 weeks were defined and planned. With Eclipse version 11 planning system using 7-9 field arrangements. Concurrent Chemotherapy was administered using weekly cisplatin 40 mg/m2 for 6 cycles. All patients were evaluated for treatment compliance and radiation toxicities weekly. Outcomes were analysed in terms of clinical response evaluation using RECIST criteria and acute toxicities according to RTOG-EORTC. **Results:** Median age of presentation was 60 years (range 41-72) with M:F ratio of 20:15. 23 patients (65%) had h/o tobacco use. Dysphagias, odynophagia (85%) were the most common presenting complaints. Primary site of presentation were hypopharynx (16), oropharynx (12), oral cavity (2) and larynx (5). TNM stage status were T2(13), T3(15), T4(7); N1(5), N2(13); Stage II(6), III(16), IVA(12). All patients received 70 Gy. Median Overall treatment time was 50 days (range 45-62 days) with treatment interruption of 1-9 days (median 3 days). All patients received 4-6 cycles of cisplatin (median 6). Mean D95, conformity index and homogeneity index for PTVHR, PTVIR and PTVLR were 96%, 96%, 96%; 0.96, 0.94, 0.93; and 1.08, 1.18, 1.16 respectively. Dmean/Dmax for right parotid, left parotid, spinal cord, mandible, brainstem, cochlea, and lips were 28.7/29.5/42.8/65.5/44.7/13.2/28.3 GY respectively. Acute grade 2/3 toxicities are haematological 29%/23%, mucositis 31%/20%, dermatitis 3%/3%, xerostomia 57%/9%, laryngitis 26%/3% and pharyngitis 40%/11%. With a median follow up of 3 months (range 1-6 months), overall response rates were 83%-71.4% (25 patients) had complete response; 11.4% (4 patients) had partial response, 8.5% (3 patients) had Progressive disease, 1 patient had stable disease, 2 patients died 1 month post treatment due to aspiration pneumonia. **Conclusion:** Treatment with SIB-IMRT and weekly cisplatin in locally advanced head and neck cancers yields 83% response rates with acceptable toxicity profile.

CR302: ASSOCIATION OF MUTANT P53 PROTEIN EXPRESSION AND KI67 INDEX WITH LOCOREGIONAL CONTROL AND SURVIVAL IN LOCALLY ADVANCED HEAD AND NECK SQUAMOUS CELL CARCINOMA PATIENTS POST CHEMORADIATION: AN INTERIM ANALYSIS AT 1 YEAR

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Background/Hypothesis: Despite the use of chemoradiation (CRT) as the mainstay of management in locally advanced

head and neck squamous cell cancers (HNSCC), the treatment outcome has remained heterogenous. This study speculated the role of mutant P53 protein (P53) and KI67 expression in locoregional control andsurvival assessed one year post CRT. **Methods:** The degree of expression of P53 and Ki67 index in the tumor specimens were studied in 58 patients with stage III-IV non-nasopharyngeal head and neck squamous cell carcinomas. All patients were treated with CRT to a dose of 66 Gy in 33 fractions and 2 cycles of Inj. Cisplatin 100 mg/m^2 as concurrent chemotherapy and were followed up for a minimum period of one year at which an interim analysisof disease status and patient survival was done. **Results and Discussion:** 60% and 62% of the patients expressed P53 and KI67 respectively and their expression significantly correlated with partialtumor response at two months post CRT. At one year post CRT, positive expression of P53 and Ki67 showed a statistically significant relative risk of 6.35 and 3.30 respectively, for locoregional failure and distant metastases. On univariate and bivariate analysis, the absence of P53 and the presence of early nodal stage (N0 - N1) were statistically significant independent predictors for disease control and survival at one year with Odds ratios of 32.22 and 11.14 respectively. **Conclusion:** P53 and KI67 have specific role in the clinical course of HNSCC, warranting large sample randomised clinical trials for defining their predictive and prognostic significance.

CR303: TOTAL GLOSSECTOMY: ONCOLOGICAL OUTCOME

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Background: Oral tongue cancer can present in locally advanced T4 in significant people. Total glossectomy, relevant neck dissection with reconstruction followed by adjuvant treatment is one of the treatment option for this. **Methods:** Survival analysis of retrospective data of the patients treated for oral carcinoma tongue with total glossectomy from Jan 2012 to March 2014 was done. **Results:** 27 patients out of 42 are surviving with a median follow up of 37 months with minimum follow-up of 24 months. Failures are mainly in the neck but not in the oral cavity. **Conclusion:** Total glossectomy with reconstruction for carcinoma tongue is a safe procedure with over all survival with good local control.

CR304: EVALUATION OF THE ROLE OF POSTOPERATIVE DAY 1 SERUM PARATHYROID HORMONE (PTH) MEASUREMENT AFTER TOTAL THYROIDECTOMY IN PREDICTING SEVERE HYPOCALCEMIA REQUIRING INTRAVENOUS CALCIUM SUPPLEMENTATION

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Background: Incidence of post-operative symptomatic hypocalcemia after total thyroidectomy is about 20%. All patients are hospitalized for 2 to 3 days for calcium monitoring post thyroidectomy. If serum PTH can predict post total thyroidectomy need of I.V. calcium, unnecessary hospitalization can be prevented leading to decreased hospital stay and cost of treatment. The objective of this study is to evaluate the role of postoperative Day 1 Serum PTH measurement after total thyroidectomy in predicting severe hypocalcemia requiring intravenous calcium. **Methods: Study Location:** Department od Head and Neck Oncology, Medanta- The Medicity. Prospective study. **Study Population:** 100 patients undergoing total or completion thyroidectomy. Methodology: Postoperative Day 1 Serum PTH levels were measured and patients were divided into 3 groups: PTH levels lessthan 10 pg/ml, 11 to 20 and more than 20 pg/ml. The incidence of postoperative severe hypocalcemia requiring intravenous calcium was evaluated and compared for both the groups using chi-square test. **Results:** Out of 100 patients, 12 developed severe hypocalcemia and required intravenous calcium. Out of these 12 patients, 11 had serum PTH levels" 10 pg/mL which was statistically significant. **Conclusion:** Postoperative serum PTH measurement is an effective tool to predict severe hypocalcemia after total thyroidectomy.

CR305: RADIO-GUIDED SURGICAL TREATMENT OF ADVANCED AND RECURRENT MEDULLARY CARCINOMA OF THYROID: TECHNIQUE AND CHALLENGES

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Background: Medullary Thyroid Carcinoma (MTC) is a relatively rare neuro-endocrine tumour originating from the parafollicular C cells. Surgical treatment is the most effective therapy for potential cure. Management of advanced & recurrent MTC is a challenging situation, which warrants adequate clearance corresponding to calcitonin response. In this study, we describe use of hand-held intraoperative radiation detection probe system to achieve a guided and optimized surgical resection. **Methods:** Radio-labeled dye (177) Lu-DOTANOC (10 mci dose) was injected 48 hours prior to surgery and hand held gamma probe detection system used intra-operatively to identify hot lymph nodes as well as small soft tissue disease. After clearance of disease in neck, mediastinoscopic biopsy of hot lymph nodes in mediastinum was done through neck incision and assessed by frozen section. Accordingly decision of sternotomy was made. Results were analyzed in terms of calcitonin response, RLN status, parathyroid devascularization and local recurrence. **Results:** Both patients had post-operative normalization of basal calcitonin levels (250 to 12 pg/ml and 10551 to 10 pg/ml). There was an episode of transient post-operative hypocalcaemia in one of the patients which was managed by oral supplements, none had parathyroid devascularization. There was no iatrogenic recurrent laryngeal nerve injury. At a median follow-up of 6 months, no local recurrence was noted. **Conclusion:** Radio-guided detection of lymph nodal disease in advanced and recurrent medullary thyroid carcinoma is a much safer and precise technique. It allows complete tumour extirpation with optimal surgery and reduces morbidity in selected patients.

CR306: ORAL CAVITY SQUAMOUS CELL CARCINOMAS TREATED BY MODULATED RADIOTHERAPY

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Background: This is a single Institute audit for survival outcome among non-metastatic oral cavity (OC) squamous cell carcinomas treated by surgery and radiotherapy (RT) with or without chemotherapy. **Methods:** Between March 2010 to Dec 2014, 217 OC patients received postoperative (88%) or radical (12%) RT with modulated techniques. 80% patients had stage III-IV disease and 60% received concurrent chemotherapy with Cisplatinum. Demographic parameters and disease related factors were analysed. Disease free survival (DFS) was calculated from end of radiotherapy till last follow up or last date of disease control. Overall survival (OS) was calculated from date of registration to last follow up. The primary end point was survival. The statistical analysis was performed using SPSS version 20.0 and Kaplan Meir method was used for calculation of survival. **Results:** The median age was 60 years (20-80 years) with male preponderance (77.4%). 75% patients disclosed habituation with tobacco in any form and chewing remained the most common route of intake. There were 20% patients with early stage (pT1-T2N0) and 80% with advanced stage (T1N1-T4N3) OC. With a median follow up of 2.5 years, median OS was 30 months and median DFS was 15 months among evaluable patients. The 2 years, 3 years and 5 years OS was 80%, 70% and 60% respectively all stage combined. Between the early stage and advanced stage OC the 2 and 3 years OS were 85% and 80% and 68% and 60% respectively (p = 0.19 with CI: 34.8-53.1). The 2 years and 3 years DFS were 50% and 40% respectively among evaluable patients. 60/187 patients (32%) developed disease recurrence at loco-regional (76%) sites. They received surgical salvage, chemoradiation or hypofractionated RT depending upon multidisciplinary tumor board discussion. **Conclusion:** The single centre large cohort of non-metastatic OC patient's data re-validates need and benefit of postoperative RT. Reduced acute and late side effects with modulated RT techniques invoke future studies with quality of life measures with prospective documentation.

CR307: NON METASTATIC CARCINOMA LARYNX AND HYPOPHARYNX TREATED WITH MODULATED RADIOTHERAPY

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Objective: The present study evaluated the survival outcome among non-metastatic hypopharyngeal (Hpx) and laryngeal (Lax) primaries treated at our Institute. **Methods:** Between March 2010 to Dec 2014, 197 patients received radical (172) or postoperative (25) radiotherapy (RT) with or without chemotherapy. There were 136 Lax (69%) and 61 Hpx (30.9%) primaries with early stage (stage I-II) for 64 (32.4%) and locally advanced (stage III-IVb) for 133 (67.5%) patients. More than 90% patients received modulated radiotherapy. Demographic parameters and disease related factors were analysed. Disease free survival (DFS) was calculated from end of radiotherapy till last follow up or last date of disease control. Overall survival (OS) was calculated from date of registration to last follow up. The primary end point was survival. The statistical analysis was performed using SPSS version 20.0 and Kaplan Meir method was used for calculation of survival. **Results:** The median age was 60 years (17-85 years) with male preponderance (91.3%) and smoking association (80%). All were Squamous cell histology. RT intent was radical in majority (87.3%) and about 80% received concurrent chemotherapy with Cisplatinum being commonest agent. With a median follow up of 2.5 years, median OS was 25 months and median DFS was 18 months among evaluable patients. The 2 years, 3 years and 5 years OS was 80%, 75% and 55% respectively all stage combined. Among the Hpx primaries between early stage and advanced stage the 2 and 3 years OS were 65% and 55% and 55% and 40% respectively and was statistically significant (p = 0.019 with CI: 21.3-52.6). Among the Lax primaries early (43.4%) and locally advanced (56.6%) were balanced and 2 and 3 years OS was 95% and 90% and 85% and 80% respectively. The 2 years and 3 years DFS were 60% and 50% respectively among evaluable patients. 70 (35.5%) patients developed disease recurrence with primarily loco-regional (75%) for both Hpx and Lax. They received surgical salvage, chemoradiation or hypofractionated RT depending upon multidisciplinary tumor board discussion. **Conclusion:** The single centre large cohort of non-metastatic Hpx and Lax patient's data re-validates the role of radiation in organ preservation for Lax and Hpx cancers outside of a ramdomized trial. Future stringent follow up and quality of life issues are being considered in a prospective manner.

CR308: A PROSPECTIVE RANDOMIZED STUDY TO COMPARE CONCURRENT LOW DOSE DAILY CISPLATIN VERSUS CONCURRENT WEEKLY CISPLATIN IN OROPHARYNX CANCERS

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Background: The aim of this prospective randomized study was to compare definitive concurrent chemo radiotherapy with weekly administration of 35 mg/m^2 of Cisplatin to that of Cisplatin 6 mg/m^2 daily for outcomes and toxicity in patients in Oropharyngeal Cancers. **Materials and Methods:** This study was conducted from 2007 to2009 at tertiary care centre of north India. Cohort of 60 patients with locally advanced Oropharynx cancer was randomized into two groups. Arm I - Concurrent weekly Cisplatin35 mg/m^2 mg. Arm II - Concurrent daily Cisplatin 6 mg/m^2 before radiotherapy, 5 days/week. All patients were planned for 70 Gy in 35 fractions over 7 weeks with curative intent. The two different concurrent chemotherapy regimens were evaluated in terms of loco-regional control and toxicity profile. Clinicopathological characteristic were also evaluated in term of age, gender, performance score, tumor site, T-/N-category, histologic grading. For comparisons of the concurrent chemotherapy arms for acute and late adverse events, the Chi-square test was used. Locoregional control was with the Kaplan-Meier-method. **Results:** Median follow up times were 14 months (range: 3–22 months) in the entire cohort. A non significant difference between the two concurrent schedules was found, with a complete response of 60% in weekly cisplatin Arm

and 70% in low dose daily cisplatin Arm. The partial response was 35% in Arm I (weekly cisplatin) and 25% in Arm II (daily cisplatin). Complete response at primary site was noted in 70% and 75% in Arm I and Arm II respectively. Complete response at nodal site was noted in 85% Arm I and 80% in Arm II ($p > 0.05$). Mucosities ≥3 grade was noticed in 65% cases of both Arm I and Arm II. Laryngeal reaction more in weekly concurrent Cisplatin arm as compared to daily Cisplatin Arm ($p = 0.145$). Hematological Grade II toxicity (Hb 8-10 gm%) was observed in 5 patients in Arm I and Arm II. Increase in S. creatinine level (1.5–2 mg%) was found in one patient in Arm II but was managed by proper hydration. **Conclusion:** This study shows improvement in the loco regional complete response rate and lower toxicity with low dose daily Cisplatin as compared with weekly concurrent Cisplatin arm.

CR309: SENTINEL LYMPH NODE BIOPSY USING METHYLENE BLUE DYE IN ORAL SQUAMOUS CELL CARCINOMA: A COST EFFECTIVE ALTERNATIVE IN DEVELOPING COUNTRIES

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Background: The aim of the study was to validate the usefulness of sentinel node biopsy in cases of oral squamous cell carcinoma using methylene blue dye only. **Methodology:** It was a prospective observational study in which all cases of operable oral squamous cell carcinomas without any prior treatment were included. Cases of recurrence or residual malignancy were excluded. After sensitivity testing, methylene blue dye was injected intra and peritumorally in immediate pre-operative period. Neck dissection was done planned in advance. Exposed and excised lymph nodes were evaluated for blue dye staining. The level and number of lymph nodes – stained and unstained were noted. The specimen was sent for gold standard histopathological testing. **Results:** Sensitivity of methylene blue dye for detecting sentinel node was noted to be 82.54% whereas the specificity was 99.36% with a negative likelihood ratio of 0.18. The kappa value for replacing histopathological reporting with sentinel node biopsy was 0.769 which is statistically significant. **Conclusions:** Sentinel node biopsy is an emerging technique in evaluating the lymph node status in cases of oral cancers. Methylene blue is a good and cheap method that can be applied in developing countries. It shall play an invaluable role in addressing the N0 neck.

CR310: SHOULD NECK DISSECTION BE MADE A STANDARD PROTOCOL IN ALL CASES OF EARLY TONGUE AND FLOOR MOUTH MALIGNANCIES IN N0 NECKS?

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Aim: To evaluate the role of elective neck dissection in early cases of squamous cell carcinoma of the tongue with N0 necks. **Methodology:** We retrospectively reviewed patients with T1/2 N0 tongue and floor mouth squamous cell carcinomas who underwent primary tumour excision with or without elective neck dissection between January 2010 and March 2016. **Observations and Results:** 57 cases of T1/2 N0 tongue and floor mouth malignancies were included. Amongst patients who underwent elective neck dissection, 5/38 (13.15%) developed recurrence. Whereas 10/19 (52.63%) patients who did not undergo elective neck has recurrence. The role of radiotherapy was also discussed. **Conclusion:** Elective neck dissection improved disease-free survival and overall survival in early tongue cancer. This is the same topic I presented in GSB AOI for which I was awarded at Ahmedabad last year, we have added 5 more cases.

CR311: COMPARISON OF RECONSTRUCTION OPTIONS FOR ADVANCED ORAL CAVITY LESIONS INVOLVING THE SKIN

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Aim: To compare various reconstruction flaps used to cover large T4a oral cavity defects including skin. **Design**: It is a retrospective observational study in which all patients having tumour stage T4aN0-3M0 having skin involvement that underwent tumour resection with flap reconstruction were included. Cases of recurrence and residual disease were excluded. **Methodology:** We retrospectively reviewed the cases from August 2013 to December 2015 and took follow-up upon their functional and cosmetic outcome. Various flaps were compared on numerous parameters using “flaps evaluation case history questionnaire” (I have added it as another file in the attachments). Also skill based technical issues for each flap were compared. **Results:** Total 65 patients were included in the study. More than half of our cases underwent reconstruction using bipedalled pectoralis major myocutaenous flap (BP-PMMC). Anterolateral thigh flap was the commonest free flap used. Functionally and cosmetically anterolateral thigh flap proved to score the most. Other flaps used by us were bipedalled free radial artery forearm flap, bipedalled free fibula osseomyocutaenous flap, bipedal forehead flap and dual deltopectoral flap with PMMC.

CR312: A PROFILE OF NEOPLASTIC HEAD AND NECK LESIONS

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Introduction: Cancer of head and neck is the 6th most common cancer worldwide, with an increasing incidence in developing countries. Surgery is the primary treatment modality for benign lesions and malignant lesions can be managed by surgery, radiotherapy or chemotherapy depending on the stage. **Aim:** To study the various head and neck neoplastic lesions, surgical modalities employed, their results and complications. **Methods:** Using the history, clinical examination, radiological assessment and cytological study neoplastic cases were included in the study. Management included surgery/radiotherapy/chemotherapy or combinations as required. Histopathological assessment was done and patients were followed for 6 months. **Results:** Benign lesions manifest earlier than malignant lesions. Squamous cell carcinoma is the commonest histopathological diagnosis. 74% of total patients underwent surgical treatment as the main treatment.

CR313: CURATIVE INTENT SURGICAL SALVAGE IN LOCALLY RECURRENT SQUAMOUS CELL CARCINOMA OF THE TONGUE: FACTORS AFFECTING OUTCOME

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Background: Recurrent tongue cancers portend a poor outcome. Available literature on outcomes in patients who underwent curative intent surgical salvage is sparse. **Methods:** From a prospective database of 425 patient of squamous cell carcinoma tongue, we identified 52 patients with local recurrences. Of these, 25 patients underwent curative intent surgical salvage. Treatment and pathological factors were studied for outcomes. **Results:** Patients who receivedadjuvant therapy (radiation +/- chemotherapy) after first surgery had significantly worse survival outcomes when curative intent surgical salvage was attempted (p = 0.016). Adverse pathological features in recurrent tumours were associated with worse survival outcomes; lymphovascular invasion was an independent predictor of worse outcomes (p = 0.003) and the more the number of adverse pathological features, the worse were survival outcomes (p = 0.008). Within the subset of patients who had previous adjuvant radiation, those with lymphovascular invasion in recurrent tumours had significantly worse outcomes than those who did not (p = 0.009). Those who recurred within 6 months of initial treatment had a worse outcome (p = 0.058). Median overall survival was 25 months. **Conclusion:** Amongst patients with local recurrence, the number of patients who are eligible for curative intent surgical salvage is small. Our study shows that amongst those who underwent curative intent surgical salvage, those who received previous adjuvant therapy and those with adverse pathological features of recurrent tumours where significantly less likely to be successfully salvaged, particularly if time to recurrence was six months or less. The complex interaction of previous adjuvant radiation with adverse pathological factors of recurrent tumours requires further study.

CR314: ASSOCIATION OF EXTENT OF CENTRAL COMPARTMENT CLEARANCE AND CENTRAL NODAL CHARACTERISTICS WITH DEVELOPMENT OF POSTOPERATIVE HYPOCALCAEMIA IN THYROID CANCERS

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Background: Central compartment dissection is recommended for all except the smallest thyroid cancers. However hypocalcaemia is reportedly more likely after complete clearance. We aimed to document factors influencing development of hypocalcaemia. **Methods:** 41 patients treated for differentiated thyroid cancers between 2014 and 2016 were studied. Surgical details, tumour and nodal characteristics, incidence of transient, temporary and permanent hypocalcaemia were noted. **Results:** Total thyroidectomy was done in 37 (90.2%) cases, completion thyroidectomy in 4 (9.8%) cases. Central clearance was done bilaterally in 24 (58.5%) cases, ipsilateral in 17 (41.6%). 24 (58.5%) cases were pT3 or pT4. 10 (24.4%) were pN0, 5 (12.2%) were pN1a, 26 (63.4%) were pN1b. Central compartment was involved in 26 (63.4%) cases, unilaterally in 15 (36.6%), bilaterally in 11 (26.8%). Transient hypocalcaemia developed in 10 (24.4%) cases, temporary hypocalcaemia in 6 (14.6%) cases, and permanent hypocalcaemia in 1 (2.4%) cases. 10 (24.4%) patients were symptomatic. 9 (21.9%) patients received intravenous calcium. The only factor significantly associated with hypocalcaemia was the presence of matted nodes (p = 0.004). Extent of clearance, nodal yield, nodal positivity, perinodal extension, number of parathyroids identified, age, gender, pTsize was not significantly associated. Patients requiring intravenous calcium were more likely to take oral calcium after discharge (p = 0.002). **Conclusion:** Hypocalcaemia is more likely in cases with bulky involved central nodes where extensive clearance is done. In cases with smaller though involved central nodes, or with large tumours where bilateral clearance is done, it is possible to preserve parathyroid vascularity and function.

CR315: PAPILLARY CARCINOMA THYROID WITH TRACHEAL INFILTRATION: PRIMARY PRESENTATION AND PATHOLOGICAL CORRELATION

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Objective: To see the correlation between presentation and pathology of Papillary Carcinoma thyroid with tracheal infiltration. **Background:** Around 1/3rd of patients of carcinoma thyroid with extrathyroidal extension (T3/T4) present with tracheal infiltration. Even though trachea is infiltrated by tumour adequate resection with reconstruction is the main treatment modality. **Methods:** We retrospectively analysed patients of papillary carcinoma thyroid who underwent thyroidectomy with tracheal resection between January 2010 to December 2015. **Results:** There were 11 patients who underwent tracheal resection with thyroidectomy. 10 out of 11 patients had respiratory symptoms like dyspnoea, haemoptysis on presentation. In 10 patients trachea was repaired by end to end anastamosis and 1 patient had thyroid cartilage flap repair. The average tumour size was 4.4 cms. **Conclusion:** Majority of papillary carcinoma thyroid with tracheal infiltration present with respiratory symptoms rather than big thyroid swelling. Thyroidectomy and tracheal resection with reconstruction is a safe procedure in these group of patients.

CR316: RETROSPECTIVE STUDY OF 386 CASES OF NASOPHARYNGEAL ANGIOFIBROMA REPORTED IN JINNAH POST GRADUATE MEDICAL CENTRE

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Object: To determine the incidence and management of Nasopharyngeal Angiofibroma at JPMC, Karachi from January 1981 – Aug 2014 (33 Years). **Design:** Descriptive, Retrospective study. **Subjects and Methods:** The study was conducted at JPMC from January 1981 – Aug 2014 (33 Years). The data includes age of patients, gender, clinical presentation, staging, mode of treatment, status of pre-op embolization, surgical procedures performed, complications and recurrence rate. **Results:** Total number of cases were 386. Males were 381, females were 05. Minimum age was 13 years and maximum was 36 years and median age was 17.5 years.

According to stage, they were 08% patients presented with stage 1 disease, 39% of patients presented with stage II disease, 42% of stage III, 08% of stage IVa and 03% with IVb. Geographically 48% were from hot/desert areas and 52% were from cold/high altitude areas. Commonest symptom was nasal obstruction presented in 98% of the patients and among them 75%, it was of unilateral. Epistaxis was present in 70%, surgical excision was performed in 375 patients while radiotherapy was done in 11 patients of stage IVb disease. Embolization was done in 297 patients while 78 patients were not embolized due to non availability of the facility earlier. Surgical approach commonly adopted was lateral rhinotomy in 300 patients. Mid facial degloving was performed in 33 patients, endoscopic excision was done in 14 patients and transpalatal route was chosen in 28 patient. Complications of surgery were kept in record from 2011 till present. Major complications were massive bleeding which was seen in 04 patients, cutaneous fistula near medial canthus of eye was seen in 02 patients, lymphedema near upper lip was noted in 01 patient and ectropion was seen in 01 patient. Recurrence was seen in 7.8% (n = 30). Follow up was done after 3 months and 6 months and then for 1 year. **Conclusion:** This is a common vascular tumor in Pakistan reported from both hot and cold areas. Nasopharyngeal Angiofibroma is rare in females but 05 were reported and their genetic analysis was done. Before preoperative embolization era, recurrence was uncommon but more blood transfusion was required. After preoperative embolization the recurrence has increased but blood transfusion has reduced. Earlier patients presented in late stage but now they present usually by stage II & III.

CR317: TRISMUS RELEASE IN ORAL SUBMUCOUS FIBROSIS BY RETROMOLARTRIGONE AND BUCCAL MUCOSA DIRECTED CO_2 LASER EPITHELIAL-SUBEPITHELIAL RELEASING INCISIONS

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Introduction: Oral submucous fibrosis (OSMF) is one of the most poorly understood and unsatisfactorily treated diseases. OSMF in later stages invariably leads to trismus due to retromolar fibrosis and buccal mucosa involvement. Various surgical methods have been used with varying success to relieve trismus. We used CO2 laser to relieve trismus. **Objective:** To evaluate the short term and medium term results of trismus release in OSMF by RetromolarTrigone (RMT) and Buccal Mucosa directed CO_2 laser epithelial-subepithelial releasing incisions. **Study Design:** Prospective cohort study. **Methodology:** Releasing incisions undertaken under local anaesthesia with a handheld handpiece directed CO_2 laser. Epithelial and subepithelialfull thickness incision through subepithelial fibrosis to expose the buccal fat pad and RMT deep muscles. Further advice on strict oral tobacco cessation and jaw stretching exercises. Mouthopening assessed pre-treatment, immediate post treatment and at 1 week, 4 week, 3 months and 6 months. Interim results being reported for 14 consecutive patients treated till date. **Results:** All 14 patients were Oral Tobacco users. Pre-surgical inter-incisor distance ranged from 9 mm to 31 mm (mean 16.4 mm). Immediate post-surgical improvement was noted in all (improvement 6 mm to 11 mm - mean 7.7 mm; 31 to 87.5% - mean 53.4%). Sustained improvements to within 80%-85% of the immediate post-surgical measurement were noted in 4/7 at 3 month follow-up and in 3/4 at 6 month follow-up. Patients with initial inter-incisor distance of >10 mm were more likely to have sustained improvement than patients with inter-incisor distance of <10 mm. **Conclusion:** This initial evaluation suggests CO_2 laser Release of OSMF Fibrosis undertaken under a local anaesthetic to be a low morbidity intervention with a fair rate of success for improving OSMF related Trismus. It should be considered as first line treatment for OSMF patients with mouth opening 10> mm.

CR318: NOVEL USE OF COBLATOR IN BILATERAL CORD PALSY: ANALYSIS OF TECHNIQUE AND RESULTS

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Background: Kashima surgery is a surgical option of choice for bilateral abductor cord palsy. Generally this surgery is done using cold knife or with laser assistance. We attempted to use coblation for these patients and analysed the procedure and results. **Methods:** All patients of bilateral vocal cord palsy who presented to ENT deptt base hospital between Jan 2015 to Jan 2016 were recruited in the study. 11 patients underwent Kashima surgery using coblation. The patients were assessed post op at 07 days, 01 month and at 06 months using Hopkins telescopy for development of granulations or any other lesion over the surgical site. Voice analysis was also done. The data was analysed statistically. **Results and Discussion:** Most patients showed improvement in voice quality with one patient requiring repeat surgery. Though not of much data exists regarding the use of coblation in patients with bilateral abductor palsy, we achieved good results. **Conclusion:** Kashima surgery can be attempted using coblation which is a simple and effective procedure with fairly good results and is advocated.

CR319: A COMPARATIVE STUDY OF CONVENTIONAL VERSUS SHORT COURSE, HYPOFRACTIONATED PALLIATIVE TELERADIOTHERAPY IN ADVANCED AND INCURABLE HEAD AND NECK CANCERS

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Background: A significant number of patients with advanced head and neck cancers have an incurable disease with limited life expectancy. The objective of this study was to *compare* two different short courses of hypofractionated palliativeradiotherapy regimens to evaluate symptoms, disease response and acute toxicity. **Mehods:** Between November 2014 and April 2016, previously untreated 50 patients of IVB and IVC were randomised to receive conventional hypofractionated palliative radiotherapy 30 Gy/10 fractions/2 weeks (Control group) or Quad Shot Regime (Study) 14 Gy in 4 fractions given twice a day at least 6 hours apart for 2 consecutive days. This regimen was repeated at 4 weekly intervals for a further two courses if there was no tumour progression. **Results:** Symptom relief was similar among the two schedules for pain (60.86 versus 57.17%), dysphagia (60.86 versus 52.17%) & hoarseness (43.85 versus 38.09%). Overall Response (that is Partial Response and Stable disease was seen in majority

(>70%) of patients in both the groups. Treatment was very well tolerated with no patient experiencing higher than grade 3 toxicity in control group and grade 2 toxicity in the study group. **Conclusion:** Quad Shot Regimen is an effective hypofractionatedpalliative radiotherapy schedule with minimal toxicity, good symptom relief and response rate as compared to conventionally used regimen (30 Gy/10 fractions/2 weeks).

CR320: CAROTID SPARING RADIOTHERAPY IN EARLY GLOTTIC CANCERS WITH HELICAL TOMOTHERAPY: LONG TERM RESULTS OF CARSREL STUDY (CTRI: 2012/12/004286)

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Background: This prospectivenon-randomised study assessed the potential of CSR to reduce carotid damage secondary to radiation to the neck, by measuring its long term impacton carotid intimal thickness (CIT) in EGC with HT. **Methods:** Eighteen patients of EGC treated using CSR technique (55 Gy in 20 fractions over 4 weeks) on HT were compared with 18 patients treated using non-CSR technique with radiation dose as clinically indicated. Carotid mean dose (CMD) was reduced to as low as achievable without compromising PTV in CSR arm. CIT were serially measured at 7 pre-specified levels with Carotid Doppler before start and at 6 and 18 months after radiotherapy in both arms. The difference in CIT (DCIT) between the two arms and also between the pre and post RT in each arm were analysed. **Results and Discussion:** Median CMD in CSR arm was 14.16 Gy and 11.96 Gy on right and left respectively. There were significant increases in CIT post RT even with CSR (For example, at the level of thyroid cartilage: Left – 0.65 mm versus 0.70 mm, p – 0.03, Right - 0.70 mm versus 0.80 mm, p – 0.21) butthere were no significant differencesin CIT between the two arms at 18 months (Right, p = 0.71, Left, p = 0.44). There was no specific dose threshold beyond which these changes in the CIT were significant. **Conclusion:** CSR did not have any effect in reducing CIT changes. Further follow up at 3 years post RT may reveal further late changes and benefits of CSR.

CR321: LOCAL RECURRENCE IN SQUAMOUS CELL CARCINOMA OF THE TONGUE: CLINICAL FEATURES AND OUTCOMES OF NON-SURGICAL SALVAGE

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Background: Recurrent tongue cancers portend a poor outcome. However data on clinical features and outcomes of locally recurrent oral squamous cell carcinoma is scarce. **Methods:** From a prospective database of 425 patients with squamous cell carcinoma of the tongue we identified 52 patients with local recurrences. Of these, 25 (48%) underwent surgical salvage and 27 (52%) did not. Clinical features and outcomes of non-surgical salvage were studied. **Results:** Of the 27 patients who presented with local recurrence and did not go undergo surgical salvage, 78.8% were male, and average age was 48.8 years. The reasons for non-surgical salvage were: refusal of further treatment or poor performance status in 9 patients (34.6%), unresectable local disease in 13 patients (50%) or unresectable nodal disease in 4 patients (15.4%). Median time to recurrence was 26 months. The treatment offered was supportive or palliative care in 10 patients (38.5%), radiotherapy in 3 patients (11.5%) and chemotherapy in 13 patients (50%). Median overall survival was 25.5 months for all patients, 28.6 months in the supportive care group, 46.3 months in the radiotherapy group and 20.4 months in the chemotherapy group. On last follow up, 12 patients had died of disease (46.2%), 10 were alive with disease (38.5%) and 4 were disease free (15.3%). **Conclusion:** Therapeutic options are often limited in recurrent tongue carcinoma. Due to advanced stage of presentation, surgical salvage is often not feasible, and previous use of adjuvant therapy precludes non-surgical options. Non-surgical treatment when compared with supportive care may increase morbidity without any survival benefit. Further study is required to improve outcomes.

CR322: NEW PROGNOSTIC FACTOR IN ORAL SQUAMOUS CELL CANCERS: NEUTROPHIL TO LYMPHOCYTE RATIO

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Background: Role of inflammation in carcinogenesis has been shown in studies. There have been attempts to find inflammatoryhematological parameters which would co-relate with survival, one such parameter which has been analyzed is neutrophil to lymphocyteratio (NLR). It is easily calculable, not costly and doesn't require any additional investigations. In this study, we analyzed the impact of pre-operative NLR on survival in patients of oral cancer. **Methodology:** This was retrospective analysis of prospectively collected data of 400 patients of oral cancer. NLR for each patient was calculated. The values obtained were grouped into tertiles – <2.5, 2.5-5 and >5. The patients were stratified into three groups depending upon whether they received adjuvant radiotherapy, adjuvant chemo-radiotherapy or no adjuvant therapy. Log rank test was used to assess the association with overall survival in these groups. The T stage, nodal status, age, gender were correlated with different NLR tertiles using cross-tabs and chi square test. **Results:** Median follow up was 36 months. Mean survival of the cohort was 41.7 months. There was trend of decreased overall survival with increasing NLR tertile, though it was found to be significant only for the group which received adjuvant chemo-radiotherapy (p value 0.01). Association between NLR and T stage was found to be significant Association between the nodal status, age and gender with NLR tertiles was not found to be significant. **Conclusion:** NLR can be used to predict prognosis, survival and outcomes in patients of oral cavity cancer, more so in patients receiving adjuvant chemo-radiotherapy.

CR323: ROLE OF COMPUTED TOMOGRAPHY IN EVALUATION OF NECK NODE METASTASIS IN WELL DIFFERENTIATED THYROID CANCER

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Background: Up to 80% of well differentiated thyroid cancer may develop neck node metastasis which warrants therapeutic neck dissection. The role of prophylactic neck dissection in node negative patients is not established. Regional recurrence if one of the prime reason of reoperation in these patients which is associated with significant morbidity. Meticulous imaging for appropriate staging is imperative to perform adequate surgery and avoiding unnecessary morbidity. Ultrasonography (USG) is the imaging modality for initial evaluation for thyroid cancer. It has limitation of being operator dependent and low sensitivity to evaluate central compartment due to overlying thyroid gland. Cross-sectional imaging with contrast enhanced computed tomography (CECT) can overcome these limitations of the USG. **Methods:** Patients (n = 43) who had dual evaluation of the both CECT and USG between 1st Jan 2013 to 30th Nov 2015 were analyzed. USG and CECT scans were reviewed by experience head and neck radiologists. The characters studied on USG were short axis diameter, short to long axis diameter ratio, hyper echogenic hilum, echogenicity, microcalcification and vascularity. The features studied on CECT were enhancement, heterogeneity, calcification, cystic or necrotic changes, shape and size. The nodes on imaging were categorised as benign i.e with no suspicious feature and indeterminate/malignant with any suspicious feature. Surgery was performed with level wise sampling of neck nodes. Nodes were sent level wise in separate packets for histopathologic evaluation. The data was entered and analysed using SPSS version 20. Sensitivity, specificity, NPV and PPV of USG, CECT and USG + CECT for lateral and central compartment was calculated. Mc Nemar test was done to compare the sensitivity and specificity, p value < 0.05 was considered significant. **Results:** Data of histopathology of level wise node which were indicated based on imaging was available for 314. Overall sensitivity, specificity, PPV and NPV for USG, CECT and USG+CECT were 53.85%, 88.83%, 74.12% and 76.42%; 81.20%, 68.02%, 60.13% and 85.90%; 84.62%, 65.99%, 59.64% and 87.84% respectively. For lateral compartment, sensitivity, specificity, PPV and NPV for USG, CECT and USG+CECT were 56.63%, 91.41%, 77.05% and 80.54%; 80.72%, 70.55%, 58.26% and 87.79%; 84.34%, 68.71%, 57.85% and 89.6% respectively. For central compartment sensitivity, specificity, PPV and NPV for USG, CECT and USG + CECT were 47.06%, 76.47%, 66.67% and 59.09%; 82.35%, 55.88%, 65.12% and 76%; 85.29%, 52.94%, 64.44% and 78.26% respectively. The sensitivity of CECT and USG + CECT was significantly higher than USG alone for overall ($p < 0.001$ and $p < 0.001$ respectively), lateral ($p < 0.001$ and $p < 0.001$ respectively) and central compartment ($p < 0.001$ and < 0.001 respectively). However specificity was USG was higher compared to CECT and USG + CECT for overall ($p < 0.001$ and $p < 0.001$ respectively), lateral ($p < 0.001$ and $p < 0.001$ respectively) and central compartment ($p = 0.039$ and $p < 0.01$ respectively). **Conclusions:** CECT is more sensitive in detecting both lateral and central compartment nodal metastasis however its role is complementary to USG due to its relatively lower specificity.

CR324: POSTOPERATIVE NOMOGRAM PREDICTING RISK OF RECURRENCE AND OVERALL SURVIVAL IN BUCCAL MUCOSA SQUAMOUS CELL CARCINOMA

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Background: The outcome of oral Squamous cell carcinoma (SCC) is not accurately predicted by TNM staging. The biological behavior of tumor varies across different subsites in oral cavity. Therefore an objective scoring system might be more appropriate to predict survival, which includes clinical and pathological factors together. The aim of this study was to develop a nomogram which will precisely predict survival in buccal mucosa SCC. **Methods:** This study includes 604 Treatment naïve patients of Buccal Mucosa SCC operated between 1 january 2012 to 31 october 2013 at Tata memorial centre. All the clinical and histopathological factors were evaluated to predict survival. Objective score was assigned to all the parameters based on their individual and relative significance. The Risk prediction for recurrence and survival was done for 6 months, 1, 2 and 4 years. The final score was divided into 4 risk groups (Low risk, intermediate low, intermediate high and High risk). R statistical software was used to develop nomogram and SPSS 21 software utilized to assess the significance of risk groups on survival. **Results:** The median follow-up, mean survival and disease free survival was 28, 38 & 36 months. Final nomogram included scores for age, t stage, nodal stage, margin status, grade, perineural invasion, tumor thickness and completion of adjuvant therapy. Nomogram was internally validated with bootstrap adjusted concordance index (CI) of 0.7486 for predicting overall survival of 93% 83% 75% and 65% at 6 months, 1, 2 and 4 years. The final comparison between 4 groups based on the nomogram score showed significant difference in survival ($p < 0.000$). **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 the need for treatment intensification in select group of patients.

CR325: CAN MRI BE A TOOL FOR PREDICTING NEED FOR RECONSTRUCTION AFTER RESECTION IN SCC OF TONGUE

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Background: Microvascular 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. It is not only the actual width of the lesion, but also the width of the native tongue which decide the need for reconstruction. There exists no objective technique to predict the need for flap reconstruction using pre operative imaging and since MRI has been proven to accurately assess the dimension of the lesion, this can be looked into. **Aim:** To identify an objective MRI measurement tool to predict the need for free flap reconstruction in tongue carcinoma. **Materials and Methods:** A retrospective analysis of tongue cancer patients undergoing surgery for SCC tongue who had a preoperative MRI. The decision for flap reconstruction and type of flap was made by the senior reconstructive surgeon. The surgeon's decision was correlated with the ratio of the tumor thickness to the total tongue thickness in the preoperative MRI. **Results:** Analysis revealed that a ratio of <0.35 is consistent with the decision of not doing a reconstruction and if the ratio >=0.35 and <0.55, the free flap used can be RAFF, LAF or modified RAFF depending on the involvement of sulcus. If the ratio was >=0.55, then ALT flap was used for reconstruction. **Conclusion:** Tumour thickness

to tongue thickness ratio is a reliable tool to determine the need for free flap reconstruction in tongue carcinoma as it takes into account the tumor dimension and tongue dimension. The type of flap may also be predicted using this ratio. Based on our data 0.35 is the cut off for the decision for reconstruction and 0.55 is the cut off for the decision for use of a bigger flap like ALT flap.

CR326: AN ORIGINAL CLASSIFICATION SYSTEM AND RECONSTRUCTION ALGORITHM FOR PATIENTS WITH BUCCAL DEFECTS

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Background: Surgery for tumours of Gingivo-Buccal complex (GBC) create defects of various sizes, involving important structures in the cheek including skin, muscles 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 in 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 was collected. Defect was 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. Combination of above describes the defect. 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. Commonest class of defect (42%) was PIIIC and flap was PMMC. Trismus was documented in 36% pre-operatively and 18% postoperatively. Currently 74% of patients take solids. Speech is coherent in 80%. **Conclusion:** Primary closure feasible for mucosal defect less than 3 cm; thin soft tissue flap for defects not involving segmental bone or masticatory space; bone flap for segmental bone defects with limited soft tissue component or when arch of the mandible is involved; bulky soft tissue flap for lateral bone defect with large soft tissue component. 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 adopted.

CR327: EXTRINSIC MUSCLE INVOLVEMENT: A FALLACY OF THE CURRENT T STAGING SYSTEM

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Background: The purpose of this study was to identify the MRI parameters predicting the nodal metastasis and to identify the pattern of extrinsic muscle involvement based on the depth of invasion (DOI). **Methods:** Prospective study including newly diagnosed carcinoma tongue patients. 76 patients were staged with the conventional TNM staging as well as a proposed modification, based on pre operative MRI (Piazza *et al*.). The accuracy of predicting pathological nodal status was evaluated using chi square test. Pattern of extrinsic muscles of tongue involvement on MRI was studied at depth of invasion of <10 mm, 11-20 mm, 21-25 mm, >25 mm. **Results:** Seven patients (9.2%) were staged T1 and 69 (90.7%) T4 with current TNM. MRI staged 15 patients (19.7%) T1, 9 (11.8%) T2, 32 (42.1%) T3, 20 (26.3%) T4. 49 (71.01%) patients of T4 current TNM staging were down staged in the MRI staging. The mean MRI transverse dimension to involve hyoglossus, styloglossus and genioglossus was 16.9, 17.2, 25.9 mm. The predictability of pathological nodal positivity when compared with current TNM staging ($p = 0.007$) and MRI Staging ($p = 0.003$) was statistically significant. DOI> 10 mm was associated with genioglossus muscle involvement ($p < 0.002$). DOI< 10 mm was associated with more superficially situated hyoglossus involvement ($p < 0.001$). There was a statistically significant association between genioglossus positivity and nodal involvement ($p = 0.05$). **Conclusion:** MRI derived modifications in the TNM staging allows for better predictability of nodal metastasis and the DOI needs to be incorporated to the staging system. Early tumours measuring <2 cm can involve styloglossus and hyglossus muscle, Deeper tumours measuring >2 cm involve the core muscle of tongue (genioglossus).

CR328: THE URBAN: RURAL DIVIDE IN DIAGNOSIS AND TREATMENT OF ORAL CANCERS

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Background: Treatment outcomes with oral cancers are best in early stages. However most patients presenting to tertiary care centers have locally advanced cancers. This study aims to understand the reasons behind this and to find out the impact of one's place of living in the chance of detecting and treating these cancers in early stages. **Patients and Methods:** Two hundred patients with loco-regionally advanced oral cancers were interviewed prospectively at the time of surgery by a medical social worker recording various predefined parameters. The socio-economic status in urban & rural communities were estimated using the scale described by Tiwary *et al*. **Results:** The mean duration of symptoms at the time of treatment was 14 months with patients seeking medical help for either persistent ulcer (83%) or pain (17%). On an average, the total duration from developing symptoms to getting definitive treatment was 9 months (Rural: 8 months, Urban: 14 months). While the lack of awareness to understand the significance of the ilness, taking alternative treatmentsor financial difficulties contibuted to the delay in seeking specialized care in rural settings (72%), misguidence by primary care physician, consulting multiple doctors and lack of awareness contributed to the significant delay in urban settings. **Conclusion:** Lack of awareness is the single most common cause of delay in seeking specialized care in management of oral cancers. Local factors vary for causing delay in urban and rural areas.

CR329: SOFT TISSUE SARCOMAS OF HEAD AND NECK: A TERTIARY CANCER CENTER EXPERIENCE

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Background: Soft tissue sarcomas of the head and neck are rare mesenchymal malignant neoplasms, accounting for less than 10% of all soft tissue sarcomas and approximately 1% of all head and neck neoplasms. This case series reports the pattern of distribution and outcomes in head and neck soft tissue sarcomas from a tertiary cancer center in India. **Methods:** From November 2008 to January 2016, the hospital records were analysed for soft tissue sarcomas of the head and neck region that received definitive treatment. **Results and Discussion:** A total of 25 patients of head and neck soft tissue sarcomas reported to the hospital (males – 17, females – 8). The median age was 30 years. Most common site of occurrence was neck followed by paranasal sinuses. In adults, most common histology was fibrosarcoma (21%). Rhabdomyosarcoma and low grade fibrosarcoma were the most common histologies in children. Majority of the patients were treated by upfront surgery (88%) and the remaining by radical radiotherapy. At a median follow up of 22 months, the local recurrence rate was 56%. One patient had distant metastasis. The cause specific mortality rate was 28%. On statistical analysis, local recurrence was a significant risk factor for death ($p = 0.0047$). **Conclusion:** Soft tissue sarcomas of head and neck have diverse histopathology in adults and pediatric age group. Local recurrence rates are high and a significant factor for mortality.

CR330: PROGNOSTIC IMPLICATION OF TUMOR THICKNESS IN ORAL CAVITY CARCINOMA: A RETROSPECTIVE STUDY

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Background/Introduction: Carcinoma of the oral cavity are staged by considering the size & extension of tumor, metastasis to cervical nodes and presence of metastasis. The “cut off” tumor thickness to decide upon the adjuvant treatment is still being investigated. The aim of this study is to analyze the prognostic implication of tumor thickness in Oral Squamous Cell Carcinoma (OSCC). **Patients and Methods:** A retrospective analysis of prospectively collected database of all patients who underwent surgery for histo-pathologically proven OSCC at our institution from August 2009 to December 2011 was analyzed. The inclusion criterion was any patient with diagnosis of oral cavity SCC treated surgically with curative intent and free histological margins. The ROC curve was used to determine the “cutoff” thickness. **Results/ Discussion:** A total of 140 patients were analyzed in the study. The mean age of the patients was 58 years. There were 91 males (65%) and 49 females (35%). Most of the patients had tongue cancers (50%) followed by buccal mucosa. The average tumor thickness was 1.33 cm. The “cut off” value of tumor thickness was determined by ROC curve and found to be 1 cm. Statistical association was found between tumor thickness (<= 1 cm, > 1 cm) with nodal metastasis ($p = 0.001$), perineural invasion ($p = 0.001$) and extracapsular spread ($p = 0.02$). Tumors >1 cm was found to be statistically associated with nodal metastasis, disease free survival and overall survival. **Conclusion:** Inclusion of tumor thickness in staging needs further validation. Multi-institutional studies are necessary to incorporate tumor thickness in treatment planning for oral carcinoma.

CR331: SUBMENTAL FLAP RECONSTRUCTIONS: REVIEW OF 65 CASES DONE BY A SINGLE SURGEON IN AN INSTITUTIONAL SETTING

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Background: Submental artery island flap (SMIF) has gained acceptance as a simple and reliable option in oral reconstruction. However, there are unsettled concerns regarding its safety in oral cancer because of insufficient data in the literature. **Aims:** To analyze the reliability, cosmetic superiority and oncological safety of SMIFin oral reconstruction. **Materials and Methods:** Prospectively collected data of 65 patients with oral cancer who underwent reconstruction using SMIF by a single surgeon from October 2004 to September 2012 in a large volume, low resource center was reviewed. **Results:** Among the studied population 51% were men and 49% women, with age ranging from 28 yrs to 70 yrs. Site distribution were as follows Tongue 70%, Buccal Mucosa 23%, Floor of Mouth 4.6% LA, others 1.5%. Most were squamous cell carcinoma followed by salivary gland tumors & Indeterminate lesions. Most of the patients were T2 N0 (78%) or carefully selected T3 with or with out suspicious nodes. One woman had a subtotal loss of the skin paddle which settled with out any morbidity and a young man had a partial loss (flap success rate of 97%). Loco regionalrecurrence rate was 20% among the cases which corresponded to our institutional rates. Two patients underwent salvage resections with PMMC flaps and one awaits the same. **Conclusion:** Submental artery island flap harvested after meticulous dissection of the pedicle is oncologically safe in carefully selected oral cancers.

CR332: IMPROVING ACCURACY IN DIAGNOSING LARYNGEAL CARTILAGE EROSION: THE ROLE OF MRI

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Methods: 40 patients with biopsy proven stage four laryngeal cancer with cartilage erosion/extra laryngeal spread were studied with regard to the accuracy of diagnosis of cartilage erosion. All patients underwent a contrast enhanced CT scan from Skull base to superior mediastinum. In those whom CT showed doubtful cartilage erosion additional limited 3 tesla MRI STIR sequences were done through the laryngeal framework. **Results:** Of the 40 patients, CT showed thyroid cartilage erosion in 23 cases Vs 32 on final histopathology. Cricoid cartilage involvement was seen in only 4 cases on CT scan in contrast to 11 cases on histology. Histopathologic analysispicked up 9 cases of arytenoid cartilage erosion whereas CT scan revealed only 2 cases of arytenoid involvement. In 10 of the 40 cases with doubtful cartilage additional MRI sequences were done, Thyroid cartilage invasion was noted in 5 cases both on MRI scan and histopathology. MRI picked all 7 cases which had cricoid cartilage invasion as confirmed by histopathology. However MRI showed arytenoid cartilage involvement in 8 cases although histopathology confirmed only seven cases. **Conclusion:** Limited 3 tesla MRI STIR images added to the accuracy of diagnoses of cartilage erosion with a 100% sensitivity for thyroid cartilage erosion. We suggest that where CT scan shows doubtful cartilage erosion additional MRI cuts should be a part of routine imaging protocol.

CR333: *IN VIVO* EXPLORATION OF THE LYMPHATICDRAINAGE PATHWAY OF THE SINONASAL TUMOURS BY LYMPHOSCINTIGRAPHY

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Background: Sinonasal Tumours are getting more rare than ever. And considering the skill and experience to treat these patients, only a few centres are treating these patients. And also little is known about the lymphatic drainage pattern of these tumours. There is a controversy, some eminent anatomy books do state that the primary drainage of these tumours is into the submandibular region. However old books, and literature has mentioned about the dual drainage pattern, anterior part of the nasal cavity and maxillary sinuses drain into the submandibular region and the posterior part drains into the retropharyngeal nodes. We sought to authenticate the validity of the knowledge in the old books. Till now there has not been too many studies. **Methods:** We aimed to ascertain the lymphatic drainage pattern of malignant sinonasal tumours (and also potential malignancies like inverted papilloma) with SPECT/CT lymphoscintigraphy technique. Considering the rarity of the disease and the advanced stage of presentation of the disease (that precludes the surgical management), we kept the sample size small, we have recruited 15 patients till date (July31, 2016), who were planned for surgical excision, with clinically and radiologically N0 status, without any history of previous surgical treatment of cancer, of the age group 18 and above. We endoscopically injected into the margins of the tumours with radionucleotide tagged filtered sulphur colloid. And after a time span of 60-90 mins, we performed a SPECT/CT to find out the draining lymph node. We have also planned to arrange for a gamma probe directed intraoperative biopsy of the sentinel lymph nodes' region. But that part will be undertaken depending upon the availability of the probe, and the feasibility of exposure. **Results:** Till date we have injected into 15 patients. We found that most of the anteriorly placed injections (anteirior to the hiatus semilumaris) drained into the level Ib, II. And most of the posteriorly placed injections, drained into the retropharyngeal nodes. **Conclusions:** What Ohngren and old text books claimed holds true. The posteriorly placed injections were consistently draining into the retropharyngeal nodes that are difficult to access and the anterior injections drain into the level Ib, II that are easy to access. Hence in advanced diseases, disease clearance of anteriorly placed disease is easier, because of the easier detection of the node (if it appears) or by neck dissections and primary resection. And the posteriorly placed disease is difficult because of the difficulty in detection of the nodes and difficulty in surgical access. So the ohngren's line is a important and consistent prognostic demarcator.

CR334: THE PREVALENCE OF HUMAN PAPILLOMA VIRUS IN SINO-NASAL CANCERS: A CASE CONTROL STUDY

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Methods: A prospective case control study from 2013 to 2015 to study the prevalence of HPV in Sinonasal cancers. A total of 90 cases – 50 controls and 40 cases of biopsy proven Sino-nasal malignancies were studied. Controls were cases with sinonasal polyposis or Chronic sinusitis. All selected cases had HPV DNA analysis. **Results:** HPV DNA was not found in any samples from the cases or controls. In a study of other risk factors such as tobacco, snuff and alcohol use the use of Snuff was found to be a statistically significant risk factor in the aetiology of Sino-nasal cancer. The commonest sites of malignancy were the nasal cavity (18 cases) followed by the maxillary sinus (18 cases). Most of the diagnosed malignancies were from a rural background with facial swelling as the commonest presenting symptom. This indicates the late stage of presentation of most malignancies in our country. **Conclusion:** HPV was not found to be a significant risk factor in the aetiology of Sino-nasal cancer in our study. The use of snuff was a statistically significant risk factor in the aetiology. Most patients with Sino-nasal malignancy were from a rural background. Facial swelling was the commonest presenting symptom.

CR335: VOLUMETRIC MODULATED ARC THERAPY IN ADVANCED POST OPERATIVE BUCCO ALVEOLAR CARCINOMA OF THE HEAD AND NECK: A COMPARTIVE DOSIMETRIC STUDY WITH IMRT

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Background: Intensity modulated radiotherapy (IMRT) is the standard of care in head and neck (H&N) cancer for delivering radiotherapy. VMAT has been tried in various sub site in head and neck with acceptable target coverage and OAR sparing. In this study VMAT plans were compared with IMRT plans in post-operative bucco alveolar carcinoma. **Methods:** Ten patients with advanced post-operative Bucco alveolar carcinoma, which were treated with 7-9 field IMRT using Elekta synergy was selected. VMAT plans were generated for all patients using double arc. Plans were considered acceptable when high risk PTV V <95% <1%, V >107% = 0 and contralateral parotid mean dose <26 Gy, brainstem D max <54 Gy and spinal cord max dose <45 Gy were achieved. Homogeneity index and conformity number were calculated for both plans. Comparison was made with IMRT plans by evaluating dose volumes histograms (DVHs) for PTVs and OARs, delivery time and monitor units. All plans were generated using Monaco treatment planning system with Monte Carlo algorithm. **Results:** With VMAT target coverage and OAR sparing were comparable with IMRT plans. There were no significant difference in dose homogeneity and conformity between two plans and healthy tissue mean dose, V15, V20 and integral dose were reduced significantly by 4.7% (P value 0.03), 7.7% (P-0.02), 7.9% (P-by VMAT. **Conclusion:** VMAT can be safely used in post-operative advanced Bucco alveolar carcinoma of the H&N with comparable target coverage and OAR sparing. Delivery time and normal tissue dose are significantly reduced with VMAT.

CR336: A STUDY OF PATIENTS UNDERGOING REVISION THYROID SURGERIES FOR DIFFERENTIATED PAPILLARY CANCER THYROID HARBOURING POSITIVE CENTRAL COMPARTMENT NODES

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Background: Addressing the central compartment during thyroid surgeries lacks uniformity in adherence to guidelines amongst surgeons. In addition, whether or not to address the central compartment in T1, T2 node negative cases as well as those whose pre operative FNAC indicates suspicion of maliganancy is not clear. We embarked on an audit of referred patients who were operated for revision surgery at our institution, in whom the central compartment harboured positive nodes which had not been addressed in the previous surgery, to guage the trend of practice in the community as well as to look for factors that might serve as indications for addressing the same. **Methodology:** The study was conducted at a single institution, Tata Memorial Hospital, a tertiary referral centre. The design was retrospective analysis of a prospectively maintained database. We looked at the intitial surgery done, the patterns of nodal recurrence and routine histological parameters. Data analysis was done using SPSS software version 18.0. **Results:** A retrospective search of our database showed 180 patients of differentiated thyroid cancer to have undergone revision surgery between the period 2011 till 2015. Further analysis revealed that of these 180 patients, 31 (17.2%) harboured nodal recurrence in the central compartment with or without the lateral compartment. A detailed analysis of the demographics, details of past surgery and histological characteristics of these 31 revealed that 19 were females and 12 males. 11 (35.5%) of them had previously undergone Hemithyroidectomyalone, 17 (54.8%) of them had undergone Total thyroidectomy, 2 (6.5%) had undergone Subtotal thyroidectomy and 1 undergone Nodulectomy. In none of these was the central compartment addressed in the previous surgery. The lateral neck was dissected/sampled in only 7 of these patients (22.6%). Histology from the previous surgeries were reviewed at our institute and showed that majority of them were Classical Papillary Ca thyroid (23, 74.2%), followed by Follicular variant of papillary thyroid cancer (6, 19.35%) and 1 each were Trabecular variant of Ppapillary Ca thyroid and Hurthle cell Ca, respectively. The T stage based upon the previous surgery was available only for 17 patients due to incomplete imaging and histological obtained from these referred patients' records. 4 (13%) were T1, 4 (13%) were T2, 8 (26%) were T3 and 1 patient was T4. Lateral neck was positive in 4 out of the 7 patients in whom it was addressed. Extra thyroideal Extension was reported by our pathologists in 9 of these patients (29%) and PNE was seen in 2 of the patients in whom the lateral neck was positive (2 out of 4). Multicentricity was seen in 7 of the 31 patients (22.6%). Analysis of the factors predicting central compartment positivity did not reveal any significant indicator in this series except for simultaneous lateral neck postitivity during the revision surgery (26 of 31, 83.8%). **Conclusion:** There is a significant variation in the extent of surgery performed for Thyroid cancer in our community. Total thyroidectomy was performed for 54% of our patients at the initial surgery but central compartment not addressed though majority of them were T3, T4 and 13% of them harbouring lateral neck disease. Patients having early diasese, T1, T2 NO formed 26% of our series and were found to harbor central compartment nodes during the revision surgery at our centre. The guidelines for addressing the central compartment need further evauation and uniformity of adherence. Preoperative predictors of the same must be looked for in early differentiated thyroid cancer to prevent the morbidity of revision surgery.

CR337: THE OUTCOMES OF INFRAHYOID MYOCUTANEOUS FLAP RECONSTRUCTION IN ORAL CANCER SURGERY

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Background and Objective: Reconstruction of post surgical defects in oral cavity is a challenging aspect for a head and neck surgeon. Locoregional flaps are frequently used for reconstruction when a free flap surgery is not suitable or cannot be performed. Infrahyoid musculo-cutaneous flap which is based on superior thyroid vessels has emerged as a reconstructive option for oral defects but is still not a popular choice in practice. In this study we have reviewed our experience of infrahyoid flap reconstruction for oral cancer surgical defects and report the success rate and complications. **Patients and Methods:** Retrospective study of fifteen cases in which infrahyoid flaps was used as reconstruction method in management of oral cancers from September 2014 to April 2016 at Malabar Cancer Centre, Thalassery, Kerala, India. **Results:** In the fifteen cases in which infrahyoid flaps was used, 12 were men, 3 were women and the median age was 60 yrs. The tumour subsite was tongue (8 cases), floor of mouth (4 cases), lower alveolus (2 cases), gingivo-labial sulcus (1 case); and the median dimension of flap used was 7 x 4 cms. On follow up, the flap was well taken up in all cases, although 2 patients had partial skin necrosis initially. Donor site was satisfactorily healed in all cases and no wound leak was seen. **Conclusion:** The infrahyoid flap is a good reconstructive choice because of its reliability and convenience, for medium sized soft tissue defects in the oral cavity.

Key words: Infrahyoid flap, myocutaneous flap, oral cavity reconstruction

CR338: FACTORS AFFECTING OUTCOMES IN ADVANCED ORAL SQUAMOUS CANCERS

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Background: Factors predicting poorer outcomes for oral cancers are known. We aimed to demarcate the influence of tumour and nodal factors in stage matched cancers. **Methods:** This is a prospective analysis of a cohort of patients of stage III and IV oral squamous cancers treated between 2013 and 2014. Clinical details, treatment details, histopathological features and follow up data was collected. **Results:** 95 cases were included. The commonest subsites were buccal mucosa 27 (28.4%) cases and oral tongue 19 (20%) cases. 6 (6.3%) cases were stage III, 86 (90.5%) were stage IVa, 3 (3.2%) cases were staged IVb. 53 (55.7%) cases underwent upfront surgery, 39 (41.1%) cases underwent neoadjuvant chemotherapy (NACT) before surgery, 3 (3.2%) cases received chemoradiation followed by surgery. Follow up ranged from 1 to 30 months - median of 16.7 months. At last follow up, 57 (60%) cases were locoregionally controlled, 16 (16.8%) had local/locoregional recurrence, 7 (7.3%) had distant metastases, 3 (3.2%) died of disease, 7 (7.4%) died of unrelated causes, 4 (4.2%) were lost to follow up, 1 (1%) developed a second primary. On multivariate analysis factors significant for recurrence were skin/soft tissue involvement (0.05), bone erosion (0.02), pN stage (0.015), multinodal positivity (0.08). For cases that required NACT, were Nplus and had skin/soft tissue involvement, critical factors for recurrence were non-Ib node positivity (p 0.02), progression on NACT (0.03) and extensive soft tissue resection (0.03). **Conclusion:** High risk oral cancers can be prognosticated as per certain definite risk factors.

CR339: INCIDENCE OF ADVERSE PATHOLOGICAL FEATURES IN 1-4 CMS LOW RISK DTC: IMPLICATIONS IN TREATMENT

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Background: The extent of thyroid surgery for low risk well differentiated thyroid cancers (WDTC) is debated in tumours between 1-4 cms. Current American Thyroid Association (ATA) recommends thyroid lobectomy for 1-4cm tumours without adverse features. In this study we examined the incidence of adverse pathological features which would warrant a total thyroidectomy in 1-4cm WDTC. **Methods:** Retrospective analysis of patients who underwent total thyroidectomy from January 2005 to June 2016. Patients with benign pathology, lymph node and distant metastasis, gross extrathyroidal extension were excluded from study. The histopathology reports were studied for adverse pathological features. **Results:** A total of 228 patients fit our inclusion criteria. 178 patients were female and 50 were male patients. The mean age of cohort group was 49.09 years. The mean tumour size was 2.09 cm. 174 patients had classical variant papillary carcinoma thyroid (PTC), 46 patients had follicular variant PTC and 8 patients had others. Adverse features were as follows: Multifocality 86 (38%), capsular invasion 87 (38%), extrathyroidal extension 38 (16.6%), vascular invasion 56 (24.5%). 91 (39.8%) patients had one adverse feature and 52 (22.6%) patients had 2 or more adverse features. **Conclusion:** Almost 40% of low risk group patients who are initially eligible for thyroid lobectomy would require completion thyroidectomy based on adverse pathological features. This should be factored in the discussion regarding the extent of thyroidectomy during patient counselling and surgical planning.

CR340: MAINTENANCE METRONOMIC CHEMOTHERAPY IN ADDITION TO STANDARD TREATMENT FOR OPERABLE ADVANCED ORAL CANCERS: PROSPECTIVE STUDY

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Background: Head-neck cancers in developing countries usually present with advanced disease. An effective strategy is needed to prevent recurrences in these patients. Metronomic Scheduling of Anticancer Therapy (MSAT), which comprises long-term oral administration of low doses of chemotherapeutic and adjunct drugs is an emerging strategy being used in several cancers, mainly in the palliative setting. We evaluated MSAT oral maintenance in advanced operable oral cancers, in addition to standard therapy (as per Evidence Based Management Guidelines). **Methods:** Patients with operable (Stages II/III/IV) oral cancers received MSAT maintenance (oral methotrexate 15 mg/week + celecoxib 100 mg twice daily) after completion of standard therapy as warranted by their stage. **Results:** MSAT was instituted in 108 patients with a minimum follow-up of 6 months. The median follow up was 21 months. There were 24 recurrences, of which 7 were local. Using Kaplan-Meir method, estimated 2-year disease-free-survival (DFS) was 70.4%. Adverse effects of MSAT were recorded and predominantly included mucositis and break-through aphthous ulcers in about 37.2%. Less common adverse effects are also reported. **Conclusions:** As compared to literature-based survivals for equally staged oral cancers, patients who were administered MSAT showed better disease free survivals. This effect was particularly seen in those receiving MSAT for more than 6 months. Oral MSATis economical, effective, safe adjuvant therapy for oral cancers, having potential for preventing progression; and showed better DFS.

CR341: DOES DEPTH OF INVASION PREDICT PATTERN OF LYMPH NODAL METASTASIS IN CARCINOMA TONGUE

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Introduction: Carcinoma of tongue is one of the most notorious cancers of oral cavity. Multivariate analysis have shown that the parameter with greatest influence on survival is tumor thickness especially in carcinoma tongue. To study the pattern of lymphatic metastasis in oral tongue in relation to the depth of tumor. **Methods and Results:** This is a retrospective study of 69 patients over a period of 2 years. Squamous cell carcinoma of anterior two-third (oral tongue) which were managed by upfront surgery with modified neck dissection were considered in the study. The measurements for depth of invasion were made from surface of mucosa to maximal depth by an ocular micrometer. Frequency, proportions and percentages were used to analyse the data. 33 patients had depth of invasion of >4 mm. Out of these 17 patients had level III nodal metastasis, 5 patients had level IV nodal metastasis and only 2 patients had level V metastasis. Contralateral node mestasis was seen in 5 patients who had DOI of >15 mm. **Conclusion:** DOI of >4 mm was associated with nodal metastasis. DOI predicts nodal involvement but pattern of involvement of level of nodes cannot be predicted. Involvement of Level V nodal station was rare.

CR342 SINGLE INSTITUTE EXPERIENCE OF HIGH DOSE RATE INTERSTITIAL BRACHYTHERAPY FOR HEAD AND NECK MALIGNANCIES WITH CURATIVE INTENT AND USE OF ANGIOCATHETERS AS CARRIERS OF IRIDIUM – 192 IMPLANTS

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Purpose: To evaluate the treatment outcomes with HDR Interstitial Brachytherapy in Head and Neck Cancers at our Institute with use of Angiocatheters as carrier source of Iridium – 192 wire implants. **Materials and Methods:** 58 Patients with Head and Neck malignancies of varying TNM staging as per AJCC staging criteria were analyzed retrospectively between 2008 and 2015. 42 patients (72.41%) received EBRT with HDR – BRT and 26 patients (27.59%) received BRT alone. 23 patients (39.65%) received concurrent Chemotherapy. The age group ranged from 27 to 81 years (Median age 56 years) with 41 patients (70.69%) males and 17 patients (29.31%) females. HDR – BRT was delivered with Iridium – 192 wire implants using plastic bead techniques with varying dose rates. The Biological equivalent doses (BED) were

calculated for both BRT and EBRT keeping α/β = 10 for tumor and α/β = 3 for normal tissue and subsequently median BED doses were calculated and similarly 2 Gy equivalent dose (EQD2) were calculated and loco-regional control and disease free survival was assessed. **Results:** After completion of HDR – BRT, Patients for followed up one month later and subsequently every 3 months for first 2 years and thereafter every 6 months with median follow up period of 25 months (Range 2-84 months). The DFS probability at year 1 was 82.76% and 68.05% at year 7. The overall survival probability was 91.37% at year 1 and 85.89% at year 5. The local control rate was 67.27% and the control rates according to the stage of disease and T size classification were evaluated. The rate of local recurrence was 8.62%, Regional Recurrence was 1.72%, Loco-Regional Failure was 3.44% and Distant metastases following local or regional failure was 17.23%. The Median BED for α/β = 10 was 86.775 Gy and DFS was 74.07% in patients receiving more than 86.775Gy. The median EQD2 for α/β = 10 was 71.6Gy. The DFS was 75.86% in patients receiving more than median dose of 71.6 Gy compared to 61.53% in those receiving less than the median dose. The DFS was 78.57% in patients receiving median dose of 75.85 Gy as compared to 59.26% in those receiving less than the median dose. **Conclusion:** The overall outcome in the Patients with oral cavity and oropharyngeal malignancies was good with implementing of HDR – Interstitial Brachytherapy and use of Angiocatheters as carriers of Iridium – 192 wire. The BED10 value of 86.775Gy showed that the dose received more than the median showed better outcomes in the form of DFS. The EQD2 calculated values suggested the dose received more than 71.6Gy (α/β = 10) showed better outcomes. The role of HDR Interstitial Brachytherapy in Head and Neck cancers is a proven, effective and safe treatment method with excellent long term outcome.

CR343: FACIAL NERVE HANDLING AND ANTERIORLY BASED STERNOCLEIDOMASTOID FLAP ROTATION IN PAROTID SURGERY

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Introduction: Superficial parotidectomy is commonly used in the treatment of superficial parotid tumours. It is essential that, where possible, the facial nerve should be preserved, so its identification and careful dissection is of paramount importance. There are two basic techniques for the identification and dissection of the facial nerve. One is the forward or anterograde dissection while the other technique is the retrograde dissection. Two commonly encountered long term complications of parotid surgery is frey's syndrome and cervicofacial deformity. Various surgical attempts had been made in the past to prevent these complications. **Aims:** Objective of our study is to identify a safe surgical approach in order to avoid any injury to facial nerve during parotid surgery and to prevent the post operative complications. **Materials and Methods:** Our knowledge is based on the patients attending opd of dr. Babasaheb ambedkar central railway hospital and presented with complaints of parotid swelling and had undergone surgical intervention in the same hospital. **Results:** Clinical symptoms of both the complications, v.i.z frey's syndrome and cervicofacial deformity are resolved with anteriorly based sternocleidomastoid flap rotation at the time of parotidectomy. **Conclusions:** Careful identification and dissection of facial nerve and sternocleidomastoid flap rotation during parotid surgery are the key techniques for the prevention of intra and post operative complications of parotid surgery.

CR344: ANGIOFIBROMA: PARADIGM SHIFT IN MANAGEMENT

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Nasopharyngeal angiofibroma is a rare tumour compromising 0.5% of neoplasms of head and neck. The tumour is benign but locally invasive and mortality and morbidity are a result of its highly vascular nature. Since the tumour is benign and surgery being the treatment of choiceall attempts need to be focussed on reducing vascularity of tumour and lately endoscopic excision has added cosmesis to this surgery. Preoperative proper selection of surgical approach is rewarding. In all, these efforts help to reduce the morbidity and mortality associated with this benign locally invasive tumour. Recurrence rate is reduced considerably which has been reported upto 33% by various studies, moreover hospital stay is reduced so is the economic burden associated and finally quality of life is markedly improved recurrence. We report a series of 12 cases of angiofibroma operated over a oeriod of last two years. Tumours were staged as per Radkowski staging system and surgical approach was tailored as per the stage of tumour. Preop embolisation of feeding vessel was done in all cases and balloon occlusion test in selected cases of intracranial extension. Preop nasal endoscopy and CECT PNS was done in all cases MRI and MRA was done in selected cases. Check endoscopy and check CECT was done in all cases at defined intervals. We achieved a complete clearance and no recurrence in all 12 cases following the said protocol. Operative time was reduced bleeding was considerabily less, hospital stay was reducedand better sense of well being prevailed early. Hence a proper work up in the form of proper preop imaging, selecting proper surgical approach,embolisation of feeding vessel is rewarding in case of these benign locally invasive tumours.

CR347: ORAL CARCINOMA: ROLE OF NECK DISSECTION IN NO NODES

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Objective: To study the role of the extent of an elective neck dissection in patients presenting with oral squamous cell carcinoma and clinically negative neck nodes. **Study Design:** Retrospective record review. **Place and Duration of Study:** Department of otolaryngology – Head and neck Surgery, Jinnah Post Graduate Medical Center Karachi from June 1996 to Dec 2014. **Methodology:** Medical records reviewed of patients who underwent excision of primary tumor of the oral cavity primarily tongue, cheek & retromolar trigone combined with an ipsilateral neck dissection. All patients who had primary squamous cell carcinoma greater than 2 centimeter with clinically negative neck nodes were included in the study. Post-operative histopathology was reviewed comparing the outcome of disease metastases to various neck levels. **Ethical Consideration:** All the records were reviewed with the permission and under the supervision of the head of the department. **Results:** Of the 105 patients in the study, 52 were T2 tumors, 29 were T3 tumors, and 24 were T4 tumors. For T2 tumors, 21 Patients (40.42%) head neck metastasis, for T3 Tumors, 15 patients (51.85%), and for T4 tumors 20 patients (85.71%) had neck metastasis on final histopathology. All histological positive nodes in the neck work from level no 1 to 3 with only tongue primary showing some skip

metastasis to level 4 and over all there was zero metastasis to level 5. **Conclusion:** All patients presenting with T2 or above oral carcinoma with a clinically negative neck should undergo a selective neck dissection which can be extended to include level 4 for advance stage primary tumors of the tongue. Modified radical neck dissection is not indicated due to negligible rates of level 5 involvement.

CR350: AN INSTITUTIONAL REVIEW OF BASELINE HEMOGLOBIN LEVELS AS A PROGNOSTIC/ PREDICTIVE MARKER FOR OUTCOMES WITH RADIOTHERAPY IN TERMS OF EARLY TUMOUR RESPONSE IN SQUAMOUS CELL HEAD AND NECK CANCERS - A RAJIV GANDHI CANCER HOSPITAL EXPERIENCE

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Purpose/Objective: Anemia is very common in head and neck cancer (HNC) patients, and seems to be correlated with intratumoral hypoxia. It is one of the main prognostic factors of locoregional recurrence and poor survival and affects the outcomes with radiotherapy (RT). This is an institutional review of HNC already treated with RT to assess the early tumour response with baseline hemoglobin (Hb). **Material and Methods:** Hundred patients of proven squamous cell HNC who were treated with definitive RT with/without chemotherapy were selected between the periods of January'16 to May'16. All patients had their tumour response assessed at 12 week after completion of RT. **Results:** A logistic regression was performed to ascertain the effect of Hb on the likelihood that patients have residual disease. The results showed, for each unit reduction in the Hb level, the odds of having residual disease increases by a factor of 1.34 (Odd Ratio 0.742; CI = 0.593 - 0.927; p = 0.009). A receiver operating characteristics (ROC) analysis was performed to determine an "Optimal threshold cut-off value of Hb level" for which there was greatest difference in response at 12 weeks of completion of RT. AUC, sensitivity and specificity were also calculated to analyze the predictive ability of this cut off. The results showed that Hb level ≥ 13.2 g/dl predicted the CR with a sensitivity of 75.4 %, specificity of 53.5 % and with an AUC of 0.632 (95% CI, 0.518 - 0.747; p = 0.024). There was greatest magnitude of difference in early outcome in patients having Hb level above and below this cut-off of 13.2 g/dl. **Conclusions:** Low baseline Hb (less than 13.2 g/dl in our study) is poor prognostic marker for response to treatment with RT

CR353: ROLE OF NARROW BAND IMAGING IN THE EARLY DIAGNOSIS OF LARYNGEAL LESIONS WITH PHOTO DOCUMENTATION- A PILOT STUDY

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Background: Narrow band imaging (NBI) is a new imaging technique developed to improve the diagnostic accuracy of head and neck cancers by the depiction of tumor-specific neo angiogenesis. The purpose of the present study was to assess the value of NBI in the early diagnosis of laryngeal lesions. **Aim:** To assess the sensitivity and specificity of combined WLE and NBI compared with WLE alone. **Methods:** 25 consecutive patients with a laryngeal lesion scheduled for microlaryngoscopic surgery underwent white light endoscopy followed by NBI (Olympus Medical Systems, Tokyo, Japan). Endoscopic NBI findings were classified into 5 types (I–V) according to the intraepithelial papillary capillary loop features, as recommended by Ni et al. Types IV and V were considered malignant. The observations were compared with histopathology. **Results:** The sensitivity of WLE combined with NBI (100%) was higher than WLE alone (89.5%) in detecting laryngeal cancers. NBI helped in identifying two malignant lesions which was missed by WLE alone. Two children with respiratory papillomatosis also demonstrated type V pattern leading to an overall positive predictive value of 90.5% and a negative predictive value of 100 %. **Conclusion:** Combining NBI with WLE considerably increases the sensitivity of identifying laryngeal cancer and its precursors. NBI may also assist in identifying representative area for taking biopsy.