



COMPREHENSIVE MANAGEMENT OF ORAL CANCER IN A TERTIARY CARE CENTRE, RIMS, RANCHI

Pathology

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ABSTRACT

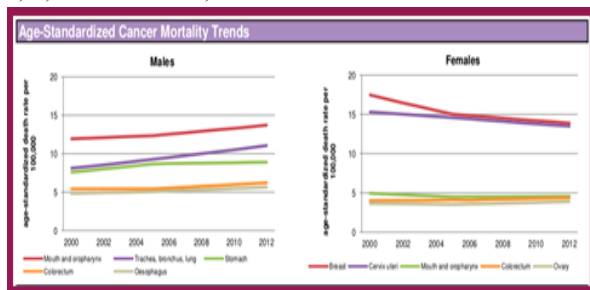
Oral cancer are on rise and tobacco use is most important reason behind it. The early recognition and treatment is the call for an hour. Many cases presents in advance disease. Surgery, chemo and radiotherapy, as single or combined modality, are the best available treatment. The pathology of tumour and its developments in surgical and radiotherapeutic technique have combined to produce a rational approach in management of the disease. The modern management of oral cancer should involve the surgeon and his team with high expertise to offer the best techniques to the sufferer.

KEYWORDS

Oral Cancer, Surgical Techniques.

INTRODUCTION

India has one third of oral cancer cases in the world 1,2,3. Oral cancer accounts for around 30% of all cancers in India 4,5. Oral cancers in India estimated (Globocan, 2018) with new cases: 1,19,992 and deaths: 72,616⁶



States of India (population in 2016)	Stomach cancer	Breast cancer	Lung cancer	Lip and oral cavity cancer	Pharynx cancer other than nas
India (1316 million)	159.5	145.7	133.8	128.0	120.6
Low ETL (626 million)	179.4	136.6	120.2	129.8	136.7
Bihar	73.6	125.3	114.7	52.6	33.3
Jharkhand	163.2	115.0	79.9	105.5	60.3

RESULTS:

This study was conducted in ENT department of RIMS, Ranchi from March 2018 to March 2019. Number of patients seen in OPD with suspected malignancies - **220 approximately**. Number of patients who underwent biopsies - **56 biopsies (44 were male and 12 were female)**. Number of patients with newly detected malignancies - **55 cases**. Number of patients of oral cavity cancers who were operated in last 1 yr- **21 cases**. Distribution of patients operated Early stage - **4 cases** and Late stage (Stage IV) - **16 cases**. The overall clinical assessment of primary tumour is depicted in the pictures as shown below:



A : The Tumour Involving The Lower Alveolus And Floor Of Mouth.

B : The Tumour Involving The Lateral Border Of Tongue.



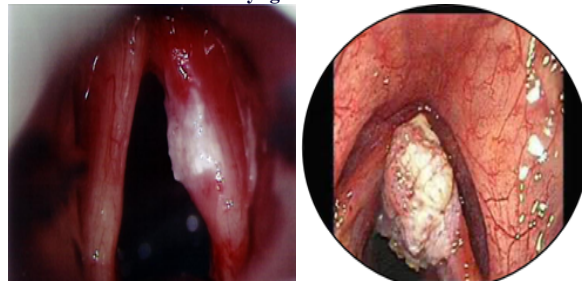
C: Tumour Involving The Lower Surface Of Tongue.

D : Tumour Involving The Lower Lip.



E : Tumour Involving The Mucocutaneous Junction.

Clinical Assessment Of Laryngeal Cancer :



F : Tumour Involving The Vocal Cord.

G : Tumour Involving The Epiglottis.



H: Tumour Involving The Larynx.

Lymph Nodes :

Lymph nodes level I to V were inspected. Level I submandibular, level II upper jugular, level III mid jugular, level IV lower jugular and level V supraclavicular and level VI was central compartment. Different types of neck dissection were performed. This included radical neck dissection (RND) like conventional RND removal of cervical nodes, submandibular glands, sternocleidomastoid and (SCM), internal jugular vein (IJV) and spinal accessory nerve (SAN). Extended RNS includes an excision of central compartment, parotid, suboccipital and upper mediastinal nodes in addition to structures removed in conventional RND. Modified RND included type I (preservation of SAN), MND II (preservation of SAN and IJV) and type III (preservation of SAN, IJV and SCM). Selective neck nodes included supra-omohyoid type.

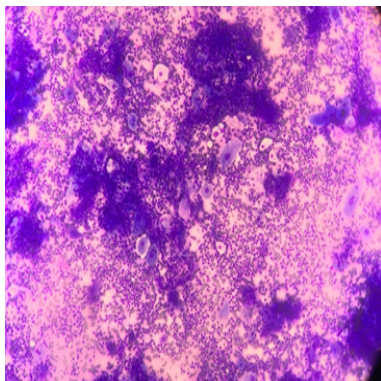
TNM Classification Of Tumours Of Oral Cavity:

- **Tx:** Primary tumor cannot be assessed
- **Tis:** Carcinoma in situ
- **T1:** Tumor ≤ 2 cm with depth of invasion (DOI)* ≤ 5 mm
- **T2:** Tumor ≤ 2 cm with DOI* > 5 mm and ≤ 10 mm or tumor > 2 cm and ≤ 4 cm with DOI* ≤ 10 mm
- **T3:** Tumor > 4 cm or any tumor with DOI* > 10 mm but ≤ 20 mm
- **T4:** Moderately advanced or very advanced local disease
 - **T4a:** Moderately advanced disease
 - Tumor with DOI* > 20 mm or
 - Tumor invades adjacent structures only (e.g. through cortical bone of the mandible or maxilla or involves the maxillary sinus or skin of the face)
 - **T4b:** Very advanced disease
 - Tumor invades masticator space, pterygoid plates or skull base or encases the internal carotid artery
- **Nx:** Regional lymph nodes cannot be assessed
- **N0:** No regional lymph node metastasis
- **N1:** Metastasis in a single ipsilateral lymph node, ≤ 3 cm in greatest dimension and extranodal extension (ENE)-
- **N2:** Metastasis in a single ipsilateral lymph node, ≤ 3 cm in greatest dimension and ENE+ or > 3 cm but ≤ 6 cm in greatest dimension and ENE-; or metastases in multiple ipsilateral lymph nodes, none > 6 cm in greatest dimension and ENE-; or in bilateral or contralateral lymph node(s), none > 6 cm in greatest dimension and ENE-
- **N2a:** Metastasis in either
 - Single ipsilateral lymph node that is ≤ 3 cm and ENE+ or
 - Single ipsilateral lymph node that is > 3 cm but ≤ 6 cm in greatest dimension and ENE-
- **N2b:** Metastasis in multiple ipsilateral lymph nodes, none > 6 cm in greatest dimension and ENE-
- **N2c:** Metastasis in bilateral or contralateral lymph node(s), none > 6 cm in greatest dimension and ENE-
- **N3:** Metastasis in a lymph node > 6 cm in greatest dimension and ENE-; or in a single ipsilateral node > 3 cm in greatest dimension and ENE+; or multiple ipsilateral, contralateral or bilateral nodes, any with ENE+; or a single contralateral node of any size and ENE+

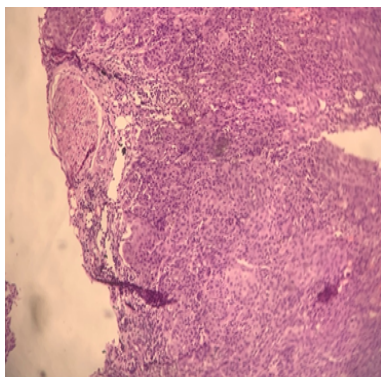
- **M0:** No distant metastasis
- **M1:** Distant metastasis

Investigations:

CT scan along with MRI was performed in all cases following by fine needle aspiration cytology and biopsy which helped in the diagnosis of various cases.



FNAC-Squamous Carcinoma



H&E-Squamous Carcinoma With Perineurial Invasion.

Other Investigations Included :

Examination under Anaesthesia- Direct Laryngoscopy (hidden areas

- Laryngeal surface of epiglottis, ventricles, sub glottis, postcricoid, apex of pyriform fossa)
- Microlaryngoscopy- to examine early vocal cord lesions.
- Principles Of Nutrition
- Evaluation and Treatment of Co-morbidity
- Assessment Of Performance status Psychological counselling and consent of surgery

Treatment Modalities Included :

Tumour characteristics:

Based on site and stage of primary, invasion of adjacent structures, histology - grade and depth of infiltration, extent of previous treatment, presence of nodal or distant metastasis.

Patient Factors:

Age, Co-morbidities, Occupation, Socioeconomic background

Healthcare Factors:

Local expertise, Radiotherapy, Medical oncology, Support services for rehabilitation, dentistry and prosthetics, Nursing support

The Guidelines Of Selecting A Treatment Modality :

In Stage I/II disease : Single modality (Surgery or radiotherapy RT), Stage III/IV disease : Combined modality. In Metastatic Disease Palliative (chemotherapy CT), Management of Neck : Clinically : N0 Neck- Neck Dissection : External Beam Radiotherapy - Observation Clinically N+ Neck - Comprehensive neck Dissection and adjuvant therapy.

Management Of Recurrences:

Surgically resectable primary : Re- resection. Surgically non resectable : Re irradiation / Chemoradiation, Neck nodal recurrence : salvage surgery .

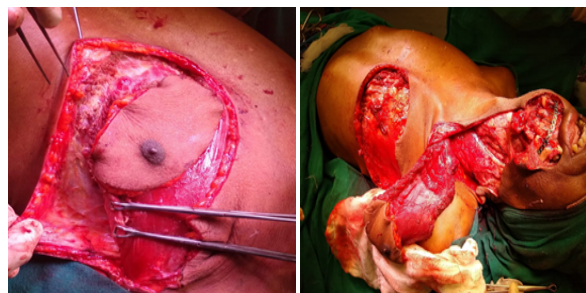


Case I : 64 Yrs Old Man Presented With Mass In Lower Alveolus With Involvement Of Lower Lip And Skin. Clinically T4 Lesion.

- The patient was investigated and diagnosed as : Squamous carcinoma of oral cavity (Subsite - Left Lower alveolus) (cT4a N1 M0)
- Underwent Wide Local Excision of lesion + Segmental mandibulectomy + Left MRND + Reconstruction with PMMC Flap + Tracheostomy
- Further the patient also received Postoperative Radiotherapy .



Segmental Mandibulectomy Was Done In This Patient.



Pectoralis Major Mucocutaneous Flap Was Made.



Postoperative (At 3 months)



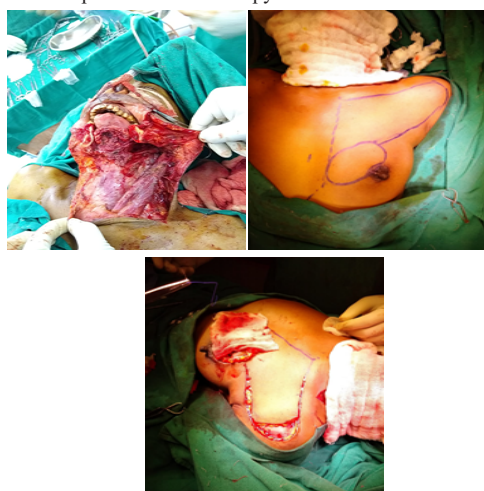
Pectoralis Major Mucocutaneous Flap :

The indications includes : Reconstruction of large defects of the: Oral cavity (to the soft palate) and pharynx (partial or total defects) , Irradiated neck (cutaneous defects or vessels) and face (to the zygomatic arch), chest wall and mediastinum , Tracheal defects, Mandibular defects. 7

Case 2 : 43 years old female patient presented with ulceroproliferative growth involving left lower alveolus infiltrating the skin . Erosion of mandible was detected in CT scan



Was diagnosed as : Squamous Carcinoma Oral Cavity (Subsite - Left Lower alveolus) cT4aN0M0 . Underwent Wide Local Excision of lesion + Segmental mandibulectomy + Left MRND + Reconstruction with PMMC Flap + Tracheostomy. Further the patient also received Postoperative Radiotherapy.



Bipaddle PMCC Flap Was Made.



Post Op 3 months.

Bipaddle PMMC Flap :

Perforating branches to the skin paddle area used for head and neck reconstruction are located in 3 distinct places (designated P1, P2, P3). 8

- P1 : along the medial edge of the muscle, direct musculocutaneous branches from the internal mammary artery (similar to the DP flap perforators).
- P2: 2-4 cm medial to the nipple, coming from the anterior intercostal branches of internal mammary artery, as elaborately described by K. Kiyokawa et al.
- P3: fine branches reaching the skin by curving around the lateral border of the muscle

Serial No	Age /Sex	Site / Surgery	Complications	Paddle Size
1	35yrs /M	Carcinoma Left lower alveolus (cT4aN1M0)/ Segmental mandibulectomy + WLE + MRND (L) + PMMC flap reconstruction	Marginal necrosis of flap	8 X4 , 5X4
2	43yrs/ F	Carcinoma Left lower alveolus (cT4aN1M0)/ Segmental mandibulectomy + WLE + MRND (B/L) + PMMC flap reconstruction	None	9X4, 5X4
3	64yrs/M	Carcinoma Left lower alveolus (cT4aN1M0)/ Segmental mandibulectomy + WLE + MRND (L) + PMMC flap reconstruction	None	8X3, 5X3
4	65yrs/M	Carcinoma Right Lower alveolus (cT4aN1M0)/ Segmental mandibulectomy + WLE + MRND (B/L) + PMMC flap reconstruction	None	9x5 , 5x4
5	54yrs/M	Carcinoma Right Lower alveolus (cT4aN1M0)/ Segmental mandibulectomy + WLE + MRND + Free flap reconstruction	None	8x4.5x4

Bipaddle PMMC Flap Experience At RIMS.

Case 3: 60 yrs male presented with upper lip growth. Diagnosed as squamous carcinoma. Underwent wide local excision with nasolabial flap.



Nasolabial Flap

Case 4: 61 year old male patient presented with ulceroproliferative growth in gingivolabial sulcus with involvement of overlying skin



Karapandzic Flap



3 Day Post Op

One Month Post Op

Karapandzic Flap:

- The defect excised in a rectangular form
- From its base two incisions, one on each side, are outlined parallel to the lip and prolonged along the mentolabial and nasolabial creases around the commissure into the upper lip.
- In most cases when dissecting at the nasolabial crease, the facial artery and the vein are encountered and preserved
- The lip mucosa at the medial part of the flaps up to the level of the commissures is incised now, thus, fully mobilizing the flaps. 9

Case 5: 65 years old male patient presented with proliferative growth in the upper lip on the left of midline but involving the philtrum



Wide Local Excision Was Done Followed By Abbe Estlander Flap.



One Month Post Op.

Abbe Estlander Flap : 10

- Abbe Flap -triangular-shaped full-thickness segment of lip tissue from the lower lip to a full-thickness upper lip defect
- same principle gives much better results when used to reconstruct a partial commissure defect and is known as the Abbe- Estlander flap.

CONCLUSION:

The surgery and radiation are the main modalities of treatment. Genetic alterations studies may help to find out the development of carcinoma and further targeted therapy can be made future. The success of current therapy, decreasing the morbidity following the treatment, and markers of molecular studies to know tumor behavior and selecting of the appropriate treatment is most challenging. Today, the patients have a improved locoregional control. Tomorrow, the focus is on use of the continuing technological and scientific innovations is required to defeat the disease.

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