doi:10.5958/0976-156X.2014.00022.7

CARCINOMA OF MANDIBLE INVOLVING THE FLOOR OF THE MOUTH -A CASE REPORT

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ABSTRACT:. Carcinoma of the floor of mouth represents 8% to 12% of all head and neck cancers. 85 to 95% of patients are males; the mean age is 58 years for men and 65 years for women. Oral carcinoma of the mandibular region has been defined as carcinoma of the mandibular alveolar ridge, lower buccal sulcus, sublingual sulcus and mandibular retro molar trigone . Lesions occurring in this area often involve mandible mostly by direct extension and seldom by other routes . The prevalence of mandibular bone involvement ranges from 12 to 56%.Classical clinical symptoms can be discomfort or pain under the mobile tongue, difficulty with protraction or swallowing, speech impairment, but more frequently, the dentist or the family physician discovers the disease

KEYWORDS: Carcinoma, Lytic, Sclerotic

INTRODUCTION

Squamous cell carcinoma (SCC) represents 90 to 95% of the malignant tumours of the floor of mouth. Other very rare types are adenocarcinoma, adenoid cystic carcinoma, melanoma, sarcoma. The most frequent premalignant lesions are leukoplakia, erythroplakia, and lichen; in about 20% of cases they are associated with carcinoma at the time of diagnosis. The site of the primary tumour is, in decreasing order of frequency, in the anterior, lateral or posterior part of the floor of mouth. Tumours may extend to the lower part of the mobile tongue, to the mandible, or rarely to the oropharynx. Mandibular involvement occurs mainly due to direct infiltration of the mandible by tumour. Main route of entry into mandible is reported to be through alveolar crest and lingual cortex if the tumour is located medial to mandible. Other routes of infiltration are also described, of which spread though the canal of inferior alveolar nerve is most important in the present scenario where a lot of emphasis is being placed on conserving mandible.

Case Report

A 61 years old female patient, **(Fig.1)** a local resident of Bangalore reported to the Department of Oral Medicine and Radiology complaining of a growth in the floor of her mouth and pain on lower left side of her jaw for the past 5 to 6 months. Her history of presenting illness revealed a growth in the floor of the mouth under the frenum of the tongue for the past 5 to 6 months which was not associated with pain. The tongue movements were restricted and there was difficulty in chewing and mouth opening. The history also revealed pain in the lower left back tooth region for the past 5 to 6 months associated with displacement of all the teeth in the arch especially the posteriors. The pain was sudden in onset and progression, continuous in nature and aggravated on opening the mouth and on mastication. The pain was radiating in nature and had radiated to the entire left side of the face.

On examining the personal history it was revealed that the patient had a mixed type of diet, no regular pattern of maintaining the oral hygiene was followed and the patient was addicted to chewing gutka for the past 30 to 35 years, about 5 to 6 times daily. She stayed with her two siblings in a locality where the cleanliness was compromised.

On carrying out the patient's physical examination, she was found to be poorly built with normal gait and posture and was well oriented to time ,person and place. All her vital signs and parameters were within the normal limits. On extraoral examination**(Fig.2),** a gross facial asymmetry was detected on the left side of her face. A solitary diffuse swelling irregular in shape measuring approximately 5x6 cm. was present on the lower left third of the face extending anteroposteriorly from the symphysis to 1 cm below the earlobe. Superiorly it extended from the line

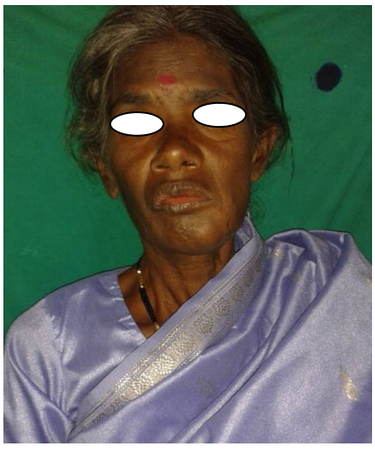


Fig.1. Profile Picture of the patient

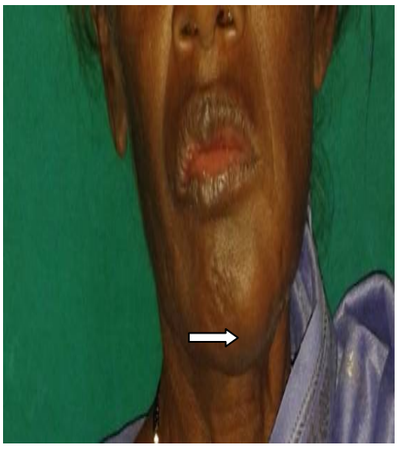


Fig.2. Extraoral swelling on left side of the Lower jaw

Fig.3.The lesion in the floor of the mouth with displaced teeth in the third quadrant

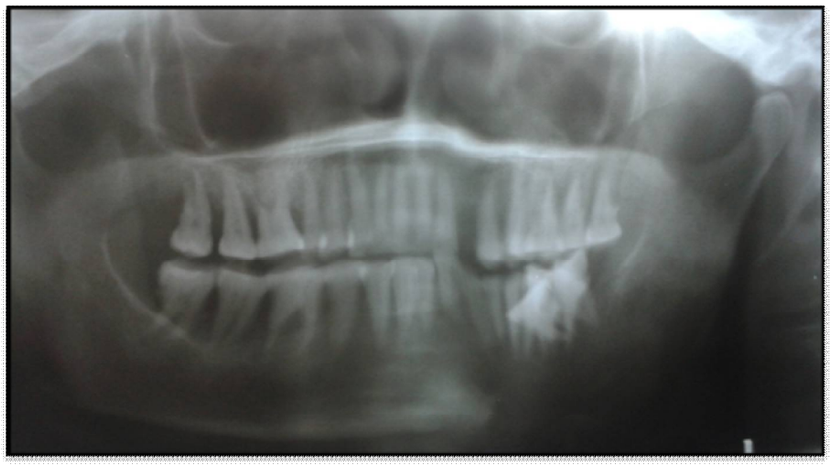


Fig.4. Panoramic radiograph of the patient

joining the angle of mouth to that tragus and inferiorly to 1 cm below the inferior border of the mandible involving the mentolabial sulcus. Overlying skin appeared normal with no visible pulsations and colour resembled that of normal adjacent structures. The periphery was soft in consistency,freely movable and not fixed to the underlying structures. On palpation, there was no local rise in temperature. The swelling appeared non tender, firm to rubbery in consistency with a smooth surface. The inspectory findings were confirmed.

A unilateral clicking was detected on the left side of the temporomandibular joint. Left submental and submandibular lymph nodes were palpable (single,firm, fixed, t ender, nonmatted, measuring approximately 2x3 cms in size).The lips were dry and scaly.

On intraoral examination **(Fig.3)**, the soft tissues like lips, labial and buccal mucosae , palate, salivary glands, tonsils and the oropharynx were apparently normal in size, colour and consistency. The tongue was found to be thickly coated, dry and fissured. A localized proliferative growth was present in the floor of the mouth. On inspection, the growth appeared irregular in shape measuring approximately 5x6 cms extending anteroposteriorly from the midline to the retromolar pad area and superioinferiorly from the lingual frenum and ventral aspect of tongue invading into the base of the tongue. The surface appeared erythematous with no signs of bleeding or any discharge elicited. Margins of the lesion appear raised and everted with irregular borders and a broad base. There were no signs of any visible pulsations. Marked obliteration of the lingual vestibule was also seen. The protrusive tongue movement was restricted however the laterotrusive movement was normal. Position of the tongue was not deviated to any particular side. Bimanual palpation revealed an extensive ulcerative growth, tender and soft in consistency. Floor of the lesion could not be elicited due to it invading deep into the floor of the mouth.

On hard tissue examination, mobility was present with respect to few teeth viz,17,23,42,33,34,35 (Grade-I); 41 (Grade-II); 31,32,36 (Grade-III). Occlusion was class I subdivision. The teeth were severely attritioned. The teeth in the third quadrant were all lingually displaced and malaligned (in a step deformity pattern suggestive of a pathological fracture). The gingival around these teeth appeared soft and edematous with no signs of any discharge. A marked midline shift could be elicited on opening the mouth. There was generalized gingival recession present. An edentulous area could also be elicited beyond the tooth 36 with a thick band of heavy calculus covering the posterior teeth and the edentulous area. The step pattern was more evident on palpating along the inferior border of the mandible including the angle.

Based on the patient's history and clinical findings, the lesion was provisionally diagnosed as Carcinoma of floor of the mouth and alveolus along with a pathological fracture on the left side of the mandible

Differential Diagnosis

Benign entities like tuberculous ulcer, syphilitic ulcer, granulomatous ulcer, actinomycosis, chronic suppurative osteomyelitis where as malignant entity like salivary gland tumours were given as the differential diagnosis for the condition.

Investigations:

1. Panoramic Radiograph **(Fig.4)**
2. Incisional biopsy

The panoramic radiograph showed an extensive lytic lesion in the body and the angle of the mandible measuring approximately 8x5 cm. sparing the condyle and the coronoid, suggestive of a malignant erosion. It extended anteriorly to the mesial surface of canine and posteriorly to the ramus of the mandible. Floating teeth could be seen associated with a calcareous mass in the premolar region on the left side. There was no evidence of opacity and sclerosis within the lytic lesion.

The histopathological examination of the tissue biopsied revealed it to be case of squammous cell carcinoma of the mandible with numerous dysplastic features.

Final diagnosis: Carcinoma of mandible involving the floor of the mouth : STAGE-IV ($T_4N_XM_X$)

Discussion

Carcinoma of the floor of mouth represents 8% to 12% of all head and neck cancers. Eighty-five to 95% of patients are males; the mean age is 58 years for men and 65 years for women. Classical clinical symptoms can be discomfort or pain under the mobile tongue, difficulty with protraction or swallowing, and speech impairment. Prognostic factors are tumour size, nodal involvement and age, but the topography of the tumour in relation to the oral tongue and to the mandible must also be considered as well as the macroscopic appearance of the tumour (infiltration, ulceration). The floor of mouth constitutes one of the soft tissues of the oral cavity. It is a semilunar space of 40-50 mm in length and 20-25 mm in width, extending from the mandible to the undersurface of the tongue. The genioglossus, the myelohyoid, and geniohyoid muscles form its bottom. The posterior boundary is the base of the anterior pillar of the tonsil.The limit between floor of mouth and mobile tongue is the pelvilingual sulcus. Severalcancers can involve this anatomical site, resulting in a tumour which can be described as leaf of a book or **"feuillet de livre**". Usually, when the larger part of the tumour mainly affects the floor of mouth, the tumour will be considered as floor of mouth cancer. Lymphatic drainage

is to the submental and submandibular nodes in the case of anterior sites, or in the case of lateroposterior sites directly to the jugulodigastric nodes. Cross-over of lymphatic drainage is common in the case of anterior lesions.

The site of the primary tumour is, in decreasing order of frequency, in the anterior, lateral or posterior part of the floor of mouth. Tumours may extend to the lower part of the mobile tongue, to the mandible, or rarely to the oropharynx. Different macroscopic forms are exophytic, superficially spreading, infiltrating, ulcerative; these different forms are often mixed, and associated with local infection, making the determination of the tumour volume difficult.The place of nodal involvement depends on tumour site and the frequency of involvement on size.Nodes are positive in 35% to 40% of patients, with bilateral involvement in 10% to 15%. After evaluation of the general status, a very careful head and neck examination is carried out to establish as accurately as possible: tumour site and volume, macroscopic features, locoregional extension and node involvement.

Different complementary examinations are prescribed:

- **For the primary tumour:** biopsy, radiography of the mandible, ultrasonography, CT-scan, MRIscan (systematic search for bone involvement).
- **For the nodes:** ultrasonography, CT-scan, MRI-scan, fine needle aspiration for cytological examination.
- **Distant metastasis or second malignant tumours:** head and neck examination and endoscopy,chest radiography, oesophagoscopy, bronchoscopy.

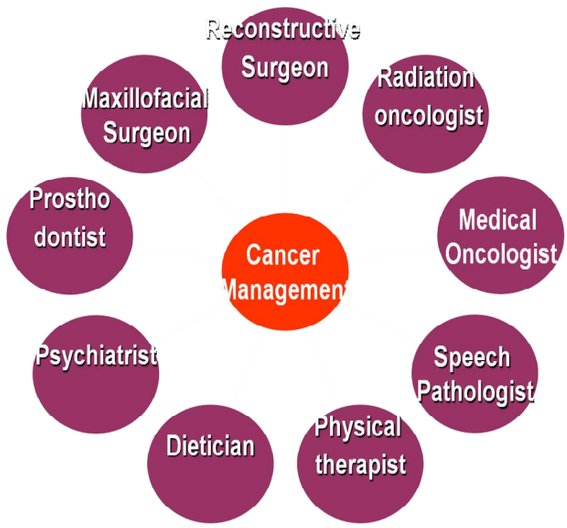
Surgery is considered the primary mode of treatment for verrucous carcinoma. Irradiation alone or in combination with surgery is rarely performed. Combined therapy can be useful when the tumor extends to the retromolar area.Cytostatic drugs form the main line of treatment in medical management where surgery is not indicated. Various modes of management include:

I. **Palliative** (Chemotherapy,)Radiotherapy

II. **Curative**
1. Surgery + Reconstruction
2. Radiotherapy
3. Chemotherapy
4. Combinations

III. **Others**
1. Gene Therapy
2. Immunotherapy
3. Radioimmunotherapy

Management of carcinomas overall is a multidisciplinary approach where in not only the dentists,but the medical professionals as well as some of the dental auxillaries join hands together in order to formulate the treatment plan and bring about the treatment procedure, thus restoring smile (onto the patient's face) and function (reconstruction and rehabilitation) of the patient.



CONCLUSION

SCC has an excellent prognosis with surgical management.The significance of positive margins emphasizes the need for surgical resection with adequate margins. The high incidence of local recurrences and propensity to developing second primary cancers makes it incumbent upon us to follow these patients closely.

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