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Case report

ORAL MALIGNANT MELANOMA OF THE MANDIBULAR GINGIVA – A CASE REPORT

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ABSTRACT

Oral Malignant Melanoma (OMM) is a rare, aggressive neoplasm of melanocytic origin, which is known to have the worst prognosis than that of cutaneous melanomas. The five-year survival reported in the literature for OMM varies from 0 - 45 % whereas the overall survival for head and neck melanomas ranges between 20 and 48%. Maxillary gingiva and palate are commonly affected. Very few cases have been reported in the mandibular gingiva. It can occur at any age with the range of 20 to 80 years, but less common below 30 years. OMM may appear in various forms including pigmented macule, pigmented nodule, or a large pigmented exophytic lesion or an amelanotic variant of any of these three forms. Here we are reporting a rare case of large exophytic, multilobulated OMM involving whole of left mandibular gingiva in a 40 year old male patient.

Keywords: Melanocytes, Malignant Melanoma, Oral, Mandibular gingiva

INTRODUCTION

Malignant melanoma is the neoplasm which arises from melanocytes present in the basal layer of the epidermis of the skin and the mucous membrane of squamous epithelium. Hence melanoma is seen in oral cavity, eyes, meninges and skin.[1,2] Melanomas of mucosal surfaces have more aggressive growth phase with early invasion of submucosa.[1] Weber first described Oral Malignant Melanoma (OMM) in the year 1859.[3] The relative incidence of OMM was 0.07% according to Hormia and Vuori (1969) and 0.2% to 8% of all malignant melanomas according to Pliskin (1979) and these account for 0.5% of all oral malignancies.[4,5] In a study of 1546 melanomas, 26 were found arising in the upper respiratory tract and oral cavity; of these only 12 were primary oral melanomas. [6] Palate and the maxillary gingiva are most commonly affected intra-oral sites.[2,5-7] A very few cases of OMM involving mandibular gingiva have been reported. The prognosis of OMM is poor and the five-year survival rate range varies from 0% - 45% [8] to 5% to 20%.[9]

OMM can present with different forms such as pigmented macule, nodule or large pigmented exophytic growth.[9] The color of OMM varies from uniformly brown or black to shades of black, brown, grey, purple and red and sometimes depigmented.[5, 9] It can spread to distant sites via vascular or lymphatic routes.

Here we are reporting a rare case of large exophytic, multilobulated OMM involving whole of left mandibular gingiva in a 40 year old male patient.

CASE REPORT

A 40 year old male patient reported to the Department of Oral Medicine and Radiology, S D M College of Dental Sciences and Hospital, Dharwad, Karnataka, India, with a chief complaint of painless growth in the left lower jaw since two months, which was gradually increasing in size. Patient had no major systemic illness or any history of trauma to the head, neck or face region. Patient had the habit of betel quid chewing 5-6 times per day since 15 years. Exrta-orally there was a diffuse swelling on the left side of the face extending from corner of the mouth to about 4cm posteriorly and from ala-tragus line to lower border of mandible. Skin over the swelling was stretched. The swelling was pointing outwards, but there was no discharge (Fig 1).

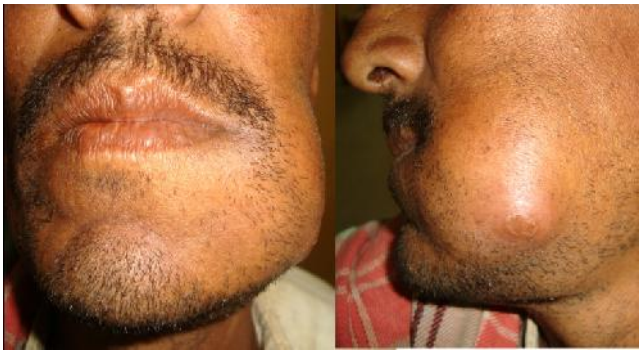

Fig 1: Extra oral swelling on the left side of the face

Single left submandibular lymph node was palpable; it was about 2cm in size, nontender and not fixed to underlying structure. On examination of the oral cavity, there was a lobulated growth of the left mandibular gingiva which was extending buccolingually from buccal vestibule to lingual vestibule and anteroposteriorly from the midline to third molar region. The surface was irregular with multiple lobulation. Growth was blackish brown in colour(Fig2).

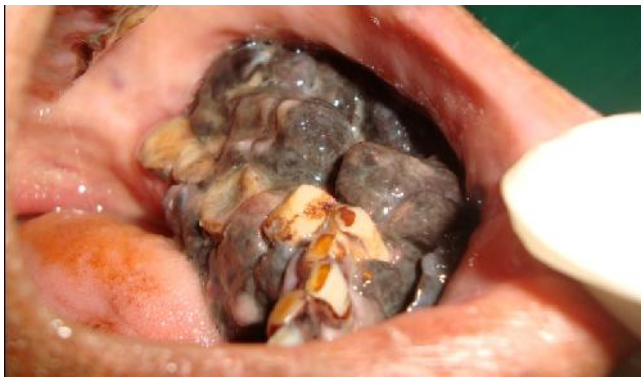

Fig 2: Intra oral photograph showing growth in the left mandibular gingiva

2nd premolar was (35) missing, with which patient gave a history of exfoliation recently. On palpation growth was firm in consistency and it was slightly tender and was fixed to the underlying bone. Grade 1 mobility was elicited with 37 and 38, grade 2 mobility with 33 and grade 3 mobility with 34 and 36. There was no other pigmented lesion in the oral mucosa or any suspicious cutaneous lesions on any part of the body. With the clinical appearance of the growth we came to the provisional diagnosis of OMM. Orthopantomograph was taken to evaluate possible bone destruction, which revealed diffuse radiolucency of alveolar bone in the region of 33 to 36 with permeative border, loss of lamina dura with 34 and 36, and mesial displacement of 36 and lingual displacement of 34 (Fig 3). Haematological and urine examinations did not reveal any significant findings. Chest radiograph showed normal radiological findings (Fig 4).

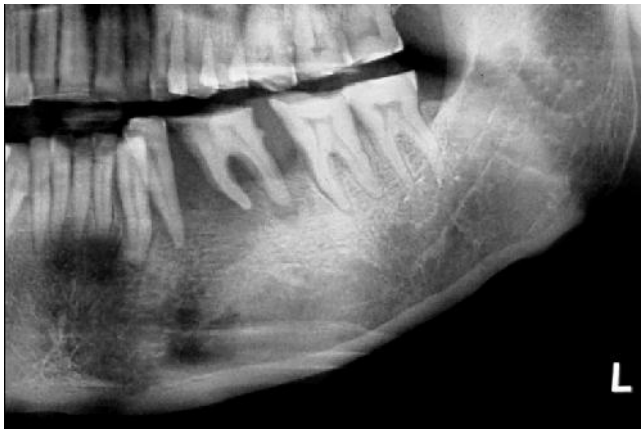

Fig 3: Cropped OPG image showing diffuse radiolucency in the region of 33 to 36, loss of lamina dura with 34 and 36, and mesial displacement of 36

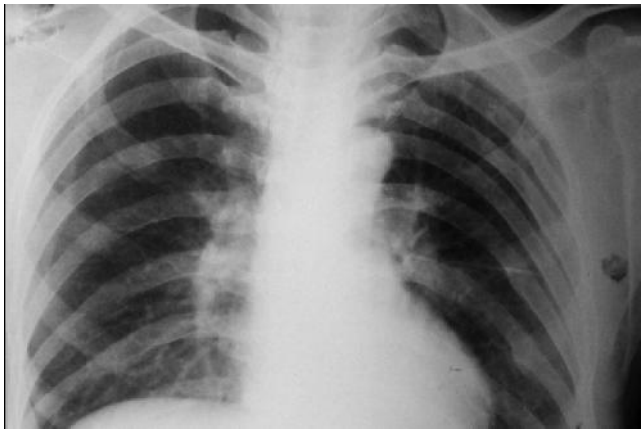

Fig 4: Chest radiograph showing normal radiological findings

Incisional biopsy was done, which confirmed our clinical diagnosis. The H and E stained section showed parakeratinized stratified squamous

epithelium with dysplastic changes, increased melanin component at the junction and invasion into the connective tissue. The atypical Melanocytes showing the junctional activity and invasion were round to spindle shaped. Pleomorphic melanocytes were also seen in the stroma. Well differentiated melanocytic cells were seen in the form of nests, islands and sheets in the fibrovascular stroma with minimal chronic inflammatory cell infiltration (Figure 5a and 5b).

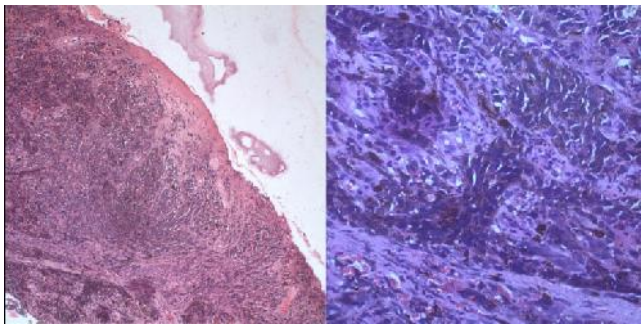

Figure 5a; H and E stained photomicrograph shows invading tumor cells with junctional activity (10x) 5b; H and E stained photomicrograph shows islands of tumor cells which are spindle shaped with minimal cytoplasm (40x)

Whole body scanning, including computerized tomograms of head, neck & brain, radiographs of long bones, abdominal ultrasonography was advised for the patient to see any distant metastasis. However the patient failed to turn up for the further investigations and treatment.

DISCUSSION

Primary oral malignant melanoma is a rare neoplasm of unknown etiology. Depending on the clinical and histopathological findings Union for International Cancer Control (UICC) has staged malignant melanoma from 1 to 3. Stage 1- localized disease, stage 2 - with regional lymph node metastases, stage 3 – with distant metastasis. Possible risk factors can be exposure to sunlight, betal quid chewing, cigarette smoking, alcohol consumption, denture irritation etc.[2,5,10-12] Our patient had the habit of betal quid chewing for about 15years. At high internal body temperature inhaled or ingested environmental carcinogens may play some role in the etiology.[5] OMM develops from melanocytes of the basal layer of the oral mucosa which arises de novo or preceded by oral pigmentations for several months to years.[5,11] It can occur at any age, average is 56 years but is less common in people below 30years.[13] Previous studies showed more prevalence of mucosal melanoma in males than in females with male to female ratio of 2:1,[6,14,15] our patient's gender also was male which is supportive to the previous reports.

Most commonly affected intra-oral sites are maxillary gingiva and palate. Pliskin found that 77% of all melanomas occurred in either the palate or the upper alveolus.[16] Takagi et al. in a total of 120 cases, found 34% in the palate and 24% in the maxillary gingiva.[17] In other series of cases 73.3% (11 of 15) and 91.4% (32 of 35) of cases occurred in the hard palate and maxillary gingiva.[18,19] Very few cases of OMM of mandibular gingiva have been reported. In our patient whole of the left mandibular gingiva was involved, which is a rare finding.

A malignant melanoma can present with different morphologic and macroscopic characteristics such as flat (maculae) or elevated (nodule or tumour) lesion with or without ulceration or an erythematous border and it can vary in size and colour or can present with an amelanotic variant of any of these forms which are rare. The prognosis for amelanotic melanoma is poorer than that of pigmented melanomas. According to Tanaka et al. there are five types of OMM depending on the clinical appearance: pigmented macular type, pigmented nodular type, nonpigmented nodular type, pigmented mixed type and nonpigmented mixed type.[5] Our case could be identified as the pigmented nodular type of OMM involving whole of mandibular gingiva on left side which is a rare finding.

The differential diagnosis for OMM includes smoking associated melanosis, nevi, post inflammatory pigmentation, melanotic macule, medication induced melanosis, Addison's disease, Peutz-Jeghers syndrome, amalgam tattoo, melanoplakia, melanoacanthoma, Kaposi's sarcoma etc.[20 – 22] Biopsies of pigmented lesions are done to exclude malignant melanoma when no other etiology is found. Malignant melanoma must be suspected when there is variation in colour (red to black-brown) within a pigmented lesion, particularly when it has an asymmetrical or irregular outline or sudden appearance of a large pigmented lesion, particularly when it has an exophytic component, or has erythematous or ulcerated areas in the pigmented area. Once diagnosed with biopsy radical resection of the primary lesion is the treatment of choice which

could be combined with radiotherapy and/chemotherapy.[5]

OMM often go unnoticed since they are clinically asymptomatic in the early stages and they usually merely present as a hyperpigmented patch on the gingival surface. However biopsy becomes necessary when there is a change in colour or asymmetric growth present within the pigmented lesion. Delayed diagnosis and its biological aggressiveness make the prognosis extremely poor. Hence a high index of suspicion, early detection and diagnosis for any pigmented gingival lesions cannot be overemphasized.

In a follow up study of 15 oral malignant melanoma patients a mean survival time was 16.9 months, and 5-year survival rate was 6.6% after the treatment.[16] Because of the aggressive growth, metastasis and local recurrence even after treatment it has poor prognosis. Hence meticulous clinical examination of the oral and oropharyngeal mucosa should be performed in all patients.

CONCLUSION

A high level of suspicion, a careful history and a thorough examination, including the oral cavity and neck, from health providers regarding these malignancies are essential. Any change in the signs and symptoms must be seriously considered so that early diagnosis and prompt treatment will be possible with better prognosis.

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Conflict of interest: Nil

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