

Oral Malignant Melanoma of the Mandibular Gingiva – A Unusal 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. Primary malignant melanoma of the mouth is an extremely rare tumor arising from the uncontrolled growth of melanocytes found in the basal layer of the oral mucous membrane. It has a higher prevalence in blacks, Japanese, and Indians of Asia due to more frequent finding of melanin pigmentation in oral mucosa of these races. Nearly 80% of oral malignant melanomas (OMM) arise in the mucosa of the upper jaws in elderly patients, with the majority occurring on keratinizing mucosa of the palate and alveolar gingivae. 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 Clinically, it is easy to overlying epithelium. Here we are reporting a rare case of large exophytic, multilobulated OMM involving whole of left mandibular gingiva in a 30 year old male patient.

Keywords: melanocytes, malignant melanoma, Oral, mandibular gingiva

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1. Introduction

Oral melanoma is an extremely rare tumor arising from uncontrolled growth of melanocytes found in the basal layer of oral mucous membrane. 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] Its incidence varies from 0.2% to 8% of all melanomas. Palate and the maxillary gingiva are most commonly affected intra-oral sites. A very few cases of OMM involving mandibular gingiva have been reported. These are mostly asymptomatic and detected only when there is ulceration or hemorrhage of the overlying epithelium. 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. Palate and the maxillary gingiva are most commonly affected intra-oral sites. [2,5,6,7]. A very few

cases of OMM involving mandibular gingival 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.

2. Case Report

A 30 year old male patient reported to the Department of Oral Medicine and Radiology, vokkaligara sangha dental College and Hospital, bangalore, Karnataka, India, with a chief complaint of bleeding gums and sensitivity of teeth in the left lower back tooth region since 1 day and also complains of black discoloration of gums in lower left back tooth region since 3 months. Patient complains of bleeding gums since one day bleeding was spontaneous and sensitivity in lower back tooth. Patient also gave a history of greyish black growth in the left cheek inside the mouth from past 3 months which is of same size since the patient noticed it. Medical history- Patient gives history

Rheumatic Heart diseases and is on medication with penidol injection once in 3 weeks since 3 years. Dental history– Patient first visit to dentist. Extra oral swelling on the left side of the face: nothing significant.



Figure 1. Intra oral photograph showing growth in the left mandibular gingival

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 (Figure 2).



Figure 2.

A solitary exophytic papilomatous growth was present in the left lower lingual alveolar mucosa extending into the vestibule in the region of (Figure 3) 34,35,36,37,38 measuring about 7*3 cm, linear in shape with raised edge, colour of the growth was greyish black. buccal gingiva showed greyish black plaque irt 33 to 38 interspersed with normal mucosa.



Figure 3.

On palpation the growth attached to the lingual alveolar mucosa and was firm in consistency and it was slightly tender and was not fixed to the underlying bone or lingual vestibule. 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 36 with loss of lamina dura, (Figure 4). Haematological and urine examinations did not reveal any significant findings. Chest radiograph showed normal radiological.



Figure 4.

Single left submandibular lymph node was palpable; it was about 2cm in size, nontender and not fixed to underlying structure.

Incisional biopsy was done, which confirmed our clinical diagnosis. The H and E stained sections showed parakeratinized stratified, (Figure 5a and Figure 5b). oral mucosal melanoma may exhibit a radical or vertical pattern of growth. the radical or superficial spreading pattern is often seen in macular lesions; clusters of pleomorphic melanocytes exhibiting nuclear atypia and hyperchromatism proliferate within the basal cell region of the epithelium, and many of the neoplastic cells invade the overlying epithelium (pagetoid spread) as well as the superficial submucosa. Once vertical growth into the connective tissue is established, the lesions may become clinically tumefactive. In our present case there was proliferation of atypical melanocytes seen in vertical and radical pattern (Figure 5c and Figure 5d) along the basal layer and invading downward into connective tissue indicating poor prognosis.

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)



Figure 5a. (arrow mark indicates) increased keratinized layer



Figure 5b. arrow mark indicates vertical growth pattern of melanocytes

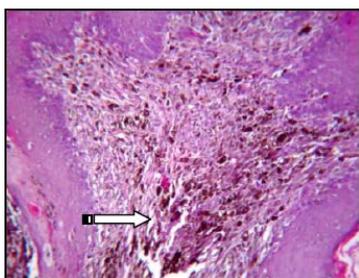


Figure 5c. Arrow mark indicates malignant melanoma atypical melanocytes in subepithelium with vertical growth

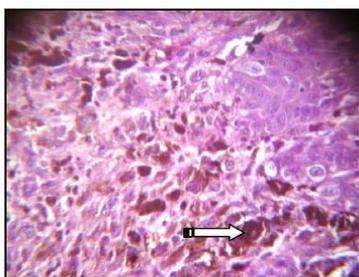


Figure 5d. Arrow mark indicates atypical melanocytes

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.

3. 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, betel quid chewing, cigarette smoking, alcohol consumption, denture irritation, inhaled or ingested environmental carcinogens may play some role in the etiology [2,5]. 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. It can occur at any age, average is 56 years but is less common in people below 30 years. Here we report a case who age was 30 years [13]. Previous studies showed more prevalence of mucosal melanoma in males than in females with male to female ratio of 2:1. Most commonly affected intra-oral sites are maxillary gingiva and palate. Very few cases of OMM of mandibular gingiva have been reported. According to Tanaka et al. there are five types of OMM depending on the clinical appearance: pigmented macular type, pigmented nodular type, non pigmented nodular type, pigmented mixed type and non pigmented mixed type. Pigmented macular which spread laterally or superficially. These lesions have a good prognosis if they are detected early and treated before the appearance of nodular lesions, nodular lesion indicates invasion into deeper connective tissue. (ie vertical growth phase) which carries poor prognosis. Our case could be identified as the pigmented exophytic nodular type of OMM involving mandibular

gingiva on left side which indicates poor prognosis. The prognosis for amelanotic melanoma is poorer than that of pigmented melanomas. 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. 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.

Microscopically, oral mucosal melanoma may exhibit a radical or vertical pattern of growth. the radical or superficial spreading pattern is often seen in macular lesions; clusters of pleomorphic melanocytes exhibiting nuclear atypia and hyperchromatism proliferate within the basal cell region of the epithelium, and many of the neoplastic cells invade the overlying epithelium (pagetoid spread) as well as the superficial submucosa. Once vertical growth into the connective tissue is established, the lesions may become clinically tumefactive. In our present case there was proliferation of atypical melanocytes seen in vertical and radical pattern along the basal layer and invading downward into connective tissue indicating poor prognosis. Once diagnosed with biopsy radical resection of the primary lesion is the treatment of choice which could be combined with radiotherapy and/chemotherapy. 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 should 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. 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.

4. Conclusion

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

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