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Case report *Medical research*

Malignant melanoma of buccal mucosa – A case report

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ABSTRACT

Melanoma is a malignant neoplasm of melanocyte origin arising from the neural crest cells. Although most melanomas arise from the skin, they may also arise from the mucosal surface. Oral melanomas comprise less than 0.2 to 8% of all melanomas with hard palate and maxillary gingiva being the most frequently involved sites. Due to asymptomatic and painless presentation diagnosis is delayed. Oral melanoma has a low survival and its prognosis is poor and worse than that of cutaneous melanoma. This article describes a case of malignant melanoma of buccal mucosa in a 45 year old male patient.

KEY WORDS: Malignant melanoma, oral cavity, buccal mucosa

INTRODUCTION

Melanoma is a malignant neoplasm of melanocyte origin arising from the neural crest cells which constitute the melanin pigment in the basal layer of the epithelium. Malignant melanoma is the third most common skin malignancy accounting for 3 to 5% of all cutaneous malignancies. Although most melanomas arise from the skin, they may also arise from the mucosal surface or other sites wherein neural crest cells migrate [1,2]. Malignant melanoma of the mucosa is very rare, highly malignant and aggressive [3]. In 1859 Weber reported the first case of primary malignant melanoma of oral cavity [1,4,5]. Oral melanomas comprise less than 0.2 to 8% of all melanomas with hard palate and maxillary gingiva being the most frequently involved sites [1, 2, 3, 4, 6].

A case of malignant melanoma of buccal mucosa in a 45 year old male patient is presented below.

CASE REPORT

A 45 years old male residing in rural area, farmer by occupation, presented to the Out Patient Department with history of swelling on the left side of cheek since 3 years. The swelling was gradually increasing in size causing difficulty in speech. On oral examination a brownish black ulcerated growth was seen in the left buccal mucosa measuring 10 x 8 cm. On palpation swelling was nodular, non tender, firm in consistency and bled on manipulation. Submandibular lymph node was palpable measuring 2 x 1 cm. CT scan showed a large soft tissue mass in the region of left buccal mucosa (Fig. 1).

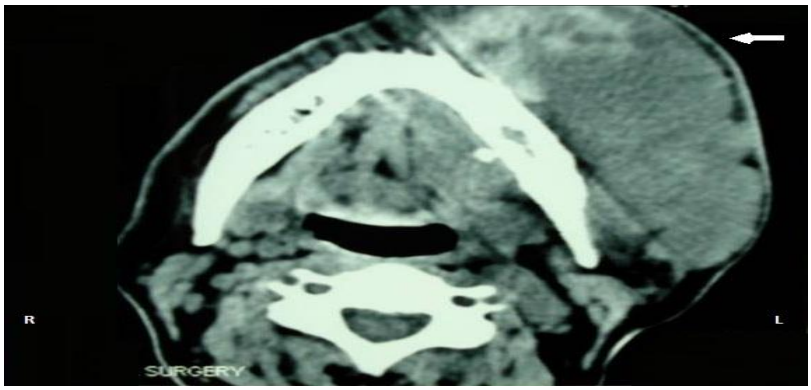

Fig. 1: CT scan showing a large soft tissue mass on buccal mucosal aspect.

Biopsy from the mass done previously revealed it to be malignant melanoma. Patient underwent radiotherapy but the tumour did not respond. Hemimandibulectomy with removal of the mass was performed (Fig. 2).

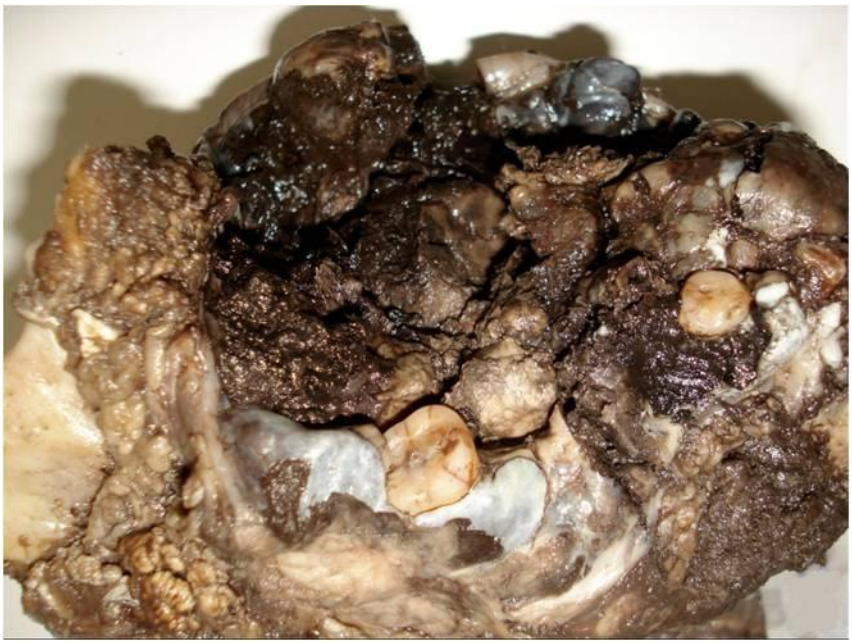

Fig. 2: Hemimandibulectomy specimen showing brownish black ulcerated mucosal growth on buccal aspect measuring 10 x 8 cm.

Histopathologic findings revealed lobules, nests and sheets of round to polygonal cells with large nuclei and prominent nucleoli. Binucleation, multinucleation, mitotic activity and areas of necrosis were also present. Large amount of brown pigment was seen (Fig. 3). At places lymphocytic infiltrate was seen around the tumour. The overlying skin was ulcerated and tumour was extending into the surrounding skeletal muscle and parotid gland. Lymph node showed metastatic deposits. The final diagnosis given was Malignant melanoma left buccal mucosa, Stage II

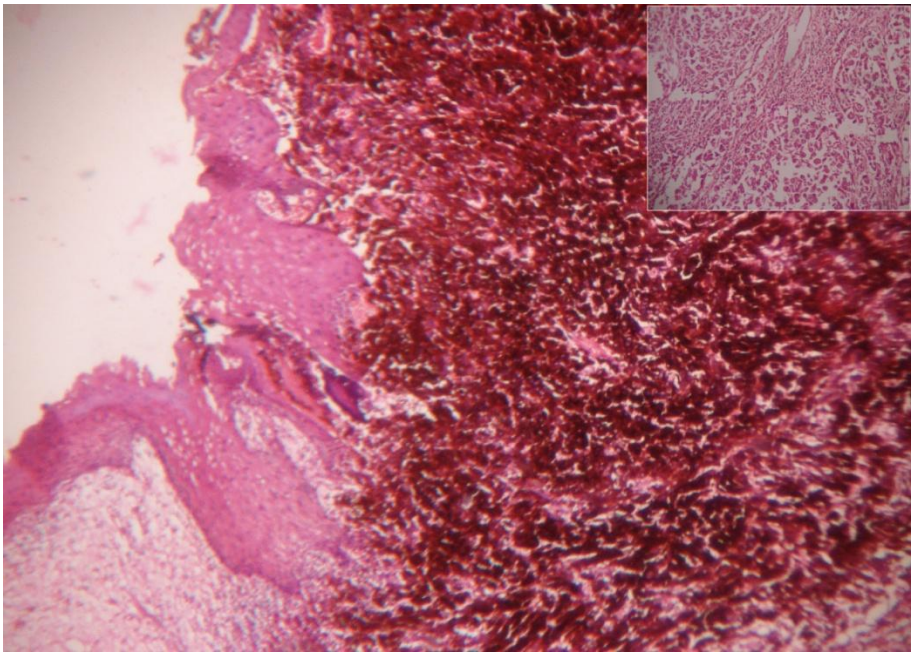

Fig. 3: Photomicrograph showing buccal mucosa with underlying heavily brown pigmented tumour. Inset (after depigmentation) shows lobules and nests of round to polygonal cells with large nuclei and prominent nucleoli.

DISCUSSION

Oral melanomas are extremely rare lesions. Oral melanomas represent 1.6% of all head and neck malignancies, 0.5% of all oral malignancies and 0.2 to 8% of all the total cases of melanoma of the body [7]. Primary oral melanomas are believed to arise de novo (30%), from pre existing pigmented areas or from nevus [3]. Sun exposure does not play a role in development of oral lesions. Etiology of oral melanomas is unknown however mechanical trauma including injury from ill fitting dentures, cigarette smoking, alcohol consumption and infection are possible causative factors. Betel nuts, nitrosamine, tobacco and formaldehyde exposure have been suggested to induce oral melanomas [1,3,5]. Onset is usually between 40 to 70 years of age with an average of 55 years and it is rare before 20 years [1,5,6]. Male to female ratio is 2:1 [4,8]. Commonly involved intraoral sites are hard palate (32%), maxillary gingival (16%), mandibular gingival (7%), tongue(7%), buccal mucosa(7%), upper and lower lip(7%) [8]. Symptoms at presentation include swelling, ulceration, pigmentation, discomfort, pain, bleeding, paresthesia or ill-fitting dentures [7,8]. It is initially asymptomatic leading to delay in diagnosis [7]. This patient presented with swelling since three years which was slowly growing and due to lack of visit to the dentist intraoral pigmentation was detected very late. Patient neglected the swelling due to absence of pain and presented at a very late stage of diagnosis. Oral lesions are asymmetric, irregular in outline, occasionally multiple, ranging from light brown to dark brown, black to blue and red. Surface architecture can range from macular to ulcerated and nodular [8]. About 10% of cases are amelanotic. 95% are S-100 positive. Specific markers include HMB 45, Melan-A and antityrosinase [2]. Oral melanomas may not show typical features of malignany like induration and ulceration [8]. Rolled borders are not a feature of oral melanoma because the atypical melanocytes exhibit pagetoid mode of spread resulting in uniform epithelial thickening [2]. Due to differences in anatomy of oral mucosa and skin it is inappropriate to categorize oral mucous membrane malignant melanoma into Clark and Breslow classification [3, 5]. Lopez et al classified oral malignant melanoma into five types: Pigmented nodular type, non pigmented nodular type, pigmented macular type, pigmented mixed type and non pigmented mixed type [1]. This case could be identified as pigmented nodular type. Greene et al suggested the following criteria for primary oral

malignant melanoma: Demonstration of melanoma in oral mucosa, junctional activity and inability to demonstrate extra oral primary melanoma [1, 2, 7]. This case could be considered primary oral malignant melanoma based on these criteria.

Clinical staging system for oral malignant melanoma [4]:

STAGE I

Primary tumour present only (T any N0 M0)

- Level I – Pure in situ melanoma without evidence of invasion or in situ melanoma with microinvasion
- Level II – invasion upto lamina propria
- Level III – deep skeletal tissue invasion into skeletal muscle, bone or cartilage.

STAGE II

Tumour metastatic to regional lymph nodes (T any N1 M0)

STAGE III

Tumour metastatic to distant sites (T any N any M1)

Our case had invasion into the skeletal muscle and submandibular lymphnode. Hence this is a case of stage II melanoma. The patient was referred to the oncologist for further treatment. Differential diagnosis of pigmented lesions of oral mucosa includes tattoo (amalgam, graphite), oral melanotic macule, nevi, melanoacanthoma, melanoma, smoking induced melanosis, medication induced melanosis (antimalarial drugs & minocycline), post inflammatory pigmentation, Addisons disease, Puetz Jeghers syndrome, Kaposi's sarcoma [1,2,3,7]. At presentation 13 to 19% have lymphnode metastasis [2,4]. Lymphnode metastasis from mucous membrane melanomas is less frequent than cutaneous melanomas according to Conley and Pack [4]. The presence of lymphatic metastasis at the time of diagnosis decreases the survival rates. The other organs involved via lymphatic and vascular channels are lung, liver, brain and bones [1,2]. Oral melanoma has a low survival and its prognosis is poor and worse than that of cutaneous melanoma [3]. 5 year survival rate ranges from 15% to 38% [1,6] as compared to cutaneous melanoma which ranges from 35% to 45% [5]. Reasons for poor prognosis include diagnosis at a late stage, mucous membrane being thinner than the skin leading to quick vertical growth phase with access to the rich lymphatic and vascular network and anatomic restrictions making radical surgery difficult [2]. The recommended treatment is wide surgical excision with or without neck dissection along with chemotherapy, radiotherapy and immunotherapy [1,2].

CONCLUSION

Oral malignant melanoma is a rare, aggressive and rapidly invasive tumour with a poor prognosis. Hence early diagnosis and intervention is crucial for better prognosis.

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