Oral malignant melanoma: early recognition and treatment emphasized

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Abstract:

Oral malignant melanoma (OMM) accounts for 5% of all oral malignancies. Primary malignant melanoma is a rare aggressive neoplasm found in the oral cavity, estimated at between 0.2 and 8 percent of all melanomas and occurs approximately four times more frequently in the oral mucosa of the upper jaw, usually on the palate or alveolar gingivae. A case of malignant melanoma is being discussed in 67-year-old female, who was initially diagnosed with chronic periodontitis with melanotic gingiva. After biopsy, the results were suggestive of primary malignant melanoma of oral cavity. This report presents a case of oral malignant melanoma and highlights the need for early identification and treatment of this lesion.

Key words: malignant melanoma, maxilla, melanin pigment

Introduction

OMM is a potentially aggressive tumour of melanocytic origin.1 Melanomas account for 0.5% of all oral malignancies and only about 1% arise in the oral mucosa.2,3,4 It occurs between 30 and 90 years of age, with a higher incidence in the 6th decade and with a mean age of 56 years. It shows higher prevalence in yellows, blacks, Japanese, and Indians of Asia due to more frequent finding of melanin pigmentation in oral mucosa of these races.5 The most frequently affected oral sites are the palate and the maxillary gingiva.3 OMMs are asymptomatic at initial stages that delays the patient concern to approach the doctor and which further delays their detection and subsequent treatment. The delay detection may be the cause for the poor prognosis with a 5-year survival being between 15% and 38%.6 We emphasize the word caution when dealing with the pigmented lesions which may present as nodular or elevated growths with ill-defined borders as these pigmented lesions can be malignant melanoma which act as silent killers and maybe we are the one to save patient's life.

Case report

A-67-year-old Burmese woman was referred to the oral and maxillofacial department of University of Dental medicine, Mandalay, Myanmar for consultation and management of pigmented oral mucosal lesion at right anterior gingival region of the maxilla and palate. Past dental history revealed that patient noticed that her teeth were mobile in the upper right quadrant since 5 months. So she applied indigenous traditional Myanmar medicine to the swelling every night for 2-3 days. She suffered from the appearance and disappearance of swelling repeatedly and then the swelling gradually increased in size & the colour changed to black in the labial gingival region as well as in the palate and anterior part of maxilla. She made a consultation with local doctor who after routine examination diagnosed her with chronic periodontitis with melanotic gingival and referred her to University of Dental medicine Mandalay, Myanmar for necessary treatment.

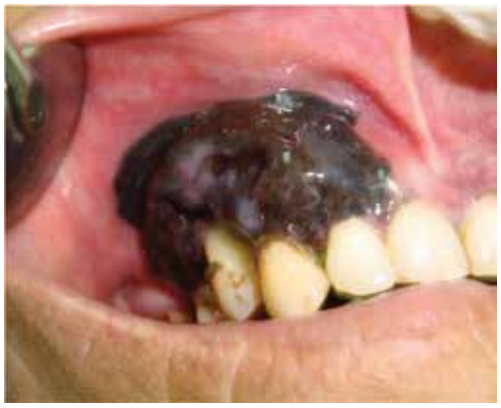

Figure1. Intra-oral photograph showing intraoral extension of the lesion from right maxillary central incisor to distal of right maxillary second premolar and superiorly to depth of maxillary anterior vestibule

General examination and past medical history were non-contributory. On extra oral examination, patient had facial asymmetry and swelling at right canine fossa region of mid face. There was loss of nasolabial fold and tenderness on palpation. Intraoral examination showed dark bluish to black, firm and nodular swelling of approximately 3.5 x 2.5 cm in right maxilla involving maxillary gingiva and hard palate. Lesion was extending from right maxillary central incisor to distal of right maxillary second premolar and superiorly to depth of maxillary anterior vestibule, and posteriorly nearly up to the midline of the palate. (Figure 1 and figure 2) On palpation, lesion was non tender and no bleeding was encountered, and first and second maxillary right premolars had grade II mobility and the canine had grade I mobility. Cervical lymph nodes were not palpable. Also hematological, urine examination did not reveal any significant findings. Based on the clinical findings provisional diagnosis of OMM was given.

Incisional biopsy was done from upper right premolar region and tissue obtained was sent for histopathological examination. Microscopic section revealed acanthotic stratified squamous epithelium with numerous atypical melanocytes in the basilar portion of the epithelium with invasion into the superficial lamina propria. Individual cells were round to spindle shaped containing brown to black melanin pigment, which was suggestive of malignant melanoma. (Figure 3) After seven days the lesion was removed with wide excision and partial maxillectomy from maxillary right central incisor to second premolar under general anaesthesia. (Figure 4)

Primary closure with gauze pack and palatal plate closure was done. Histopathological examination of the excised segment and tissue was consistent with the initial diagnosis of malignant melanoma.

Histopathological examination revealed the following features: microscopic section showed the marginal stratified squamous epithelium showed acanthosis and free of neoplastic polygonal cells. Sub epithelial fibromuscular stroma was bearing a versatile pigmented tumor and exhibited neoplastic polygonal to spindly cells with pleomorphic vesicular nuclei, prominent nucleoli and abundant eosinophilic

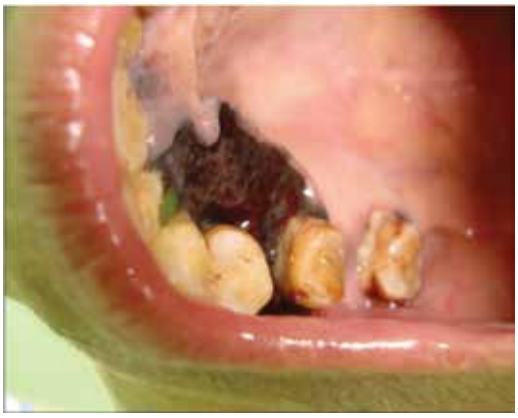

Figure 2. Intra-oral photograph showing posterior extension of the tumour nearly up to the midline of the palate.

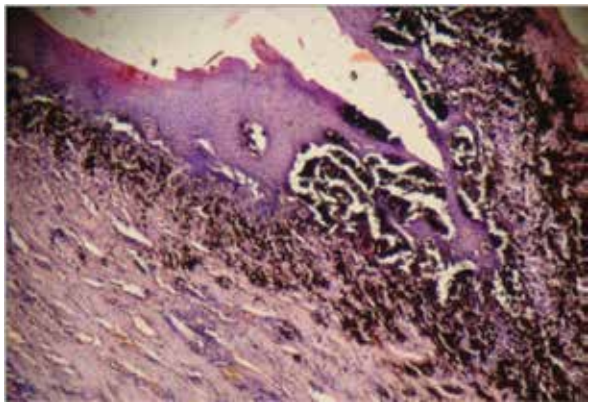

Figure 3. Microphotograph showing numerous atypical melanocytes in the basilar portion of the epithelium with invasion into the superficial lamina propria.(H&E, original magnification x10)

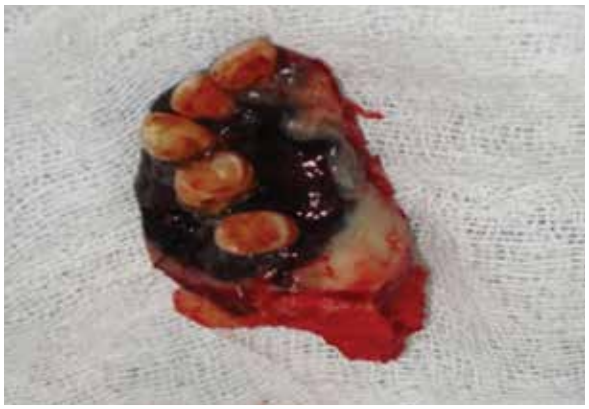

Figure 4. Resected specimen

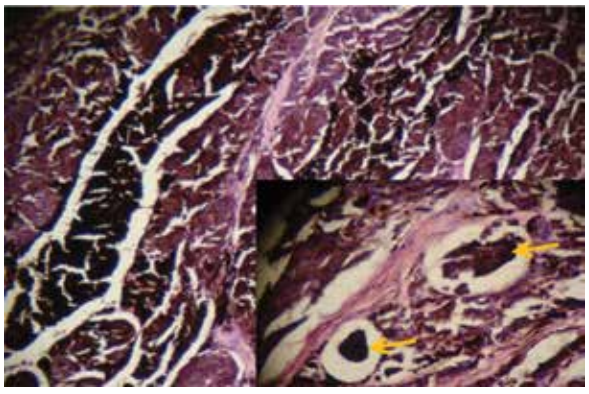

Figure 5. Microphotograph showing a versatile pigmented tumor in subepithelial fibromuscular stroma . (H&E, original magnification x10), Inset showing tumour emboli in blood vessels marked with arrow. (H&E, original magnification x40)

Histopathological examination revealed the following features: microscopic section showed the marginal stratified squamous epithelium showed acanthosis and free of neoplastic polygonal cells. Sub epithelial fibromuscular stroma was bearing a versatile pigmented tumor and exhibited neoplastic polygonal to spindly cells with pleomorphic vesicular nuclei, prominent nucleoli and abundant eosinophilic cytoplasm, most containing brown-black pigments. (Figure 5) Neoplastic cells were also observed adjacent to groups of mucous salivary glands and on the surface of adipose tissue. The healing was uneventful and patient was on follow up for one year and later was lost to follow up.

Discussion

Oral melanoma is an extremely rare tumor arising from uncontrolled growth of melanocytes found in the basal layer of oral mucous membrane.7The etiology of oral melanoma is unknown. Exposures to sunlight, chronic irritation from ill-fitting dentures and tobacco use, have been implicated as possible risk factors. However, there has been no evidence to support these theories.3,8,9 Current thought is that primary oral melanomas arise either from nevus, preexisting pigmented areas, or de novo (30% cases).8,11,12

OMMs are common in males whereas females are more prone for cutaneous lesions, and in rare situations their oral lesions have less aggressive course than males.13 The present case was seen in a female. OMMs are more commonly seen in elderly age group and rarely before 20 years of age.14 This case also was observed in 67 year old female patient. One-third of the patients are asymptomatic at the time of diagnosis and bleeding is the most common presenting symptom of the patient.15Melanotic pigmentation prior to the diagnosis of melanoma is found in one-third of the patients. More rarely, the tumour is immediately manifested in the nodular, infiltrative stage on apparently healthy mucosa.

In the present case also patient was asymptomatic and only complained of pigmentation and bleeding from the lesion. Tanaka et al., identified five types of OMM on the basis of the clinical appearance: pigmented nodular type, non-pigmented nodular type, pigmented macular type, pigmented mixed type and non-pigmented mixed type.16,17,18

Differential diagnosis of pigmented lesions occurring in the oral cavity includes oral melanotic macule, smoking-associated melanosis, melanosis associated with drugs like antimalarial drugs and minocycline, melanoplakia, pituitary-based Cushing's syndrome, post inflammatory pigmentation, melanoacanthoma, melanocytic nevi of the oral mucosa, blue nevi, nevi of Spitz, Addison's disease, Peutz-Jeghers syndrome, amalgam tattoo, Kaposi's sarcoma, physiologic pigmentation and pigmentation related to the use of heavy metals.19

All these conditions give rise to diagnostic dilemma and there are chances of wrong diagnosis. Therefore careful evaluation and proper consideration of differential diagnosis is a must. In the current case also local doctor diagnosed it as chronic periodontitis with melanotic gingiva. Green et al., described criteria for diagnosis of primary oral melanoma which includes demonstration of melanoma in the oral mucosa, presence of junctional activity, inability to demonstrate extra oral primary melanoma.6

Histological features showing atypical melanocytes, usually larger than the normal melanocytes and having varying degree of nuclear pleomorphism and hyperchromatism in the epithelial and connective tissue junction is suspicious for oral malignant melanoma.21 Usually, OMM can be diagnosed with confidence on H&E-stained sections. If pigment is completely absent immuno-histochemical stains are of significant help. Useful markers include S-100 protein, gp100 (HMB-45), Mart-1 (Melan-A).21

Surgery remains the most effective treatment for malignant melanoma and aggressive surgical control of local disease may result in prolonged disease free survival.22 The current guidelines for the surgical management of primary cutaneous melanoma recommend a diagnostic excisional biopsy of the lesion followed by a wide local excision where the diagnosis is proven. However, in the oral cavity, the size of the lesion or anatomical limitations, particularly the presence of teeth, may preclude the taking of an excisional biopsy.23,24 In this case we did incisional biopsy first followed by excision of the lesion with wide margin. The prognosis of OMM is poor with a five year survival rate of 0-55% of cases.24

To conclude, OMM is a rare, aggressive and invasive tumour. Clinically these tumours are asymptomatic which can be confusing to arrive at the final diagnosis and may lead to diagnostic dilemma. Thus the significance of early detection and prompt treatment for this entity should be stressed as it can save one's life.

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