MALIGNANT MELANOMAOF HARD PALATE – A CASE REPORT

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Abstract
Malignant melanoma as name suggests is a neoplasm arising from cells of melanocytic origin. Primary malignant melanoma is seen on organ systems of neural crest cell migration. Oral mucosal melanomas are of rare occurrence and account for only 0.2 to 0.8% of all malignant melanomas and 0.5% of oral neoplasms. A male patient, 55 years of age, reported to the department with the complaint of burning sensation and bleeding gums associated with discoloration in relation to left maxillary molars since 2 years. On intraoral clinical examination, a non-tender pigmented purplish black patch was evident on the left side of the hard palate. An incisional biopsy was performed. On histological examination soft tissue lesion demonstrated features suggestive of malignant melanoma.
Keywords: Malignant melanoma, Neoplasm, Incisional biopsy.

Introduction

Malignant melanoma as name suggests is a neoplasm arising from cells of melanocytic origin. The melanocytes are found along the tips and periphery of rete pegs in basal layer of oral mucosa. They are derived from neural crest cells and contribute to presence of melanin pigmentation in basal layer.[1]Melanocytes are known to migrate commonly to the skin, retinal, uvula tract, and other ectodermally derived mucosa. They migrate less commonly to endodermally derived mucosae, such as nasopharynx, larynx, tracheobronchial tree, and esophagus; therefore, a lower frequency of melanoma in these locations is observed.[2] Primary malignant melanoma is seen on all sites and organ systems of neural crest cell migration.

Most common forms of melanoma are cutaneous (constituting 90% of melanoma), ocular and only slightly more than 1% arises from mucosal surface.[3,4] Thus oral mucosal melanomas are of extremely rare occurrence and account for only 0.2 to 0.8% of all malignant melanomas and 0.5% of oral neoplasms. Oral malignant melanoma is first described by Weber in 1859. [4,5]

Case Presentation

A male patient, 55 years of age, reported with the chief complaint of burning sensation and bleeding gums associated with discoloration in relation to left maxillary molars since 2 years. He consulted a local dentist & was prescribed gum paint for local application and massage. He gave no history of any systemic illness or trauma to the head and neck region. General physical examination was done and no abnormality was detected and all vital signs were under normal limits.

On intraoral clinical examination, a non-tender pigmented purplish black patch was evident on the left hard palate. The lesion extended from mesial of left maxillary first molar to distal end of the left maxillary tuberosity antero posteriorly. Palatally it extended on to the left hard palate up to 5 mm from the midline. Buccally, the lesion involved the gingival and alveolar mucosa of the maxillary left molars. The gingival was enlarged with bleeding on provocation. The lesion was smooth textured but showed a variegated appearance with varying shades of red, purple and black with well-defined borders. All blood investigations were done and no abnormality was detected. (Figure 1)

Figure 1: *Showing pigmented lesion present on left side of maxilla.*

An incisional biopsy was performed. Grossly the biopsy specimen was brownish-black in color, measuring 7.5mm × 3mm × 3mm in size (Figure 2)

Figure 2: *Showing incisional biopsy specimen*

On histological examination soft tissue lesion demonstrated sheets of tumor cells in connective tissue stroma. The surface showed the presence of thin epithelium in one area; in other areas this epithelium appeared necrosed.

The underlying stroma showed large epitheloidtumor cells with moderate to intense brown melanin pigmentation resembling epitheloid melanocytes (Figure 3 and 4). Malignant tumor cells showed high grade of pleomorphism with large, round to irregular intensely haematoxyphilic nuclei in a pink cytoplasmic background. These cells were arranged in alveolar formation or theques. Superficial layer showed areas of dropping off these malignant epitheloid melanocytes from the epithelium into connective tissue. Few spindle shape melanocytes were also evident with varying grades of melanin pigmentation arranged haphazardly. Connective tissue showed the presence of chronic inflammatory infiltrate chiefly lymphocytes. Features were suggestive of malignant melanoma.

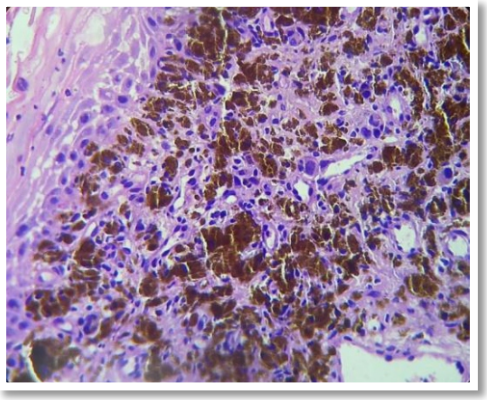

Figure 3: *Low power magnification*

Discussion

Mucosal melanoma of the oral cavity is a rare malignancy. It has no known predisposing factors and is difficult to diagnose and manage.[6] In most cases around 33 to 55% of cases melanomas arise on pre-existing melanosis but exact etiology are unknown. Mechanical trauma is considered as one of the possible etiological factor. Other factors include use of tobacco, alcohol and exposure to formaldehyde;[7] currently most melanoma are thought to arise denovo.[2] Common site of melanoma in oral mucosa is hard palate [7,2,5] and maxillary alveolar crest [3] followed by maxillary gingiva, mandibular gingiva, buccal mucosa, tongue and floor of mouth.[7,2] In the present case, lesion extended from right side of hard palate in relation with upper first premolar to third molar.

It is commonly seen in age group between 41 to 60 years [3,5] average age being 55 years [5] and predominantly seen in males; male to female ratio, 2:1.[7,3]present case is reported in 55 years old male. There is associated racial predilection also seen with malignant melanoma as it is more common in Japanese people accounts for 11 to 14% of cases as compared to Caucasians and more common in Eastern countries than West and rarely seen in Australia. Hence oral melanoma cases are frequently found in countries like India, Japan and Uganda. [8]

Clinically intra oral malignant melanomas are easy to diagnose due to pigmentation[2] which can be uniformly brown or black or may show variation in color with various shades of black, brown, purple and red or depigmentation [9] and irregular outline [2] although they are asymptomatic which leads to late detection of disease and further leading to poor prognosis with 5 year survival [2] within range of 15 to 38% after diagnosis [7] and associated symptoms like rapid enlarged nodular growth with oral manifestations like loosening of tooth,[9] pain and bleeding from involved area occurs late in course of disease after ulceration or haemorrhage of overlying epithelium. [5] in some cases patients feel burning sensation over the ulcerated area of lesion as in the present reported case. Also satellite foci may be seen surrounding the primary tumor. [9] The first symptoms of oral melanoma described by Berthelsen included asymptomatic swelling and occasional bleeding, where he found that only 2 (14%) patients had a pain.[6]

Oral melanomas have an initial phase which is characterized by radial growth and a phase of invasion of the underlying tissues (called “vertical growth phase”).[9]

The 1995 Westop Banff workshop classified separately from cutaneous lesions and terminology should include descriptive terms such as melanoma in-situ and invasive melanoma. The present case shows an invasive pattern.

Umedaa et al. described 3 growth phases of OMM [4] and this case shows a nodular phase of proliferation consisting of spindle shaped or epitheloid tumor cells in the submucosa.

The ABCDE criteria which is used in the clinical diagnosis of cutaneous melanoma may also be used for oral malignant melanomas. These are: asymmetry in the shape of the lesion, border irregularities, color variation, diameter >6 mm and evolving changes in the lesion over time are characteristic criteria.[2]

OMM may demonstrate significant heterogenecity in morphological features, developmental process and biological behavior that renders the clinical diagnosis extremely difficult.[4] Differential diagnosis has to be considered for pathologies or conditions like:

1. Localized pigmentation

• Pigmentation due to metals like amalgam, lead and graphite but these pigmentation are usually present near restorations

• Melanotic macule is of small size, mostly present on lips and due to increase in melanin synthesis

• Nevus is due to increased proliferation of melanocytes usually from birth.

• Post inflammatory pigmentations due to healing of lesions like lichen planus.

2. Diffuse pigmentation

• Physiologic pigmentation present from birth
• Smokers melanosis shows history of smoking
• Endocrine disorders represent systemic symptoms
• Associated with other symptoms like Albrights and peutzjeghers findings should be present during general examination.

The common sites of metastasis are lung, bone, brain, and liver, with widespread involvement occurring in advanced disease.[11]

The prognosis reported is poor and a 5-years survival rate of 0% to 55%. Survivals for all oral mucosal melanomas is slightly over 2 years from the time of diagnosis, which depends on the presence or absence of lymph node involvement (18 months vs. 46 months).[3]

Prevention and screening for OMM include annual evaluation of pigmented lesions of oral mucosa. Early diagnosis is promoted by careful oral examination and early biopsy of pigmented and suspicious non pigmented masses.

The main treatment modality is surgical excision & as suggested by clinical researchers that excision of the tumor has to be performed with a surgical margin of 1.5 to 2 cm of free tissue of the microscopic lesion.

Fine needle aspiration or exfoliative cytology of primary pigmented lesions is contraindicated.[12]

Dacarbazine-DTIC and INF-alpha-2b have been used in the treatments associated in different combinations of BCG and recombinant interleukin-2 (rIL-2). [2,8,12]

When metastasis is not present after examination and investigations, surgery is the preferred option for treatment [5] and can combined with radiotherapy, chemotherapy or immunotherapy.[9]

10–20% regional relapses have been reported after complete removal, and a 10–25 % 5 years survival rate. [13]

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