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Intraoral Malignant Melanoma – Concise Appraisal Of A Precarious Neoplasm

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Abstract : *Intraoral malignant melanoma is an extremely rare, potentially aggressive neoplasm arising from melanocyte precursors. Accounting for 1-2% of all oral malignancies, they represent one of the most life-threatening forms of cancer which readily invade or metastasize to any organ. Herein we report a case of malignant melanoma of the anterior mandibular gingiva in a 50-year-old female and emphasize the fact that suspicious pigmented lesions should be investigated further.*

Keywords: *Malignant, Melanocytes, Gingiva, Pigmented lesion, melanoma*

I. Introduction

Primary oral mucosal melanoma is a malignant neoplasm of melanocytes, arising from a benign melanocytic lesion or *de novo* from melanocytes within normal skin or mucosa[1].It was first described by Weber in 1895.[2] It is a rare neoplasm with unknown etiology representing 1-2% of all oral malignancies and 0.2-8% of all melanomas.[3] It is believed to be the most deadly and biologically unpredictable of all human neoplasms, with a dismal prognosis.[1] Early detection of malignant melanoma is imperative as it is associated with an aggressive biologic behavior contrary to its innocuous clinical presentations. This case report attempts to point up the same.

II. Case Report

A 50-year old female patient [Figure 1] reported to the Department of Oral Medicine and Radiology with the chief complaint of a blackish swelling on the left lower front gum. She noticed a black discoloration 2 years back which gradually enlarged to a swelling in this period. She gave no history of pain, paresthesia, denture use, irritation from teeth, irradiation, pus/blood discharge, any deleterious habits or trauma to the head and neck region. Medical and family history was irrelevant. General physical examination was insignificant and her vital signs were within normal limits. Solitary, nontender, soft and mobile left level Ib lymph node was palpable on extraoral examination.

Intraorally a sessile, blackish growth with lobulated, smooth surface and irregular periphery involving the labial &lingual gingiva extending from 32 to 34 region, measuring 2x1.5x1cm in size was present [Figure 2 and 3]. It was rubbery and nontender on palpation. Radiographic examination (orthopantomogram) showed interdental bone resorption in relation to the lesion [Figure 5]. Ultrasonographic examination revealed single, round, enlarged left submandibular lymph node with retained hilum and normal hilar vascularity [Figure 4]. A complete blood cell count, biochemical analysis, and urine analysis were insignificant and under normal limits.

A provisional diagnosis of malignant melanoma was considered and an incisional biopsy was performed which confirmed the diagnosis. Histopathology specimen demonstrated atypical melanocytes scattered among basal epithelial cells infiltrating connective tissue stroma in the form of clusters arranged in an organoid fashion. Melanocytes exhibited pleomorphism and atypical mitotic figures. Melanin deposits were noted both in epithelium and connective tissue in abundance. All these features were suggestive of malignant melanoma [Figure 6 &7]. Work up for distant metastases (CT scan of chest, brain and abdomen and bone scintigraphy) was negative in this patient.

III. Discussion

Melanocytes in the skin originate from the embryologic neural crest cells and migrate to the basal layer of epidermis. They provide protection against the harmful effects of solar exposure.[3] In oral mucosa, melanocytes are located at the tips and peripheries of the rete pegs. Oral lesions with increased melanin pigmentation are common; however, melanocytic hyperplasias or hamartomas are rare.

Primary oral mucosal melanomas are highly malignant neoplasms occurring much less frequently than their cutaneous counterparts. They metastasize or locally invade tissues more readily than other malignant

tumors of the oral cavity.[4] The 'chameleonic' and diverse morphology, relatively asymptomatic occurrence, rarity of lesions, poor prognosis and the necessity of a highly specialized treatment are factors that could influence the diagnostic work-up and management of these malignancies.[5] It is found to be highly localized in maxillary gingiva, hard palate and alveolar ridge (80%) and manifests rarely on mandibular gingiva. We are reporting such a rare occurrence in our case. Peak age of onset is between the ages of 40 to 70 years (mean, 55 years) and the lesion is three times more common in men than in women.[2]

The etiology of malignant melanoma remains elusive and the suggested risk factors include UV radiation, skin and hair color, numerous freckles, tendency to burn and tan poorly, PUVA therapy, presence of nevi (numerous, large, atypical), xeroderma pigmentosum, immunosupression, denture irritation, exposure to tobacco, chemicals, petroleum and printing products.[6] In our case, patient was not exposed to the above factors and the possible etiology may be de novo.

Mostly melanomas arise from apparently normal mucosa, whereas about 30-50% are preceded by oral pigmentations for several months or even years.[3] Pain, ulceration, bleeding etc. may be present in the late course. Oral lesions may be uniformly brown/black or show variation in color. About 10% of cases are amelanotic. In the case of amelanotic melanoma, melanocytes do not produce melanin and the lack of production may cause diagnostic confusion at the light microscopic level.[4] Immunohistochemical studies showing S-100 protein, Homatropine methylbromide(HMB-45), Melanoma antigen recognized by T-cells (MART-1)/Melan-A tyrosinase and MITF(Microphthalmia associated Transcription Factor) reactivity of the lesional cells are beneficial in distinguishing melanomas from other malignancies.[7] HMB-45 and MART-1 form the basis of ongoing immunotherapy protocols.[8]

Based on the clinical appearance, Lopez et al. identified five types of oral malignant melanoma: Pigmented nodular type, non-pigmented nodular type, pigmented macular type, pigmented mixed-type, and non-pigmented mixed type.[2]The differential diagnosis of Oral Mucosal Melanoma include Oral melanoacanthoma, Oral melanotic macule, melanocytic nevus, Kaposi's sarcoma, amalgam or graphite tattoo, post-inflammatory pigmentation, Addisons disease, Peutz-Jeghers syndrome and Laugier-Hunziker syndrome.[9]

Greene et al. proposed criteria (1953) for primary malignant melanoma which includes: (1) Demonstration of melanoma in oral mucosa (2) Presence of junctional activity (3) Inability to demonstrate extra oral primary melanoma.[10] The Clarks grading system assessing the depth of invasion and Breslow measuring the thickness of tumor have no validation as prognostic factors in oral mucosal melanomas due to rarity of the lesion and absence of a true dermis in the oral cavity. However, a simple TNM staging (three stages) has a prognostic value.[1]

I. Only primary tumor present.
II. Metastasis present (II a – adjacent skin involved, II b – regional lymph nodes involved, II ab- adjacent skin and regional lymph nodes involved) and,
III. Metastasis beyond regional lymph nodes

Common sites of metastasis are the lymph nodes, liver, lung. Computed Tomography and CECT scan of brain, abdomen, chest, Bone Scintigraphy, ultrasonography, MRI (intracytoplasmic melanin shows atypical intensity), combined PET-CT (distinguishing melanoma from nevi) etc. have to be carried out. Microscopically mucosal melanomas can show two principal patterns, a) An in situ pattern in which the neoplasm is limited to the epithelium and the epithelial-connective tissue interface (junctional) and b) an invasive pattern in which the neoplasm is found within the supporting connective tissue. A combined pattern of invasive melanoma with in situ component is typical for most advanced lesions. [3]

Recommended treatment is ablative surgery with tumor-free margins in combination with chemotherapy and, to a lesser extent, immunotherapy or irradiation. There is a recognized need for an evidence-based treatment protocol choice but probably, multimodal therapy may be proven more effective in the treatment of oral mucosal melanoma.[11] Radiation therapy may be used as primary treatment in cases with very poor prognosis and those in which surgery is rejected, although it is generally agreed that melanomas are not radiosensitive. The following protocol refers to the extent of margins,[12]

1. Excision of the primary lesion including at least 1 – 2 cm of healthy tissue based on the primary tumor extent and thickness
2. Lymph node dissection and removal of lymph node metastases
3. Consideration of radiochemotherapy (limited evidence as to the benefit of postoperative radiotherapy exists for other anatomical sites).

Overall 5-year survival rate for oral melanomas is 15–38%.[4] Poor prognosis of melanoma may be due to early invasion of deeper structures due to proximity of bone and muscles increasing likelihood of metastasis. Rich vascular supply of oral cavity further aids in dissemination of melanoma.

Serum lactate dehydrogenase (LDH), melanoma-inhibiting activity (MIA), S100B and vascular endothelial growth factor (VEGF) are various serological markers available for melanoma. Elevated levels of

LDH and MIA are associated with more advance stages and poorer prognosis. These markers are useful in monitoring the patient's clinical course of the disease and response to therapy. [1]

IV. Figures And Tables

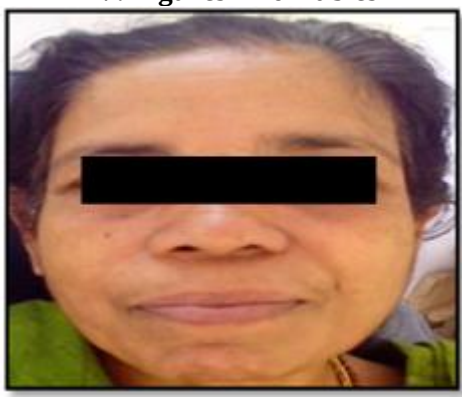

Figure1. Extraoral view of the patient

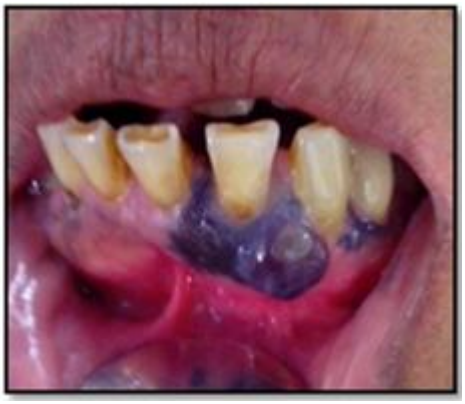

Figure2. Intraoral photograph showing bluish-black pigmentation on the labial attached gingiva extending from the left mandibular lateral incisor to the first premolar region

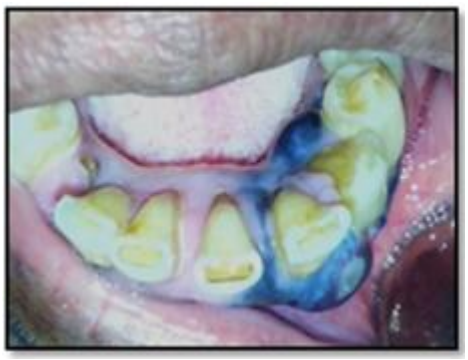

Figure 3. Intraoral photograph showing bluish-black pigmentation on the lingual attached gingiva extending from the left mandibular lateral incisor to the first premolar region.

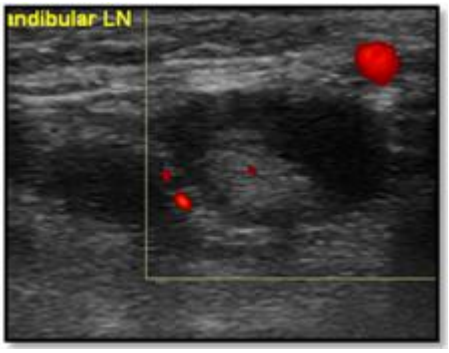

Figure 4. Ultrasonogram- Left level Ib lymph node with retained hilum and hilar vascularity

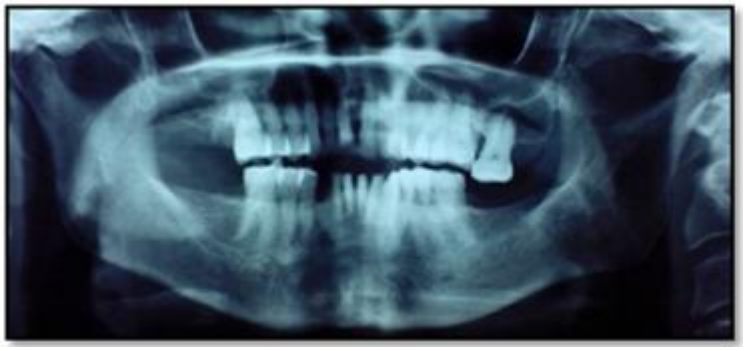

Figure5 Panoramicview shows interdental bone loss in relation to mandibular incisor region

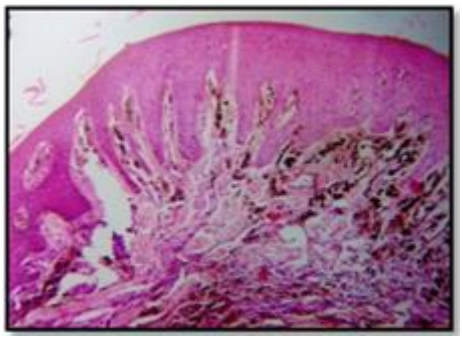

Figure 6. Atypical melanocytes scattered among basal epithelial cells with invasion of connective tissue**.**

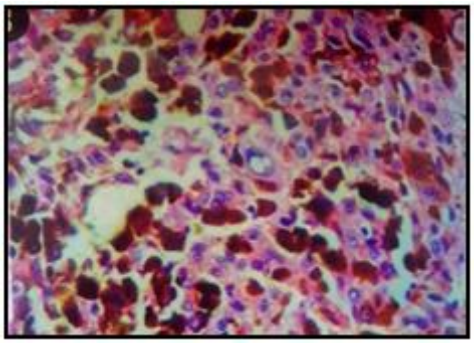

Figure 7. Melanocytes showing pleomorphism and nuclear pseudoinclusions

V. Conclusion

Patient underwent excision of primary lesion, radical neck dissection and postoperative radiotherapy. She has been on follow-up every 6 months for the past one year and so far we have found no distant metastasis. Oral melanomas are often overlooked or misinterpreted as benign pigmented lesion until it is well advanced. Clinician should maintain high index of suspicion and early detection and diagnosis of pigmented lesions is important. Multicenter studies collecting data on treatment strategies necessary to identify the best treatment algorithm.

References

[1]. Babburi, S., Subramanyam, R. V, Aparna, V. & Sowjanya, P. Intraoral malignant melanoma. Niger. Med. J. **54,** 278–81 (2013).
[2]. Padhye, A. & D'souza, J. Oral malignant melanoma: A silent killer? J. Indian Soc. Periodontol. **15,** 425 (2011).
[3]. Juvekar, M., Karle, R., Wankhede, P. & Munde, A. Malignant melanoma of the oral cavity: Report of two cases. Contemp. Clin. Dent. **5,** 227 (2014).
[4]. Thomas, P. S., Babu, G. S., Anusha, R. L. & Shetty, S. Oral malignant melanoma--an unusual presentation. Gerodontology **29,** e1241–3 (2012).
[5]. Manigandan, T., Sagar, Gv., Amudhan, a, Hemalatha, V. & Babu, Na. Oral malignant melanoma: A case report with review of literature. Contemp. Clin. Dent. **5,** 415 (2014).
[6]. Ahmadi-Motamayel, F., Falsafi, P. & Baghaei, F. Report of a rare and aggressive case of oral malignant melanoma. Oral Maxillofac. Surg. **17,** 47–51 (2013).
[7]. Pandiar, D., Basheer, S., Shameena, P. M., Sudha, S. & Dhana, L. J. Case Report Amelanotic Melanoma Masquerading as a Granular Cell Lesion. **2013,** (2013).
[8]. Fetsch P, Marincola F, Filie A, Hijazi Y, Kleiner D, Abati A. Melanoma-associated antigen recognized by T cells (MART-1): the advent of a preferred immunocytochemical antibody for the diagnosis of metastatic m... - PubMed - NCBI. Cancer [Internet]. 1999 [cited 2016 Feb 4];87(1):37–42. Available from: http://www.ncbi.nlm.nih.gov/pubmed/10096358
[9]. JJ Eisen D, Voorhees JJ. Oral melanoma and other pigmented lesions of the oral cavity. J Am Acad Dermatol. 1991 Apr;24(4):527–37.
[10]. García, R. G. et al. Melanoma de la mucosa oral . Casos clínicos y revisión de la literatura Melanoma of the oral mucosa . Clinical cases and review of the literature. (2005).
[11]. Symvoulakis, E. K. et al. Oral mucosal melanoma: a malignant trap. Head Face Med. **2,** 7 (2006).
[12]. Thomas, M., Borgmann, A., Wolff, K.-D. & Mitchell, D. A. Oral Malignant Melanoma, Treatment of Metastatic Melanoma. (Intech, 2011). at <http://www.intechopen.com/books/tre atment-of-metastatic-melanoma/oral-malignant- melanoma>