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Oral mucosal malignant melanoma: A case report

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Abstract
Malignant melanoma of the oral cavity is a rare tumor that occurs due to the uncontrolled growth of melanocytes found in the basal layer of the oral mucous membranes. Majority of the oral melanomas occur in maxilla, especially on keratinizing mucosa of the palate and gingiva. Clinically oral melanomas have different types like pigmented nodular type, pigmented macular type, pigmented mixed type, non-pigmented nodular type and non-pigmented mixed type. Here, we present a case report on 57 year old female patient with oral mucosal malignant melanoma.

Keywords: Oral mucosal malignant melanoma, rare tumor, keratinizing mucosa

Introduction
Weber in 1859, described Oral malignant melanoma (OMM) [1]. It is an extremely rare tumor that arises from the uncontrolled growth of melanocytes in the basal layer of the oral mucous membranes [1, 2]. Melanocytes are derived from neural crest cells which migrate to skin, mucous membranes and other sites. The incidence of melanoma has increased in the past decades with an annual increase of 3-8% worldwide [3]. Cutaneous form and the ocular form.are the most common form of melanoma Mucosal melanoma involving sinonasal cavity, oral cavity, pharynx, larynx, and upper oesophagus [4] occur very rarely and account for only 0.5% of all oral neoplasms [5]. Nearly 80% of oral melanomas arise in the upper jaw, majority occurring on keratinizing mucosa of the palate and alveolar gingivae [2]. It has predilection for males with 2.8:1 male to female ratio and the age range is from. 20-83 years' with an average age of 56 years [6].
The clinical presentation of this condition varies widely, with following five types: Pigmented nodular type, pigmented macular type, pigmented mixed type, non-pigmented nodular type and non-pigmented mixed type [2, 4, 6]. Non pigmented forms of malignant melanoma generally cannot be distinguished clinically from other benign or malignant oral tumors which are confirmed only through biopsy. A pigmented lesion of the oral cavity should be looked at with suspicion since it shows no clinical specificity [7]. This case report has OMM of the maxillary anterior gingiva with cervical lymph node metastasis with detailed investigations such as biochemical, histopathology, ultrasound and contrast enhanced computed tomography (CECT) and emphasize on the early diagnosis and treatment of this deadly condition.

Case Report
A 57-year-old female patient reported to the Department of Oral Medicine and Radiology, H.P Government Dental College, Shimla with the chief complaint of a painless, pigmented growth in the upper and lower lip, which started as a pin point lesion one and half years ago. She gave the history of pigmented lesion which started as a pin point lesion and gradually extended to the palatal gingival margin to right buccal mucosa and right commissural region. Patient did not report of any other systemic illness or trauma to the concerned region. There was no relevant medical/dental/family history and no deleterious/addictive habits reported. Extraoral examination revealed solitary a non-scrapable pigmented patch located on the left side of upper lip, left lower lip and left commissure region measuring approximately 4X3 centimetres and extending intra orally. Overlying surface was smooth [Figure 1]. The lesions were non-tender on palpation.

Left submandibular lymph node of approximate size 2 x 2 cm was palpable, firm in consistency, tender and fixed to the lower border of the mandible.

On intraoral clinical examination, a non-scrapable pigmented patch was evident on the left side of oral cavity involving the hard palate, left buccal mucosa, left upper and lower vestibular region and left commissural region of about 5 × 5 cm in size approximately [Figure 2a]. The colour of the overlying mucosal patch was black with irregular extensions on the periphery of the lesion towards the palate to involve rugae and crossing the midline to the right side of hard palate [Figure 2 b & c].

Based on the history and clinical examination, a provisional diagnosis of malignant melanoma was made. The differential diagnosis included melanosis, drug induced pigmentation, mucosal nevus, melanotic-macule and melanoacanthoma.

Patient was advised routine blood investigations, liver function tests, Serology (HIV, HbsAg), Chest X-Ray, and Contrast enhanced computed tomography (CECT), Positron emission tomography (PET SCAN) and Incisional biopsy. Routine blood investigations were within normal limits. There was evidence of Right Hilar prominencein Chest X-Ray (Figure 3).

In CECT, there was evidence of ill-defined heterogeneously enhancing thickening measuring 3 mm seen in Bucco-masseteric region and lip near angle of mouth on left side. It is extending up to skin with ill-defined fat plane (Figure 4a & b) along with few sub centric lymph nodes in bilateral station IB, II and III were present. PET scan revealed no abnormal FDG uptake or soft tissue lesion along the left buccal/ masseter region and Faint FDG avid subcentimeric bilateral level IA and IB lymph nodes were noted. (Micro metastasis cannot be ruled out), (Figure 5a & b).

Incisional Biopsy revealed sheet of tumour cell filling the dermis infiltrating into overlying epidermis. These tumour cells are showing eccentrically placed irregular hyperchromatic nuclei, prominent macronucleoli, moderate amount eosinophilic-cytoplasm intracytoplasmic melanin pigment and frequent atypical melotic figures. Histopathological findings were consistent with malignant melanoma of left side of mouth, lip and inner aspect of mouth (Figure 6a & b). Patient was advised for surgical excision combined with chemothearpy, but the patient refused to take any treatment.

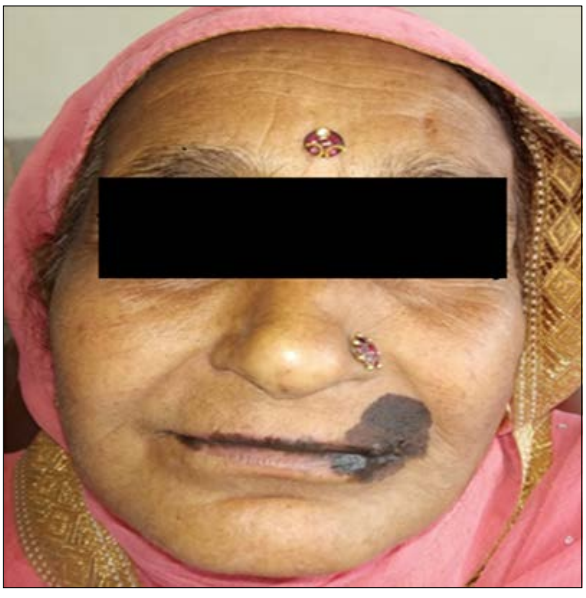


Fig 1: Overlying surface was smooth

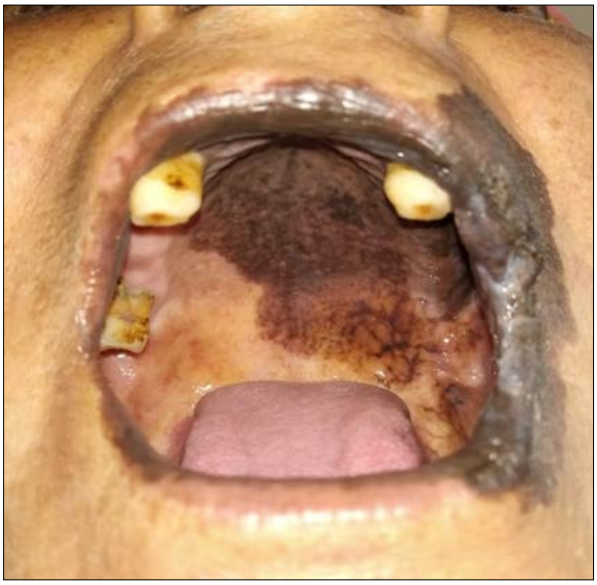


Fig 2a: A non-scrapable pigmented patch was evident on the left side of oral cavity involving the hard palate, left buccal mucosa, left upper and lower vestibular region and left commissural region of about 5 × 5 cm in size approximately

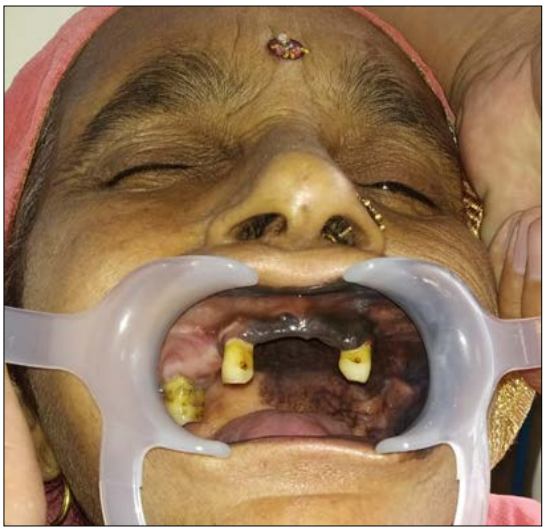


Fig 2b

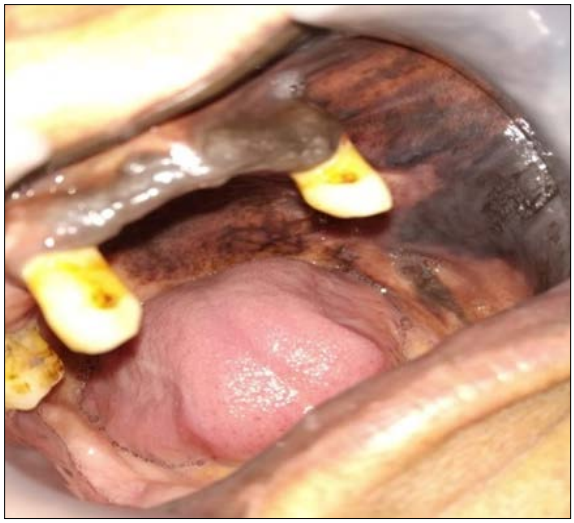


Fig 2c:

Fig 2b and 2c: The colour of the overlying mucosal patch was black with irregular extensions on the periphery of the lesion towards the palate to involve rugae and crossing the midline to the right side of hard palate

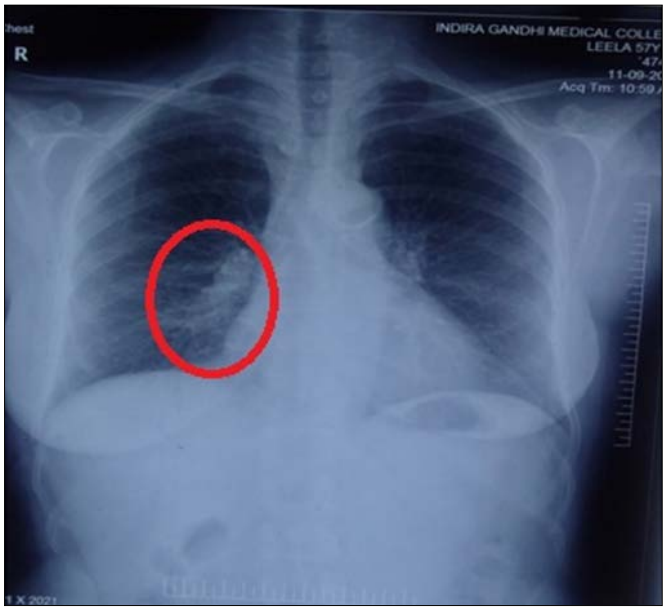


Fig 3: Evidence of Right Hilar prominencein Chest X-ray

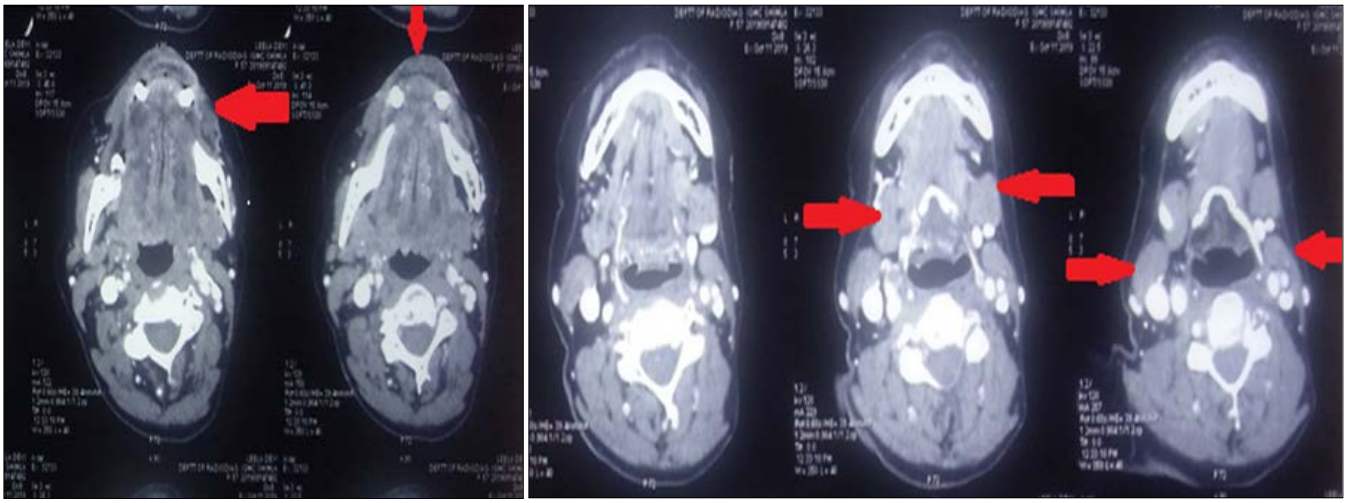


Fig 4a **Fig 4b**

Fig 4a and 4b: Evidence of ill-defined heterogeneously enhancing thickening measuring 3 mm seen in Bucco-masseteric region and lip near angle of mouth on left side. It is extending up to skin with ill-defined fat plane

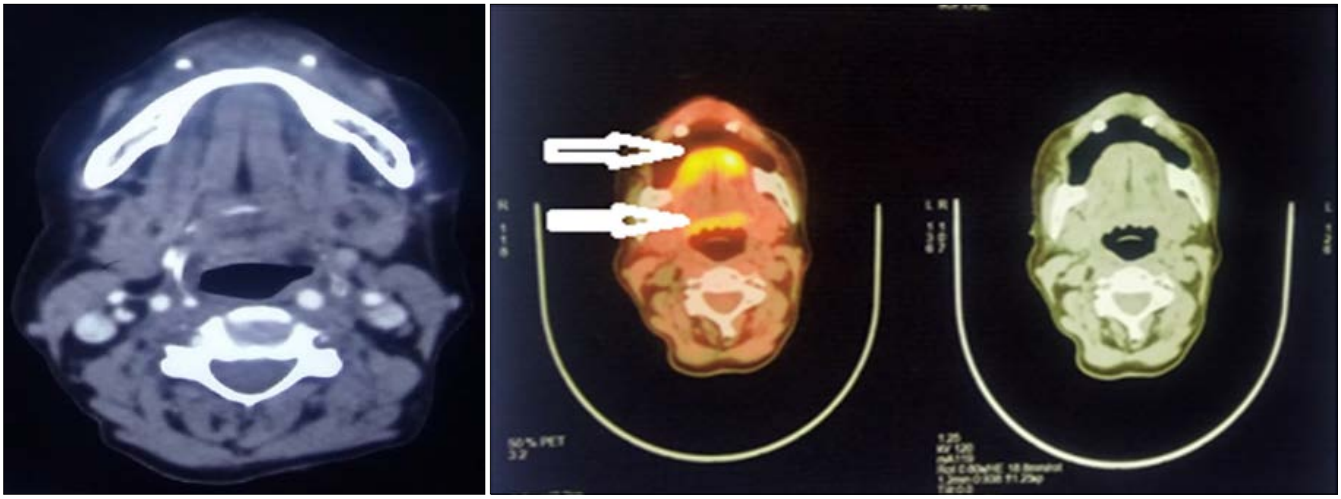
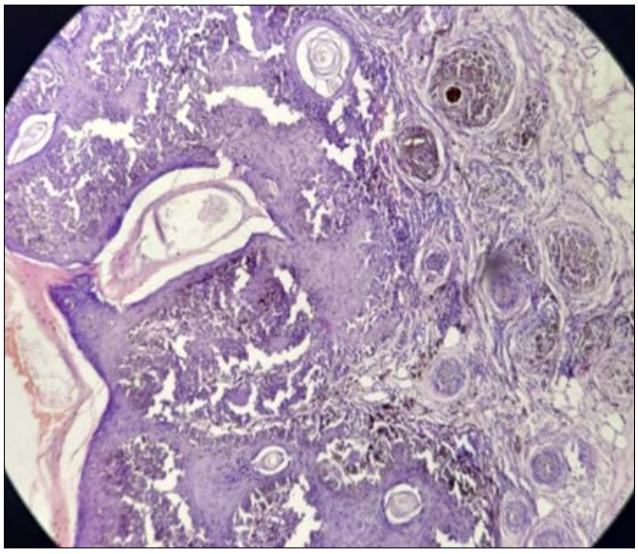


Fig 5a: **Fig 5b:**

Fig 5a and 5b: PET scan revealed no abnormal FDG uptake or soft tissue lesion along the left buccal/ masseter region and Faint FDG avid subcentimeric bilateral level IA and IB lymph nodes were noted



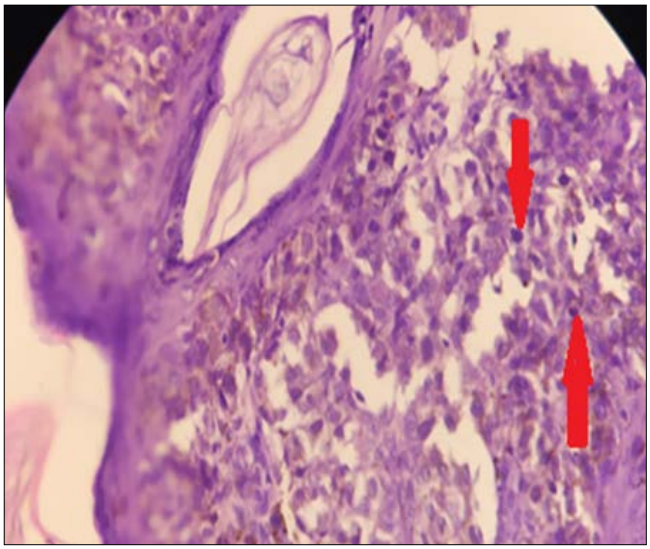


Fig 6a **Fig 6b**

Fig 6a and 6b: Histopathological findings were consistent with malignant melanoma of left side of mouth, lip and inner aspect of mouth

Discussion

OMM demonstrates different variants in morphological features that makes the clinical diagnosis extremely difficult [2, 6]. The differential diagnosis of OMM can be a melanotic macule, smoking associated with melanosis, post-inflammatory pigmentation, Peutz-Jeghur syndrome, melanoplakia, Addison's disease, melanoacanthoma, nevi, amalgam tattoo, Kaposi's sarcoma [7].

Histologically, OMM resembles squamous cell carcinoma, having large polyhedral cells and eosinophilic cytoplasm, fusiform and mixed type of cells with invasion into the connective tissue [9]. Melanoma is reactive for vimentin, S-100, protein, HMB-45, melanin-A, tyrosinase and microphthalmia transcription factor immunohistochemically [8]. According to the 1995 Westop Banff workshop, Oral melanoma should be classified separately and should be called as melanoma *in situ* and invasive melanoma [10]. Along with this, two further types were added, Invasive melanoma with an *in situ* part (mixed *in situ* and invasive oral mucosal melanomas) and the other type defined as an atypical melanocytic proliferation (borderline lesion) to identify lesions that may have originated from an *in situ* melanoma [10]. Three criteria, for the diagnosis of primary oral melanoma were proposed by Greene *et al*. [12].

- Demonstration of malignant melanoma in the oral mucosa.
- Presence of "Junctional activity" (i.e., melanocytes arranged along the basal layer) in the lesion.
- Inability to show malignant melanoma at any other primary site [12].

Mucosal melanoma and cutaneous melanoma have similar growth patterns. Lesions of less than 2 mm thick have a significant survival advantage compared to those with lesions greater than 2 mm [13, 14]. The American joint committee on cancer does not have published guidelines for the staging of Oral Malignant Melanomas. A simple TNM classification of malignant tumors (TNM) clinical staging system for oral mucosal melanoma can recognize three stages and this system has been proven to be of prognostic value [14, 15].

OM is difficult to manage pharmacologically. Combination of drug therapy (dacarbazine), therapeutic radiation and immunotherapy are used in the treatment of cutaneous melanoma [17]. Dacarbazine alone is not effective in the treatment of OM, however, in conjunction with interleukin-2, it may have a therapeutic value [18, 19]. Other immunotherapeutic drugs activate killer T cells and inhibit suppressor T cells, helping in the reduction in the size of the melanoma. The preferred treatment remains in favour of the surgery. Early recognition and treatment of OM greatly improve the prognosis [20, 21].

Tumor vaccines are being widely used as adjuvant therapy for melanoma as they have the potential for preventing recurrence and prolonging survival rate [22, 24]. Chemotherapy can be used in patients with advanced Stage II or III melanoma for prolonged survival. Irradiation therapy is the only used modality in the older population and in medically compromised patients [25]. Literature review indicates 5 years survival rate with a broad range of 4.5-10-25%.

Conflict of Interest: Not available

Financial Support: Not available

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