Case Report
Journal of Pierre Fauchard Academy (India Section), *Vol 35(3), DOI: 10.18311/jpfa/2021/27515, September 2021 p. 97-100*
ISSN (Print) : 0970-2199
ISSN (Online) : 2405-772X

Clinically Aggressive Presentation of Malignant Melanoma in Oral Cavity: A Case Report

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Abstract

Malignant melanoma is a rare aggressive tumor that originates from melanocytes. Melanomas are most common in the cutaneous region and are rare in the oral cavity. They account for about only 0.5% of all malignant tumors in the oral cavity. Oral Malignant Melanomas may go unnoticed since they are asymptomatic clinically but they are aggressive biologically. In the oral cavity, the hard palate and gingiva are the most common sites of involvement. Melanoma tends to metastasize more faster than other skin cancers. Therefore, early diagnosis of malignant melanoma is necessary. Melanomas that are diagnosed early can be cured with minor surgery and the survival rate and prognosis is better when it is detected earlier. We hereby report a case of a 60-year-old male patient with a complaint of swelling in the gingiva that had diffuse black pigmentation, which was diagnosed as a melanoma.

Keywords: Aggressive, Malignant Melanoma, Melanocytes

1. Introduction

Melanoma is a rare aggressive tumor, which commonly occurs on the skin. The cell of origin for this malignancy is melanocyte. Melanomas rarely occur in the oral cavity and account for only 0.5% of all malignancies in the oral cavity. The hard palate and gingiva are the most common intraoral sites of involvement. There seems to be a male predilection for melanoma. However, the age of incidence ranges from 20-80 years[1]. The World Health Organization (WHO) has defined mucosal malignant melanoma as a malignant neoplasm of melanocytes or melanocyte precursors. It is represented by the proliferation of atypical melanocytes at the epithelial-connective tissue interface, associated with upward migration into the epithelium and invasion into the underlying connective tissues[2]. In this article we report a case of oral malignant melanoma which presented as a diffuse black pigmentation in the gingiva and hard palate.

2. Case Report

A 60-year-old male patient presented to our institution with a chief complaint of swelling in the gingiva for the past 4 months. He was apparently normal before 4 months, later the swelling gradually developed in the gingiva and increased in its size. Bleeding of gums while brushing was present. The patient also gave a history of a small growth in the gingiva that was excised by his local dentist 2 years back, but the treatment details and histopathology reports were not available. He was a known asthmatic and under medication. He had a habit of smoking cigarette 1 pack/day and alcohol consumption weekly once for the past 40 years.

On extraoral examination, there was a diffuse swelling present in the upper lip, measuring about 3 × 3 cm in diameter. Borders were diffuse, skin over the swelling appeared normal. The swelling extended mediolaterally from beneath the midline of the nose to 1 mm from the corner of the mouth and superioinferiorly from the ala of nose to vermilion border of upper lip. On palpation, it was non-tender and firm to hard in consistency. Submandibular and submental lymph nodes were enlarged, tender and mobile bilaterally.

On intraoral examination, there was diffuse black pigmentation in the buccal and labial gingiva which extended into the buccal and labial mucosa. The macular lesion was asymmetric with irregular but well demarcated

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borders. Color was varying in different parts of the lesion. Multiple evolving lesions were present in many regions. In 22, 23, 24 region buccally there was a pedunculated exophytic mass which was grayish black in color, with irregular and non-ulcerated surface (Figure 1a). Diffuse black pigmentation was also seen in the palatal gingiva in relation to 13-24 region (Figure 1b). On palpation, the mass was firm, non tender and non-blanching.

Hematological investigations were within normal limits. A provisional diagnosis of oral malignant melanoma was given based on the clinical features. Incisional biopsy was done under local anesthesia in the gingival and alveolar mucosa of 15-16 region and palatally in 14 region.

Microscopic examination showed parakeratinised stratified squamous epithelium of variable thickness with atypical melanocytes. These atypical melanocytes were seen invading into the connective tissue stroma. The connective tissue showed epithelioid and spindle-shaped melanocytes arranged in the form of sheets and cords, and exhibiting features like cellular pleomorphism, nuclear hyperchromatism, and abnormal mitosis. Extensive melanin pigmentation was seen throughout the connective tissue stroma. A final diagnosis of oral malignant melanoma was given (Figure 2). The patient was referred to a higher center for further management and was lost to follow up.

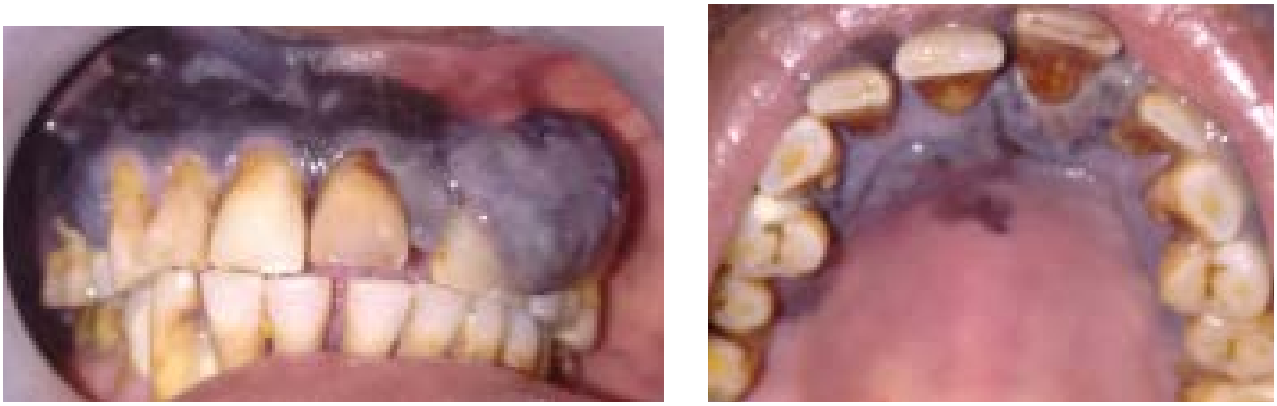


Figure 1. a) Diffuse black pigmentation in gingiva extends into labial mucosa in relation to 18-21 region and Exophytic growth in relation to 22-24 region. b). Diffuse black pigmentation in the palatal gingiva in relation to 14-24 region.

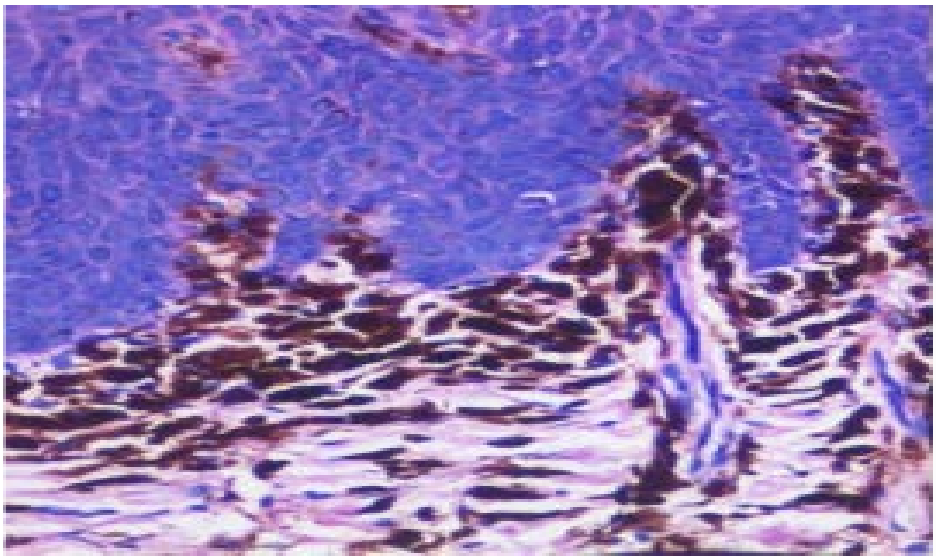


Figure 2. H and E image shows atypical melanocytes invade into the connective tissue stroma. The connective tissue stroma shows sheets and cords of epithelioid and spindle shaped melanocytes, showing dysplastic features and extensive melanin pigmentation.

Table 1. Differential diagnosis of Oral Malignant Melanoma

Sr.No	Lesion	Clinical features	Histopathologic features
1	Malignant melanoma	Dark brown to blue, gray, purple, or black pigments usually seen in the hard palate and maxillary gingiva[3].	Atypical melanocytes having different degree of nuclear pleomorphism and hyperchromatism in the epithelial and connective tissue junction[3].
2	Melanocytic nevus	Brown or black plaque in the hard palate with a rough surface or with multiple nodular areas.	Large discrete ovoid melanocytic cells arranged in sheets or cords with vesicular nucleus and pale cytoplasm[9].
3	Kaposi's sarcoma	Reddish or brownish-red nodules usually seen in the hard and soft palate and gingiva[9].	Numerous, capillary-type blood vessel, extremely cellular, consisting of proliferating spindle cells of varying size and shape with occasional mitotic figures[9].
4	Smoker's melanosis	Pin point hemorrhages at the palatal side.	Increased melanin pigmentation of the basal cell, melanin incontinence within the superficial connective tissue and scattered melanophages[10].
5	Oral melanotic macule	Elongated bluish black macule with an irregular brown periphery usually in the gingival region[11].	Oral mucosa with a normal appearance except for increased melanin pigmentation in the basal layer[11].
6	Oral melanoacanthoma	Bluish-black variegation with an irregular border in the buccal mucosa[11].	Melanocytic hyperplasia with dendritic melanocytes migrating into spinous layer[11].
7	Oral melanosis	Bluish brown pigments in the palatal region[11].	Pronounced basal hyperpigmentation without elongation of rete ridges[11].
8	Drug induced pigmentation	Bluish grey – bluish black pigments in the gingival region[12].	Melanin pigmentation in the basal layer of epithelium with or without increase in melanocytes. Dense band of chronic inflammatory cell infiltrate in the connective tissue[12].

3. Discussion

Oral Malignant Melanomas (OMM) are it was indolent and asymptomatic lesions. The lesions initially appear as variable size pigmented macules, whereas long-standing lesions can be nodular or pedunculated. The color of the lesion may range from dark brown to blue, gray, purple or black, although in swollen areas it may commonly appear as white or red macules[3].

The etiology of Oral Malignant Melanoma (OMM) is unknown. Possible risk factors for Oral Malignant Melanoma may be tobacco use and chronic irritation from ill-fitting dentures[4]. Melanomas affect all ages between 20 and 80 years and are most commonly seen in the 5th decades. They predominantly affect males. Nearly 80% of the cases involve the gingiva and palate of the oral cavity. Other sites involved are the mandible, buccal mucosa, lips, tongue and floor of the mouth[5]. In our present case, the lesion was clinically very aggressive and involved the entire maxillary gingiva and anterior region of the hard palate.

Based on the clinical features, Oral Malignant Melanomas are classified into five types. They are pigmented nodular type, non-pigmented nodular type, pigmented macular type, pigmented mixed type and non-pigmented mixed type[6]. In our present case, the lesion was pigmented mixed type. ABCDE criteria can be used to differentiate malignant melanoma clinically from a melanocytic nevus. A - Asymmetry, B - Border irregularity, C - Color variegation, D – Diameter - greater than 6 mm, E-evolving changes in the characteristic of the lesion over time[7]. Our present case fulfilled all these criteria.

Histological features of oral malignant melanoma are large atypical melanocytes having different degrees of nuclear pleomorphism and hyperchromatism, seen in the epithelial-connective tissue junction[8]. Our present case also had similar histological features along with abnormal mitosis and extensive melanin pigmentation.

Many pathologies and some physiological conditions manifest as pigmented lesions in the oral cavity and have to be considered as a differential diagnosis for

oral melanoma. A summary of clinical and histological features that can help differentiate these lesions has been tabulated in (Table 1).

The treatment for Oral Malignant Melanoma is unclear. However, surgery along with chemotherapy, radiotherapy and immunotherapy remains the most effective treatment for malignant melanoma[8]. The prognosis of patients with oral melanoma is poor. Diagnosis at the initial stages has a 5-year survival rate and the median survival rate is 18.5 months[13].

4. Conclusion

Oral Malignant Melanoma is an aggressive but asymp tomatic neoplasm. Hence, early detection and treatment of malignant melanoma is helpful to ensure a better survival rate and prognosis.

5. Acknowledgement

Nil.

6. References

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