

International Journal of Dental Science and Innovative Research (IJDSIR)

IJDSIR : Dental Publication Service

Available Online at: www.ijdsir.com

Volume – 2, Issue – 1, January - February - 2019, Page No. : 54 - 57

Oral Malignant Melanoma: a case report

¹Abhinav Srivastava, Senior Lecturer, Dept. Of Oral & Maxillofacial Surgery, Sardar Patel Post Graduate Institute of Dental and Medical Sciences, Lucknow

²Aanchal Tandon, Senior Lecturer, Dept. of Oral Pathology and Microbiology, Sardar Patel Post Graduate Institute of Dental and Medical Sciences, Lucknow

³Amrita Jayaswal, Reader, Dept. of Prosthodontics crown, bridge, implantology, Sardar Patel Post Graduate Institute of Dental and Medical Sciences, Lucknow

⁴Rajeev Bhushan Singh, Post Graduate student, Dept. of Oral Pathology and Microbiology, Sardar Patel Post Graduate Institute of Dental and Medical Sciences, Lucknow

Corresponding Author: Abhinav Srivastava, Senior Lecturer, Dept. Of Oral & Maxillofacial Surgery, Sardar Patel Post Graduate Institute of Dental and Medical Sciences, Lucknow

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Oral malignant melanoma is a very rare malignancy with unknown etiology. It is mostly seen in mid age group. A localization of oral melanoma was highly found in the maxillary gingival and palate. Gender prediliction was reported as predominance in males. Here we are reporting a rare case of malignant melanoma involving the maxillary gingiva and palate in a 45 year old female patient.

Keywords: Oral, Malignant, Melanocytes, Melanoma Introduction

Malignant melanoma is an aggressive tumor of melanocytic origin^[1]. It arises from a benign melanocytic lesion or de novo from melanocytes within otherwise, oral mucosa or normal skin^[2]. Melanomas of mucosal surfaces have more aggressive growth phase with early invasion of submucosa. Weber first described Oral Malignant Melanoma (OMM) in the year 1859. Indian studies have shown that between 20.41% and 34.4% of all melanomas at mucosal surface, and up to 16% of these tumors are

intraoral and these account for 0.5% of all oral malignancies^[3]. The most common site of occurance is maxillary gingiva and palate^[4]. The colour of malignant melanoma varies from uniformly brown or black to brown, grey, purple and red and sometimes depigmented. It can spread to distant sites via vascular or lymphatic routes^[5]. These rare lesions may present themselves in an uncommon way which needs to be diagnosed early for better management.

Case Report

A 45-year-old female patient reported to the Department of Oral Medicine & Radiology with the complaint of blackening of upper front gum region since 1 year. On clinical examination, the gingiva extending from maxillary premolars of one side to the other side of arch showed black pigmentation, crossing the midline. The lesion involved both the palatal and the labial aspect of the gingiva. There was nodular growth seen all over the pigmented area. On palpation the lesion was rough, nontender, extending well over the gingival surface including the interdental papillae with firm consistency [Figure 1]. There were no palpable regional lymph nodes. A provisional diagnosis of malignant melanoma was considered. Patient was referred for routine blood investigations, which was found to be in normal range. For confirmation an incisional biopsy was performed from the interdental papillary region of 21 & 11. The gross specimen was approx. 4mm X 8mm X 2mm in size, irregular in shape, blackish in colour and soft in consistency.

Histopathological examination of the section showed highly cellular stroma and in some areas epithelium overlying the connective tissue stroma along with clusters of pigmented cells scattered throughout the stroma. Highly dysplastic epithelium was seen in some areas with loss of continuity in the basement membrane and invasion of epithelial cells into the connective tissue. The tumor epithelial cells in connective tissue were hyperchromatic with increased nuclear-cytoplasmic ratio. Tumor cells were seen invading into the underlying connective tissue. The melanocytes were pleomorphic with round to ovoid or elongated in shape, brown to black in colour [Figure 2]. Melanocytes were also seen deep in the connective tissue with accumulation in perivascular areas, and invading into the blood vessels showing atypical mitosis. The histopathological evaluation suggested the features of malignant melanoma. Masson Fontana special staining was done which revealed the presence of melanin pigment throughout the epithelium and the stroma [Figure 3]. The patient was referred for further the examination and treatment.

Discussion

Melanomas of the head and neck comprise just over 1% of all melanomas and out of these about 50% arise in the oral cavity^[6]. Oral malignant melanomas are therefore, rare representing about 0.5% of oral malignancies and less than 0.01% of all oral biopsies with possible risk factors can be exposure to sunlight, cigrarette smoking, betal quid chewing, alcohol consumption, irritation from denture etc^[7,6]. They arise in adults with an average age of about 55, but with a uniform age distribution from years 20 to 80 years. Very rare cases have been reported in children. In most of the cases there is a male predominance in a ratio of about 3:1^[6]. Unfortunately since oral melanoma is painless usually patients delay referring to the dentist until severe symptoms such as dental mobility, pain, ulceration, bleeding, growth, paresthesia and denture problem occur. Hence, most of oral melanomas are in an advanced stage at the time of their diagnosis^[8].

Depending on the clinical and histopathological findings Union for International Cancer Control (UICC) has staged malignant melanoma from 1 to 3. Stage 1- localized disease, stage 2 - with regional lymph node metastases, stage 3-with distant metastasis. The GREENE criteria in 1953 for primary oral melanoma consist of: melanoma in the oral mucosa, junctional activity, and any extraoral primary melanoma^[8]. Oral melanoma may be primary, but long-distance metastasis was reported in 60% of the cases, the most common site being the lungs. A malignant melanoma can present with different morphologic and macroscopic characteristics. There are four major forms of melanoma including (i) superficial spreading, (ii) nodular, lentigomaligna and (iii) (iv) acral lentiginous melanomas^[9]. Of these, the superficial spreading form remains the most common and accounts for about 70% of melano mas followed by nodular form that represents about 15-30% of melanoma cases. The lentigomaligna and acral lentiginous forms represent less than 10% of melanoma cases. In terms of staging, four systems are followed including (i) the Clark scale, (ii) the Breslow scale, (iii) TNM staging and (iv) Number staging. The Clark scale evaluates the depth of lesion in terms of it affecting various skin layers.

The Breslow scale evaluates as to how thick the melanoma is in the skin. The TNM (Tumor, Node, Metastases) staging is based on thickness of the lesion and evaluation of its spread to lymph nodes and different tissues in the body and is also used for clinical staging per the American Joint Committee on Cancer (AJCC). The number staging system (Stage 0 to Stage 4) couples information on depth of the lesion and the TNM staging (10).

According to Kumar V et al. the common sites of melanoma's occurrence are the palate and gingiva, with the maxillary arch being affected 80% of the time which was similar to our case^[11].

According to Tanaka et al. there are five types of oral malignant melanoma depending on the clinical appearance: pigmented macular type, pigmented nodular type, nonpigmented nodular type, pigmented mixed type and nonpigmented mixed type ^[12].

Melanomas can clinically be identified as flat (maculae) or elevated (nodule or tumour) lesion with or without ulceration or an erythematous border and it can vary in size and colour or can present with an amelanotic variant of any of these forms which are rare. The prognosis for amelanotic melanoma is poorer than that of pigmented melanomas^[13, 14].

The differential diagnosis for oral malignant melanoma includes smoking associated melanosis. nevi. postinflammatory pigmentation, melanotic macule, medication induced melanosis, Addison's disease, Peutzsyndrome, amalgam tattoo, melanoplakia, Jeghers melanoacanthoma, Kaposi's sarcomaetc. Biopsies of pigmented lesions are done to exclude malignant melanoma when no other etiology is found.

The most essential treatment is wide resection of the primary tumor whenever possible. Surgery provides the best chance of controlling the disease. Radiotherapy combined with surgery is recommended in cases of local recurrence or incomplete lesion removal. The prognosis of the disease is very poor due to local recurrence, nodal involvement, and distant organ metastasis and is counted in months after the initial diagnosis ^[15]. In our case follow-up of the patient could not be done as the patient did not report for further management.

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Legends

Figure 1

Intra-oral photograph of patient showing diffuse blackish pigmentation of maxillary gingiva crossing the midline.



Figure 2

The photomicrograph (H&E)showing invasion of malignant melanocytes from epithelium to underlying connective tissue. a(4X), b(10X), c(20X), d(40X)

