

Melanoma of the oral mucous membrane - A case report

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تعرض هذه المقالة حالة ورم قيتاميني لسيدة بعمر ٤٥ سنة. أعطت المريضة قصة قلع متعدد دون إختلالات تذكر. أبدى الفحص السريري نامية نسيجية صباغية غامقة بأبعاد ٩ ملم × ٥ ملم في الحافة السنخية اليمنى لمنطقة السن ٤٦ المخلوع. وكانت الآفة خالية الأعراض. أخذت خزعة من الآفة بعد الحصول على موافقة المريضة. أظهر الفحص النسيجي وجود ورم قيتاميني خبيث في مخاطية اللثة وذلك وفقا للتونين بـ H&E والتلون المناعي الإيجابي S-1٠٠. جرى استئصال الآفة جراحيا مع المحافظة على سلامة الحواف. وأكد الفحص النسيجي للآفة المستأصلة التشخيص المبكر للحالة. جرى فحص المريض بعد ثمانية عشرة شهرا من تشخيص الحالة ولم تلاحظ أية علامات مرضية واستمرت متابعة الحالة كل ثلاثة إلى أربعة أشهر. ويهدف عرض هذه الحالة إلى تنبيه الأطباء الممارسين إلى أهمية الآفات الصباغية التي تظهر على مخاطية الفم وذلك لما في ذلك من أهمية تعود على المريض.

A case of melanoma in a 45-year-old female is presented. She gave a history of multiple extractions which were usually uneventful. On examination, a darkly pigmented tissue growth, approximately 9 mm x 5 mm was noticed on the right alveolar ridge at the site of extracted tooth 46. The patient was not aware of the lesion as it was asymptomatic. Patient's consent was ethically obtained to incisionally biopsy the lesion. The histopathologic diagnosis was malignant melanoma of the gingiva mucosa based on H&E stain and strongly positive S-100 immunostain. The lesion was surgically excised in toto with adequate safety borders. The histopathology report of the excisional biopsy confirmed the earlier diagnosis. About eighteen months after diagnosis and treatment, the patient is free of disease and she continues to be monitored every three to four months. This case is being reported to alert clinicians on the importance of according pigmented lesions of the oral mucosa, the importance they deserve for the good of the patients.

INTRODUCTION

Melanoma is a malignant neoplasm arising from uncontrolled growth of the melanocytes, which are pigmented cells found in basal layer of the epidermis and mucous membrane. Melanoma of the oral mucous membrane is rare and exhibits a predilection for anterior palate and maxillary alveolar ridge and gingiva.^{1,2} The tumor is considered one of the most deadly human neoplasms and because of its aggressive behavior and extremely poor prognosis, early detection and diagnosis of the lesion give a better prognosis. The

incidence of oral melanoma is between 0.2-8% of all melanomas and the survival rate is very low.³ Oral melanoma is initially asymptomatic and usually not noticed by the patients which contributes to the delay of its diagnosis.^{4,5} It may develop as a slowly growing mass in an amelanotic area and be present for months or years. The color varies from bluish-black to tan-brown. There is a variety of forms such as pigmented macule, nodule or large pigmented exophytic lesion.^{6,7} Other clinical manifestations could be ulceration, swelling, bleeding nodular mass, rapid-enlargement or loosening of the teeth.^{2,4,6} In this paper, we report a case of oral mucous membrane melanoma. The tumor was diagnosed early and removed by conservative surgical procedures, and two years after surgery there was no evidence of tumor.

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Case Report

A 45 years old female patient visited the dental clinic for routine dental treatment. A pigmented dark-brown lesion was noticed on the lower alveolar ridge at the site of an extracted tooth #46. The patient was apparently not aware of the lesion which was asymptomatic, soft in consistency, elongated, measuring 9 mm x 5 mm in size and of unknown duration (Fig.1). The patient appeared in good health with no relevant medical problem. Physical examination did not reveal any other oral abnormality or regional lymphadenopathy. Plain x-rays (panoramic and CT scan) did not show any soft tissue changes or bone destruction. Clinical differential diagnosis included racial pigmentation, amalgam tattoo and melanoma. She was informed about the presence of the lesion and she consented to a biopsy procedure.

The histopathologic diagnosis of the incisional biopsy, based on the H&E stain and S-100 immunostain was malignant melanoma. The report stated "the lesional cells are sheets, clusters and nest-like configurations of nevus or melanocytic cells which are predominantly epithelioid. The cells exhibit considerable cellular and nuclear pleomorphism, hyperchromatism and quite a few multinucleated and bizarre cells. Melanoma pigment is abundant both within and freely outside the cells.



Fig. 1. Melanoma on the alveolar mucosa, brown to black in color.

There is no distinct boundary between the lesional cells and the overlying epithelium ..." (Figs. 2 a,b,c,d) S-100 immunostain confirmed the melanocytic origin of the lesional cells (Figs. 3 a,b,c,d).

Patient was recalled and referred to the Oral and Maxillofacial Clinic of the National Guard Hospital, Riyadh for definitive treatment (Fig. 4). The lesion was removed in toto with soft tissue boarders and without evidence of involvement of the underlying bone. Teeth # 44 and # 45 were removed during the excision. The histopathologic diagnosis was identical to that of the incisional biopsy. Two years after the surgery, there was no evidence of recurrence clinically and radiographically.

DISCUSSION

Pigmented lesions of the oral mucous membrane are not uncommon. These pigmentations are of different etiopathological nature and vary from normal, benign pigments or manifestations of systemic diseases to malignant life-threatening lesions. Some of these pigmentations are developmental, like the pigmented nevi which are seen mostly on the skin with rare occurrence in the oral cavity. When present intraorally, nevi are classified according to their histopathological appearance into intramucosal, blue, compound and junctional nevi, and they may occur at any age. The palate is the commonly affected site. Intraoral nevi must be differentiated from oral mucous membrane melanoma or other vascular lesions such as Kaposi's sarcoma by biopsy.⁸

The pigmentations due to metabolic disorders could be nutritional caused by hypovitaminosis or hormonal dysfunctions as seen in Addison's disease and Peutz-Jegher's syndrome. Metabolic disorders usually result in a more generalized pigmentation which makes

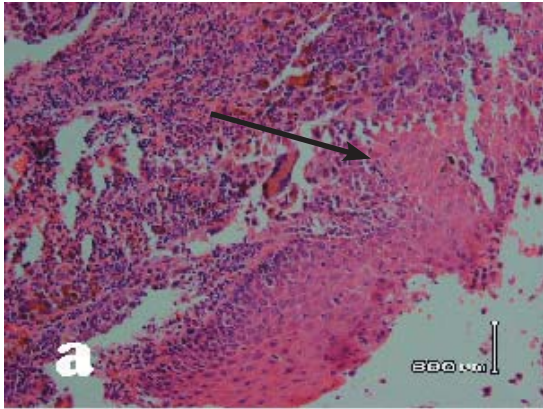


Fig. 2a. H & E stain (original magnification x 100) showing the lesional cells and the blurring of the epithelial-connective tissue junction (arrow)

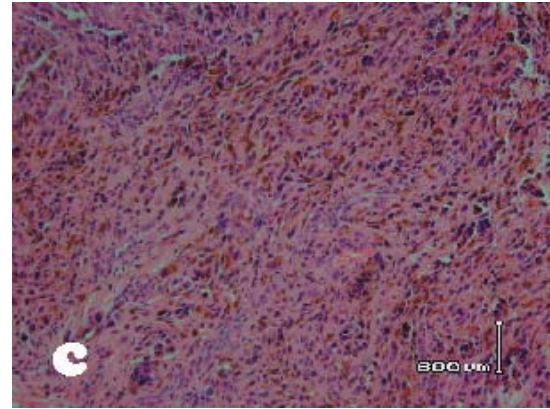


Fig. 2c. H & E stain (original magnification x 200) Diffuse and intense melanin pigments freely in the stroma, engulfed by macrophages or within the lesional cells

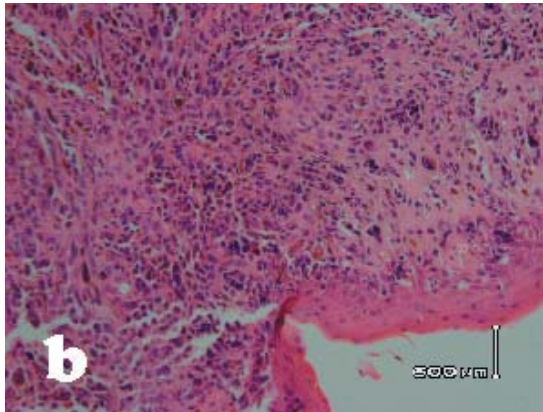


Fig. 2b. H & E stain (original magnification x 200) showing cellularity and pigmentation of the lesional cells

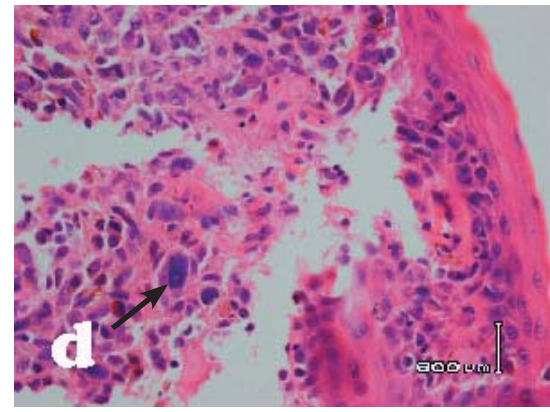


Fig. 2d. H & E stain (original magnification x 200) shows a bizarre melanocyte (arrow)

it clinically easier to differentiate from mucous membrane melanoma, with or without performing additional hormonal and hematological tests. Oral melanoma must be differentiated from a group of inflammatory lesions commonly seen in the oral cavity like reactive inflammatory lesions of pyogenic granuloma. These types of lesions should be removed and sent for histopathologic diagnosis for exclusion of malignancy.^{5,9,10}

Although amalgam tattoo is the most commonly acquired pigmentation seen in the oral cavity, the diagnosis does not present any difficulty because of the clinical appearance and the presence of

the pigmented granules next to amalgam fillings and sometimes amalgam particles can be seen in a routine x-ray films, but biopsy is mandatory in case of doubt. The "ABCD" system of evaluating oral pigmented lesions and the test named "rubbing with a gauze" the surface of the lesion are very helpful in the clinical differential diagnosis of pigmented lesions.¹² The "ABCD" system of clinical features of melanoma are Asymmetry (because of its uncontrolled growth pattern), Border irregularity (often with notching), Color variation (shades of brown to black, white, red and blue due to melanin amount and depth), and Diameter greater than 6 mm.

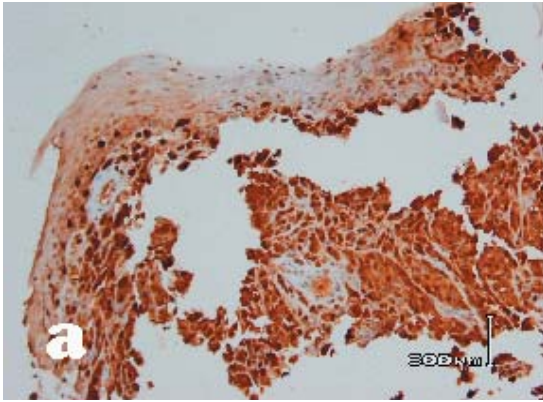


Fig. 3a. The proliferating cells are immunostained with S-100 positive protein (original magnification x 100)

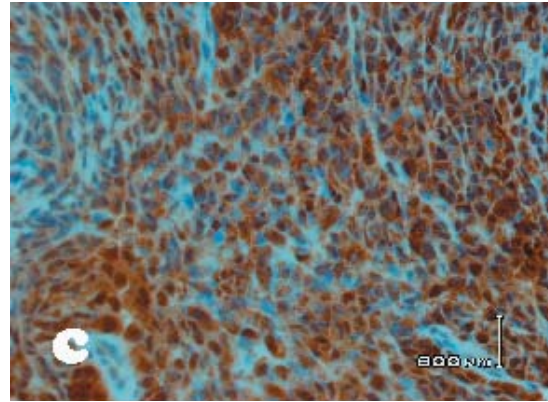


Fig. 3c. Higher view showing the S-100 immunoreactive pigmented cells (original magnification x 200)

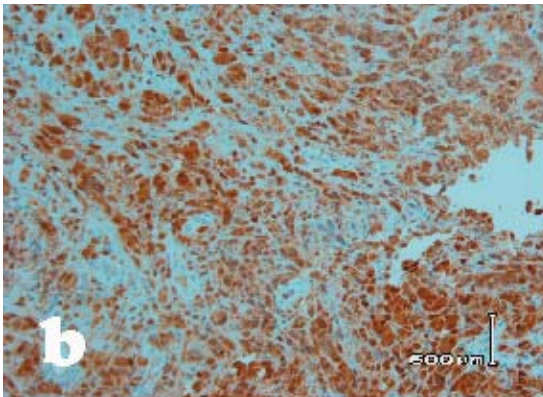


Fig. 3b. Diffuse and intense immunoreactivity for S-100 protein (original magnification x 100)

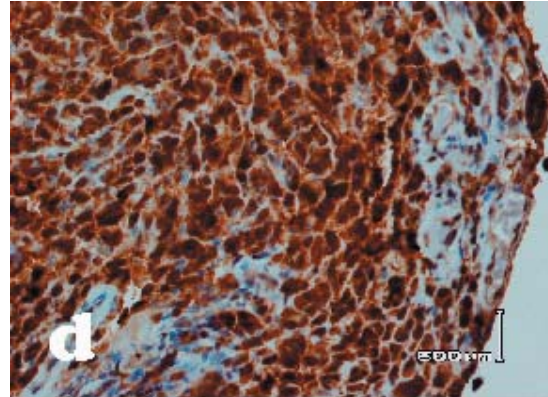


Fig. 3d. Higher magnification of the S-100 positive immunoreactive enlarged pigmented cells (original magnification x 400)

Melanoma was first described in 1859 by Weber and is the most serious of the pigmented lesions in the oral cavity.¹³ It is a rare malignant tumor of melanocytes. The melanocytes have their embryonic origin in the neural crest. Then they migrate to the epithelial surface and reside among basal cells. When these cells are activated or proliferate due to different factors, they give rise to different pigmented lesions in the oral mucous membrane.¹⁴

Although several factors were suggested regarding cutaneous melanoma there is no evidence that any of these are applicable to oral melanoma.¹⁵ Cutaneous melanoma is the third most common skin

malignancy. It constitutes 3-5% of all cutaneous tumors, but oral melanoma is a rare tumor affecting male more than female in a ratio of 2:1 proportion as reported. The age of onset is usually between 40 and 70 years with an average of 55 years and the palate is the mostly affected site.¹⁶⁻¹⁸

The patient reported here was a 45 year-old woman with a pigmented lesion on the right mandibular (alveolar) ridge which was surgically treated four weeks after the initial diagnosis. About two years after treatment, the patient has been seen so far on a 3-monthly review with no evidence of recurrence.

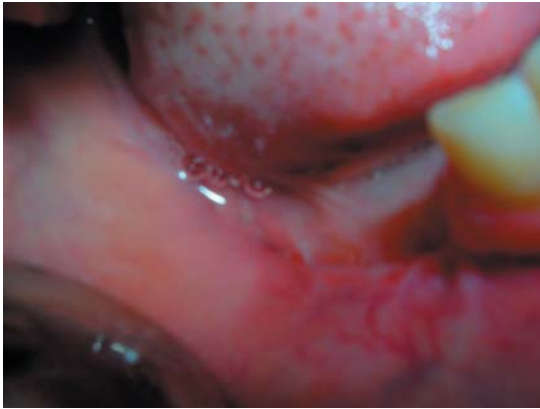


Fig. 4. Clinical photograph after surgical removal.

This case is reported to draw attention of practicing dentists to their responsibility in screening patients with pigmented oral lesions and referral in case of questionable changes. In addition, cases like this, although infrequent, give the dental practitioner general awareness and knowledge about serious and life-threatening diseases such as oral cancer that may involve the oral tissues.

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