ORAL MALIGNANT MELANOMA AND PREGNANCY: A CASE REPORT

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Abstract

Malignant melanoma of oral mucosa is a rare and fatal tumor that occurs exceptionally during pregnancy. Among one of the theories, several authors have discussed the possibility of malignant transformation of a pigmented lesion of the oral mucosa to malignant melanoma during pregnancy.
We report the case of a 30-years-old patient who consulted for an increasing volume of a pigmented lesion during pregnancy that the dentist has diagnosed as a pregnancy epulis. Clinical examination reveals the presence of bluish-black budding tumefaction. Histological and immune-histochemical examination confirmed the diagnosis of malignant melanoma of the palatal mucosa.

Keywords: Oral malignant melanoma - pregnancy.

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MÉLANOME ORAL MALIN ET GROSSESSE:A PROPOS D'UN CAS

Résumé

Le mélanome malin de la muqueuse buccale est une tumeur rare et mortelle qui survient exceptionnellement pendant la grossesse. Parmi l'une des théories, plusieurs auteurs ont discuté la possibilité de transformation maligne d'une lésion pigmentée de la muqueuse buccale en mélanome malin pendant la grossesse.
Nous rapportons le cas d'une patiente de 30 ans qui a consulté pour un accroissement en volume d'une lésion pigmentée pendant la grossesse que le dentiste a diagnostiqué épulis gravidique. L'examen clinique a révélé la présence d'une tuméfaction bleu-noirâtre d'aspect bourgeonnant. Les examens histologiques et immunohistochimiques ont confirmé le diagnostic de mélanome malin de la muqueuse palatine.

Mots-clés: mélanoma malin – grossesse – épulis gravidique.

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Introduction

The oral malignant melanoma (OMM) is a rare neoplasia developed from melanocytic cells that are in the basal layer of the mucosa. OMM are considered among the most deadly of all human neoplasms [1]. Accounting much less frequently than their cutaneous counterparts [1], they represents about 1% of all melanomas with approximately the 0.5% of all oral malignancies [2, 3] and 8% of all malignant tumors arising during pregnancy [4]. They seem to be more frequent in Japan and in some African regions than in Western countries [5, 6]. They occur at any age, but are extremely rare below the age of 30 years [7]. The most frequently affected region is the palate and the maxillary gingival [3].

Knowing that about 30-35% of women with melanoma are at the childbearing age at the time of diagnosis [8], the relation between pregnancy and melanoma have begun with the misconception that skin darkens during pregnancy.

Melanomas are hormonally sensitive [9], however, recent studies have not found estrogen receptors in melanoma cells [10].

The etiology of OMM is essentially unknown; risk factors were identified such as tobacco, trauma and formaldehyde exposition [11]. This neoplasm may arise de novo, from normal mucosa, but about 30% can be proceed by oral pigmentation for months or even years and transformation may appear during pregnancy [2].

The clinical presentation of OMM is variant. On the basis of the clinical appearance, five types of OMM were described: pigmented nodular type, non-pigmented nodular type, pigmented macular type, pigmented mixed type and non-pigmented mixed type [12].

Clinically the lesion may show variation of color, or be uniformly brown, black, grey, or purple and red shades. The surface may be smooth or ulcerated. Other signs may be present including pain, bleeding, teeth mobility, or delayed healing after extraction [13, 14]. The initial symptom and sign is the emergence of a mass lesion which is usually pigmented [15]. The lesion borders are usually irregular, and no clear demarcation exists between the tumor and the adjacent tissues. It can be solitary or multiple, flat and/or elevated [3, 16]. In addition, 27% of patients with malignant mucosal melanoma of the head and neck develop regional lymphatic metastases [17].

Histopathology examination of an incisional or excisional biopsy remains the most accurate diagnostic tool [15]. The UK guidelines for the management of cutaneous melanoma recommend diagnostic by using excisional biopsy of the suspected lesion, followed by a wide local excision once the diagnosis is proven [18]. However the "Australian Cancer Network Melanoma" guidelines revision sees that the optimal biopsy approach is complete excision with a 2mm margin; upper, partial biopsies may not be fully representative of the lesion and need to be interpreted in light of the clinical findings [19].

On other hand, some authors warned of practicing biopsies for any pigmented lesions [20]; for others the biopsy was obligatory for every equivocal pigmented lesion in the oral cavity [21].

Case presentation

In 2012, a general dental practitioner referred a 30-years-old female patient for evaluation of a bluish black-colored growth on the posterior maxilla, at the junction of the left posterior soft and hard palate that had been present for eight months and diagnosed as an epulis of pregnancy.

Initially the patient described the presence of an asymptomatic small-pigmented lesion for a few years at the palatal mucosa adjacent to tooth #28; recently during the fifth month of her pregnancy, she noticed that the lesion has gradually increased in size.

The patient had no personal or familial history of primary oral or cutaneous melanoma. She had no history of other malignancies or treatment with radiation or chemotherapy.

Oral examination revealed a bluish-black budding tumefaction on the left side of the junction of the left posterior soft and hard palate. The tumefaction was extending antero-posteriorly from the second premolar region to the third molar, and measured approximately 5 cm in its greatest diameter (Fig. 1).

The growth was soft in consistency and non-tender, no bleeding was present. Also, no lymph nodes were founded. The mobility of the adjacent teeth was normal.

Based on the history and the clinical examination, a provisional diagnosis of oral malignant melanoma was considered.

Routine blood investigations showed values within the normal ranges. The intraoral periapical radiographs of the maxillary right molars were without particularity; no involvement of the underlying bone was detected on computed tomography (Fig. 2).

The mass was subjected to incisional biopsy under local anesthesia; the results confirmed the diagnosis of malignant mucosal melanoma of the oral mucosa.

Microscopic examination showed palatal mucosa seat at the chorion of a malignant tumor proliferation made of isolated cells; tumor cells were dispersed with medium size and rhabdoid eosinophilic cytoplasm sometimes charged of melanin pigment. The nuclei were highly atypical and oval (Figs. 3 & 4).

Immunohistochemistry showed a fort cytoplasmic positivity to S100 and homatropine methyl bromide (HMB-45).

Computerized tomography of the head and neck, radiographs of the chest, all bone scans and CT ima-

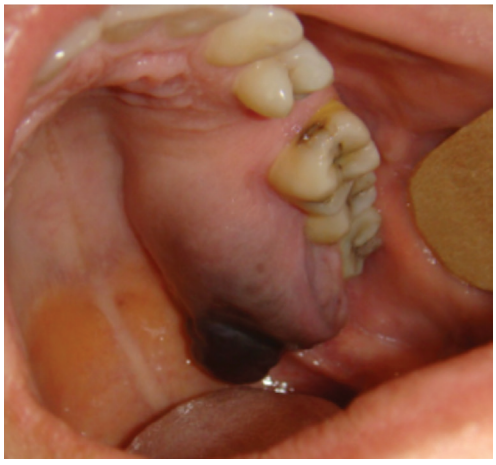

Fig. 1 : Intraoral view: palatal swelling of the left maxillary.

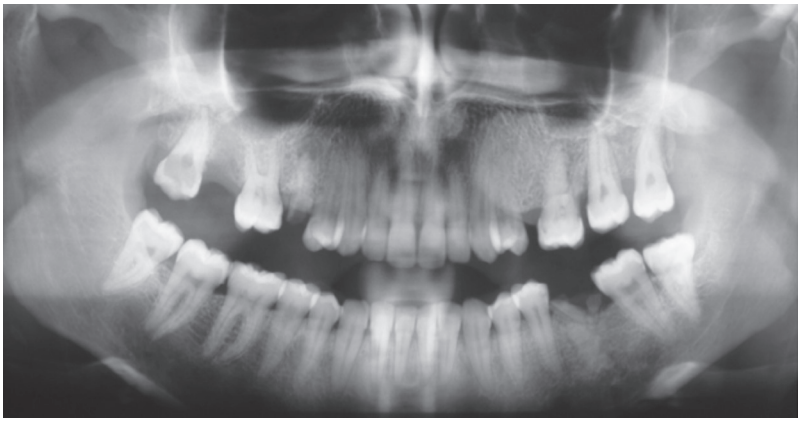

Fig. 2: Panoramic radiograph without particularity.

ging remained without particularity. Ultrasonography of the neck and abdomen showed no evidence of metastasis. This was found as the primary site.

After multidisciplinary team evaluation, a subtotal right maxillectomy was performed, and all margins were negative. The patient was referred to the department of oncology for chemotherapy treatment, using the association CVD: Cisplatine, Vinblastine and Dacarbazine.

Seven months later, a 3-mm black macule appeared in the area of the surgery, a recurrence of the lesion was noted. Chemotherapy was re-administrated.

Then, after one year the patient was accidentally pregnant again. Therapeutic abortion was performed due to general state alteration of the patient and eminent risk of fetal malformation. For several months, she was controlled, and unfortunately, after two years of follow-up, she did not return.

Discussion

In the present case, pregnancy and hormonal changes may have had an impact on the evolution and the possible transformation of the preexistent pigmented lesion to malignant melanoma especially that initial symptoms appeared in the 5th month of pregnancy.

The biopsy remains the real key of the management stage. It should be surgical, practiced if possible by the surgeon who will be then responsible for the oncologic resection.

In our case, an incisional biopsy was performed because of doubt about diagnostic, localization, and close relationship to the adjacent teeth and vital structures. The other exploration methods such as computed tomography, magnetic resonance imaging, and positron emission tomography, are sometimes useful, permit to appreciate the extension to the adjacent structures and reveal metastasis.

The varied histomorphology of OMM often causes considerable difficulty in diagnosis. They are notable for an impressive degree of morphologic variability; this presents a challenge to make additional studies such as immuno-histochemical analysis [22]. The Melan-A is positive in approximately 80% of OMMs, and the antibodies HMB-45 and S-100 react with a 10-kDa cytoplasmic glycoprotein that is part of the premelanosome complex [23]. OMM can be histologically subclassified into 1) in situ melanoma, which is limited to the epithelium and the epithelial–connective tissue interface; 2) melanomas with an invasive pattern, in which the neoplasm extends into the connective tissue and 3) melanomas with a combined pattern of invasive melanoma with in situ component [3].

In contrast to the relatively good prognosis of skin melanomas reported in recent studies, the prognosis of OMM is still extremely poor with a survival rate at 5 years within a range of 15-38% after the diagnosis [24]. Tumor thickness, node stage and metastasis are well known as important prognostic factors of melanoma. Generally, if adequate therapy was provided, the prognosis seemed to be not as poor as reported in the past literature [25].

Most of the recent studies found no difference in overall survival between pregnant and non-pregnant women with melanoma [26] and the most frequent cause of death is distant metastasis [25] that may affect the lungs, brain, liver or bones. This may be due to the rich vascular supply present in the oral cavity that contributes to the dissemination of the melanoma.

In the follow-up, the clinician must pay particular attention to recurrences even after 10-15 years [23].

Treatment is still controversial and there is no consensus regarding the best therapeutically approaches. The

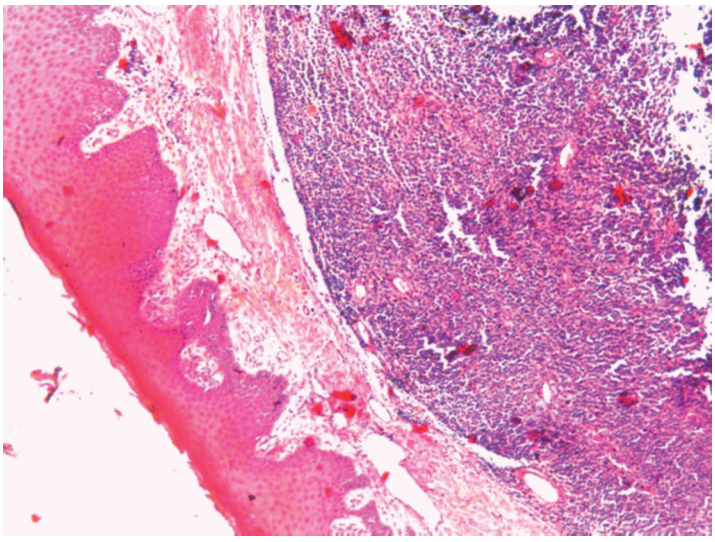

Fig. 3: Melanotic malignant proliferation.

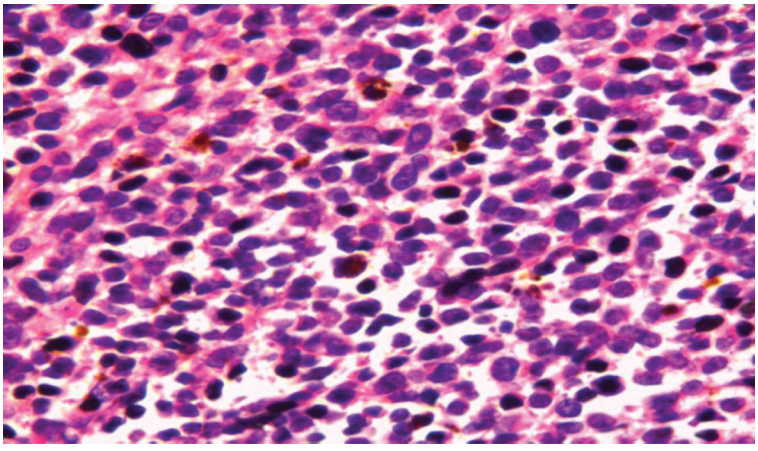

Fig. 4: Cells have large nuclei, often with prominent nucleoli.

treatment of choice is based on complete surgical resection of the lesion with safety margins. Radiotherapy, chemotherapy and immunotherapy are proposed; good results were reported and it has been emphasized that the disease is potentially curable if diagnosed and treated at an early stage [25].

Conclusion

Malignant melanoma is a rare neoplasia uncommon during pregnancy. Rare are the cases describing an association between oral melanoma and pregnancy, as early diagnosis is a crucial interest in the evolution of the disease.

Practitioners should pay attention to the presence of pigmented lesion and the possibility of transformation. Further studies are necessary for understanding the mechanism and the presence of a possible transformation during pregnancy.

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