Oral amelanotic malignant melanoma: a rare entity with diagnostic challenge

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Abstract

Primary malignant melanomas of the mucosal areas of the head and neck are very rare tumors and they account for less than 1% of all melanomas. A 61-year-old male was referred to our clinic for the management of a palatal lesion that had been diagnosed from the referral center, as a malignant myoepithelial tumor. Intraoral examination revealed a large variegated, lobulated palatal swelling, which covered the hard and soft palate.
A re-biopsy at our center revealed sheets, bundles, and occasional fascicles of atypical elongated epithelioid and spindle shaped cells, exhibiting vesicular and enlarged nuclei with prominent nucleoli. The nucleoli appeared to be 'cherry red' in color. Melanin pigment was however not identified in any of the cells, hence the suspicion of an amelanotic melanoma.
Immunohistochemical staining was strongly positive for HMB45, S100 and vimentin. Hence we report a case of intra-oral amelanotic melanoma, which based on the English literature and to the best of our knowledge, is the first case report from West Africa.

Key words: oral, amelanotic, malignant melanoma Running header: Oral amelanotic malignant melanoma

Introduction

Primary malignant melanomas of the mucosal areas of the head and neck are very rare tumors and they account for less than 1% of all melanomas[(1)]. About half of all head and neck melanomas occur in the oral cavity, followed by the nasal cavity (44%) and sinuses (8%) [(2)]. In the oral cavity, the most frequent sites of occurrence are the hard palate (more than 40%) and the maxillary gingiva[(2)]. These melanomas arise from the uncontrolled proliferation of melanocytes found in the basal layer of the oral mucous membranes[(3)]. The clinical presentation of this condition can vary widely, from a typically pigmented macular or proliferative lesion, to a non-pigmented, soft vascular tumour that may be single or multiple, primary or metastatic[(4)].
Over 90% of melanomas occur on the skin1). In contrast to cutaneous melanomas, which may present at a horizontal or vertical growth phase, oral melanomas usually present with vertical growth. Hicks and Flaitz[(5)] in a review of oral malignant melanoma showed a male predilection and an age range of 22 to 83 years, with a mean age of 56 years. Regardless of location, the prognosis for oral melanomas is poor, with an overall 5-year survival rate of 15%[(5)]. Oral amelanotic melanoma is a rare neoplasm that forms less than 2% of all melanomas. The prognosis is poorer than for pigmented melanomas because of delay in diagnosis and hence treatment. They are also believed to be more biologically aggressive than the pigmented melanomas.
We report a case of intra-oral amelanotic melanoma to add to existing clinico-pathologic profile of the neoplasm. Based on the English literature and to the best of our knowledge, this is the first case from this part of the world.

Case report

A 61-year-old male was referred to our clinic in January 2010 for the management of a palatal lesion that had been diagnosed histologically, from the referral center, as a malignant myoepithelial tumor. Approximately six months prior to his referral the patient had noticed a unilateral obstruction of his left nostril that was associated with occasional spontaneous epistaxis, which was minimal. About two months after the initial symptoms he noticed an exophytic palatal mass with a variegated surface that also gave minimal pain. He also complained of dysarthria, dysphagia, progressive weight loss and numbness over the left supra-orbital/ frontal areas. There was blurring of vision in the left eye.

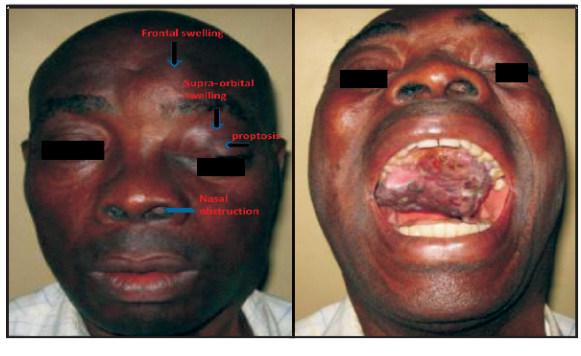

Figure 1. Multiple swellings can be seen over the left frontal area, the left supra-orbital area and the left nostril. A large palatal swelling with a variegated surface is noted intra-orally.

Examination revealed a large variegated, lobulated palatal swelling, which covered the hard and soft palate. The swelling was firm in consistency. Extension into the nose and left facial areas was associated with partial obliteration of left naso-labial fold and proptosis of the left eye. There was also a diffuse non-tender firm left supra-orbital swelling **(Figure 1).**

The axial views of the computer tomography scan shows a radiodense lesion involving the whole of the left maxillary antrum, extending into the left frontal sinus and bridging the posterior wall of that sinus to spread into the cranial vault **(Figure 2).**

A re-biopsy was performed at our center and the hematoxylin and eosin (H&E) stained slides revealed sheets, bundles, and occasional fascicles of atypical irregularly elongated epithelioid and spindle shaped cells, exhibiting vesicular and enlarged nuclei with prominent nucleoli. The nucleoli appeared to be 'cherry red' in color. Melanin pigment was however not identified in any of the cells, hence the suspicion of an amelanotic melanoma **(Figure 3).** Immunohistochemical staining revealed that the neoplastic cells were strongly positive for Homatropine Methybromide (HMB45), S100 (Figure 4) and vimentin but were negative for cytokeratins AE1/AE3, Epithelial Membrane Antigen (EMA), myogenin, CD3, CD5, CD20 and CD45 (Leucocyte Common Antigen [LCA]). All antibodies were products of Dakocytomation, USA.

The patient was advised on a combination of surgery with a regimen of chemo-radiation therapy but defaulted from the planned schedule.

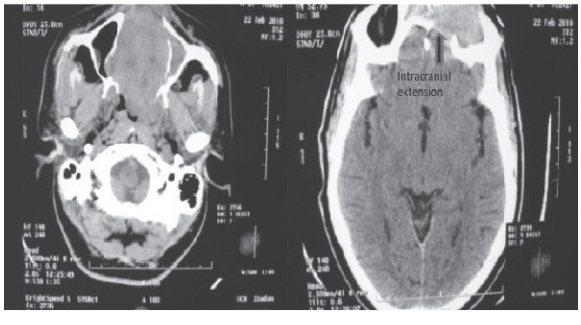

Figure 2. Axial views of CT scan which show a radio-dense lesion which has eroded both anterior and posterior walls of the left maxillary antrum. It has also displaced the medial wall into the right maxillary antrum. There is left frontal sinus spread with resorption of the posterior wall and intracranial extension

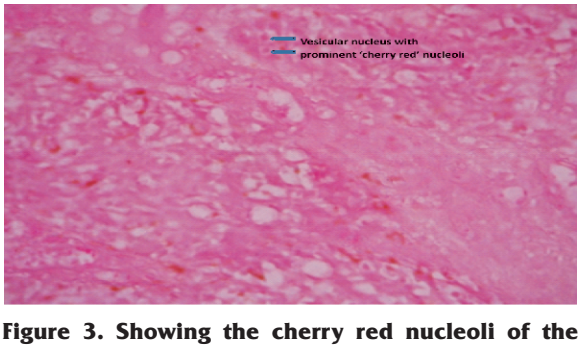

Figure 3. Showing the cherry red nucleoli of the amelanotic malignant melanocytes

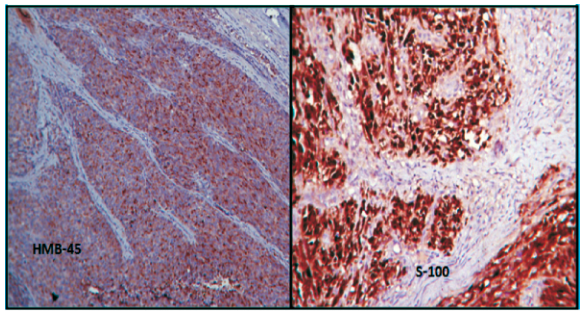

Figure 4. Showing +++ positivity for HMB45 and S-100

Discussion

Malignant melanomas have been referred to as the 'great masqueraders' because they mimic several neoplasms. The amelanotic variant can further confuse the unsuspecting pathologist. This may have accounted for the initial misdiagnosis as a malignant myoepithelioma from the referral center. The H&E of this case showed only neoplastic cells that were amelanotic hence the difficulty in diagnosis that consequently warranted the array of immunohistochemical antibodies. Our suspicion was however highly raised with the identification of the 'cherry red' nuclei and this significantly informed the immunohistochemical panel requested for.

According to an African investigation 1.7% of all melanomas in Sudan occurred in the oropharynx and 0.9% of the melanomas in Nigeria were found in the oral cavity[6].

Oral malignant melanoma is a lesion of adulthood, rarely identified under the age of 20 years. In various studies the highest incidence of malignant melanoma is reported in the fifth to eight decades of life[7], this is in agreement with our report of the lesion found in the 7th decade. The lesion in this report was painless which is in agreement with other studies[8].

The center that referred the patient had reported a malignant myoepithelioma and it has been reported that due to misdiagnosis or delay in diagnosis, oral melanomas are usually deeper (with respect to vertical growth) at the time of diagnosis as compared to their cutaneous counterparts[9]. This may worsen the already poor prognosis of this lesion.

Possible confusing differential diagnosis may include neoplasms that have atypical spindle cell morphology and that are S-100 positive. A high index of suspicion is therefore indispensable in such cases where the classic morphologic appearance of the nucleoli is present on the initial assessment of the H&E section.

A study[10] recommends a combination of radical surgery with sufficient margins and adjuvant chemotherapy as suitable management for malignant melanoma. Dacarbazine was reported to have the best response rate of about 20% as a single agent[11]. An immunomodulator, OK- 432, injected around the neoplasm has been advocated for treatment and

prolonging survival periods in oral lesions[12]. Radiotherapy has been considered to have only a palliative role since the lesion is not radiosensitive[13]. Contrary to this Tanaka et al.[14] reported radiotherapy to be more successful than surgery for oral melanoma. The treatment of amelanotic melanoma is not different from that of the pigmented lesion although the pigmented lesion is adjudged to have a better prognosis than the amelanotic type.

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