

Case Report

Identification of Mucosal Malignant Melanoma on The Root; A Rare Case

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Received: February 09, 2015; Accepted: March 11, 2015; Published: March 13, 2015

Introduction

Malignant melanoma which should be present with mucosal involvement is a serious cancer. It has great morbidity and mortality rates [1,7]. Primary mucosal malignant melanomas can occur in sinonasal and oral cavities and account for 1.3%–1.4% of all melanomas [2]. It was first reported in the English literature by Lincoln et al. [3].

The etiology of the mucosal malignant melanoma is not clear. However, many factors have been suggested as risk factors including tobacco and alcohol habits, nutritional deficiencies and infections [4]. On the other hand, C-kit gene mutations are reported in 21% of mucosal melanoma [5].

The frequency of malignant melanomas in the sinonasal cavity is approximately 1 in 500,000 to 1 in 1,000,000 people in the general population [6]. Diagnosis may be missed or delayed because of asymptomatic presentation in the early stages [7,8]. Additionally, primary mucosal melanomas in the maxillary sinus and nasal cavity have an aggressive character and poor prognosis due to complex anatomic location and rich vascularisation [9].

This paper aims to emphasize the importance of early identification and intervention in mucosal malignant melanoma of the sinonasal cavity.

Case Report

A 32-year-old woman was admitted to our faculty. Her chief complaint was chewing difficulty. The patient was normally healthy and taking no medications. Clinical examination revealed advanced stage periodontal disease, tooth mobility and missing teeth. During a panoramic examination, progressive dental caries and bone resorption were identified in the interdental regions (Figure 1). After prosthetic treatment planning, it was determined that maxillary

Abstract

Mucosal malignant melanoma of the head and neck region is a very rare entity. It can occur in oral soft tissues such as gingival regions, buccal mucosa, tongue and floor of the mouth. In addition, paranasal sinuses and sinonasal tract may be affected. In the literature, great mortality and morbidity rates were reported because of its aggressive metastatic character. Thus, it is important to note that early diagnosis and treatment play a key role in the management of these lesions. Here, we present a case of mucosal malignant melanoma that was detected in the sinonasal cavity following tooth extraction. The lesion was treated by surgical excision and radiotherapy. The patient is well without any symptoms or signs of recurrence one year after treatment. We aimed to report this rare case of malignant melanoma with emphasis on its unusual presentation.

Keywords: Malignant melanoma; Tooth extraction; Sinonasal cavity; Diagnosis

right lateral, second premolar and second molar teeth had to be extracted due to intrabony defects and caries. The informed consent was given by the patient, and a posterior superior alveolar block and infiltrating anaesthesia of the hard and soft tissues were done to extract maxillary right second molar. After extraction, a black lesion was observed on the apical region of the root (Figure 2). Moreover, oro-antral communication occurred. We suspected a mucosal disease of the maxillary sinus and requested a histopathological examination. Biopsy specimens were obtained from the maxillary sinus mucosa. According to the results of the histopathological examination, the lesion was diagnosed as mucosal malignant melanoma (Figure 3). The patient referred to otolaryngology examination, and large melanocytic lesions within the right nasal cavity and paranasal sinus were detected. At this stage Cone Beam Computed Tomography (CBCT) scans were obtained to evaluate the growth pattern of the lesion. Focal perforations in buccal cortex and lateral nasal wall were observed in 3-dimensional reconstructed images (Figure 4a). Axial and cross section images also revealed the involvement of maxillary sinus and nasal cavity (Figure 4b and 4c).

Surgical excision, including right total maxillectomy and radical

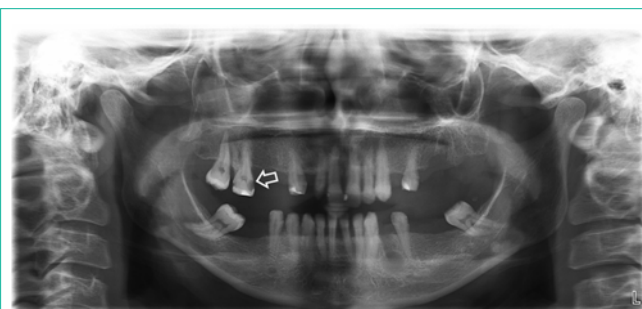


Figure 1: Panoramic view of the patient. White arrow shows the extracted teeth number 17.



Figure 2: Black lesion on the apical region of the root in the extracted maxillary second molar (white arrow).

neck dissection, were performed for treatment. Next, radiotherapy was given. A year after initial diagnosis the patient was free of any recurrence or metastasis.

Discussion

In the cases of mucosal malignant melanoma, the diagnostic tools consist of physical examination, CT scan, MRI, and biopsy [10,11]. However, the diagnosis can be difficult due to most cases being asymptomatic. In the present case, the lesion originated in the right maxillary sinus and was detected accidentally after tooth extraction. Furthermore, part of the lesion on the maxillary sinus mucosa was slightly attached to the roots of the second molar. While the extraction was being performed, the lesion appeared with sinus mucosa. We could not find any reports in the literature about sinonasal and/or mucosal malignant melanoma, which is detected by extracted teeth.

Manolidis et al. [12] reported 5-year survival rate as 31% for patients with nasal mucosal melanoma. However, they reported that sinus melanoma patients had a 0% 5-year survival rate. Koivunen et al. [13] suggested that 3 and 5-year overall survival rates in 50 cases of sinonasal mucosal melanoma are 44% and 27%, respectively. Lazzeri et al. [14] reported a case of malignant melanoma of the nasal septum which had the frontal sinus floor involvement. Hence they suggested that early diagnosis is critical because of extremely aggressive character of these lesions.

Radical surgical excision and radiation therapy with adequate follow-up are recommended for the treatment of mucosal malignant melanoma [6,10]. Besides surgical treatment, it has been reported that chemotherapy and high-dose proton beam therapy have a substantial therapeutic role in the patients [15]. On the other hand, high dose radiation therapy is impossible because of adjacent organs such as eyes and brain [11]. The main goal of the treatment is to complete resection of the mucosal melanoma and providing the absence of distant metastases. Sun et al. evaluated the outcome of the sixty-eight patients with sinonasal mucosal melanoma retrospectively. He reported that patients who underwent surgery had better survival rate

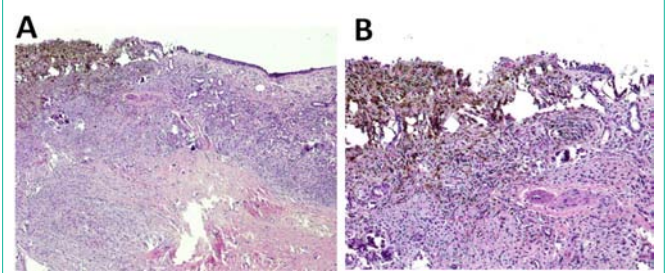


Figure 3: Histopathology of the lesion. (a) Malignant melanoma adjacent to the normal sinus mucosa (H&E X 40) (b) In higher magnification, pigmented area of malignant melanoma adjacent to the normal sinus mucosa (H&E X 100).

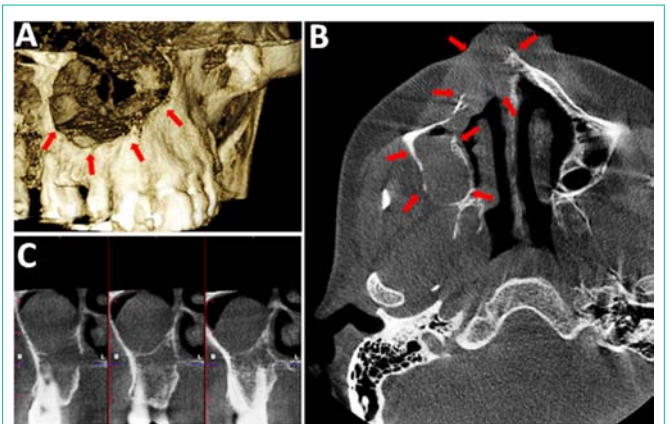


Figure 4: (a) 3-D reconstructed image showing perforation of buccal cortex and nasal cavity, (b) Axial CBCT scan shows the position of the lesion in proximity to nasal cavity and maxillary sinus, (c) Cross sectional CBCT image showing the lesion and its relation with right maxillary second and third molars (red arrows).

than the patients treated without surgery. However, distant metastasis is directly related to a poor prognosis in all of the patients [16].

Conclusion

In conclusion, early diagnosis and treatment is the most important strategy for the control of oral malignancies. The identification of pigmented lesions is possible with inspection of oral mucosa. However, it may be difficult in the cases of malignant mucosal melanoma of the paranasal sinuses owing to complex anatomic location. We believe that similar cases of mucosal melanomas can invade periodontal tissues. Thus, clinicians should perform biopsy and refer their patients to medical specialists, if they suspect atypical conditions.

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