



## Primary mucosal melanoma: A case report

Fereshteh Baghai<sup>1</sup>, Sedigheh Rahrotaban<sup>2</sup>, Ata Garajei<sup>3</sup>, Fatemeh Pirzadeh<sup>4</sup>, Samira Derakhshan<sup>2\*</sup>

1. Dental Research Center, Dentistry Research Institute, Tehran University of Medical Sciences and Department of oral & maxillofacial Pathology, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran.

2. Department of Oral and Maxillofacial Pathology, School of Dentistry, Tehran University of Medical Science, Tehran, Iran.

3. Department of Oral and Maxillofacial Surgery, School of Dentistry, and Department of Head and Neck Surgical Oncology and Reconstructive Surgery, The Cancer Institute, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran.

4. Dental student.

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#### \*Corresponding author:

Samira Derakhshan

Department of Oral and Maxillofacial Pathology,  
School of Dentistry, Tehran University of Medical  
Science, Tehran, Iran.

Tel: +98-21-84902473

Fax: +98-21-84902473

Email: samderakhshan.den@Gmail.com

### ABSTRACT

Malignant melanoma is an aggressive malignancy of melanocytes affecting both skin and mucosa. Primary oral melanoma occurs 0.2-8% of all melanomas and accounts for 0.5% of all oral malignancies. Oral mucosal melanoma is different from cutaneous melanoma because of different etiology, genetic alteration and prognosis. We present a case of primary mucosal melanoma in a 33 years old man with the previous report of peripheral giant cell granuloma in the same site. The patient died less than one year because of numerous distant metastases. We suggest early diagnosis of oral melanoma can improve survival rate of the patients such as other primary oral malignancy.

**Key words:** Mucosal Melanoma, Oral, Primary Malignancy.

## Introduction

Malignant melanoma is an aggressive malignancy of melanocytes affecting both skin and mucosa. Melanoma is completely rare, potentially aggressive with poor prognosis [1]. Oral mucosal melanoma is different from cutaneous melanoma because of different etiology, genetic alteration and prognosis [2].

Primary oral melanoma occurs 0.2-8% of all melanomas and accounts for 0.5% of all oral malignancies [3]. Malignant Melanoma is almost frequent among whites population [4] and Japanese people more than other populations [5]. The most common places in oral mucosa is hard palate, maxillary gingiva and alveolar ridge [6,7].

There is strong correlation between cutaneous melanoma and sun exposure [7,8,9]. But pathogenesis of oral melanoma is poorly understood [4]. We present a case of primary mucosal melanoma in a 33 years old man with the previous report of peripheral giant cell granuloma in the same site.

## Case Report

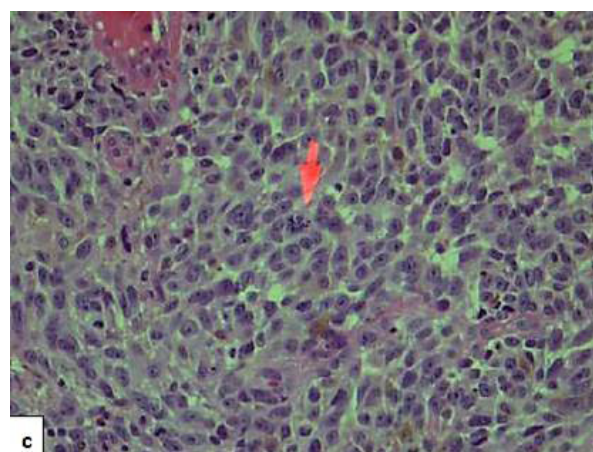
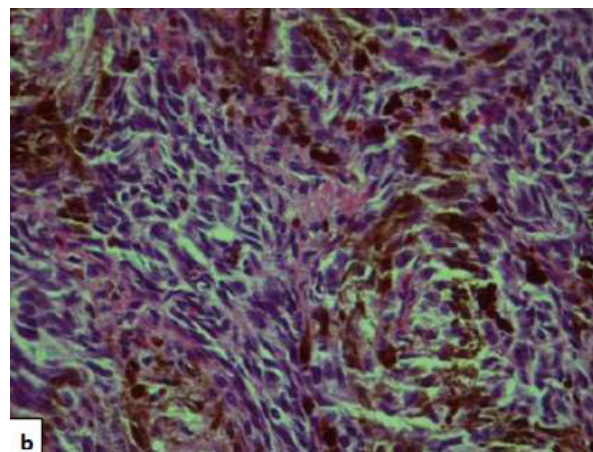
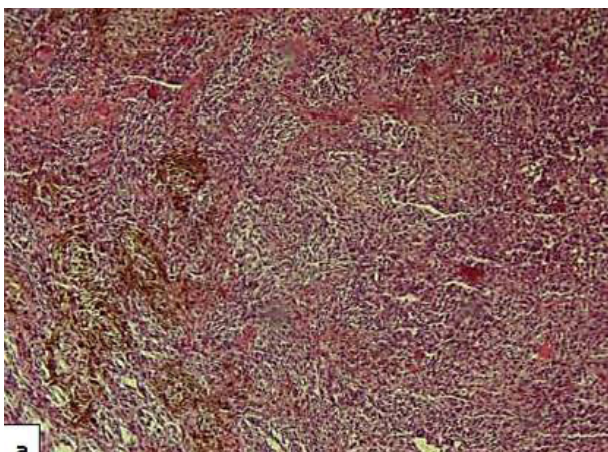
A 33-year-old man was referred to oral and maxillofacial pathology department of Tehran University of medical sciences, for evaluation of elevated lesion in maxillary right gingiva. The initial diagnosis of the previous lesion in

the same site was peripheral giant cell granuloma (PGCG). The biopsy of second lesion suggested Melanoma. Excisional biopsy was done to reach to definite diagnosis. In macroscopic examination, there was a firm solid lobulated mass covered by oral mucosa in maximum dimension of 4.5 cm (fig 1).

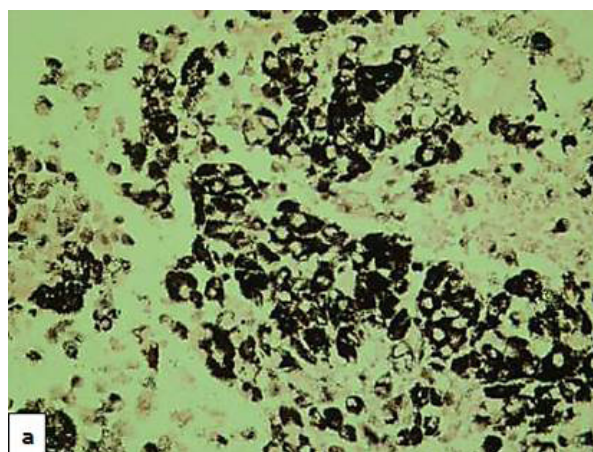


**Figure 1.** Gross feature of the lesion.

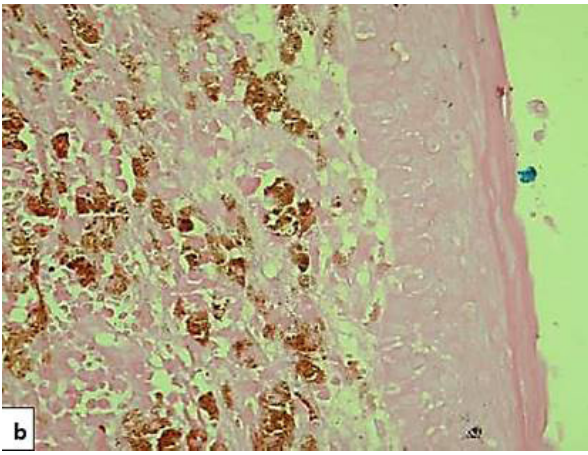
Microscopic examinations showed a tumoral proliferation of atypical spindle cells with abundant brown intracellular melanin granules in many areas that mimicking atypical melanocytes [figure 2a]. Tumoral cells showed pleomorphism and hyperchromatism of nuclei [figure 2b]. Epithelioid features and atypical mitosis features are evident in tumoral cells in some areas [figure 2c]. The deep margin was completely involved by tumor. Considering the dysplastic changes in melanocytes and presence of brown intracellular melanin, the diagnosis of malignant melanoma was highly suggested. The diagnosis was confirmed by pearl/Fontana masson staining which revealed positive staining for melanin [figure 3a] and negative staining for iron respectively [figure 3b].



**Figure 2.** Microscopic features. **a)** Atypical spindle cells with areas of aggregation of brown granules (H and E staining; original magnification  $\times 100$ ). **b)** Tumoral cells with nuclear hyperchromatism and abundant intracellular melanin ( $\times 400$ ). **c)** Epithelioid tumoral cells show atypical mitosis at central of the picture ( $\times 400$ ).







**Figure 3.** Pearl/Fontana masson staining. **a)** Fontana masson staining shows black intracellular granules as positive staining for melanin (original magnification  $\times 400$ ). **b)** Pearl staining shows negative staining for iron (brown granules did not show any blue staining as positive Pearl staining) ( $\times 400$ ).

The patient underwent to maxillectomy and tumor residue could be seen. Chemotherapy was done but it was not so effective for the patient. Two months later the patient couldn't speak because of involvement of laryngeal and pharyngeal areas. About seven months later, metastasis to spinal cord was detected. Unfortunately he died because of numerous distant metastasis and involvement of vital organs.

## Discussion

Primary intraoral melanoma is a rare and poor prognosis neoplasm [9] and exhibit much more aggressive behavior than skin melanomas [10]. Studies show 0.2–8 % of all melanomas include oral melanomas [4]. The most common site for oral melanoma is the palate (32%), followed by the maxillary gingiva (16%) [9]. There are no large data bases for mucosal melanomas compared to those for cutaneous melanomas [11]. Oral melanoma in comparison with cutaneous melanoma occurs in advanced clinical condition in more than 50% of patients [12].

We reported a young male with an elevating mass on maxillary right gingiva. First, it was diagnosed as PGCG but after recurrence, malignant mucosal melanoma was reported. The patient underwent maxillectomy but died because of metastasis to spinal cord. However, the most frequent site for distant metastasis is lung [13]. Both of cutaneous and mucosal melanoma present as asymmetric lesions with irregular borders and surface pigmentation [13]. Sedassari et al in 2016 reported a case with in situ melanoma of mandibular gingiva. The middle-aged patient had a growing black

patch with irregular borders and no symptoms. The histopathological examinations showed atypical melanocytes exhibiting nuclear pleomorphism, elaborated dendritic processes and areas of pagetoid spread [7].

In 2011, Kawasaki et al reported an amelanotic melanoma as a swelling in molar area of mandibular edentulous ridge spreading to buccal mucosa with irregular borders, rough surface and induration around the tumor. The histopathological view evidenced many mitotic figures, irregular-shaped nuclei and no melanin granules in hematoxylin & eosin (H-E) staining and Fontana–Masson staining [14]. Ahmadi-Motamayel et al in 2012 reported a case of melanoma in a male with black tumor-like lesion on edentulous maxillary ridge exhibiting broad base sessile, smooth surface and rubbery consistency. The histopathological findings revealed proliferation of atypical melanocytes with various nuclear shapes such as ovoid or spindle. Melanin pigmentation also detected in some cells and confirmed the diagnosis [6]. This reports showed mucosal melanomas may present themselves in yet uncommon ways and features such as a pedunculated mass especially in the palate and the maxillary alveolar ridge [11].

Detection of some markers such as s-100, HMB45 and MART1 is necessary to confirm the diagnosis [6,7,9,14]. Some studies suggested that these markers are the standard immunohistochemical antigens for diagnosis of malignant melanoma [14]. Despite the improvement of surgical techniques and the introduction of new chemotherapeutic agents, prognosis of this malignancy remains poor [11]. Combination of surgery and postoperative radiotherapy offers the best prospects for locoregional control but without improvement of overall survival [15].

Generally, 10-year-survival rate is about 75% [16]. Primary mucosal lesions present worse prognosis than primary cutaneous lesions [16]. The main reason of poor prognosis of oral mucosal melanoma is delayed diagnosis [17]. Thorough oral examination at each dental visit may improve the outcome of this fatal condition [17]. Early and accurate diagnosis of malignant oral melanoma is essential to treatment and management of the patients and is also the key to improve survival rate and to decrease the disease mortality.

## Conflict of Interest

There is no conflict of interest to declare.

## References

- [1] Beier U, Salinas T, Puelacher W. Resection of a primary oral malignant melanoma and rehabilitative management using nasolabial flap: a case report. *Oral Maxillofac Surg* 2012; 16:141–145.
- [2] Hao Song, Lizhen Wang, Jiong Lyu, Yunteng Wu, Wei Guo, Guoxin Ren. Loss of nuclear BAP1 expression is associated with poor prognosis in oral mucosal melanoma. *Oncotarget* 2017; Apr 25;8(17):29080–29090.
- [3] Lewis K, Herold J, Sethi S. Intra-oral spitzoid Malignant Melanoma- unexpected diagnosis of a fibroepithelial polyp. *British J Oral Maxillofac Surg* 2014; 07:144
- [4] Lourenco SV, Sanguenza MA, Sotto MN, Bologna SB, Giacomo TB, Buim ME et al. Primary oral mucosal melanoma: a series of 35 new cases from South America. *Am Dermatopathol* 2009; 31(4):323–330.
- [5] Kruse A, Riener M, Graetz K, Luebbers H. Mucosal malignant melanomas in head and neck surgery: a retrospective study of six patients and review of the literature. *Oral Maxillofac Surg* 2010; 14:143–147
- [6] Ahmadi-Motamayel F, Falsafi P, Baghaei F. Report of a rare and aggressive case of oral malignant melanoma. *Oral Maxillofac Surg* 2013; 17:47–51.
- [7] Sedassari B et al. In Situ Melanoma of the Gingiva Associated with Dense Inflammation and Pigment Deposition: A Potential Diagnostic Pitfall in Evaluating Stromal Invasion. *Head and Neck Pathol* 2016; 10:547–551.
- [8] Hicks MJ, Flaitz CM. Oral mucosal melanoma: epidemiology and pathobiology. *Oral Oncol.* 2000; 36(2):152–69.
- [9] Gao Man Gu, Epstein J, Morton T. Intraoral melanoma: Long-term follow-up and implication for dental clinicians. A case report and literature review. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2003; 96:404–13.
- [10] Iengyel E, Gilde K, Remenar E, Esik O. Malignant Mucosal Melanoma of the Head and Neck - a Review. *Pathology Oncology Research* 2003;9(1):7–12.
- [11] Belgaumi UI, Shetty P, Shirlal S. Oral malignant melanoma: A case report of an unusual clinical and histologic presentation. *Dent Res J (Isfahan)*. 2013; 10(3):404–7.
- [12] Alves IS, Berriel LG, Alves RT, Pinto MB, Oliveira CF, Cazzotto AC, Moura WV. Sinonasal Melanoma: A Case Report and Literature Review. *Case Rep Oncol Med.* 2017; Epub 2017 Jan 31.
- [13] Smith M et al. Melanoma of the Oral Cavity: an Analysis of 46 New Cases with Emphasis on Clinical and Histopathologic Characteristics. *Head and Neck Pathol* 2016; 10:298–305.
- [14] Pandiar D, Basheer S, Shameena PM, Sudha S, Dhana LJ. Amelanotic melanoma masquerading as a granular cell lesion. *Case Rep Dent*; 2013:924573.
- [15] Plavc G, But-Hadžić J, AniČin A, Lanišnik B, Didanović V, Strojani P. Mucosal melanoma of the head and neck: a population-based study from Slovenia, 1985–2013. *Radiat Oncol.* 2016; 11(1):137.
- [16] Neville B, Allen C, Damm D, Chi A. *Oral and Maxillofacial Pathology*. 4th ed. 2016. Canada: Elsevier
- [17] Rawal YB, Dodson TB, Bal HS. Oral melanoma: Relevance to the dental team members. *J Am Dent Assoc.* 2017 Feb; 148(2):113–119.

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