Journal of Clinical and Investigative Surgery

https://doi.org/10.25083/2559-5555
https://proscholar.org/jcis/
ISSN: 2559-5555

Melanoma metastasis to the oral cavity: a rare case report and literature review

Sandra Baranovic[1*], Aleksandar Milenovic[1]

[1]*Sestre Milosrdnice University Hospital Center, University Hospital for Tumors, Department of Head and Neck Surgery, Zagreb, Croatia*

ABSTRACT

About 1% of oral cancers are metastases of primary tumors from other parts of the body. The most common primary tumors that metastasize to the oral cavity are placed in the lungs, kidneys, liver and prostate for men, while in women they are placed in the breasts, genital organs, kidneys and colon. The oral cavity is an unusual place for the metastatic spread of primary tumors, especially malignant melanoma, and is usually a sign of the widespread dissemination of the malignancy. When they occur, oral metastases are most often found in the jawbones. Most of the reported soft tissue oral melanoma metastases were localized in the tongue. We report a case of a 50-year-old female patient with a melanoma metastasis in the floor of the oral cavity. The treatment chosen was the transoral excision of the metastatic tumor of the mandibular mucosa and floor of the mouth. We chose this option primarily to relieve the patient's symptoms, so the therapeutic indication was palliative.

Category: Case Presentation

Received: January 30, 2022
Accepted: March 24, 2022
Published: May 15, 2022

Keywords:

melanoma, oral cavity, surgery, metastasis

***Corresponding author:**

Sandra Baranovic,

Sestre Milosrdnice University Hospital Center, University Hospital for Tumors, Department of Head and Neck Surgery, Ilica 197, Zagreb 10000, Croatia

E-mail: sandra.baranovic@gmail.com

Introduction

Oral cancers comprise 5% of all cancers, squamous cell carcinoma being the most common histological type present in 90% of cases. About 1% of oral cancers are metastases of primary tumors from other parts of the body. The primary malignant melanoma of the head and neck comprises 10-20% of all melanomas; the mucosa is very rarely affected, with the involvement of the oral cavity in 0.2-8% [1,2].

Malignant melanoma usually metastasizes to lymph nodes, lungs and liver, with widespread involvement occurring in advanced disease. Oral cavity is an uncommon site for metastatic spread of primary tumors and is usually sign of a wide dissemination of the disease. The jawbones, especially the mandible, are affected more often than the soft tissues of the oral cavity.

In the oral soft tissues, the gingiva is the most commonly affected site [1-3]. Because of the rare presentation of metastatic melanoma to the oral cavity these lesions may represent a diagnostic challenge, although most patients with a metastatic tumor in the oral cavity have also developed metastases at other sites.

Case Report

A 50-year-old female patient with an intraoral, sublingual swelling was referred by an oncologist to our Head and Neck Surgery Department. The patient's history revealed that she was diagnosed with primary cutaneous malignant melanoma of the right pectoral region (Clark IV, Breslow V with satellitosis, stage 4b), which was resected 5 years ago. The diagnosis was confirmed with immunohistochemistry, the tumor tissue being Melan-A and HMB 45 positive. After primary surgery, she underwent re-excision of the primary skin lesion with sentinel lymph node biopsy of the right axilla and supraclavicular region. There were melanoma metastases positive lymph nodes in both regions, so additional dissection of lymph nodes was performed, and an lymph node of the axilla was positive for melanoma metastases, being confirmed with immunohistochemistry (Melan-A, HMB-45 and S-100 protein positive). The patient then underwent postoperative radiotherapy applied to the right axillary region. Seven months later a palpable mass in the left axillary region occurred, PET-CT, ultrasound and FNAB (fine needle aspiration biopsy) confirming that it is

To cite this article: Sandra Baranovic, Aleksandar Milenovic. Melanoma metastasis to the oral cavity: a rare case report and literature review. *J Clin Investig Surg*. 2022;7(1):100-103. doi: 10.25083/2559.5555/7.1.17

a metastasis of melanoma. The dissection of the right axillary lymph nodes was performed, the metastasis of the melanoma was pathologically confirmed, so that the postoperative radiotherapy was applied in the same region. Ten months later, PET-CT showed distant metastases to the thoracic lymph nodes, spleen, liver and right suprarenal gland. The patient was then included in a clinical study BRAF-kinase inhibitor LGX818 at another clinical institution, but was excluded 18 months later because of the progression of the disease to the thoracic vertebra with expansion to the spinal canal. Palliative radio-chemotherapy was administrated, but the patient developed multiple subcutaneous nodular metastatic masses up to 5 cm in diameter on her thorax and left arm.

At the time of clinical examination at our department the patient had a sublingual swelling that was increasing in size for three months. During that time, she had lost 7 kilograms of body mass due to difficult mastication and deglutition. Clinical examination revealed a pigmented, firm sublingual mass spreading to the mandibular gingiva 7x3 cm, with intact overlying mucosa (Figure 1). Ultrasound revealed an expansive mass in neck region I and II, 8 cm in diameter, continuing to the oral side of the mandible and floor of the oral cavity. FNAB was done and confirmed a melanoma metastasis.

Figure 1. Melanoma metastasis to the oral cavity

Choice of treatment for our patient was transoral excision of the metastatic tumor of the mandibular mucosa and floor of the mouth. The metastasis was spreading continuously from the floor of the mouth, through mylohyoid muscle into the neck region Ia and Ib. After the mucosal incision, the blunt dissection was used to separate tumor from the mandible, and then resected with electro cautery, from medial line in the front to the 35 alveolar process in the back. An `en block` resection of the entire metastatic tumor in the mandibular symphysis region was not possible due to the continuation of the tumor up to the neck. The treatment was palliative with the intention to make mastication and eating easier for the patient. The pathohistological analysis confirmed that it was metastatic melanoma of the oral cavity. The resected specimen was 5 cm in diameter, histologically tumor tissue consisting of atypic melanocytes with multiple mitosis. Tumor tissue was immunohistochemically positive for HMB-45 and Melan-A, and negative for CKAE1/AE3. In few microscopic sites the tumor specimen had reached surgical margins, at the site of the floor of the mouth, as it was expected. The patient is alive 12 months after the surgery (15 months after she noticed the tumor in her oral cavity), with widely spread metastatic disease, including cerebral involvement, but without recurrences at the oral cavity.

Discussion

Cases of primary oral melanoma have been reported in patients aged 20 to 80 years, with a mean age of 41.7 years [2]. The palate and gingiva are the most affected sites with maxillary arch affected in up to 80%. Clinical presentation of oral melanoma is variable, including pigmented macula, nodule, large pigmented exophytic lesion or an amelanotic variant of these lesions. When the tumor is amelanotic, it may be more difficult to diagnose. Lesions are usually asymptomatic, but at time of diagnosis bleeding has been reported as the most common sign [3].

Metastatic melanoma of the oral cavity is a rare manifestation of a widely spread disease, and the largest study reported 15 cases of oral metastatic melanoma during a 36-year period [4]. Primary melanomas were most often localized on the skin of the trunk (6 patients) and head and neck (6 patients). Our patient also had primary lesion on the skin of the pectoral region. Most of the reported soft tissue oral metastases were localized in the tongue, and one lesion comprised alveolar mucosa. None of the reported cases of oral metastases comprised floor of the mouth as well as gingiva, as seen in the current case.

In a large study of 673 cases, Hirschberg et al. reported that the most common primary sites for tumors that metastasize to the oral cavity were lungs, kidneys, liver and prostate for men, breasts, genital organs, kidneys and colon for women [5]. The average time between the diagnosis of the primary tumor and oral metastasis was about 40 months, although there were reported cases of oral metastasis 10 years after the primary tumor.

Our patient developed oral metastasis 60 months after diagnosis of primary skin melanoma. Oral metastasis is usually a sign of an advanced stage of metastatic disease and is therefore a sign of a negative prognosis. Because it is a rare presentation of metastatic melanoma, there is no report analyzing time period between primary malignant melanoma and oral metastases as an independent prognostic factor for overall survival after the diagnosis of oral metastases. In most cases the survival time was 7 months. Santos et al. have reported 4 cases of metastatic

melanoma to head and neck mucosa, with survival rates from 2 to 19 months after the diagnosis of the metastatic mucosal melanoma in the head and neck region [6]. In two cases with occult primary melanoma the survival time of the patients was better than in those patients with a known primary site. Results of better overall survival in patients with unknown primary site melanoma have been reported before [7]. According to some authors, when an oral metastasis is the single metastatic site, surgical resection can improve prognosis [4].

Oral metastases that derive from prostate, breast and adrenal cancers tend to comprise jawbones, rather than soft tissue of the oral cavity, where lung cancer tends to metastasize most often [8]. In a review of 422 metastatic oral cavity lesions only 2.8 % involved soft tissue [9]. In almost 30% of patients, oral metastasis is the first sign of undetected malignancy in a distant place. To our knowledge, there is no report of a metastatic melanoma in the oral cavity as first indication of a distant primary melanoma. The oral mucosa is unlikely to be the first target tissue for metastases of skin malignant melanoma. Melanoma metastasizes via lymphatic pathways and blood vessels, so there is a predictable pattern of lymph node metastases, depending on the site of primary melanoma [10-12].

Cutaneous melanoma spreads to four lymph node groups: ilioinguinal, axillary, cervical and intraparotid, with cervical lymph node metastases often occurring in melanoma of the head and neck and trunk. Umeda et al. concluded that there is a relationship between tumor thickness and the incidence of neck metastases [13]. When the tumor thickness is more than 5 mm, neck metastases are more likely to occur. Oral metastatic melanoma lesions may occur due to hematogenous dissemination through Batson's venous plexus, which extends from skull to sacrum [14-16].

Conclusions

Because of small series of patients with oral region melanoma metastases, all published reviews have combined bone metastases and oral soft tissue as the metastatic site, as well as different primary sites. This makes a very diverse group of metastatic tumors, and therefore an inadequate data for a detailed analysis of oral cavity metastases. We report this case because of the unusual pattern of melanoma metastases spread, primarily as an option for the relief of the patient's symptoms and secondarily as a therapeutic indication.

Conflict of interest disclosure

There are no known conflicts of interest in the publication of this article. The manuscript was read and approved by all authors.

Compliance with ethical standards

Any aspect of the work covered in this manuscript has been conducted with the ethical approval of all relevant bodies and that such approvals are acknowledged within the manuscript.

References

1. Varoni EM, Decani S. Gingival Melanoma. *N Engl J Med*. 2021;385(21):e73. doi: 10.1056/NEJMicm2107766
2. Chidzonga MM, Mahomva L, Marimo C, Makunike-Mutasa R. Primary malignant melanoma of the oral mucosa. *J Oral Maxillofac Surg*. 2007 Jun;65(6):1117-20. doi: 10.1016/j.joms.2006.11.045
3. Lopez-Graniel CM, Ochoa-Carrillo FJ, Meneses-García A. Malignant melanoma of the oral cavity: diagnosis and treatment experience in a Mexican population. *Oral Oncol*. 1999 Jul;35(4):425-30. doi: 10.1016/s1368-8375(99)00017-2
4. Patton LL, Brahim JS, Baker AR. Metastatic malignant melanoma of the oral cavity. A retrospective study. *Oral Surg Oral Med Oral Pathol*. 1994 Jul;78(1):51-6. doi: 10.1016/0030-4220(94)90117-1
5. Hirshberg A, Shnaiderman-Shapiro A, Kaplan I, Berger R. Metastatic tumours to the oral cavity - pathogenesis and analysis of 673 cases. *Oral Oncol*. 2008; 44(8):743-52. doi: 10.1016/j.oraloncology.2007.09.012
6. Santos RS, Andrade MF, Alves Fde A, et al. Metastases of Melanoma to Head and Neck Mucosa: A Report of Short Series. *Clin Exp Otorhinolaryngol*. 2016 Mar; 9(1):80-4. doi: 10.21053/ceo.2016.9.1.80
7. Santini H, Byers RM, Wolf PF. Melanoma metastatic to cervical and parotid nodes from an unknown primary site. *Am J Surg*. 1985 Oct;150(4):510-2. doi: 10.1016/0002-9610(85)90165-5
8. Rodan GA. The development and function of the skeleton and bone metastases. *Cancer*. 2003 Feb 1;97(3 Suppl):726-32. doi: 10.1002/cncr.11147
9. Zachariades N. Neoplasms metastatic to the mouth, jaws and surrounding tissues. *J Craniomaxillofac Surg*. 1989 Aug;17(6):283-90. doi: 10.1016/s1010-5182(89)80098-8
10. Pathak I, O'Brien CJ, Petersen-Schaeffer K, McNeil EB, McMahon J, Quinn MJ, Thompson JF, McCarthy WH. Do nodal metastases from cutaneous melanoma of the head and neck follow a clinically predictable pattern? *Head Neck*. 2001 Sep;23(9):785-90. doi: 10.1002/hed.1112
11. Popescu B, Oașă ID, Bertesteanu SV, et al. Strategies to improve activity and results of the head and neck tumor board. *J Clin Investig Surg*. 2020;5(1):9-12. doi: 10.25083/2559.5555/5.1/9.12
12. Loghin MG, Balalau OD, Bacalbasa N, Vasilache A, et al. The diagnostic algorithm in pre-invasive cervical

lesions. *J Mind Med Sci*. 2021;8(2):191-196. doi: 10.22543/7674.82.P191196

13. Umeda M, Shimada K. Primary malignant melanoma of the oral cavity--its histological classification and treatment. *Br J Oral Maxillofac Surg*. 1994 Feb;32(1): 39-47. doi: 10.1016/0266-4356(94)90172-4
14. Henderson LT, Robbins KT, Weitzner S. Upper aerodigestive tract metastases in disseminated malignant melanoma. *Arch Otolaryngol Head Neck Surg*. 1986; 112 (6): 659-63. doi: 10.1001/archotol.1986.03780060071011
15. Berghe AS, Cobzac G, Dindelegan G, Șenilă SC, Baican CI, Solomon CM, Rogojan L, Leucuța DC, Drugan TC, Bolboacă SD. Risk factors for positive sentinel lymph node, lymphatic or hematogenous dissemination over time in patients with cutaneous melanoma. *Exp Ther Med*. 2021 Jul;22(1):730. doi: 10.3892/etm.2021.10162
16. Adler NR, McArthur GA, Mar VJ. Lymphatic and Hematogenous Dissemination in Patients With Primary Cutaneous Melanoma. *JAMA Dermatol*. 2019 Nov 1; 155(11):1322. doi: 10.1001/jamadermatol.2019.2658