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# Primary Malignant Oral Melanoma: Report of Two Cases

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**Abstract:** Melanoma of the oral cavity is a rare malignant neoplasm representing 0.2-8% of all melanomas. The tumour more commonly affects the hard palate and the maxillary gingiva. It is well known that the lesion is very aggressive and has poor prognosis instead of its cutaneous counderparts. Diagnosis of intraoral melanoma is based on clinical suspicion and confirmed by biopsy. It is usually asymptomatic and is incidentally discovered by the dentist, otolarygolgist, internist or by the patient. Surgery is the first therapeutic option combined with chemotherapy. In this study, two cases of primary malignant melanoma of the oral cavity are presented. In the first case, a 62 years old man presented to the department with an asymptomatic tumor, dark blue in colour, located in the middline of the anterior region of the edentoulous maxilla. His past medical history was unremarkable and there was not a history of tobacco or alcohol consumption. The biopsy revealed a melanoma of the maxilla and a partial maxillectomy was performed. The defect covered with a superiorly based nasolabial island flap. The surgical specimen was in clear margin but the patient died 2 years later. In the second case, a 69 years old patient presented to the departement with a melanoma in the middle of the left alveolar process of the maxilla. The patient subjected in partial maxillectomy and the oroantral communication occurred, covered with buccal fat pad and the surgical defect covered with membrane. Adjunct chemotherapy was performed but the patient died 25 months after the operation.

**Key words:** Malignant, oral, melanoma, chemotherapy, therapy, tumour, Greece

## INTRODUCTION

Primary melanomas of the oral cavity are rare and very aggressive neoplasms that arise from melanocytes of the mucosa. Melanocytes in the skin protect from the harmful effects of sun exposure while their role in the mucosa is unknown (Hicks and Flaitz, 2000). The incidence of melanoma of the skin has increased worldwide last decades. Most of them occur in light-skinned adults and are rare in people with dark skin (Little, 2006). Its incidence in the oral cavity is estimated to range between 0.2-8% of all melanomas. Even though, the incidence of oral melanoma cannot be estimated because of its rarity, it considered to represent 1-2% of all oral malignancies (Hicks and Flaitz, 2000; Prabhu *et al*., 1992; Silverman, 2003).

Melanomas of the oral cavity in some instances arise from preexisting pigmented lesions, such as nevus or any other preexisting pigmended lesion (Gu *et al*., 2003; Ortega *et al*., 2004). Although, different etiologic factors such as light hair fair complexity or sunburn have been implicated, they proved to be unrelated to oral melanomas (Prabhu *et al*., 1992; Nevilie *et al*., 2002). They usually occur in the hard palate and maxillary gingiva while other sites of the oral cavity less frequently affected are the mandible, tongue, buccal mucosa and the lips (Rapidis *et al*., 2003; Mendenhall *et al*., 2005). Treatment option includes surgery and chemotherapy, radiation therapy or immunotherapy. Neck dissection is necessary when the neck is affected and radiation therapy of the neck is used only as adjunctive treatment option (Berthelsen *et al*., 1984).

Prognosis of oral melanoma is poor and the 5 years survival for patients with oral melanoma is estimated on about 5% (Thawlay, 1999; Lopez-Graniel *et al*., 1999; Ardekian *et al*., 2000). In this study, researchers present two cases of primary melanoma affecting the oral cavity. In the first case, the tumour was located in the middle line of the anterior part of the maxilla and the patient underwent a partial maxillectomy and reconstruction with a nasolabial flap and in the second case the primary melanoma was located in the middle of the left alveolus of the maxilla. Both patients were operated on and a adjuvant chemotherapy was performed. One patient died 24 months and the other 25 months after the operation, confirming the poor prognosis of this malignant entity.

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## MATERIALS AND METHODS

**Case 1:** A 62 years old woman admitted to the Department of Oral and Maxillofacial Surgery with an asymptomatic swelling in the middle line of the anterior alveolus of the maxilla (Fig. 1a). The patient was edentoulous and wore a full upper denture for 12 years. Her past medical history was unremarkable and she was not tobacco or alcohol user. The lesion was bluish in colour, painful warty swelling measuring 25×30×27 mm in its dimensions and was located in the middle line of the maxilla. The suspected diagnosis of melanoma was confirmed by the biopsy of the lesion. CT scan showed no erosion of the maxilla and absence of neck metastasis. The patient was operated on under general anesthesia and a partial maxillectomy was performed into clear margins (Fig. 1b-e). A superiorly based nasolabial flap was used to cover the intraoral defect (Fig. 1f-j). The histologic examination showed infiltration of the maxillary bone by the tumor. The postsurgical course was uneventful and the patient received radiation therapy.

The 20 months after the operation a metastasis to the brain was discovered and the patient died 24 months after the operation.

**Case 2:** A 69 years old male visited the department with an asymptomatic tumor of the edentoulous maxilla. The tumor was located in the middle of left alveolar process of the maxilla, measuring 25×32×30 mm in its dimensions. CT evaluation reveals neither erosion of the alveolar process nor lymph node involvement of the neck. The lesion was asymptomatic and dark blue in colour and the clinical diagnosis of melanoma was confirmed with biopsy. The patient was operated on and a partial maxillectomy performed (Fig. 2a-c). The oroantral communication covered with buccal fat pad while lyophilized dura was used to cover the remaining surgical defect (Fig. 2d, e). Histopathologic evaluation confirmed the initial diagnosis of melanoma. The tumor cells were big with sparse coloured cytoplasm and oval or near round nucleus. Adjunct chemotherapy was performed but the patient died 25 months after the operation.

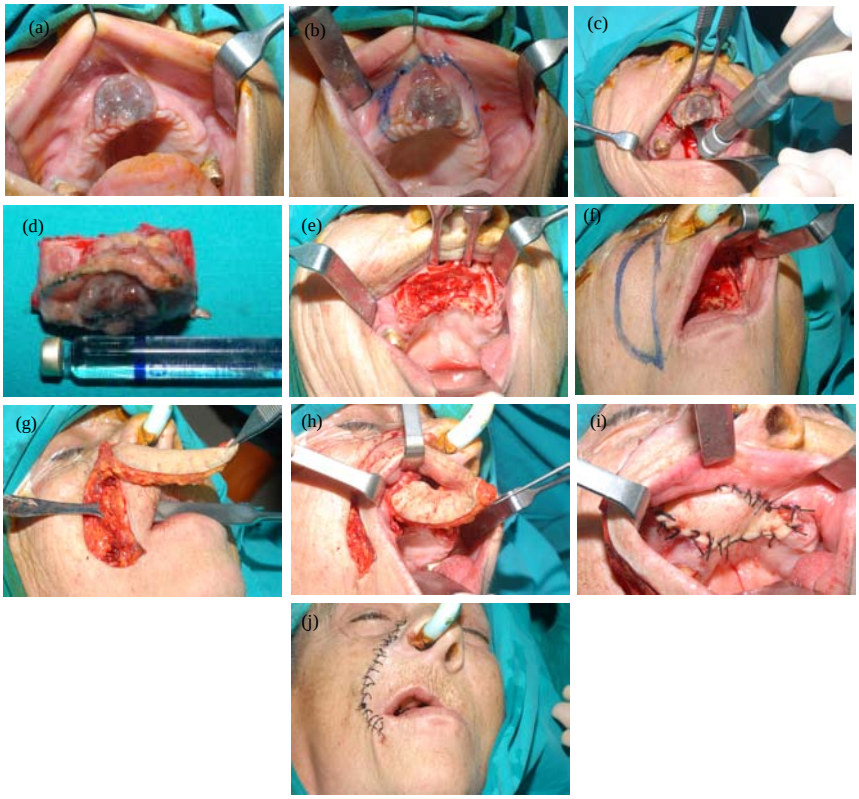


Fig. 1: a) Melanoma of the upper alveolar process of the maxilla; b) drawing of the excision; c) excision of the melanoma with the underlying alveolar bone; d) the surgical specimen; e) the surgical defect after excision of the tumor; f) a superiorly based nasolabial flap used for coverage of the intraoral defect; g) the nasolabial flap is raised; h) the flap is inserted into the oral cavity; i) suturing of the flap and coverage of the surgical defect; j) suturing of the donor site

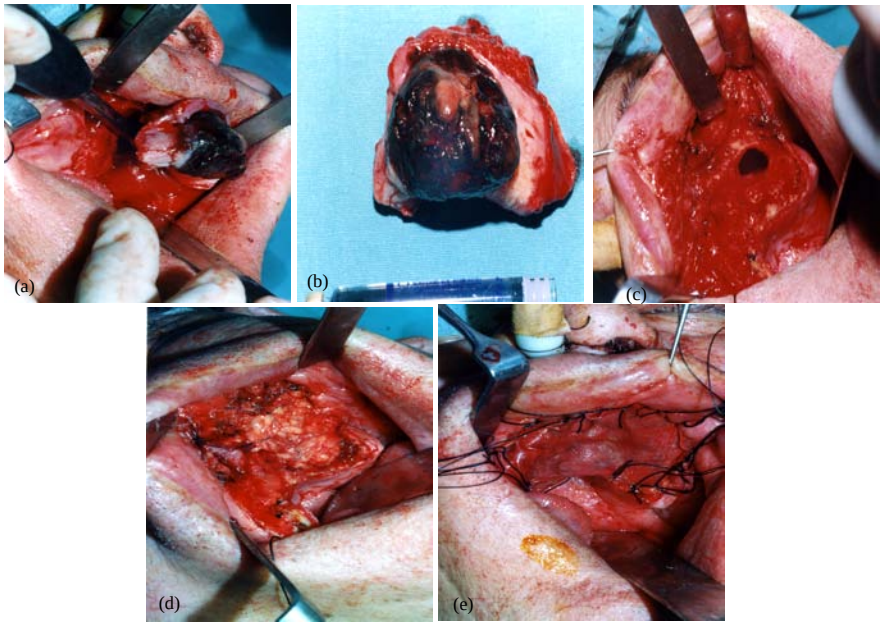


Fig. 2: a) Excision of the melanoma from the hard palate; b) the surgical specimen; c) the surgical defect leaving an oroantral communication; d) buccal fat pad was used to cover the defect; e) an absorbable membrane also was used to reinforce the coverage of the defect

## RESULTS AND DISCUSSION

Primary melanoma of the oral cavity is a rare neoplasm affecting all races (Strauss and Strauss, 1994) and can develop in any site of the human body where neural crest cells migrate (Garzino-Demo *et al*., 2004). The tumor constitutes 0.2-0.8% of all melanomas in West countries (Hicks and Flaitz, 2000) with the age ranging from 30-80 (Collela *et al*., 1998; Garcia *et al*., 2005) even though, younger patient have been referred to be affected (Dasilva *et al*., 2002). The etiology is unclear and in severe percentage of cases (30-50%) it is related with pre-existing hyperpigmentated lesions of the oral cavity (Manolidis and Donald, 1997). In contrast to the etiologic factors related with skin melanoma such factors are either missing in oral melanoma (sun exposure) or have not been studying thoroughly possibly because of the rarity of this malignant tumor in the oral cavity (Barker *et al*., 1997; Grosky and Epstein, 1998). Various irritative agents such as betel nut chewing, smoking or mechanical trauma from ill-fitting dentures have also been implicated as causative factors (Freedberg *et al*., 1999; Goubran *et al*., 1978; Milton and Lane Brown, 1965).

Hard or soft palate is affected in 40% of cases followed by the maxillary gingiva in one third of the cases. Other sites affected in the oral cavity are the buccal mucosa, the tongue, the lips, the floor of the mouth and the uvula (Barker *et al*., 1997; Gorsky and Epstein, 1998). Primary melanoma of the oral cavity clinically is presented as an asymmetric lesion with irregular outline and has a wide range in colour from black, purple, grey or red, dark brown uniform or mixed colour (Barker *et al*., 1997; Rapini, 1997; Strauss and Strauss, 1994). In rare cases, amelanotic type of primary oral melanomas can mimic a salivary gland or vascular tumor (Rapini, 1997; Strauss and Strauss, 1994). The surface appearance of oral melanoma ranges from macular or nodular to ulcerated (Silverman, 2003). In contrast to skin melanomas that spread superficially, oral melanomas are usually of invasive type and this is probably one of the reason for its poor prognosis. The size of the lesion varies from few millimetres to several centimetres. In early stages, it is painless and later swelling in a pigmented area can develop. In some cases, haemorrhage or teeth loosening can drawn patient's attention. Pain is associated with advanced disease and destruction of underling bone is a common finding (Prabhu *et al*., 1992; Barker *et al*., 1997). Very important is the differentiation between primary melanoma of the oral cavity from metastatic from another primary site (usually the skin).

Greene *et al*. (1953) have proposed the following criteria for diagnosis of primary melanomas of the oral cavity; demonstration of clinical and microscopic tumor in the oral mucosa, junctional activity in the lesion and inability to detect melanoma at any other site. For this reason, clinical evaluation must include a very detailed

examination of skin, the scalp, the bed of the nails and the eyes. An evaluation of the whole body with CT or MRI of the head, chest and abdomen and possibly with bone scanning to detect metastatic disease before surgery of the primary is detrimental (De Vicente *et al*., 2001). Differential diagnosis may be difficult as melanomas can mimic other benign lesions such as amalgam tattoo, metal deposit adjacent to prosthetic restorations, antimalaria agents, trauma and generalized diseases as Addison's diseases, Peutz-Jeghers syndrome, hemochromatosis, etc. (Bongiorno and Arico, 2002; Ardekian *et al*., 2000). The treatment modality for oral melanoma includes surgical extirpation with or without neck dissection, chemotherapy or radiation therapy. Surgical resection is the primary treatment but sometimes it is difficult because of anatomic location for many of these lesions. Prophylactic neck dissection is controversial and according to Tanaka *et al*. (2004) radical neck dissection must be performed for confirmed lymph node metastasis and not for prophylactic reasons despite the behaviour of melanoma to metastatize. The local and distant recurrence indicate that early diagnosis and a more radical approach is indicated. However, despite to this treatment neither surgery nor radiation therapy has been shown to increase survival times (Lund *et al*., 1999). Chemotherapy can be used to reduce the size of the tumor preoperatively and to help the surgical management (Rigel, 1997).

## CONCLUSION

In vast majority of the cases melanomas of the oral cavity have poorer prognosis than their counterpart of the skin. The Breslow and Clark classification for skin melanomas have not been validated as predicting factors in oral melanomas possibly because of the rarity of this lesion (Hicks and Flaitz, 2000). This event along with the delay in early diagnosis and the nodular type of melanomas that usually develop in the oral cavity is responsible for the poor survival rates as researchers recorded in the patients with oral melanoma.

## REFERENCES

Ardekian, L., D.J. Rosen, M. Peled, A. Rachmiel and E.E. Machtei *et al*., 2000. Primary gingival malignant melanoma. Report of 3 cases. J. Periodontol., 71: 117-120.

Barker, B.F., W.M. Carpenter, T.E. Daniels, M.A. Kahn and A.S. Leider *et al*., 1997. Oral mucosal melanomas: The WESTOP Banff workshop preceedings: Western society of teachers of oral pathology. Oral Surg. Oral Med. Oral Pathol. Oral Radiol. Endod., 83: 672-679.

Berthelsen, A., A.P. Andersen, T.S. Jensen and H.S. Hansen, 1984. Melanomas of the mucosa in the oral cavity and the upper respiratory passage. Cancer 54: 907-912.

Bongiorno, M.R. and M. Arico, 2002. Primary malingnant melanoma of the oral cavity: Case report. Int. J. Dermatol., 41: 178-181.

Collela, G., G. Faillace, M. Santagata and G.P. Tartaro, 1998. Un caso di melanoma maligno primario del cavo orale. Minerva Stomatol., 47: 535-540.

Dasilva, N.J., Z. Kurago, P.J. Polverini, C.T. Hanks and A.F. Paulino, 2002. Malingnant melanoma of the oral mucous in 17-years old adolescent girl. Arch. Pathol. Lab. Med., 126: 1110-1113.

De Vicente, J.C., M. Martin and J.S. Lopez-Arranz, 2001. Asymtomatic epulis of the maxilla. Oral Surg. Oral Med. Oral Pathol. Oral Radiol. Endod., 91: 135-138.

Freedberg, I.M., K. Wolff and K.F. Austen *et al*., 1999. Dermatology in General Medicene. 5th Edn., United States Mc Graw-Hill pp: 981-1097.

Garcia, R.G., L.N. Gias, P.L. Martos and S.H. Nam-Cha *et al*., 2005. Melanoma de la mucous oral casos clinicos y revision de la literatura. Med. Oral Pathol. Oral Cir. Bucal., 10: 264-271.

Garzino-Demo, P, M. Fasolis, G.M. Maggiore, M. Pagano and S. Perone, 2004. Oral mucosal melanoma: A series of case reports. J. Craniomaxillofac Surg., 32: 251-257.

Gorsky, M. and J.B. Epstein, 1998. Melanoma arising from the mucosal surfaces of the head and neck. Oral Surg. Oral Med. Oral Pathol. Oral Radiol. Endod., 86: 715-719.

Goubran, G.F., E.O. Adekeye and M.B. Edwards, 1978. Melanoma of the face and mouth in Nigeria: A review and comment on three cases. Int. J. Oral Surg., 7: 453-462.

Greene, V.A., J. Haynes, M. Dozier, J.M. Blumberg and J.L. Bernier, 1953. Primary malingnant melanoma of the oral mucosa. J. Oral Surg., 6: 1431-1436.

Gu, G.M., J.B. Epstein and T.H. Morton, 2003. 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., 96: 404-413.

Hicks, M.J. and C.M. Flaitz, 2000. Oral mucosal melanoma: Epidemiology and pathobiology. Oral Oncol., 36: 152-169.

Little, J.W., 2006. Melanoma: Etiology, treatment and dental implications. Gen. Dent., 54: 61-66.

Lopez-Graniel, C.M., F.J. Ochoa-Carrillo and Meneses-Garcia, 1999. Malignant melanoma of the oral cavity: Diagnosis and treatment experience in a Mexican population. Oral Oncol., 35: 425-430.

Lund, V.J., D.J. Howard, L. Harding and W.I. Wei, 1999. Management options and survival in malignant melanoma of the sino-nasal mucosa. Laryngoscope, 109: 208-211.

Manolidis, S. and P.J. Donald, 1997. Malignant mucosal melanoma of the head and neck: Review of the literature and report of the 14 patients. Cancer, 80: 1373-1386.

Mendenhall, W.M., R.J. Amdur, R.W. Hinerman, J.W. Werning, D.B. Villaret and N.P. Mendenhall, 2005. Head and neck mucosal melanoma. Am. J. Clin. Oncol., 28: 626-630.

Milton, G.W. and M.M. Lane Brown, 1965. Malignant melanoma of the nose and mouth. Br. J. Surg., 53: 484-493.

Nevilie, N., D.D. Damm, C.M. Allen and J. Bouqot, 2002. Oral and Maxillofacial Pathology. 2nd Edn., W.B. Saunders, Philadelphia.

Ortega, K.L., N.S. Araujo, F.B. Souza and M.H.C.G. Magalhaes, 2004. Primary malingnant melanoma of the oral cavity: A case report. Int. J. Dermatol., 43: 750-752.

Prabhu, S.R., D.F. Wilson and D.K. Daftary, 1992. Oral Diseases in the Tropics. Oxford University Press, New York, ISBN: 10: 0192620088, pp: 824.

Rapidis, A.D., C. Apostolidis, G. Vilos and S. Valsamis, 2003. Primary malignant melanoma of the oral mucosa. J. Oral Maxillofac Surg., 61: 1132-1139.

Rapini, R.P., 1997. Oral melanoma: Diagnosis and treatment. Semin. Cutan. Med. Surg., 16: 320-322.

Rigel, D.S., 1997. Malignant melanoma: Incidence issues and their effect on diagnosis and treatment in the 1990s. Mayo Clin. Proc., 72: 367-371.

Silverman, S., 2003. Oral cancer. 5th Edn., BC Decker Inc., Hamilton London pp: 155-157.

Strauss, J.E. and S.I. Strauss, 1994. Oral malignant melanoma: A case report and review of literature. J. Oral Maxillofac Surg., 52: 972-976.

Tanaka, N., M. Mimura, K. Ogi and T. Amagasa, 2004. Primary malignant melanoma of the oral cavity: Assessment of outcome from the clinical records of 35 patients. Int. J. Oral Maxillofac Surg., 33: 761-765.

Thawlay, S.E., 1999. Pathology of Tumors of the Oral Cavity In: Comprehensive Management of Head and Neck Tumors Thawlay, S.E. (Eds.)., 2nd Edn., W.B. Saunders Philadelphia pp: 651-655.