Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 9, Issue, 05, pp.49964-49966, May, 2017

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

REVIEW ARTICLE

MALIGNANT MELANOMA OF ORAL CAVITY– A BRIEF REVIEW

***[1]Shamit Thaper and [2]Don, K. R.,**

[1]Third Year BDS Undergraduate Student, Saveetha Dental College, Chennai-600077, Tamil Nadu, India
[2]Senior Lecturer, Department of Oral and maxillofacial Pathology, Saveetha Dental College, Chennai-600077, Tamil Nadu, India

ARTICLE INFO

Article History:
Received 22nd February, 2017
Received in revised form
14th March, 2017
Accepted 24th April, 2017
Published online 19th May, 2017

Key words:

Cancer,
Malignancy,
Oral,
Metastasis.

ABSTRACT

Oral Malignant Melanoma is an aggressive rare malignant disorder found mostly in gingiva and hard palate in oral cavity. At present, the clinicopathological classification of oral malignant melanoma is not yet outlined, consequently the skin is often taken as a reference. The lesions are asymmetrical and irregular, a thorough oral examination and a high suspicion is needed for early diagnosis. The Study has been done to understand the malignant melanoma affecting the oral cavity in comparison with the malignant melanoma affecting skin.

Citation: Shamit Thaper and Don, K. R. 2017. "Malignant melanoma of oral cavity– A brief review", *International Journal of Current Research*, 9, (05), 49964-49966.

INTRODUCTION

Melanomas are malignant neoplasms arising from melanocytes originating from neural crest. Melanomas are present primarily in the basal portion of epidermis at the dermal-epidermal junction. Melanoma could infrequently arise from mucosal surfaces. The most common sites are the mucosal surfaces of the head and neck (typically involving the nasal and oral cavity), vulva, and anorectal mucosa (Freedberg, 1999). Head and neck mucosal melanomas are much less common than their cutaneous counterparts and probably represent less than 1-8% of all melanomas (accounting for 0.5% of all oral malignant tumors) (Steidler, 1984). Most commonly affected areas in the oral cavity are hard palate and gingiva. Males are more commonly affected than females. The age range of reported cases ranges from 20-80 years (Meleti, 2007). Africans are most commonly affected due to presence of melanin pigmentation in oral mucosa of these people. In Asia, Japan has higher incidence of oral melanomas accounting 11-12.4% of all melanomas (Bhullar, 2012). The incidence of melanoma has been steadily increasing in the past several decades. This increased frequency of newly diagnosed melanomas has been observed worldwide. The prognosis (5 year survival rate) of oral malignant melanoma is poor, 0-20% whereas the overall survival for head and neck melanomas ranges between 20-48% according to literature review (Mihajlovic, 2012). In the early stages, oral melanoma may be asymptomatic. Symptoms such as pain, bleeding and ulceration may present much later, hence most cases of oral melanoma (66.6%) get diagnosed only in advanced stages. The lesions greater than 4 cm in diameter, distant metastases have poor prognosis with mean survival rate less than 16.9 months, with only 6.6% of patients surviving more than five years. Mucosal melanomas frequently invade the underlying tissues and metastatize, have much poorer prognosis than cutaneous melanomas. Pigmented lesion of the oral cavity should be viewed with suspicion because it does not possess clinical specificity. It must be differentiated from other forms of pigmented oral disease, including drug, disease- or smoking-associated melanosis, oral melanotic macule, Kaposi's sarcoma, physiologic or racial pigmentation, melanocytic nevus and melanoacanthoma.

Epidemiology

Oral melanoma is very rare and the incidence rates of oral melanoma are not available. It is a lesion of adulthood and is rarely seen below 20 years of age. The mean age of occurrence is 56 years and male to female ratio is 2:1 (Egan). They are estimated to represent 0.5% of all oral malignancies (Hicks, 2000). It mostly occurs in countries like Japan, Uganda and

****Corresponding author: Shamit Thaper***
Third Year BDS Undergraduate Student, Saveetha Dental College, Chennai-600077, Tamil Nadu, India.

India. Primary oral melanomas are extremely rare in the United States and account for less than 2% of all melanomas (Melanoma, 2002).

Etiology

The etiological factors of malignant oral melanoma, unlike cutaneous melanomas are largely unknown. Several hypotheses include smoking, irritation caused by dentures and consumption of alcohol. Risk factors have also remained elusive. There appear to be no geographic differences and possibly only slight ethnic and gender differences (Silverman, 2003). Like their cutaneous counterparts, primary oral melanomas are believed to arise either from nevus, pre-existing pigmented areas or de novo (30% cases) (Freedberg, 1999 and Steidler, 1984). In more than two-thirds of the cases, p53 protein alterations have been identified. Loss of heterozygosity at 12p13 and loss of p27KIP1 protein have been detected. Cytogenetic analysis of melanocyte- specific gene-1 (MSG-1) marker is helpful as it has a role in the pathogenesis (Aguas, 2009 and Femiano, 2008). Some oral melanomas are believed to originate from junctional nevis. Despite such observations, risk factors such as fair complexion and light hair, a tendency to sunburn, a history of painful or blistering sunburn in childhood, an indoor occupation with outdoor recreational habits, a personal history of melanoma, and a personal history of dysplastic or congenital nevus (xeroderma pigmentosum and basal cell nevus syndrome) have no role in the etiology of oral melanomas (Freedberg, 1999). In the mouth, mechanical traumas including injury from ill-fitting prostheses and infection have been cited as possible causative factors, but there is no proof of their etiological role (Freedberg, 1999).

Clinical features

Tanaka *et al*., identified five clinical types in oral melanoma: pigmented nodular type, non-pigmented nodular type, pigmented macular type, pigmented mixed type, and non-pigmented mixed type. Oral lesions of primary oral melanoma are asymmetric, irregular in outline, and occasionally multiple. The surface architecture can range from macular to ulcerated and nodular. Rolled borders are usually absent in melanoma (Neville, 2009). Commonly involved intraoral sites are hard palate (32%), maxillary gingiva (16%), mandibular gingiva (7%), tongue (7%), buccal mucosa (7%), upper and lower Lip (7%) (Aguas, 2009). Umeda *et al*. noted that oral melanoma presents with 3 main components: centre with a nodular component, a plaque component that is flat or either slightly elevated and shows deep brownish-black pigmentation and a light brown non elevated macular component (Umeda, 2008). There are well known differences in the biologic behavior of growth in oral malignant melanoma; the radial growth-phase melanoma (flat or macular), vertical growth-phase melanoma (mass, nodule and elevation) and vertical growth-phase melanoma with metastasis. Some of these tumors are amelanotic. Amelanotic oral malignant melanoma (AOMM) is a rare tumor, which is difficult to diagnose. In two different studies, less than 10% of oral melanomas were described as amelanotic (Tanaka, 2004).

Histological Findings

Histologically, the presence of atypical melanocytes (usually larger than normal melanocytes and having varying degrees of nuclear pleomorphism and hyperchromatism) in the epithelial and connective tissue junction, high density of melanocytes, and atypical cells in the biopsy of melanotic lesions of the oral mucosa are suspicious for oral malignant melanoma (González-García, 2005). They typically have large, vescicular nuclei with prominent nucleoli; mitoses may be present but usually not in large numbers. They are usually aggregated into sheets or alveolar groups and less commonly neurotropic or desmoplastic configurations are seen. In most instances, the cells of melanoma contain melanin granules, but they may demonstrate no melanin production (amelanotic melanoma). Lack of production may cause diagnostic confusion at light microscopic level because melanoma can mimic a variety of undifferentiated tumors.

Other Diagnostic Methods

CT and MRI studies should be undertaken to explore regional metastases to the submandibular and cervical lymph nodes. Immunohistochemical studies showing S-100 protein, MART-1, and HMB-45 reactivity of the lesional cells are beneficial in distinguishing melanomas from other malignancies.

Differential Diagnosis

Oral pigmentations can occur either due to physiological or pathological causes. It can be exogenous or endogenous in origin. Thorough clinical assessment of the lesion in terms of color, location, distribution, duration and evolvement should be done. A detailed medical history regarding the use of drugs, family history of malignancies and change in lifestyle should be recorded. Differential diagnosis includes physiologic pigmentation, post inflammatory pigmentation, acquired melanotic nevus, amalgam tattoo, blue nevi, melanosis associated with smoking and medication, melanoplakia, pigmentations in Cushing's syndrome (Mohan, 2013 and Rajendran, 2009).

Treatment

- Primary lesion should be surgically excised with a margin involving atleast 1-2 cm of healthy tissue, tumour extent and thickness should be considered.
- Sentinal lymph nodes and other lymph nodes involved by metastases should be removed.
- Radiochemotherapy should be considered post-surgery

Surgical removal is the main mode of treatment, but because of anatomic restraints it is often difficult. In patients with early melanoma or in melanoma in situ, radiotherapy has given good results although melanoma is not very radiosensitive. Chemotherapy though under consideration has not given promising results. Immunotherapy has been considered in recent years. In general, the survival rates are poor and are worse for those with metastasis. In general, the survival rates are poor and are worse for those with metastasis (Jackson, 1975). Chaudhry *et al*. reported that the average duration of life from the point of diagnosis was about 18 months. Sampat and Sirsates reported that 79% of patients died within 5 years (Aguas, 2009). In addition, Vairaktaris *et al*. showed that the 5-year survival rate of intraoral melanoma does not exceed 5-9% (Vairaktaris, 1989). Clark grading systems have not been validated as prognostic predictors in oral melanomas, probably owing to the rarity of this lesion.

Conclusion

This review of literatures of oral melanoma shows that oral malignant melanoma might be different from cutaneous

malignant melanoma, and that new criteria for diagnosis and therapy should be considered for this disease. Dentists should be well aware of the need for early diagnosis of oral malignant melanoma.

REFERENCES

Aguas, S.C., *et al*. 2009. 'Primary Melanoma of Oral Cavity: ten cases and review of 177 cases from literature', Med Oral Pathol Oral Cir Buccal, Jun 1;14 (6):E265-71.

Aguas, S.C., Quarracino, M.C., Lence, A.N., Lanfranchi-Tizeira, H.E. 2009. Primary melanoma of the oral cavity: ten cases and review of 177 cases from literature. *Med Oral Patol Oral Cir Bucal* 14: E265-271.

Bhullar, R.P., Bhullar, A., Vanaki, S.S., Puranik, R.S., Sudhakara, M. *et al*. 2012. Primary melanoma of oral mucosa: A case report and review of literature. *Dent Res J (Isfahan),* 9: 353-356.

Egan, E.J., *et al*. Jaypee Brothers, Taber's Cyclopedic Medical Dictionary, 18th edition,

Femiano, F., Lanza, A., Buonaiuto, C., Gombos, F., Di Spirito, F, *et al*. 2008. Oral malignant melanoma: a review of the literature. *J Oral Pathol Med* 37: 383-388.

Freedberg, I.M., Wolff, K., Austen, K.F., *et al*. 1999. Dermatology in general medicine. 5th ed. McGraw-Hill: United States; p. 981,1097

González-García, R., Naval-Gías, L., Martos, P.L., Nam-Cha, S.H., Ro-dríguez- Campo, F.J., Muñoz-Guerra, M.F., *et al*. 2005. Melanoma of the oral mucosa: Clinical cases and review of the literature. *Med Oral Patol Oral Cir Bucal* 10:264-71.

Hicks, M.J., Flaitz, C.M. 2000. Oral mucosal melanoma: Epidemiology and pathobiology. *Oral Oncol.,* 36:152-69.

Jackson, D., Simpson, H.E. 1975. Primary malignant melanoma of the oral cavity. *Oral Surg Oral Med Oral Pathol*, 39:553-9.

Melanoma of the oral mucosa in a 17-year-old adolescent girl. Arch Pathol lab Med 2002;126:1110-3.

Meleti, M., Leemans, C.R., Mooi, W.J., Vescovi, P., van der Waal I. 2007. Oral malignant melanoma: a review of the literature. *Oral Oncol* 43: 116-121.

Mihajlovic, M., Vlajkovic, S., Jovanovic, P., Stefanovic, V. 2012. Primary mucosal melanomas: a comprehensive review. *Int J ClinExpPathol* 5: 739-753.

Mohan, M., Sukhadia, V.Y., Pai, D., Bhat, S. 2013. Oral malignant melanoma: systematic review of literature and report of two cases. *Oral Surg Oral Med Oral Pathol Oral Radiol* 116: e247-254.

Neville, Damm, Allen and Bouquot, Oral and Maxillofacial Pathology, 3rd edition, Saunders, 2009.

Prabhu, S.R., Wilson, D.F., Daftary, D.K. 1992. Oral diseases in the tropics. Oxford University Press:New York; p.460-1.

Rajendran, R., Sivapathasundharam, B. 2009. editors. Shafer's textbook of Oral Pathology. 6th ed. Noida (India): Elsevier; 2009. Pg no: 120-126.

Silverman, S. 2003. Oral cancer. 5th ed. BC Decker Inc: Hamilton, London., p. 155-7.

Steidler NE, Reade PC, Radden BG. Malignant melanoma of the oral mucosa. J Oral MaxillofacSurg 1984;42:333-

Tanaka, N., Mimura, M., Kimijima, Y., Amagasa, T. 2004. Clinical investigation of amelanotic malignant melanoma in the oral region. *J Oral MaxillofacSurg*, 62:933-7.

Umeda, M., Komatsubara, H., Shigeta, T., Ojima, Y., Minamikawa, T., *et al*. 2008. Treatment and prognosis of malignant melanoma of the oral cavity: preoperative surgical procedure increases risk of distant metastasis. Oral Surg Oral Med Oral Pathol Oral RadiolEndod 106: 51-57.

Vairaktaris, E., Iatrou, I., Ragos, V., Petraki, K., Martis, C. 1989. Primary melanoma of the oral cavity. *Hell Period Stomat Gnathopathoprosopike Cheir,* 4:31-6.

****