**Oral Melanotic Macule - A Case Report**

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**ABSTRACT**

A melanotic macule is a benign pigmented lesion of oral cavity characterized by increase in melanin pigmentation. Presented here is a case report of 12 year old girl with black pigmented area on right buccal mucosa. An excision biopsy was done which confirmed the diagnosis by as melanotic macule.

**Key Words**
Differential diagnosis, Etiology, Histopathology, Management, Melanotic macule.

**INTRODUCTION**

The term melanotic macule has been used to describe a benign pigmented lesion of the oral cavity, characterized by an increase in melanin pigmentation along the basal cell layer of the epithelium and the lamina propria. The melanotic macule is typically a well circumscribed flat area of pigmentation that may be brown, black, blue or grey in colour. Most of the lesions are less than 1 cm in diameter, although in occasional cases they may be larger in size. The solitary oral melanotic macule is seen in middle aged adults. Females are more affected than males. The oral melanotic macule is usually located on the vermilion border of the lips and termed as the labial melanotic macule. Intraorally, it may be found on the gingiva, buccal mucosa or the palate and is termed as the oral melanotic macule. \(^{1,2,3}\) Treatment usually consists of surgical excision, and a biopsy to rule out the possibility of an early malignant melanoma. Periodic evaluation may be necessary to assess any clinical changes. \(^4\) There is a paucity of literature concerning this lesion in children.

**CASE REPORT**

A 12 year old girl reported to the Department of Pedodontics, Yenepoya Dental College Mangalore with the chief complaint of black pigmented area on the right buccal mucosa, that kept on increasing in size since one year (Fig. 1). The family history did not reveal any such occurrences. Intraoral examination revealed a well circumscribed bluish black area of pigmentation which was firm in consistency, elliptical in shape and measuring about 1.0x0.5x0.1 cms. It was not associated with pain or any other signs of inflammation. Excision biopsy was done and the specimen was sent (Fig.2) for histologic examination. Biopsy report showed a mild degree of parakeratosis in the stratified squamous epithelium (Fig. 3). Melanin pigment could be identified in both the basal cell layer and the lamina propria. Although it was difficult to evaluate the amount of found to be more in the basal cell layer. Proliferation of capillaries and fibroblasts was also observed.

The patient was recalled after one week and after six months. There were no signs of recurrence.

**DISCUSSION**

There is very little information in literature about the brown or black melanotic lesions of the oral mucosa, that are not a manifestation of racial pigmentation and are not associated with other syndromes. These melanotic macules have been variously termed as ephelis, melanosis, lentigo, solitary labial lentigo, labial melanotic macule and oral melanotic macules. \(^3\) Buchner and Hansen analyzed 105 cases of oral melanotic macule and found that in most of the patients, melanotic macule was a solitary lesion and the most likely location was the vermilion border, followed by the gingiva.

George et al, conducted a review of 353 cases of oral melanotic macule and found that in most of the patients, melanotic macule was a solitary lesion and the most likely location was the vermilion border, followed by the gingiva.

Regarding etiology, melanotic macules may result from racial pigmentation, endocrine disturbance, antimalarial therapy, Peutz-Jeghers syndrome, trauma, hemochromatosis, or chronic pulmonary disease, or they may be idiopathic. Majority of these require clinicopathologic correlation for definitive diagnosis. In these instances, the diagnosis should reflect the etiology (for example, melanin pigmentation secondary to trauma). For those lesions without an
identifiable etiologic factor, the term oral melanotic macule has been suggested.

In the literature, the oral melanotic macule has been given various inappropriate and erroneous names, such as ephelis and lentigo. Ephelis (freckle) is a circumscribed brown macule over skin that has been exposed to sunlight. Histologically, ephelis shows increased melanin pigmentation in the basal-cell layer without an increase in the number of melanocytes.

Ephelides are not found on mucous membranes. Although the histologic appearance of the melanotic macule of the oral mucosa is similar to that of ephelis of the skin, it is not at all related to exposure to sun and thus the term ephelis for the intraoral lesion is a misnomer.

The term lentigo has also been suggested for oral melanotic macules. But since melanotic macules of the oral mucosa do not exhibit a significant increase in the number of melanocytes, the term lentigo is not considered appropriate for this type of lesion.

Weather et al. and Page et al., recently introduced the terms labial melanotic macule for lesions on the vermilion border and oral melanotic macule for lesions within the oral cavity. The term melanotic macule should be reserved for lesions in which there is a clinicopathologic correlation between the clinical feature of a discrete pigmented macule and the histologic feature of hyperpigmentation of the basal-cell layer and/or the lamina propria.

The term focal melanosis should be used as a histologic designation when hyperpigmentation of the basal-cell layer and/or the lamina propria is associated with clinically nonpigmented pathologic conditions.

Regarding histopathology, the dark colour of the lesion is due to increase in melanin pigment of the basal cell layer, not from an increased number of melanocytes. Melanin may also be found in the lamina propria. Further histologic criteria are absence of elongated rete ridges and lack of prominent melanocytic activity. If there is an elongation of rete ridges, a heavily pigmented basal cell layer, and an increase in the
number of normal-appearing basal layer melanocytes, a junctional nevus has to be considered. If the melanocytes show proliferation, atypia, and some irregularity in their arrangement, the histopathologic diagnosis is atypical melanocytic hyperplasia, which may correspond clinically to early malignant melanoma (melanoma in situ)\textsuperscript{9}.

In our case, we found melanin in both the basal cell layer and the lamina propria. This agrees with the study conducted by Buchner and Hansen\textsuperscript{3}. Page et al\textsuperscript{2} found that 30\% of their cases had melanin only in the basal cell layer and 3.8\% only in the lamina propria\textsuperscript{2}.

The small size, slow growth rate, and flat clinical appearance favour a benign diagnosis.

Oral melanotic macule has to be differentiated from certain other similar conditions exhibiting hyperpigmentation. Racial pigmentation is generally diffuse, is genetically acquired and seen at birth. It is more common in Caucasians and has been termed as oral melanosis.

The two most important causes of post inflammatory hyperpigmentation are lichen planus and lupus erythematosus. There are certain endocrinal hyperpigmentations. Addison's disease causes a darkening of the oral mucosa which is irregular, patchy and found on the gums.

Metal deposition can cause discolouration either from copper as in Wilson's disease or from amalgam as in an amalgam tattoo.

It could be associated with syndromes as in Peutz Jeghers syndrome where freckles are seen not only in the oral cavity, but also at the distal extremities, Leopard syndrome where pigmentation is seen all over the body.

Antimalarial drugs like chloroquine can also cause mucosal hyperpigmentation which also occurs on other body parts like the shinns.

The treatment of oral melanotic macule is debatable\textsuperscript{5}. Although the lesion is completely benign\textsuperscript{2} and shows no tendency to recur or to become malignant, sometimes it is difficult if to distinguish it clinically from other pigmented lesions, such as nevus, malignant melanoma in situ, and incipient malignant melanoma. Thus, complete excision of oral melanotic macule is indicated and histologic examination or at least be checked at frequent intervals for any change in size, shape, or colour. This is especially necessary for lesions of the palate - a location for which oral malignant melanoma has a strong predilection\textsuperscript{10}.

Melanotic lesions having a duration of fewer than 5 years, which have exhibited changes in size or colour or which exhibit tumefaction, ulceration, or bleeding, should be excised. Lesions with reliable history of more than 5 years without change in character in which a known cause seems evident (trauma, etc.), may be followed or excised, although we prefer the latter.

**REFERENCES**


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