JAMA Dermatology Clinicopathological Challenge

Asymptomatic Pigmented Lesions of the Gingiva

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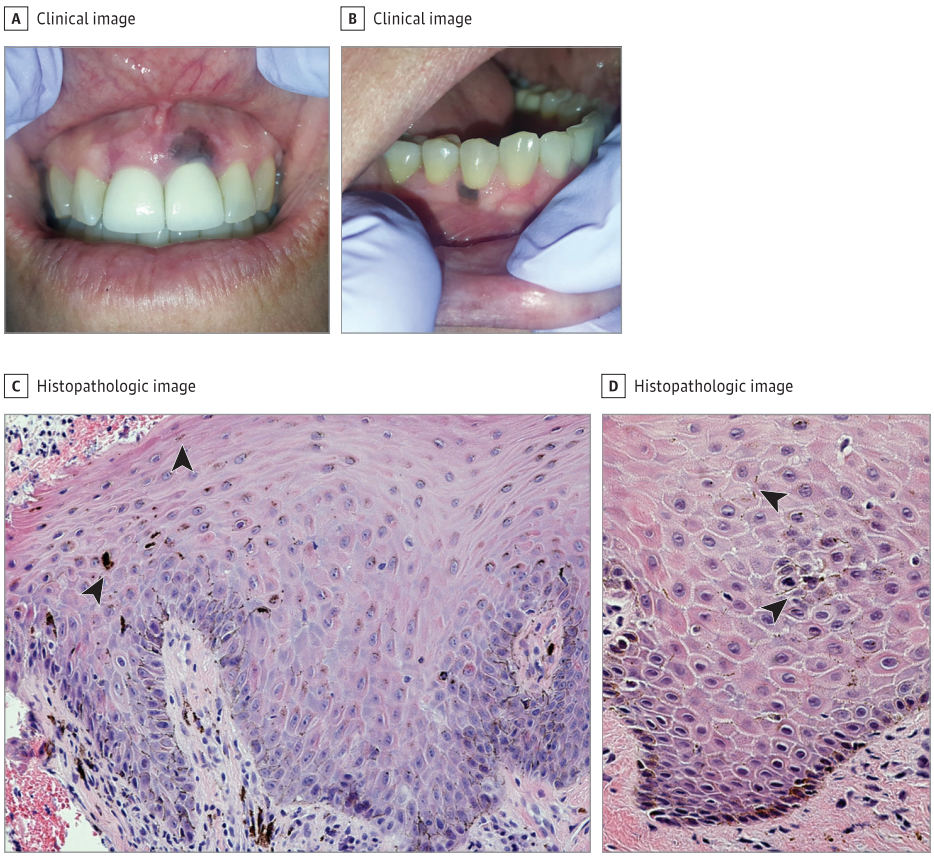

Figure. A, Heterogeneously pigmented lesion of the gingiva associated with the left maxillary central incisor. B, Heterogeneously pigmented lesion of the gingiva associated with the right mandibular first premolar. C, Mucosal epithelium exhibiting spongiosis and a diffuse proliferation of heavily pigmented dendritic melanocytes that extend the full thickness of the epithelium (arrowheads). Melanin incontinence is also noted (hematoxylin-eosin stain, original magnification ×100). D, Squamous mucosa exhibiting spongiosis with diffuse pigmentation in the basal cell layer and dendritic melanocytes (arrowheads) in the stratum spinosum (hematoxylin-eosin stain, original magnification ×200).

A white woman in her 50s presented to an oral medicine clinic for evaluation of asymptomatic pigmented lesions affecting the maxillary and mandibular gingiva of 6 years' duration. The patient reported previous orolabial melanotic macules. Her medical history was significant for hypertension, hypercholesterolemia, asthma, and breast cancer. Medications included levalbuterol, nadolol, and cetirizine. Family medical history was significant for breast cancer and social history was unremarkable. Review of systems was positive for cutaneous ephelides. Physical examination revealed a 7 mm × 6 mm asymmetric, heterogeneously pigmented lesion without indurated borders on the gingiva associated with the left maxillary central incisor tooth (number 9) (**Figure**, A). A lesion similar in clinical appearance, although smaller, was observed on the gingiva associated with the right mandibular first premolar tooth (number 28) (Figure, B). Biopsy specimens were obtained with a 3 mm punch instrument from both lesions for routine histology which demonstrated similar microscopic findings (Figure, C and D).

WHAT IS YOUR DIAGNOSIS?

A. Oral melanotic macule

B. Oral malignant melanoma

C. Oral melanocytic nevus

D. Oral melanoacanthoma

Diagnosis

D. Oral melanoacanthoma

Microscopic Findings and Clinical Course

Microscopic analysis of both lesions demonstrated acanthotic, spongiotic stratified squamous epithelium exhibiting numerous dendritic, pigmented melanocytes extending throughout the full thickness of the epithelium. This was accompanied by a dense lymphocytic infiltrate with focal exocytosis. These findings were consistent with oral melanoacanthoma (OMA). No further treatment was recommended for the patient and she reported pigment resolution of both lesions in the area of tissue biopsies.

Discussion

Oral melanoacanthoma is a benign melanocytic process most commonly observed in black women aged 30 to 50 years.[1] This condition has been reported less frequently in Hispanic, Asian, and white patients with an overall female predilection.[1] The pathophysiologic mechanism for OMA is most consistently associated with chronic irritation or acute regional trauma.[1-4] A diffuse, rapidly enlarging area of macular pigmentation ranging from millimeters to centimeters characterizes the clinical presentation of OMA.[1,4] Coloration of the lesion is brown to black with possible color heterogeneity throughout the lesion. Oral melanoacanthoma frequently manifests as a solitary lesion, and although rare, multifocal lesions have been reported.[1] This condition is most frequently observed on the buccal mucosa and less commonly on the palate, lips, and tongue and may present unilaterally or bilaterally.[1,4] Oral melanoacanthoma affecting the gingival tissues is rare, especially in patients who are white. This condition is typically asymptomatic, however, pruritus and/or burning sensations have been reported with these lesions, which may be treated with topical corticosteroids.[5] Histologically, OMA is characterized by spongiotic epithelium containing dendritic pigmented melanocytes throughout the lesional epithelium.[4] A mild to moderate inflammatory infiltrate composed of lymphocytes and occasional eosinophils is observed in the underlying connective tissue.[4] Owing to its ominous clinical presentation, an incisional biopsy is necessary to establish a diagnosis of OMA and to rule out other pathologic abnormalities, namely oral malignant melanoma. Treatment is typically not indicated after diagnosis has been established and spontaneous regression of OMA has been observed after biopsy with low recurrence.[1,4] Malignant transformation of oral melanoacanthoma has not been reported.[6]

Oral melanotic macule, oral melanocytic nevus, and oral malignant melanoma were included in the differential diagnosis owing to clinical similarities. Oral melanotic macules are considered the most common oral mucosal lesions of melanocytic origin, which likely represent a reactive or physiologic process.[3,4] These lesions are typically observed in women in the fourth and fifth decades without racial predilection.[3,4] Oral melanotic macules may be associated with inherited conditions, such as Peutz-Jeghers syndrome, neurofibromatosis type I, and McCune-Albright syndrome.[3] Oral melanotic macules commonly affect the hard palate, mucobuccal fold and gingivae, while labial melanotic macules are predominantly observed on the vermillion border of the lip.[3,7,8] Although oral and labial melanotic macules tend to be solitary, multiple lesions have been reported.[1] These lesions are considered benign without malignant potential.[6] Oral melanocytic nevi are acquired benign lesions commonly affecting women in the third and fourth decades without reported racial predilection.[4] These lesions occur most frequently on the hard palate, mucobuccal fold, and gingivae and, although multiple oral melanocytic nevi are rare, their multifocal presence has been previously reported.[1] Current evidence does not suggest that oral melanocytic nevi are markers for development of malignant disease.[8] Oral malignant melanoma represents a melanocytic neoplasm which is encountered less frequently than its cutaneous counterpart.[9] Overall, dark-skinned races have a greater relative incidence of oral malignant melanoma with slightly higher frequency in men.[4,10] Oral malignant melanoma generally presents as a slow-growing, asymptomatic lesion with irregular borders after the age of 50 years and can affect any intraoral mucosal surface, with the palate and gingivae the most commonly reported locations.[9,10] Early detection of oral malignant melanoma is critical because 5-year survival rates range between 5% and 50%, with less than 10% of individuals with distant metastases surviving more than 5 years.[9,10] Biopsy of any oral pigmented lesion is necessary to establish a definitive diagnosis and to rule out neoplastic conditions.

ARTICLE INFORMATION

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