

Incidental Blue-Gray Macule on Palate

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Online Case: www.dentalcare.com/en-us/professional-education/case-challenges/case-challenge-055



The following Case Challenge is provided in conjunction with the UT Health San Antonio School of Dentistry faculty.

A 39-year-old female presents with an asymptomatic blue-gray macule on the palatal aspect of the papilla between #5/6.

After you have finished reviewing the available diagnostic information, make the diagnosis.

Diagnostic Information

History of Present Illness

Ms. Brown is a 39-year-old white female who recently relocated from Flynt, Michigan and presents to your office for a new patient examination. She relates no acute dental problems but has not been to dentist in 3 years.

Medical History

- Adverse drug effects: none
- Medications: atazanavir/ritonavir + tenofovir/emtricitabine, lisinopril, pravastatin, calcium 600mg/vitamin D
- Pertinent medical history: HIV + x 8 years, hypertension, elevated cholesterol, osteopenia
- Pertinent family history: unknown, adopted
- Social history: denies tobacco use; 1 glass of wine per day with evening meal; denies recreational drug use

Clinical Findings

Extraoral examination is within normal limits. Intraoral examination reveals an intact dentition with a fractured palatal cusp on #4 and facial cervical caries on #5. A faint blue-gray macule is present



Figure 1. Blue-gray macule on facial papilla between #4/5.



Figure 2. Blue-gray macule on palate between #5/6.

on the facial aspect of the papilla between #4/5 (Figure 1). A larger and darker blue-gray macule is noted on the palatal aspect of the papilla between #5/6 (Figure 2). The palatal macule is excised and submitted for histopathologic examination.

Histopathologic Findings

The gingival biopsy shows a mucosal soft tissue fragment consisting of hyperplastic orthokeratinized stratified squamous surface epithelium with subjacent fibrovascular connective tissue (Figure 3). There is submucosal deposition of black granular particulate foreign material deposited in small interstitial aggregates, along collagen/elastin fibers, and within vascular walls. A mild chronic inflammatory infiltrate is present and contains focal foreign body-type giant cells (Figure 4).

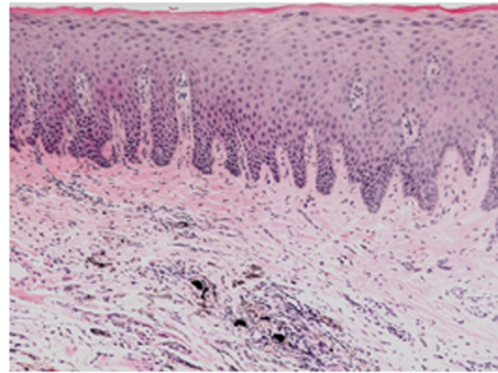


Figure 3. Low power histologic image of a mucosal soft tissue fragment consisting of stratified squamous surface epithelium with underlying fibrovascular connective tissue. Foreign material is present in the connective tissue.

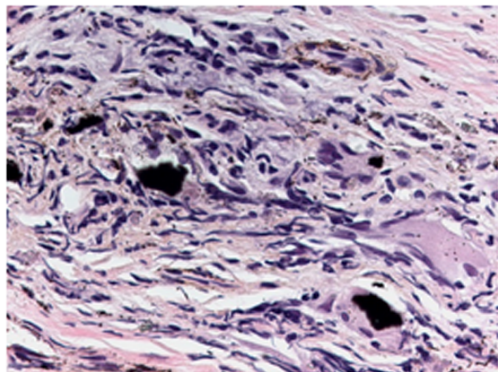


Figure 4. High power histologic image showing deposition of black granular foreign material within the fibrous connective tissue. There is mild chronic inflammation and focal foreign body giant cells.

Select Diagnosis

Can you make the diagnosis

A 39-year-old female presents with an asymptomatic blue-gray macule on the palatal aspect of the papilla between #5/6.



Select the Correct Diagnosis

- A. Blue nevus
- B. Amalgam tattoo
- C. Kaposi sarcoma
- D. Melanoma

Blue nevus

Choice A. Sorry, this is not the correct diagnosis.

An intraoral blue nevus is a benign acquired melanocytic nevus typically diagnosed between the third and fifth decades of life.^{1,2} Two thirds of cases occur on the hard palate and women are more frequently affected than men. A blue nevus presents as small slate-blue to blue-black macule or papule. Histopathologic examination reveals a proliferation of elongated, bipolar, spindle-shaped melanocytes in the connective tissue. The melanocytes are often grouped in short fascicles parallel to the overlying surface epithelium.² Treatment consists of surgical excision and recurrence is uncommon. The histopathologic findings in this case do not support this diagnosis.

Please re-evaluate the information about this case.

Amalgam tattoo

Choice B. Congratulations! You are correct.

An amalgam tattoo is one of the most frequent causes of exogenous pigmentation affecting the oral mucosa.^{1,3} During the preparation of teeth for an amalgam restoration, small flecks or particles of amalgam may become embedded in the adjacent mucosa. Any oral mucosal site may be affected but lesions are more common on the gingiva and alveolar mucosa. An amalgam tattoo presents as grey, blue, or black, non-blanching macule. Multiple discrete lesions are frequently observed.³ Histopathologic examination reveals variously sized aggregates of black, granular foreign material in the connective tissue. Silver staining of dermal reticular fibers and staining around the walls of blood vessels is noted. A chronic inflammatory reaction is often seen surrounding the foreign material.

Kaposi sarcoma

Choice C. Sorry, this is not the correct diagnosis.

Kaposi sarcoma (KS) is a rare vascular neoplasm, for which the risk of occurrence, is notably higher in conditions of immunosuppression such as acquired immune deficiency syndrome (AIDS).^{1,4} It is caused by infection with human herpes virus type 8 (HHV-8).¹ Initial lesions present as small blue to purple macules or papules, while advanced lesions may present as variably sized lobular exophytic masses. The palate and gingiva are the most commonly affect intraoral locations. Histopathologic findings include interweaving bands of spindle-shaped and/or “plump” endothelial cells and atypical vascular slits.⁵ Extravasated erythrocytes and hemosiderin pigment are common. Depending on the clinical presentation and health of the patient, treatment consists of surgery, radiation therapy, and/or chemotherapy. The prognosis is variable and is dependent on the reason for the development of KS. The histopathologic findings in this case do not support this diagnosis.

Please re-evaluate the information about this case.

Melanoma

Choice D. Sorry, this is not the correct diagnosis.

Melanoma is an infrequent, but often fatal malignancy, that may arise in the oral cavity.^{1,6} Oral mucosal melanomas constitute approximately 2% all melanomas. 80% - 90% of oral melanomas occur on the palate or maxillary gingiva. The 5-year survival rate is approximately 13%. At initial presentation melanoma appears as a variably sized dark brown to blue, gray, or black macule; however, up to one-third of oral mucosal melanomas may be amelanotic. Advanced lesions often present as nodular or pedunculated masses. Lesions are often asymptomatic until they are either traumatized or become so large as to be noticed by the patient.⁶ Histopathologic examination reveals a proliferation of atypical melanocytes in the surface epithelium and/or underlying connective tissue. The neoplastic cells are spindled or epithelioid in shape and demonstrate nuclear hyperchromatism, pleomorphism, and prominent nucleoli. Melanin pigment and melanophages may or may not be seen.^{1,6} In some cases the diagnosis of melanoma is difficult to establish based on routine histopathologic examination. In these cases, immunohistochemical stains must be used to establish a definitive diagnosis. Treatment is wide surgical excision and the 5-year prognosis is poor. Due to the potential for malignant melanoma, all pigmented oral mucosal lesions should be biopsied. The histopathologic findings in this case do not support this diagnosis.

Please re-evaluate the information about this case.

References

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