

## CASES FOR DIAGNOSIS

# Hyperpigmented Macule in Gingival Mucosa

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### Patient History

A 21-year-old man with no family or personal history of interest consulted for an asymptomatic pigmented lesion in the inferior gingival region that appeared 2 months earlier. The patient reported that he had received silver amalgam fillings in the posterior molars 5 years previously.



Figure 1.

### Physical Examination

The skin examination showed a 6-mm dark blue macular lesion of homogeneous tone and clear borders, located in the left inferior gingival region (Figure 1). The macule was located in the gingival area of the tooth anterior to the filled molars (Figure 2). Dermatoscopic examination (Heine dermatoscope) revealed a homogeneous grayish-blue pigmentation, with no pigment network.



Figure 2.

### Additional Examinations

The radiological study (orthopantomogram) showed that metal material had been deposited at the site of the lesion and in the posterior molar regions (Figure 3). No histological study was performed.



Figure 3.

What is your diagnosis?

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## Diagnosis

Gingival tattoo due to dental amalgam

## Course and Treatment

The lesion was removed completely by the maxillofacial surgery department, with an excellent clinical and functional outcome.

## Discussion

Amalgam tattoos are lesions caused by traumatic iatrogenic implantation of metal particles over soft tissues. They are considered the most common cause of exogenous pigmentation in the oral mucosa, accounting for between 0.4% and 8% of cases, depending on the study.<sup>1,2</sup> The materials used most often for this type of dental restoration are silver, mercury, copper, zinc, and tin.

The clinical examination will reveal the onset of asymptomatic hyperpigmented macules, of a blackish, bluish, or grayish color, with no progressive growth and located (in order of frequency) in the gingival region, oral mucosa, alveoli, palate, and lingual mucosa.<sup>3</sup>

A radiological study is recommended to confirm the presence of metal particles; however, the absence of radiological findings does not preclude this diagnosis, as the particles are often too fine or too diffusely distributed to be seen. Radiological confirmation is estimated to be possible in only 25% of patients.<sup>3,4</sup>

In patients with no radiological signs, a mucosa biopsy should always be obtained.

Histology reveals a deposit of dark, irregular granules and solid fragments between the collagen fibers and around the blood vessels. Occasionally, foreign-body-type multinucleated giant cells that phagocytize small particles of amalgam can be observed.

When an amalgam tattoo is confirmed, no treatment is needed except for cosmetic or esthetic reasons. The

treatments described are surgical excision, oral mucosa grafting,<sup>5</sup> Q-switched alexandrite laser,<sup>6</sup> and ruby laser, and the outcome is favorable.

Its importance lies in the differential diagnosis with other pigmented conditions of the oral mucosa, such as melanocytic lesions (nevus and malignant melanoma), lentiginos of mucous membranes, melanoacanthoma, and vascular lesions such as Kaposi's sarcoma.<sup>3,7</sup>

In conclusion, we report a rare case of this form of oral pigmentation that can simulate a melanotic lesion of the mucosa.

Although amalgam tattoos are usually caused by inadvertent implantation of small particles during dental procedures, in our patient the pigmentation appeared 5 years afterwards, suggesting other mechanisms such as migration of these particles through periodontal tissue to the gingival mucosa due to continual trauma during chewing.

### Conflicts of Interest

The authors declare no conflicts of interest.

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