

Gingival amalgam tattoo

Ryo Sasaki DDS PhD, Sekiko Taneda MD PhD, Toshihiro Okamoto DDS PhD

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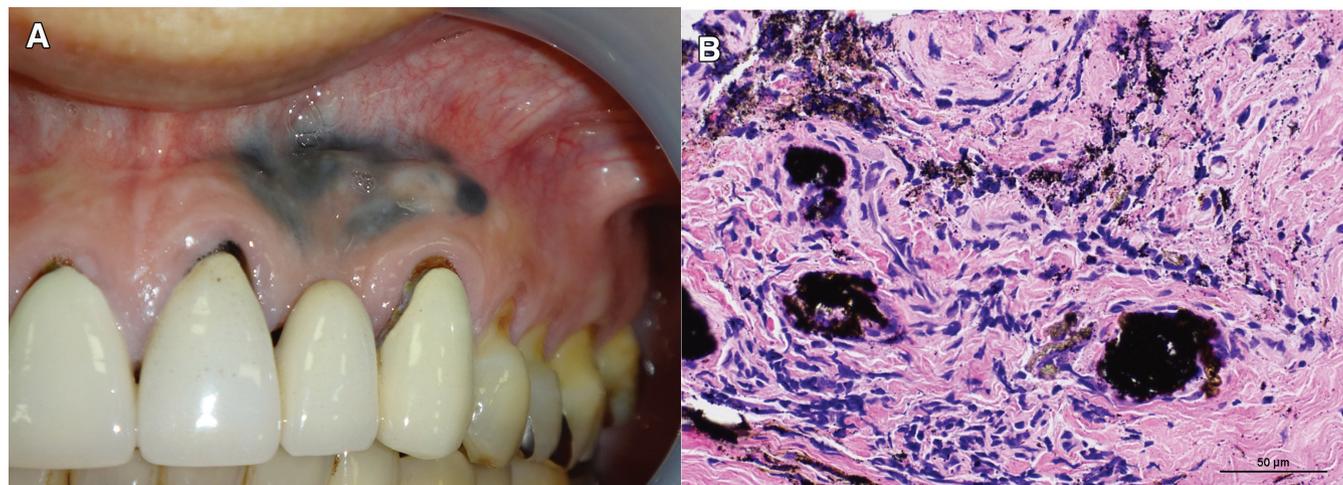


Figure 1: (A) Photograph of a black and blue-grey lesion in the maxillary gingiva of a 73-year-old man with an amalgam tattoo. The lesion was observed along the gingiva adjacent to a porcelain tooth fused to a metal bridge (from the left central incisor to the canine, extending to part of the alveolar mucosa). However, the lesion was not observed at the gingival margin and palatal gingiva attached to the porcelain fused to the metal bridge. (B) Hematoxylin and eosin staining of the biopsy of the lesion showed black granules in the connective tissue (magnification $\times 400$).

A 73-year-old man presented to an oral and maxillofacial surgery clinic with a black and blue-grey lesion (about 20 mm by 10 mm) in the maxillary gingiva. It was asymmetric, had irregular edges and was without notches, erosion or induration (Figure 1A). The lesion was located above a porcelain tooth fused to a metal bridge, which had been inserted about 40 years previously. Since the patient was asymptomatic, the timing of the lesion onset was unknown. Our differential diagnosis included amalgam tattoo, nevus, melanotic macules, melanoacanthoma, melanoma and physiologic pigmentation.

We biopsied the lesion and histological analysis showed numerous black granules in the connective tissue (Figure 1B). Immune staining was negative for HMB-45. We diagnosed an amalgam tattoo.

An amalgam tattoo is among the most common pigmented lesions in the oral mucosa. Anterior resin or ceramic prostheses require alloys for reinforcement and abutment construction in nonvital teeth to achieve adequate strength. Dental alloys are mainly composed of gold, palladium, silver and copper. Amalgam- and silver alloy-containing prostheses may release silver into the oral environment. Soluble silver compounds can be transported and subsequently deposited in the soft tissue, resulting in chronic, asymptomatic and persistent

lesions that can enlarge. Melanoma should be ruled out for any pigmented gingival lesion. Although oral mucosal melanoma is uncommon, its prognosis is poor (5-yr survival of 33%).¹ They manifest as black, grey, purple to red and, rarely, amelanotic lesions with irregular pigmentation; they are usually asymmetric, with irregular margins and a predilection for the hard palate and gingiva.¹ They can mimic amalgam tattoos. Hyperspectral imaging is an emerging diagnostic tool to differentiate between amalgam tattoos and other pigmented lesions.² Although amalgam tattoos do not need treatment, surgical removal may be performed for esthetic concerns. Removal using an erbium-doped yttrium aluminum garnet laser is less invasive and easier than removal with free gingival grafts, and can reduce operative time and postoperative pain.³

References

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Affiliations: Department of Oral and Maxillofacial Surgery (Sasaki, Okamoto), Tokyo Women's Medical University, School of Medicine; Department of Plastic and Reconstructive Surgery (Sasaki), Tokyo Metropolitan Police Hospital; Department of Surgical Pathology (Taneda), Tokyo Women's Medical University, School of Medicine, Tokyo, Japan

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Correspondence to: Ryo Sasaki,
sasaki.ryo@twmu.ac.jp