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Periodontal Attachment Loss Due to Applying Force by Tongue Piercing

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ABSTRACT This report describes lingual cortical plate loss of the two lower central incisors with second degree mobility in an 18.5-year-old patient. Seven millimeters of clinical attachment losses were detected. For the last 4.5 years, the patient has worn a tongue ornament. The spheres were pressed directly against the periodontal lesion. The metal bar was bent as empirical evidence of the excessive force. Dental practitioners should educate their patients about the risk of oral piercing.

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Among other local and systemic complications, some of them life-threatening, the mucogingival defect is a well-documented late complication due to oral piercing.[1-4] Since an increasing number of youngsters and young adults are wearing jewelry inserted into oral tissues, the likelihood that dentists will face piercing-induced pathologies is increasing as well.[5]

Tongue piercing is a risk factor for gingival recession, especially when the bar is longer than 1.6 cm and the ornament is in place for at least two years.[6] Between 16 percent and 53 percent of the patients with oral piercing exhibit some degree of gingival inflammation and/or gingival recession related to the ornament.[4,7-9] Most of the reported piercing-induced gingival damages are related to lip ornaments, probably because the usual metal flattened disk jewelry in the lip induces more traumatic damage to the tissue, compared with the usual ball ornament in the tongue.[10-13] The most common tongue ornament-induced gingival injury site is at the lingual aspect of the anterior lower teeth.[6,7,14] However, reports of alveolar bone loss related to tongue ornaments are scattered.[15-17]

The authors describe a case of alveolar bone loss due to 4.5 years of tongue piercing, with unique consequences.

Case Report

An 18.5-year-old female presented to the dental emergency service at the authors' institute for "mobility of her lower front teeth." She was a healthy young adult, but had smoked a pack (20) of cigarettes a day for the last five years. She had not undergone a dental examination in the last three years. Intraoral examination revealed a combined 3.5-cm metal/plastic ornament placed through the mid-dorsum of the tongue. The metal bar was bent, and calculus coated the plastic sphere that was located near the floor of the mouth

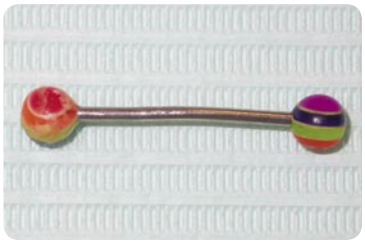

FIGURE 1. The tongue ornament. The metal bar is bent due to force applied by the patient on the hard oral tissues. The plastic sphere that is located near the floor of the mouth is coated by calculus.

FIGURE 2. Probing of the lingual aspect of the right lower central incisor. Clinical attachment loss of 7 mm was detected.

FIGURE 3. A periapical radiograph of the anterior lower region shows the loss of cortical bone.

(FIGURE 1). According to the patient, she pierced her tongue at her 14th birthday, 4.5 years ago. The current jewelry had been in place since then. She admitted she has never cleaned the ornament.

A periodontal examination revealed gingival recessions on the lingual aspects of the two central lower incisors, directly opposite of the location of the ornament's sphere. For the right and left incisors, the free gingival margin was 3 mm and 2 mm, respectively, from the CEJ. The depth probed was an additional 4 mm in these teeth (FIGURE 2). Thus, the clinical attachment loss was 7 mm in the right incisor and 6 mm in the left incisor. The mobility of the two teeth was of the second degree (2 mm horizontally). Periapical radiography revealed evidence of loss of the lingual cortical plate in that area (FIGURE 3).

In other sites in the dentition, attachment loss was not noticed by probing and with radiographs. Except for the tongue ornaments, the patient denied any harmful traumatic habit. Moreover, there was no evidence of tooth wear and/or tooth mobility.

The patient was well-informed of her condition, and the treatment options and prognosis were explained in detail to her. However, she refused to have the tongue jewelry permanently removed, which was a preliminary condition for surgical periodontal treatment. She opted to replace the ornament with a shorter flexible acrylic bar. Scaling and root planing were performed.

Comments

Differential diagnosis of localized alveolar bone loss in a young patient includes localized aggressive periodontitis, LAP, periodontal manifestation of systemic disease and incidental bone loss. LAP is characterized by circumpubertal onset and involvement of at least two permanent teeth, one of which has to be a first molar.[18] Since the presented patient did not have any bone loss in other sites and was systemically healthy, LAP and periodontal manifestation of systemic disease can be ruled out, respectively. Incidental bone loss can be caused by local trauma, tooth position or third molar adjacency.[18] The patient suffered from the bone loss in the lower central dentition. The ornament's spheres were pressed directly against the periodontal lesion. Because there were no other local factors such malposition of teeth, the lesion was probably caused by the long-term ornament-induced local irritation.

Two recent reports suggested, though did not prove, that plastic jewelry is less damaging to oral tissues than metal jewelry.[19,20] Nevertheless, in the present case, the periodontal damage was done despite that the sphere was plastic. Probably, the most significant factors in the damaging process were the relatively long (3.5 cm) metal bar and the time period the jewelry was worn.

Because of the bent metal bar, there was no doubt the patient had forced the jewelry against hard oral tissues; teeth, alveolar bone, or both. Thus, the localized periodontitis was probably caused by the local trauma induced by the tongue ornament.

In a previous study, the authors reported inadequate knowledge of the possible complications of oral piercing among young adults.[4] In the present case, the patient was unaware of the risks of oral piercing and thus, she had tongue jewelry from a relatively young age without periodic professional examinations and maintenance. The patient has full health insurance coverage, including periodontal, as an Israel Defense Forces soldier. Nevertheless, even after the complication was diagnosed and a free-of-charge surgical periodontal treatment was offered, she refused to remove the jewelry as the first step in the therapy. However, it is not unusual for patients to refuse to remove oral jewelry even after a complication has occurred.[19]

In conclusion, dentists should carefully exam the oral tissue of patients with oral piercing for early diagnosis of these complications. This case adds to the growing number of cases about oral piercing complications found in the literature. Dental surgeons have the responsibility to educate their patients about these conditions and to recommend appropriate treatment to them. ■■■■

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