Substantial bone loss in the mandibular central incisors area as a complication of tongue piercing: a case report

ABSTRACT

Background Along with the increasing popularity of oral piercings, the number of reported complications and side effects increases, too.

Case report The aim of this report is to present a case of substantial bone loss in the area of the mandibular central incisors caused by lingual piercing and persistent bad habits. Dentist should be aware of potential complications associated with oral piercings and warn patients about them.

Keywords Child; Dentoalveolar trauma; Tongue piercing.

Introduction

Body piercing has been gaining popularity. Pierced lips and tongue are of most concern for the dentist. The midline anterior part of the tongue near the lingual frenulum is the most commonly pierced intraoral site. According to Cambell et al. [2002] complications of lingual piercing are numerous and can be localised or systemic and acute (early) or chronic (late). The most common complications and side effects are: pain, swelling of the tongue, hemorrhage, severe localised and systemic infections, transmission of infectious diseases, changes of speech, mastication and swallowing, increased salivation, halitosis, hypersensitivity to the metal, galvanism, ingestion and aspiration of jewelry, airway compromise, tissue overgrowth, hypertrophic scars, bifid tongue, as reported by De Moor et al. [2005] and Maheu-Robert et al. [2007]. Furthermore, traumatic injuries of dental structures can occur, such as teeth fracture, chipping, abrasion and pulp damage, as stated by De Moor et al. [2005], Glendor [2009] and Brennan et al. [2006].

In the studies conducted by Vilchez-Perez et al. [2009], Leichter and Monteith [2006], Keiser et al. [2005], Levin et al. [2005] and Fries et al. [2010] and cases reported by Kapferer et al. [2008], Zadik and Sandler [2007], Sardella et al. [2002] and Chamrone and Chambrone [2003] it was pointed out that the periodontal damage and gingival recession had been induced by intra-oral piercing. The most affected oral site with periodontal damage is at the lower incisors. Reported cases of severe bone destructions caused by oral piercings are quite rare.

The aim of this paper is to present a clinical case of substantial bone defect at the site of mandibular central incisors related to tongue piercing.

Case report

A 15.5 year-old female was referred to our clinic for a pain and mild swelling in the area of lower central incisors. Intraoral examination showed a barbell-shaped metal/plastic piercing positioned in the midline of the tongue (Fig. 1). Mild swelling was present at the vestibular side of the central lower incisors. Both central mandibular incisors were non-vital and their mild mobility was observed. Loss of clinical attachment was detected by probing on both teeth. Teeth chippings

FIG. 1 Barbell-shaped tongue piercing.
were observed in the incisors of the upper and lower jaw. The periapical radiograph showed bone loss in the mandibular central incisor area (Fig. 2). Periodontal examination revealed good oral hygiene.

The patient had the habit of biting the piercing ball and push it against the lower central incisors. According to the patient, her tongue had been pierced about two years prior to observation.

The patient was advised to remove the piercing instantly.

After the acute infection had subsided, periaipical surgery was performed, which included apicectomy, granulation tissue removal and endodontic treatment in both central mandibular incisors. The intraoperative finding revealed massive bone destruction in the region of the lower central incisors associated with complete loss of vestibular cortical lamellar bone in the region of the right incisor (Fig. 3). Immediately following surgery the teeth were splinted with a fiberglass band which was positioned at the lingual side from the canine tooth on the left to the canine tooth on the right (Fig. 4).

According to our clinical protocol, all larger bone lesions, and all lesions with unclear aetiology, particularly in children, are sent for pathohistological analysis. The main reason for doing so is to rule out the presence of invasive cysts and tumors.

The sutures and the splint were removed seven days and three weeks post-surgery, respectively. Six months after the procedure the teeth were strengthened; however, the prognosis was quite doubtful. The patient’s unwillingness to remove the piercing permanently despite our advice was particularly distressful (Fig. 4).

The patient was seen at scheduled follow-ups 12, 18 and 24 months after the procedure. All teeth were present without significant signs of mobility and further bone loss.

Discussion

Along with the increasing popularity of oral piercings, the number of reported complications increases, too. Complications can occur early after piercing placement or late due to the constant mechanical trauma, chemical reaction of metal in mouth [Lupi et al., 2010], bacterial retention at piercing sites [Ziebolz et al., 2009] or contributing factors such as bad habits (biting or chewing of the jewelry) and lack of awareness of complications related to oral piercings, as suggested by Oberholzer et al. [2010]. The most common complications on dental structures are: tooth fracture, chipping, abrasion, pulp damage, gingival recession and periodontal damage. This article reports severe bone destruction in the area of lower central incisors caused by lingual piercing and the bad habit to bite and chew it.

The aetiological factors related to localised bone loss in young patients are apical periodontitis, traumatic bone cyst, localised aggressive periodontitis and periodontal manifestation of systemic disease. In this case the patient was a healthy young person without any systemic disease and with good oral hygiene. There was no evidence of dental caries or fillings that could cause apical periodontitis. The patient did not have a history of trauma in this region and occlusal...
trauma was excluded, too. As reported by Amitage [2004] localised aggressive periodontitis mostly affects the first molars, which was not the case in our patient. The histopathological finding revealed non-specific granulation tissue, so any cysts or tumor pathology was ruled out, and confirmed the presence of granulation tissue causing the substantial bone loss in a rather young patient. This bone loss is therefore a complication of lingual piercing, particularly keeping in mind the patient’s habit to chew the tongue piercing jewelry, which was evident from the chippings of the central incisors (Fig 3). It is noteworthy that patients often refuse to remove permanently piercings even when complications occur, such as in this case. Despite the strong recommendations to remove the jewelry, the patient returned piercing after surgery. It seems that the desire to wear piercings as a way of expressing individuality is sometimes stronger than worries about their side-effects.

Conclusion

Having in mind that oral piercing is becoming a common practice, oral health professionals should educate the patients and inform them about possible oral health complications associated with this form of body art. It is especially necessary to warn patients with oral piercings about bad habits that could lead to traumatic injuries of teeth and adjacent structures.

References