Periapical Lesion of a Lower Central Incisor Associated With a Tongue Piercing: A Case Report

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Abstract
Oral piercings and its associated complications are frequently encountered in general dentistry. This case describes an unusual complication of tooth 41 associated with a long-term metallic tongue piercing. Methods: The patient's history was evaluated and a clinical examination conducted. Results: Repeated traumatic insults from the large metallic tongue piercing rendered tooth 41 non vital and resulted in the formation of a large periapical lesion of endodontic origin. Conclusions: Oral health professional should discourage patients' form wearing oral piercings and be prepared to provide information regarding its potential complications.

Introduction
Piercings of the oral cavity has become increasingly popular amongst youth in western society, with some studies indicating a prevalence of 5.2% [1]. Its popularity in certain fashion trends presents a growing problem for oral health professionals due to emerging evidence of its associated oral complications [2,3].

Gingival recession, tooth wear and fracture are the most frequently described complications of oral piercings [2,3]. Patients with tongue or labial piercings appeared to have the greatest incidence of such complications [4], particularly if they described a habit of knocking, biting or tapping of the piercing against the oral hard tissues [5]. Other oral complications include gingival inflammation, ulceration and periodontitis [5-8]. Although systemic complications are much more rare [5], the consequences of such complications can result in significant issues, including Ludwig’s angina, anaphylaxis, cerebral abscess, endocarditis, and hepatitis/HIV infection [5,9].

This case describes a periapical lesion of tooth 41 associated with a large metallic tongue piercing, a complication which to our knowledge, has not been described in the literature previously.

Case Description and Results
A 29-year-old female presented complaining of an extruded and mobile tooth 41 (Figure 1).

Patient first noticed the tooth was slightly extruded over a year ago and was concerned about it becoming increasingly mobile since. She denied any pain or symptoms associated with the tooth. Patient could not recall any history of trauma though mentioned she had worn a large metal tongue piercing for the past 11 years (Figure 2). Although she denied any frequent habit of biting or tapping of the piercing against her teeth, she stated that it would often hit her lower anterior teeth when moving her tongue or brushing her teeth.

Clinical examination revealed grade two mobility of tooth 41. The buccal and lingual gingival mucosa were slightly inflamed and displayed 5mm of recession on the buccal surface, and 6mm of recession on the lingual surface. A wear facet was evident on the cingulum area of tooth 41. There was no evidence of any caries, cracks, fractures or discoloration. The tooth was not tender to percussion and thermal testing revealed a sluggish yet positive response to cold stimuli.

A periapical radiograph was taken showing a large periapical radiolucency associated with tooth 41 (Figure 3). Overall the alveolar crest appeared intact.

The first and perhaps most important step in treatment was removal of the underlying cause. After careful explanation of her diagnosis and the risks of the oral piercing, the patient was happy to remove it. Root canal therapy was then completed on tooth 41 (Figure 4) and the patient asked to return for review in 3 months.

The radiographic and clinical findings suggested that the periapical lesion was of endodontic origin. The large metallic barbell was determined to be the causative agent of the dental injury.

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Discussion
The development of gingival recession or tooth fracture following traumatic injury from an oral piercing has been well documented in the literature [2,3]. To our knowledge the formation of a periapical lesion from the constant mechanical trauma of an oral piercing has not been reported before.

Endofrost revealed a sluggish yet positive response in tooth 41 and the tooth was not TTP. Vitality testing with the cold test has a negative predictive value of 0.82 resulting in a 18% false positive rate [11]. Furthermore the chronic nature of the oral signs leads one to assume that degenerative and necrotic changes of the pulp are likely and that a slow positive cold test may indicate a partially necrotic pulp [12]. Chronic lesions may be asymptomatic with no tenderness to percussion [13] and frequently result in tooth mobility and extrusion [13].

This case highlights another complication brought on by the long-term use of large oral piercings. Examination of such patients should involve evaluation for any obvious signs of trauma and also for more subtle clinical signs like wear facets. These patients should be discouraged from wearing oral piercings and if not possible, oral health professionals should be prepared to provide information regarding the potential for complications and expensive dental treatment.

References