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Embedded tooth fragment masquerading as keloid for 11 months

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**Photo vignette**

**Embedded tooth fragment masquerading as keloid for 11 months**

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**Abstract**

A foreign body retained in the skin can originate from numerous sources and most of the time these foreign bodies are removed without any sequelae. The present article reports a case of persistent swelling in the lower lip misdiagnosed as keloid, which later turned out to be an embedded tooth fragment identified post spontaneous extrusion after 11 months.

**Introduction**

Foreign bodies in the skin are usually removed without further sequelae, but when missed initially can be retained in the tissue to remain dormant or cause a wide range of complications [1]. Foreign bodies can be extremely diverse including thorns of plants or trees, glass shards, or fragments of teeth. The latter can be embedded in a patient's lip or tongue following a dental injury [2]. The obvious foreign bodies are removed by the patients themselves or the primary health care providers. However it is reported that 15-38% of foreign bodies are overlooked at the time of initial examination [3, 4]. The missed foreign body can lead to a wide range of complications like chronic pain, swelling, abscess, chronic discharging wound, and granulomas [1].

**Case synopsis**

An 18-year-old boy presented to the Department of Dermatology, Command Hospital Air Force, Bangalore with complaints of a painless, non-progressive, pea-sized swelling in the lower lip for the past 8 months. On examination he had a non-tender, well defined, firm to hard nodule measuring 1.5cm in diameter below the lower lip. In view of a preceding history of lip laceration in a road traffic accident about 8 months back, a diagnosis of keloid was made and the patient was administered four doses of intralesional injections of triamcinolone, 10mg/ml (0.1ml/cm<sup>2</sup>) every 3 weeks. Despite the intralesional therapy the swelling continued to persist with no signs of regression. After 3 months of therapy a small white speck was noticed over the lesion, which subsequently erupted to form a white protruding growth (Figure 1). Suspecting it to be case of embedded tooth fragment a detailed history was sought. The history revealed that the patient had sustained a through and through lower lip laceration and fracture of the permanent left maxillary central incisor during the accident. The laceration was sutured on both aspects of the lower lip. The tooth fracture was managed by a dentist, but the fractured distal tooth fragment was never recovered.

In light of these new findings, a radiograph of the lip was done, which showed a radiopaque structure corresponding to the site of the lesion (Figure 2). We arrived at a final diagnosis of fractured tooth fragment embedded in the lower lip.

The tooth fragment was removed under local anesthesia through an incision over the nodule and the wound healed completely (Figure 3). The retrieved tooth fragment morphologically corresponded to the fractured part of maxillary central left incisor (Figure 4).



**Figure 1.** White fragment protruding from lower lip 3 months after intralesional triamcinolone. **Figure 2.** Radiopaque tooth fragment



**Figure 3.** Completely healed wound. **Figure 4.** Fractured part corresponded with the fragment

## Discussion

Foreign bodies may be retained in the body through many mechanisms, including ingestion, penetrating trauma, and surgical errors [2]. Missing the foreign bodies is not uncommon [3, 4] and this entity is deemed as one of the major causes of medical litigations [5-7]. In the case of a retained foreign body, impairment of wound healing and chronic pain are the major presenting features [1].

Tooth fragments presenting as a retained foreign body following dental injury is not an uncommon entity. In the case of maxillofacial trauma, several cases of the embedding of tooth fragments in the surrounding damaged soft tissue, including tongue and lip, are documented [8-11]. There are a few case reports of spontaneous extrusion of a tooth fragment after months following dental trauma [12, 13].

In our case the fragment was embedded for 11 months before it was finally removed. An extensive review of the literature by Nagaveni et al 2014 [8] has described many such cases of embedded tooth fragments in various soft tissues. Among these, the lower lip was the most common site for the embedded incisor fragment. The tooth most commonly affected by trauma is the maxillary central incisor, involved in 70–80% of all traumatic injuries [9]. Similarly in our case it was the maxillary central left incisor embedded in the lower lip. The longest duration for which a tooth fragment was embedded in lower lip was 18 months as reported by Al-Jundi in 2010 [14].

A soft tissue laceration associated with a dental fracture should always alert the physician about the possible presence of the dental fragment under the lacerated tissues. Tooth fragments embedded in soft tissue may not be easily detectable clinically. A simple soft tissue radiograph helps in the detection of included tooth fragments in the oral region [8]. Tooth fragments embedded in the soft tissue act as foreign bodies and may elicit a wide variety of complications, which may further lead to misdiagnosis of the condition. Therefore, every attempt should be made to locate the missing tooth parts before a wound is closed. A high index of suspicion is warranted in a clinical scenario similar to one described above. This would greatly reduce the chances of misdiagnosing this easily treatable condition.

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