

Tooth fragments embedded in the lower lip following trauma

Travma sonrası alt dudakta gömülü diş

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ABSTRACT

Maxillofacial trauma and accompanying oral injury may cause dental fragments embedded in surrounding soft tissues and these fragments may go unnoticed if not properly examined. This case report describes a patient who presented to the emergency department, consulted to our department for swelling and tenderness in his lower lip and diagnosed with fragments of maxillary incisor tooth located in the lower lip. Risk factors for dental trauma, importance of initial clinical examination and management of such dental injuries in the emergency department are discussed.

Keywords: Tooth fragments, Lower lip, Trauma

ÖZET

Maksillofasial travma ve eşlik eden ağız yaralanmaları diş kırıklarına ve bu diş kırıklarının etraf yumuşak dokuya gömülmesine neden olabilir. Bu vaka takdiminde acile başvuran, alt dudığında şişme ve hassasiyet olması nedeni ile tarafımıza danışılan ve üst kesici diş parçalarının alt dudaka gömüldüğü tespit edilen hasta anlatılmaktadır. Dental travmaların risk faktörleri, ilk muayenenin önemi ve bu tip dental yaralanmaların acilde yapılması gereken ilk tedavisi tartışılmıştır.

Anahtar kelimeler: Diş fragmanları, Alt dudak, Travma

Introduction

Traumatic dental injuries have become more common in the recent years mainly because of an increase in the participation of children in sports [1]. Crown fractures are the most common type of dental trauma, accounting for 26-76% of all dental injuries [2]. The fractured teeth-especially the incisors-may cause laceration and subsequent bleeding of the surrounding soft tissue. A careful examination of soft tissues is extremely important, as fractured tooth fragments are reported to be found in the lower lip, the buccal mucosa, the tongue and other sites [3-5]. In this case report, we report a pediatric case who presented to the emergency department with a swelling in his lower lip after striking his head to the ground and found to have fragments fractured tooth in his lower lip.

Case Report

A 12-year-old boy was consulted to our department for swelling and tenderness in his lower lip after he fell and struck his head on the ground. The parents of the patient noticed that the swelling of the lip worsened and sought medical attention 16 hours after the incident. Physical examination revealed a laceration and a hard mass on the buccal surface of the left lower lip. Dental examination was significant for a crown fracture on the upper left medial incisor (Fig.1). No tooth fragments were found after the initial injury. Maxillofacial computed tomography, ordered by the emergency room physician, showed a bony dense mass located in the lower lip (Fig. 2 A)

We removed the tooth fragment under local anesthesia through the laceration in the lower lip. Another tooth fragment was found and removed upon further exploration of the wound (Fig.3). The laceration was sutured with 6/0

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vicryl suture and oral hygiene instructions were given. Oral penicillin (amoxicillin 500 miligrams, three times a day for 5 days) was prescribed to the patient as recommended [6].

After the surgical procedure, a lateral skull x-ray was obtained to ensure that there was not any other tooth fragments or foreign bodies left in the lower lip (Fig.2 B).



Figure 1. This picture shows a laceration on the top of the swollen left lower lip and there is also a crown fracture on the upper left medial incisor

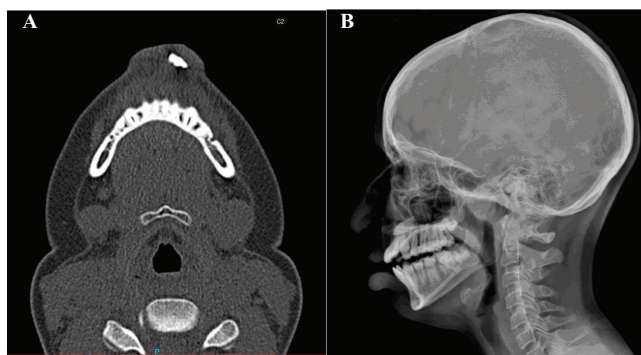


Figure 2. (A) shows the bony dense tooth fragment in the soft tissue of the lower lip in the axial cross-section of the maxillofacial computed tomography of the patient. (B) The postoperative lateral radiograph of the lower lip confirms the absence of any tooth fragments left in the lower lip



Figure 3. The fragments of fractured maxillary incisor extracted from the lower lip

DISCUSSION

Traumatic dental injuries are more common in children and adolescents than in adults; and boys are affected more than girls. Falls are the most frequent etiology, especially between 10 and 12 years of age [7]. Maxillary incisors are more frequently affected because of their anterior projection and short upper lip that do not adequately protect these teeth [3]. One study showed that children aged 7-10 who have an over-jet of 6 mm or more, along with their maxillary incisors covered less than one-half by the upper lip at rest are considered at risk for dental injuries [8]

Fracture and missed tooth fragments do not pose any problem for the patient but if there is laceration of the surrounding soft tissue, the possibility of tooth fragments embedded in these tissues should be investigated. Tooth fragments have also been reported to be found in the tongue, nasal cavity and frontal sinus [4,5]. Aspiration of the tooth fragments resulting in chronic airway problems, even death, is undoubtedly the worst complication that could occur [9]. Clinical examination is usually sufficient but if the bleeding and edema interfere with proper examination, simple lateral and occlusal radiographs should be obtained to rule out the possibility of having tooth fragments in the soft tissue [10].

Potential complications of tooth fragments retained in the wound are foreign body reaction-leading to a disfiguring fibrosis- and infection as the oral flora contains many virulent microorganisms [11]. In our case, the pus formation was present around the tooth fragments at the time of the initial examination, although it had been only 16 hours after the injury.

The importance of the awareness of the emergency room (ER) staff about orofacial injuries should be underscored, as many studies showed the knowledge of ER staff on management of dental injuries are insufficient [12]. Holan et al show that only 4% of ER physicians would provide an appropriate initial treatment in the case of avulsed permanent incisors [13].

Crown fractures of maxillary incisors may temporarily affect the facial aesthetic, causing emotional distress to the patient. The most conservative treatment of crown fractures are reattachment of tooth fragment using an acid-etch and enamel-bonding resin technique. This technique gives aesthetically the most acceptable results as the fractured fragment maintains original shape, color, texture and incisal edge translucency [1]. It is important to transfer the fractured fragments in aqueous transport mediums such as normal saline until reattachment occurs. Interestingly, soft tissue of

lips may act as a physiologic medium for tooth fragments as reported in late presentations [10,14].

Missed tooth fragments must be investigated in the case of dental fracture. The importance of proper intraoral examination can not be overemphasized. Radiologic investigation shall proceed if the possibility of tooth fragments embedded in the soft tissue can not be ruled out. Tooth fragments can be stored in the aqueous mediums until they are reattached. Education of the ER physicians and primary care providers is also important since they provide the initial care in such traumas.

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