ABSTRACT

Dental fractures of the permanent maxillary anterior teeth are relatively frequent accidents during childhood. The efficient diagnosis and treatment of dental injury are important elements in clinical dentistry. This article describes a case of trauma in permanent right central maxillary incisors with tooth fragments embedded in the lower lip. Thorough clinical examination followed by soft tissue radiographs confirmed the presence of a fractured incisal fragment, which was surgically retrieved under local anesthesia. Direct composite restoration was placed. After finishing and polishing, an esthetic and natural-looking restoration was achieved; this completely satisfied the functional and esthetic expectation of the patient and dental team.

Keywords: Lower lip, Tooth fragment retrieval, Composite resin reconstruction.

INTRODUCTION

Trauma to teeth is a common situation in a pediatric patient, it may not only damage the dentition but also affect the patient psychologically. Dental traumatic injuries are a frequent occurrence during childhood, affecting about 13% of the population under 12 years old. Of these fractures, 70% are superior incisor coronal fractures without compromising the root. A number of techniques have been developed to restore the fractured crown. Several factors must be taken into consideration when choosing a treatment for this kind of fracture in a child. Like the teeth are neither totally erupted nor in their final position.

The introduction of composite restorative materials in combination with the use of the acid-etch technique to bond composite to enamel made possible the restoration of the fractured incisor with little or no additional tooth preparation. The survival rate of repositioned fragments is low after 2 years in case of large fractured fragments. If the lost fragment is not recovered or it is inadequate for repositioning, it would be advisable to use composite reconstruction. Although composite restorations tend to degrade with time, losing their esthetic properties, they are, however, more resistant long term.

This case report describes a child with traumatic amputation of anterior crown with incisal fragment being embedded in the lower lip. The child was managed by surgical removal and composite reconstruction of crown fracture.

CASE REPORT

A 10-year-old female patient reported to our department following trauma that caused a fracture in the distal angle of the maxillary right central incisor that affected enamel.
and dentine with pulp exposure (Fig. 1). Trauma occurred 10 months back due to fall while running on the road. The parents were concerned about the esthetics of the child. On inspection, a swelling on the left side of lip was noticed. A firm nodule measuring approximately 1 cm in diameter in the same region was palpated. Tooth showed no vitality for pulp tests. Radiograph of the lip confirmed the presence of a tooth fragment in the lower lip (Fig. 2).

The patient was submitted to surgical excision of the fragment under local anesthesia. The lower lip was incised (Fig. 3), tissues were reflected, tooth fragment was located (Fig. 4) and removed carefully (Fig. 5).

After placement of a rubber dam, pulp was extirpated; the canal dressed following instrumentation and then obturated. The entrance of the root canal was sealed with glass ionomer cement. Composite reconstruction was planned as long time had elapsed since the tooth had fractured. Initially, color was determined and, for that, in the gingival, middle and incisal areas small quantities of different colors of composite were placed and cured as a color determination method. The colors chosen were A3 for the cervical third and A2 for the middle and incisal thirds (Z 100™, 3M ESPE, St Paul, USA). Using a brush in counter-angle hand piece, the surface was cleaned with pumice stone powder. In addition, an extensive bevel was performed to increase adhesion surface and improve esthetics. Composite reconstruction was done 15 days after surgical removal of the tooth fragment (Fig. 6).

**DISCUSSION**

Crown fractures of permanent teeth are common pathology in school ages as nearly half of the children have at least one traumatized tooth before they leave school. The incidence of anterior teeth crown fractures in the permanent dentition is about 26 to 76%. Usually, a fractured or missed incisor does not pose any problem in diagnosis. However, when this situation is added to soft tissue laceration, attention should be paid to whereabouts of the fractured fragments of the teeth. Proper radiographic evaluation of the patients who have lost partially or totally their teeth after maxillofacial trauma is extremely important, as they are foreign bodies at risk for ingestion, inclusion in surrounding tissue or aspiration. The worst complication is aspiration of foreign bodies that can
CONCLUSION

This case report emphasizes the need for thorough clinical and radiographic examination in all cases of dental trauma especially, soft tissue injury accompanying dental trauma. Every attempt should be made to locate the missing tooth structure through a detailed history of the accident and careful examination.

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