



Case Report

Reattachment of fractured tooth fragment: A case report

M Kishore^{1,*}, Madhuri Sakaray¹, M Sreeja Yadav¹, L Md. Wasim Bari¹,
Ram Suneetha¹, Wahid Zargar¹

¹Dept. of Conservative Dentistry & Endodontics, Dr. NTR University of Health Sciences, Vijayawada, Andhra Pradesh, India



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ABSTRACT

Crown fractures are the unexceptional consequences of traumatic injuries of the teeth that mainly occur in the upper front tooth region. A traumatized anterior tooth requires immediate clinical attention and, if left untreated, can cause damage to the entire dentition and even have a psychological impact on the patient. Management of complicated crown fractures is a multifactorial process that depends on the extent and pattern of fracture, restorability of a fractured tooth, secondary injuries, presence/absence of fractured tooth fragment and its condition for use, occlusion, esthetics, finances, and prognosis. The patient was 35-year-old male presenting on an emergency basis. His maxillary incisors got fractured in a road traffic accident 12 hours before the treatment the fragment of the tooth was fractured but was attached to the soft tissue and was mobile in nature. After administration of local anesthesia, root canal treatment was completed and post space was prepared. Fiber post was luted and dowel was made in the fragment. Using flowable composite, the fragment and tooth were approximated followed by light curing. Finishing and polishing was done.

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1. Introduction

Crown fractures are the unexceptional consequences of traumatic injuries of the teeth that mainly occur in the upper front tooth region. It is estimated that one-fourth of the population suffers from a minimum of one dental traumatic injury associated with coronal fractures of the anterior teeth before the age of 18 years, and the most common of which are attributed to falls, high impact sports, and motor vehicle accidents.^{1,2}

Complicated crown fractures involving the enamel, dentin, and the dental pulp constitute a major share of all dental injuries and are commonly seen in maxillary central incisors.^{3,4} A traumatized anterior tooth requires immediate clinical attention and, if left untreated, can cause damage to the entire dentition and even have a psychological impact on the patient.³ Management of complicated crown fractures

is a multifactorial process that depends on the extent and pattern of fracture, restorability of a fractured tooth, secondary injuries, presence/absence of fractured tooth fragment and its condition for use, occlusion, esthetics, finances, and prognosis.⁵ In case of complicated fractures with pulpal involvement where the fractured segments are closely approximating, root canal treatment followed by reattachment of the fractured tooth fragment with fiber post reinforcement is a feasible option.⁵

Thus one of the options for managing coronal tooth fractures when the tooth fragment is available, and there is no or minimal violation of the biological width is the reattachment of the dental fragment.⁶ It has been suggested that fiber post luted with resin cement increases the retention of the segment and also provides a monoblock effect.⁷

2. Case

The patient was 35-year-old male presenting on an emergency basis. His maxillary incisors got fractured in

* Corresponding author.

E-mail address: dr.kishore1902@gmail.com (M. Kishore).

a road traffic accident 12 hours before the treatment (Figure 1) the fragment of the tooth was fractured but was attached to the soft tissue and was mobile in nature. After administration of local anesthesia, the fractured fragment was disinfected with sodium hydroxide and rinsed thoroughly with water (Figure 2) examination of the fragment revealed that there was pulpal exposure (Figure 4) and was no fracture of the root (Figure 3) juxtaposition of the fragment with the tooth showed that the margins of each fragment fitted well against each other and no inter fragmentary space was present. Rubber dam isolation was done. The root canal treatment was completed, followed by post space preparation, and a fiber post was luted using flow able composite, fractured fragment stored in distilled water was taken out, and the dowel was made towards the pulpal surface of the fragment so that the extended fiber post from the root canal can be accommodated in the dowel prepared, after that the fracture site and the fragment were etched, rinsed and dried gently. Bonding agent was applied and light-cured separately, later the flowable composite was applied, and the fractured fragment was placed in a position so that the extended fiber post fit well into the dowel made on the fragment and gently pushed to approximate both the fragment and the fracture site, and then light cured. Later the extra material was removed and finishing and polishing was done (Figure 5).

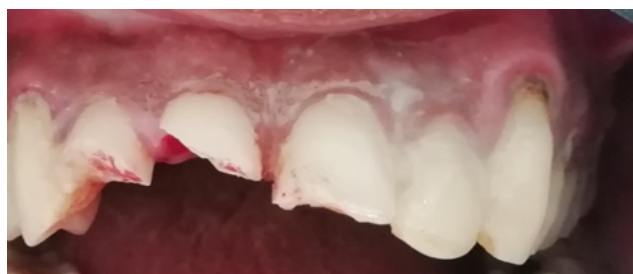


Fig. 3:



Fig. 4:



Fig. 1:



Fig. 2:



Fig. 5:

3. Conclusion

Several aspects guide the choice of a technique or the association of materials for fragment reattachment.

Reattachment of fractured fragment proved to be a successful technique in the present case for restoring esthetics and function. However, because few long term studies have been reported in the literature, the patient should be informed of the possible interim nature of the treatment. For patients with broken teeth, pain relief and immediate esthetic restoration fragment reattachment fulfill the treatment goal.

4. Conflicts of Interest

All contributing authors declare no conflicts of interest.

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None.

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Author biography

M Kishore, MDS

Madhuri Sakaray, MDS

M Sreeja Yadav, MDS

L Md. Wasim Bari, MDS

Ram Suneetha, MDS

Wahid Zargar, MDS

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