

Reattachment of Fractured Fragments of Maxillary Central Incisor: A Case Report

Abstract:

Fracture of anterior teeth by trauma is a common problem in children and teenagers. Complex metal-creamic crowns with considerable loss of remaining sound tooth structure are no longer necessary due to adhesive techniques, such as composite restorations and reattachment techniques. Earlier fractured teeth with pulp involvement were treated with cast post and core after endodontic treatment, that took few days to restore your smile back, but as one's smile is one's greatest personal asset, so no one should be deprived of that so, this paper describes the reattachment of fractured fragment using metallic prefabricated post and core in case of a 19 year old patient who suffered a complicated fracture of maxillary central incisors in single visit and restore smile back to original in one day.

Key words: Chamfer, Cervical fracture, Cractured fragments, Reattachment, Trauma,

Introduction:

The dental profession has always been concerned with appearance related treatment and conservation of healthy tooth structures. Newer techniques and materials make conservative dentistry a reality with aesthetic results readily visible and greatly appreciated by the patient. Injury to anterior teeth is a relatively common event that affects children and adolescents due to an increase in dangerous activities and sports. Coronal fracture by trauma is the most frequent type of dental injury in permanent dentition^{1,2} The management of such cases involves simple to complex restorative intervention depending upon the severity and extent of the fracture³. No single dental disturbance has greater psychological impact on the patient than the loss of anterior tooth. Techniques that speed, simplify, restore esthetics and improve long term success rate are of immense value and should be considered⁴. Present case report describes crown fracture at cervical level that offers advantage of simplicity, esthetics and conservation in case of dental trauma.

Case report:

A 22 year old boy reported to the department of conservative dentistry and endodontics, Government Dental College and Hospital, Jaipur, Rajasthan for the treatment of fractured maxillary central incisors at cervical level. History revealed trauma one day back, medical history was non-contributory. Intra-oral clinical examination revealed a complicated

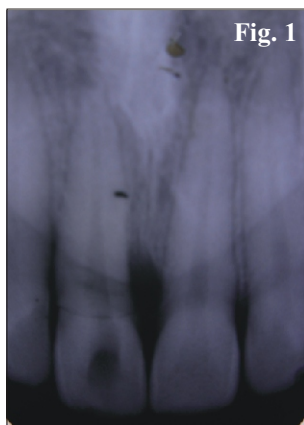


Fig. 1



Dr. H P Trivedi
Professor & Head

Dr. Manju Gupta
Assoc. Professor

Dr. Sachin Jain
Post-graduate student

Dept. of conservative dentistry & endodontics
Govt. Dental College & Hospital, Jaipur 302016

crown fracture with fracture line extending in facio-lingual direction at cervical level, fractured crown were loosely attached by junctional epithelium and soft connective tissue. Pulp was exposed. Periapical radiographs revealed no associated root fracture

Anaesthesia was given, fractured fragments were stabilized using composite. Endodontic treatment was done of fractured tooth and sectional obturation was accomplished using gutta percha cone. Gutta percha was left upto 6 mm within the canal, post space was prepared according to prefabricated post and corresponding preparations were made in fractured crown

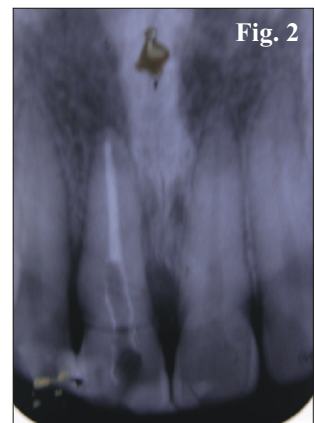


Fig. 2

After ensuring proper fit of prefabricate post in to the canal, flap was raised to expose the fracture line which was subgingival, just below the marginal gingival



Post was placed through the crown fragment, stabilized

with composite resin, after applying G.I.C Type II as luting agent with the help of lentulio-spiral, post was placed. Buccally, as flap was already raised, 1mm of chamfer is placed along fracture line and nano composite resin is placed, cured, finished and polished and then, flap is sutured back (Figure 4 & 5).



Fig. 4

Final evaluation was done for aesthetics and occlusion.

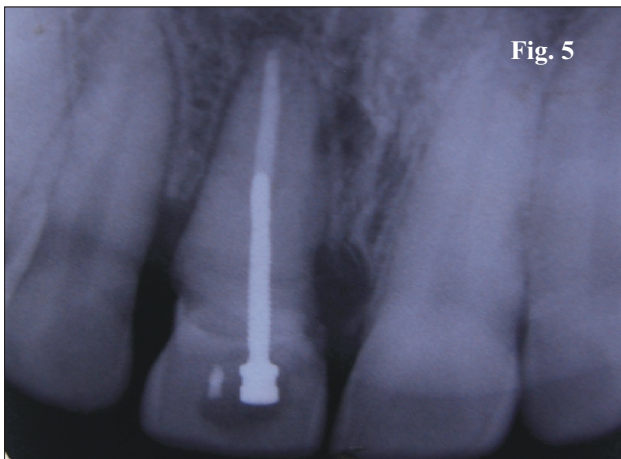


Fig. 5

Entire procedure was completed in single visit, only.

Discussion:

Trauma to anterior teeth is relatively common among children and teenagers.⁵ The fragment reattachment provides optimal esthetics and is very economical. The tooth color, contour and texture are same and superior to composite resin or ceramic restoration.⁶ Tewari⁷ et al have reported reattachments of 25 incisal fractures, using metallic post and core to reattach the broken fragments in complicated fracture cases. The same procedure was done in this case except using prefabricated post instead of using cast metal post & core and the post space was created through the crown so that the crown and the post could act like one single unit. The Nano composite was used because of its superior polishability & flexural strength. After six months of follow up, there has been no discoloration or dehydration of restored teeth.

References :

1. A.Reis, C Francci, AD Loguerico Reattachment of anterior fractured teeth: fracture strength using different techniques. Operative dentistry 2001; 26: 287-294.
2. Zahid L, Tandon S. Oral and maxillofacial injuries in children. : Tandon S, editor . Text book of pedodontics. 1ST ed .hyderabad: Paras Medical Publishers ; 2001. p 490-525.
3. Barteri L.N and Monterio M.A. Tooth fracture reattachment Case report. Quint Int 1990 ;21: 261-270.
4. D.F.Murchison, F.J.T.Burke Incisal edge reattachment: indications for use and clinical technique. B.D.J. 1999; 186(12): 614-619.
5. Chu F.C, Yim T.M and Weis S.H : clinical consideration for reattachments of tooth fragments . Quint Int 2000 ;31:385-391.
6. Strassler H. E: Aesthetic management of traumatised anterior teeth. Dental Clinics North America 1995 ; 39 (1);183.
7. Tewari S. and Tewari S : fractured tooth fragment reattachment. An alternative approach .J Indian dental association 1995;66 (9) : 256-259.

Legends:

1. Figure- 1: Preoperative IOPA radiograph showing fracture line
2. Figure- 2: IOPA radiograph showing sectional obturation and post space prepared.
3. Figure- 3: Picture shows buccal flap raised and fracture line expose.
4. Figure- 4: Picture shows fracture line covered with nano composite, cured, finished and polished.
5. Figure- 5: IOPA radiograph of reattached fragment immediately after surgery.