REATTACHMENT OF FRACTURED FRAGMENT OF TOOTH: CONSERVATION WHAT IS NATURAL! - A CASE REPORT

Saraf Adish¹, Medha Ashish², Jain Deepak³, Mattigatti Sudha³, Pawar Sagar⁴*, Makandar Saleem³, Mahaparale Rushikesh¹

¹Senior Lecturer, Department of Conservative Dentistry and Endodontics SDS, Karad, India
²Professor and HOD, Department of Conservative Dentistry and Endodontics SDS, Karad, India
³Reader, Department of Conservative Dentistry and Endodontics SDS, Karad, India
⁴Post Graduate Student, Department of Conservative Dentistry and Endodontics SDS, Karad, India

Received: 27-09-2014; Revised: 26-10-2014; Accepted: 24-11-2014

*Corresponding Author: Dr. Sagar Pawar
Final year post graduate SDS, Karad.KIMSDU Campus, Karad.415110,India Contact number: 7588060553
Mailing address: 443/5 SHIVARAJ Bunglow Shaniwar peth, Karad, 415110, India

ABSTRACT
Fracture of anterior teeth is a common occurrence in young children and adolescents. Due to advancements in adhesive technology reattaching the patient’s own fragment is gaining popularity. Tooth fragment reattachment not only takes care of original tooth anatomy but also the shade selection part. It is definitely a conservative approach which does not need tooth reduction to the extent of full coverage crowns and a cost effective treatment to a complicated problem. In this article a case is presented where post was used along with flowable resin to reattach the tooth.

Keywords: Acid Etching, Crown Fracture, Maxillary Central Incisor, Reattachment, Trauma.

INTRODUCTION
Trauma to the anterior teeth is a common occurrence and many dentists are confronted with different types of trauma on a regular basis in their clinical practice. A fracture involving enamel, dentin and pulp is classified by Ellis as Class III. Traditionally these cases were treated by root canal treatment followed by placement of post and core and subsequently a crown. With the developments in the adhesive technology tooth fragment reattachment has become popular. Tooth fragment reattachment may offer following advantages.
1. Most rapid and conservative management.
2. Better esthetics
3. Wear of incisal edge similar to that of adjacent tooth
4. A positive emotional and social response from the patient.

Tooth fragment reattachment is a conservative, cost effective treatment that maintains esthetics and thus it can be carried out as an effective alternative to full coverage crowns.

CASE REPORT
A 16 year old male presented with an oblique crown fracture of the tooth reported to the Department of Conservative Dentistry and Endodontics SDS, Karad(Figure 1).On examination Ellis Class III fracture was diagnosed with 11. The fragment was retrieved (Figure 2) and the tooth was treated with single visit root canal treatment (Figure 3,4). The fractured fragment was carefully stored in saline solution. After the completion of root canal treatment the fractured fragment was thoroughly cleaned. It was placed back to see the alignment and was etched with 37% phosphoric acid and bonding agent (Tetric N Bond, Ivoclar ) was applied and cured (Figure 5,6). Now with torpedo bur(man) chamfer was prepared over the fracture line on the buccal surface of the tooth (figure 7,8). Surface over the chamfer created, was etched bonded and composite composite resin (Tetric N Ceram, Ivoclar ) was used around the chamfer created over the fracture line to increase fracture strength, and make it esthetically acceptable, (Figure 9,10,11). Finishing and polishing was carried out using Super snap polishing kit (Shofu).The ultimate result obtained was satisfactory (figure 12)
DISCUSSION

Esthetic and biologic restoration of the fractured incisors often presents a daunting clinical challenge. Various treatment approaches have been indicated for fractured teeth including, fragment removal followed by restoration. In spite of various advances in the adhesive material there is no restorative material that will restore the perfect esthetics and functionality as much as natural dental structures. Reattachment of the crown fragment to a fractured tooth influences esthetic by retaining natural translucency and surface texture and is the first choice for crown fractures of anterior teeth. Once the original fragment is reattached, the natural appearance will be restored instantly.

Many different techniques have been advocated for fragment reattachment. Some of them are:
1. Placement of circumferential bevel at fracture line
2. Placement of external chamfer at fracture line
3. Use of V shaped enamel notch.
4. Placement of internal groove
5. Superficial overcontouring of restorative material.

In this case rebonding of fractured fragment was carried out followed by placement of chamfer over the fracture line so as the tooth acquires maximum retention along with good esthetics. Also, this procedure is relatively simple, atraumatic and inexpensive.

Several case reports show that even subgingival tooth fracture can be restored successfully. In this case reattachment technique of the autogenous tooth fragment to the crown, followed by external chamfer has been done. Although its use does not mechanically strengthen the endodontically treated teeth, but it helps in retention of the coronal restoration and esthetics.

CONCLUSION

The reattachment of a tooth fragment is a viable, conservative technique that restores function and esthetics and clinicians should consider it when treating patients with coronal fractures of the anterior teeth.

REFERENCES