

MANAGEMENT OF TRAUMA IN MAXILLOFACIAL COMPLEX IN 13 YEAR OLD CHILD

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Abstract

Most common dental injury accounts for maxillary anterior teeth which may cause luxation of tooth. Repositioning of the tooth along with splinting & immobilization is the treatment of choice for such cases. It provides immediate esthetic as well as functional rehabilitation along with positive psychological impact on child. Here we are presenting a case of extruded maxillary anterior teeth with root fracture in coronal third.

Key Words: - Coronal root fracture, splinting, repositioning

Introduction

Traumatic dental injuries (TDIs) of permanent teeth are very common in children and young adults, which commonly involves Crown fractures and luxations.¹ Trauma to facial region results in fracture, displacement or loss of tooth. This has found to have a negative effect on child psychology, aesthetically & functionally.^{2,3} Commonest injuries to permanent teeth occur due to secondary to falls, following road traffic accidents, violence & sports.⁴ Traumatic Dental Injury is a challenge to clinicians worldwide as it depends upon clinical diagnosis, treatment planning and follow up for a favorable outcome. Hence, proper diagnosis, treatment planning and follow up are important for a good prognosis.

Case report:-

A 13 year old boy reported to the outpatient department of Pedodontics & Preventive Dentistry, Teerthanker Mahaveer Dental College & Research Centre, Moradabad, India, with the chief complaint of injury to dental hard tissue & facial soft tissue following a road traffic accident. The patient was seated & a through extra oral & intraoral examination was carried out. There was no loss of consciousness, nausea & vertigo following trauma. On extra oral examination there was laceration on left cheek, nose and a deep laceration on lower lip. (Figure 1)



Figure 1: - Extra oral View

Detachment of gingival tissue in Maxillary anterior tooth region & extrusion of Maxillary Central Incisors (11, 21) & Maxillary lateral incisor (12) was observed on intra oral examination. (Figure 2)



Figure 2: - Intra oral View

Radiographic evaluation confirmed the extrusion of maxillary central incisors & right maxillary lateral incisor with fracture of root in coronal 3rd. Tetanus toxoid intra muscular administration was carried out followed by repositioning of extruded teeth & non rigid splinting with dual cure resin for 2 week. Suturing of lower lip & gingival tissue was carried out. (Figure3)



Figure 3: - Splinting of the maxillary anterior done

Patient was advised liquid diet for 1st week followed by soft diet for next week, to relieve from any trauma from masticatory forces. Patient was kept under antibiotic coverage for 5 days & analgesic was also prescribed. Extraction of fractured coronal segment of 12 was carried out, followed by Root Canal Treatment & Porcelain Fused Metal (PFM) crown of tooth 11, 12 & 21. In order to give PFM crown for 21, crown lengthening was carried out by electro-cautery to expose the root surface which was followed by fibre post & core. (Figure 4 & 5)



Figure 4: - Crown lengthening procedure for maxillary right lateral incisor



Figure 5: - Fibre post given followed by crown



Figure 6: - Post operative view

Follow-up periods was scheduled on regular intervals of 1 week, 1 month, 3 month and 6 months respectively which

showed complete healing and restoration of oral hard and soft tissues.(Figure 6)

Discussion

Fracture to anterior tooth & supporting structure demands immediate treatment and esthetic rehabilitation to overcome the psychological trauma to the child. There are Various treatment approaches indicated for fractured teeth such as fragment removal followed by restoration, reattachment of fragment, crown lengthening, forced surgical extrusion or orthodontic extrusion & extraction followed by surgical implants or fixed partial denture.⁵ The treatment chosen depends upon site of fracture, size of fracture, periodontal status, pulpal status of the tooth, maturity of root formation & occlusion.⁶ If the fracture fragment is intact and retrievable, reattachment of the fragment is the treatment of choice.⁵ With dentin bonding technology, it is possible to achieve excellent results with reattachment of dislocated tooth fragments provided that the biologic factors, materials and techniques are logically assessed and managed. The reattached tooth is restored to its original form, contour and margins, increased wear resistance and tend to be more compatible with gingiva.⁷ A prefabricated fiber post was used in this case. Tooth colored fiber posts are more esthetic, can be bonded to tooth structure, modulus of elasticity similar to that of dentin and less chances of fracture. These posts also help to distribute the stress to remaining radicular dentin.⁸ A dry and clean working field and the proper use of bonding protocol and materials are the keys for achieving success in adhesive dentistry. Patient co-operation and understanding of the limitations of the treatment is of utmost importance for good prognosis.

Conclusion

Trauma to the anterior tooth may be one of the most traumatic incidents for a young patient. There is a positive emotional and social response from the patient to the preservation of natural tooth structure. Hence, repositioning of the extruded tooth & preserving the fractured root can be considered as an ultraconservative, simple and immediate method for esthetic rehabilitation.

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