MANAGEMENT OF VERTICAL TOOTH FRACTURE WITH BANDING - A CASE REPORT

Dr. Dhanya Kumar N.M.
Professor & Associate Dean Examination,
Email: dhanya2112@yahoo.co.in
Dr. Ishu Jain,
Postgraduate Student

Dr. Vasundhara Shivanna,
Principal, HOD

Department of Conservative and Endodontics
College of Dental Sciences
Davangere - 577004, Karnataka, India

ABSTRACT:
Aim: To present a case of vertical tooth fracture treated by adhesive bonding and banding before root canal treatment.
Method: In this case, a vertically fractured maxillary premolar was stabilized by adhesive resin and orthodontic stainless steel band followed by root canal treatment.
CONCLUSION: The prognosis of teeth with cracks depends on the location and extent of the crack. Early recognition and treatment is the key to proper management.

INTRODUCTION:
Coronal fractures of posterior teeth usually occur due to chronic masticatory trauma presence of large restorations or unrestored endodontically treated teeth and rarely due to acute trauma. If a visible separation occurs at the interface of segments along the line of fracture, such fractures are termed as “complete” as coined by Luebke. The fracture commences in the crown and generally terminates near the cementoenamel junction or may extend apically into the root. Coronal fractures often involve a marginal ridge with the fracture extending in a mesiodistal direction. Management of such teeth should involve recognition of signs and symptoms and the provision of adequate restorations that protect the remaining tooth structure.

This condition mainly presents in patients aged between 30 years and 50 years. The most commonly affected teeth are mandibular second molar followed by mandibular first molar and maxillary premolars.

The prognosis of teeth with involvement of root is poor, and these teeth usually require extraction. Vertical root fracture of single root in multirooted teeth can be treated by root resection 2, where as other may require treatment like banding of tooth followed by root canal treatment or intentional re-plantation of a tooth after adhesive bonding of fractured fragments extra-orally.

The distance between separated fragments, vertical bone defect localisation, the position and the extent of the fracture are important factors to determine the treatment modality.

There are several reports in the literature describing banding of vertically fractured tooth after repair with a dentine-bonded resin intra-orally which could be an alternative treatment, rather than extraction or root resection.

Hence, a case report of VRF is hereby presented which is treated by adhesive reattachment and banding of the tooth.

CASE REPORT
A 35 year old male patient reported to the Department of Conservative Dentistry and Endodontics, College of Dental Sciences, Davangere with a chief complaint of pain and discomfort with respect to right upper back tooth region. Patient gave a history of Betelnut chewing. The pain was dull, intermittent in nature which increased on chewing hard substances. The medical history of the patient was non-contributory.

Clinically, maxillary right second premolar showed fracture of the lingual cusp at the central groove with the fracture line extending in the mesiodistal direction (fig.1).

Although the fragments were intact and undisplaced, wedging with a probe resulted in slight movement of the lingual segment indicating a complete fracture. Radiographically, widening off the periodontal ligament space was evident.
So, a root canal treatment was planned since fracture line was extending close to the pulp and it was decided first to stabilize the tooth with adhesive bonding and banding followed by completion of the root canal treatment.

The tooth was immediately adjusted out of occlusion. Fractured tooth was bonded using adhesive resin followed by circumferential banding of the tooth with orthodontic stainless steel band to hold the fragments in position (fig. 2). Access opening was done, working length determined (fig. 4).

and the root canals were prepared to a size 35 master apical file followed by step-back technique. Irrigation was done with 5.25% NaOCl & 0.2% chlorohexidinegluconate. Calcium hydroxide intracanal medicament was placed in the canal for two weeks following which the root canal were obturated. After 1 month, the tooth was bonded with composite restoration and restored with a full coverage crown. Patient was completely asymptomatic during 3 months follow-ups (fig. 8).
REFERENCES: