



Case Report

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Mandibular Permanent Central incisor Crown Dilaceration- A Rare Case Report

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Abstract

Traumatic injuries to primary tooth may lead to dilaceration along with other dental anomalies including malformation of the affected permanent successor. This greatly affects the aesthetic appearance of the permanent tooth and may require definitive management to restore the undesirable aesthetic. Management of such tooth requires skilled treatment planning along with the clinician's ability to adopt the most suitable treatment option available to get better aesthetic results.

Keywords: Trauma, Crown Dilaceration, Dental anomalies, Succedaneous tooth, Hypoplastic enamel.

INTRODUCTION

Trauma in anterior region is quite common in children. results in oral hard and soft tissue injuries [3]. Trauma to primary teeth can lead to devastating consequences in development of permanent successors. Stage of succedaneous tooth's development at the time of traumatic injury can result in disruption in normal enamel formation, dilacerations of crown, incomplete root formation, crown/ root duplication, odontome like malformation, sequestration of tooth germ, and disturbed eruption of the permanent teeth [1].

Dilaceration is a rare disturbance in traumatized permanent teeth and contributes about 3 % of the total injuries to the developing teeth [4]. Dilaceration is a deviation or bend in the linear relationship of a crown of a tooth to its root (Latin : dilacero = tear up). The condition is thought to be due to trauma occurring when the tooth is forming , which alters the position of the calcified portion of the tooth so the remainder of tooth is formed at angle. According to the glossary of dental terms, dilacerations is defined as the deformity of a tooth due to disturbance between unmineralised and mineralized portions of the developing tooth germ [5].

Crown dilacerations are less common than root dilacerations. Permanent maxillary central incisors are the most commonly dilacerated teeth followed by mandibular central and lateral incisors. Teeth with crown dilaceration may erupt in normal pattern or in facial or lingual version [1]. Management of dilacerated tooth has to be non invasive and preventive. Cosmetic repair of unaesthetic newly erupted permanent teeth is critical for child's psychological wellbeing. A rare case of mandibular right and left central incisor crown dilacerations with enamel hypoplasia is reported.

CASE REPORT

A 9 year old boy reported to the outpatient department with chief complaint of pain and discolored teeth lower front tooth region. Patient gave history of discolouration since 31 and 41 erupted. Medical history revealed no systemic problem. Dental history revealed a previous trauma at 3 years age to primary mandibular teeth 71,81. This history coincides with to crown formation stage of permanent mandibular central incisors. Clinical examination revealed slight twist along the long axis. Teeth were responding normal to hot and cold . when probed, it was possible to penetrate the explorer underneath the crown on the lingual aspect. On closer examination it was observed that enamel was deficient in middle third of crown in relation to 31 and 41.

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Radiographic examination

Radiographic evaluation revealed discontinuation in normal outline of crown with radioopacity at the junction of middle third of crown in relation 31 and 41. Radiolucent shadow appeared in continuity with radiolucent pulp space. There was risk of pulpal exposure in both 31 and 41.



Fig 1: Preoperative view



Fig 2: Intraoral view

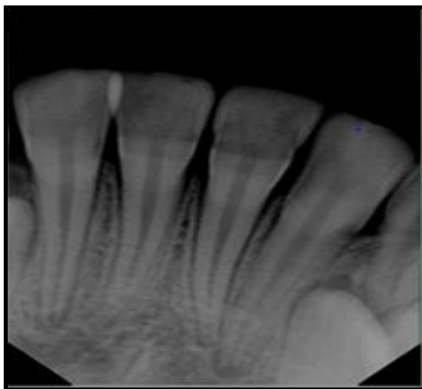


Fig 3: Radiograph showing crown dilaceration in middle third



Fig 4: Postoperative view

Treatment

Recontouring of lingual surface of tooth was done to make area self cleansable. Excavation of hypoplastic area was done with spoon excavator. Total etch light cure composite was done to improve normal psychological well being of patient.

DISCUSSION

Primary tooth trauma is common in growing children [1]. Traumatic injuries to primary dentition may result in a wide range of developmental disturbances to succedaneous permanent teeth. When trauma to root or crown occurs during odontogenesis, it results in the dilaceration, hypoplasia, disturbances in shapes, sizes and form. Light stated that clinical appearance of incisors with dilaceration of crown will depend on the stage at which the injury to the developing tooth bud has

occurred [6]. The pathology of crown dilacerated teeth supports the theory of displacement of enamel epithelium and the mineralised portion of the tooth in relation to the dental papilla and cervical loops. This results in a loss of enamel on a part of the facial surface of crown. On the lingual aspect, a cone of hard tissue is formed which projects into the root canal, whereas the lingual cervical loop forms an enamel covered cusp. The pathogenesis of displacement of the non-mineralised portion of the tooth in the socket is supported by radiographic findings immediately after injury where a tilting of the tooth germ can be observed. The formation of 41 tooth begins at 20 weeks in utero. Its enamel formation begins at 3–4 months of age and is completed by 4–5 years. Therefore, the impact of trauma at the age of 4 years in the present case might have resulted in disturbance in enamel formation (amelogenesis) that had led to enamel hypoplasia. Timely diagnosis and preventive management plays crucial role in saving the tooth, as pulpal necrosis and periapical inflammation in these teeth without any decay may be a common feature after they erupt in the oral cavity. Diagnosis and management in our reported cases protected the teeth from pulp involvement. crown dilaceration was a challenge as one being mandibular incisors crown dilacerations is very rare and patient was unaware of the severity of the problem.

CONCLUSIONS

Trauma to primary teeth must be followed regularly because of possible future complications. To achieve desirable esthetics, function as well as healthy periodontium of teeth with crown dilaceration, correct diagnosis and appropriate interdisciplinary treatment strategy are mandatory. In moderate crown dilacerations, endodontic and conservative restorative treatment with periodic follow-ups could lead to a favorable outcome.

Conflict of Interest

The author reports no conflicts of interest.

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