Bilateral Taurodontism in Deciduous Molars: A case Report
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Abstract:
Taurodontism is a rare dental anomaly in which the involved tooth has an enlarged and elongated body and pulp chamber with apical displacement of the pulpal floor. It has a very low incidence and very few cases are reported in literature in deciduous dentition. Endodontic treatment of a taurodont tooth is challenging and requires special handling because of the proximity and apical displacement of the roots. In this article a case of five year child with bilateral involvement of mandibular second molars is presented.

Key Words: Taurodont, enlarged pulp chamber, pulpectomy.

Introduction:
Taurodontism is a developmental disturbance of a tooth that lacks constriction at the level of the cementoenamel junction (CEJ). It is characterized by vertically elongated pulp chamber, apical displacement of the pulpal floor and bifurcation or trifurcations of the roots (Jafarzadeh et al, 2008).

The term “taurodontism” (‘bull tooth’) was coined from the Latin word “tauros”, which means ‘bull’ and the Greek word “odus”, which means ‘tooth’. Sir Arthur Keith in 1913 coined the term “taurodontism” and defined taurodontism as “a tendency for the body of the tooth to enlarge at the expense of the roots”. Although Gorjanovic-Kramberger in 1908 had first described this type of tooth. Shaw (1928) in his first quantitative study on taurodontism classified the condition as “hypotaurodontism,” “mesotaurodontism,” and “hypertaurodontism” to define the degree more accurately to which this condition is manifested (Fig. I). Shifman & Channel (1978) suggested a most widely accepted and used criteria, on the basis of the distance from the lowest point of the roof of the pulp chamber (a) to the highest point of pulp floor (b), when divided by the distance from (a) to root apex (c) should be equal to or greater than 0.2 mm and/or distance from (b) to cementoenamel junction (d) should be greater than 2.5 mm (Fig. II).

Mandibular molars are more commonly affected teeth. The incidence is reported to be lower than 1% in modern man (Joseph, 2008), 3% in primitives, Eskimos and American Indians (Tsesis, 2003). Taurodontism has been associated with various syndromes such as Down’s syndrome, Klinefelters syndrome, Aperts syndrome, Oral-fault digital (Mohrs syndrome), Trichodento-Osseous syndrome etc (Terezhalmy et al, 2001).

There are various theories concerning the etiology of taurodontism: a) a specialized or retrograde character; b) a primitive pattern; c) a Mendelian recessive; d) an atavistic feature and e) a mutation (Mangion, 1962; Hammer et al, 1964). Many explanations...
A five year old male child was brought to People’s Dental Academy, Bhopal with complain of pain related to left posterior tooth region of mandible for last two weeks. There was no significant dental or medical complaint in the past. His developmental milestones were within normal range. His intraoral examination revealed normal soft tissue appearance with a large carious lesion in mandibular left deciduous second molar. Intraoral periapical radiograph of both sides revealed large pulp chambers and short roots (Fig. III & IV). There was no involvement of periapical tissues. Based on clinical and radiographic findings, a diagnosis of chronic pulpitis was made in relation to mandibular left second primary molar. The tooth was anaesthetized, the access was opened under rubber dam isolation and the access cavity was modified. The remaining pulp tissue was extirpated.

The pulp was voluminous, to ensure complete removal, 2.5% sodium hypochlorite was initially used as an irrigant to soften the pulp. Once the pulp was extirpated, further irrigation was done with normal saline. The pulp chamber was huge and the floor of the chamber could not be visualized. At the furcation area, four canal orifices were found: mesiobuccal, mesiolingual, distobuccal and distolingual. A working length radiograph was taken with #15 file in all the canals and biomechanical preparation was done followed by obturation with endoflas. After the root canal obturation to predetermined length, pulp chamber had to be filled with large amount of endoflas obturating material (Fig. V). This procedure of pulpectomy was followed by restoration of the tooth with stainless steel crown.

Discussion:
Taurodontism is a rare morphological variation which causes the occluso-apical elongation of the pulp chamber, and the reduction of the root size. Taurodontism is frequently associated with other
anomalies and syndromes (Mangion, 1962). In this case, the patient was healthy and without any known diseases or a syndrome.

Endodontic treatment in taurodontism teeth has been described as a complex and difficult procedure. Pulp therapy for taurodents is a challenging treatment, with increased incidence of haemorrhage during access opening which may be mistaken for perforation. Since the roots are short and pulpal floor is placed apically, care should be taken to prevent perforation. Conventional obturating materials like Zinc oxide eugenol in bulk may take longer time to resorb which may delay the natural exfoliation of the tooth. In such cases combination of calcium hydroxide can act as a wonderful material due to its resorption rate. So in the present case Endoflas as an obturating material was used, which is a combination of zinc oxide eugenol, iodoform, calcium hydroxide and barium sulphate. This material has added advantage of faster rate of resorption due to presence of calcium hydroxide and iodoform.

In addition to the difficulty in endodontic procedure, the present case suggest the possibility that taurodont tooth may have an abnormal root canal system, which is another challenging tasks for pedodontist.

Bibliography: