



Hypertaurodontic Mandibular Second Premolar – A Rare Phenomenon

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Abstract

Occurrence of taurodontism which is also termed as ‘bull’s tooth’ is rarely encountered in human dentition. If it occurs, it is reported more commonly in molars. Existence of taurodontism in premolars is a rare phenomenon. The current article showcases an isolated occurrence of taurodontism (Hypertaurodontism) in the mandibular right second premolar of Indian male patient. This article helps other researchers to add up more information and also to perform more research pertaining to this rare dental anomaly of tooth shape.

Keywords: Bull’ tooth, Dental anomalies, Root variations in morphology, Tooth shape, Taurodontism.

Dear Editor-In-Chief,

Numerous dental anomalies concerning tooth shape are illustrated in dental textbooks, literature and in research articles. Taurodontism is one among a morpho-anatomical variation in the shape of the teeth characterized by enlarged body of the tooth and decrease in roots size. The term ‘taurodontism’ was first introduced by sir Arthur Keith in the 1913 [1]. The term is derived from ‘tauros’ meaning ‘bull’ and ‘odous’ meaning ‘tooth.’ In this condition, the affected tooth appear as a rectangular shape instead of tapering roots with enlarged pulp chamber. There is no usual constriction seen at the cervical third of the teeth, and greater apico-occlusal height of the pulp chamber and short roots are other characteristics. Knowledge about occurrence of taurodontism among different population is highly essential among clinicians as it is considered as an ‘enigma’ for both dentists as well for dental treatments such as cavity preparation, root canal treatment and during extraction procedure [1,2]. In this research paper occurrence of ‘hypertaurodontism’ in the mandibular right second premolar of an Indian male patient is showcased [Figure 1].

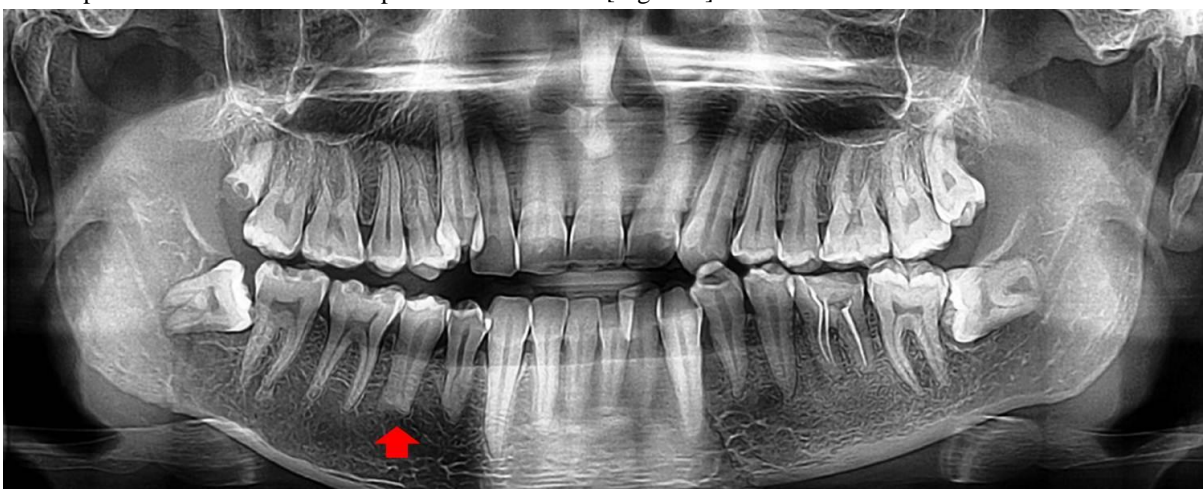


Figure 1: Panoramic radiograph showing Hypertaurodontic mandibular right second premolar (Red arrow). Severe root dilaceration (90-degree-bend) is also evident in the mandibular left third molar which is in horizontal impaction.

Permanent mandibular premolars including both first and second show extreme variations in roots and canal morphology [3,4]. There are studies showing the taurodontism prevalence in molars of different ethnic groups across the globe. There is paucity of particular prevalence studies to show the exact prevalence of taurodontism occurring in premolars. An Iranian study carried out a cross-sectional survey using panoramic radiographs among Iranian population and found just 0.3% prevalence. Females showed significantly higher prevalence of taurodontism compared to men ($P>0.05$). In another study [2], Nagaveni and Radhika estimated the prevalence of taurodontism in primary mandibular first molars in ethnic Indian children using periapical radiographs of 274 children retrospectively. There were 97 girls and 99 boys with mean age of 2.5 to 10.5. The results of this investigation revealed that approximately 4% of Indian children showed taurodontism in primary mandibular first molars. Eight (4.08%) taurodontic primary mandibular first molars were found with bilateral incidence of a symmetrical distribution of 38% with no statistically significant difference between right and left sides or with gender ($P>0.05$). Recent Indian case reports reported few cases of different types of taurodontism in Indian patients [5,6] and elaborated different modes of treatment options and modifications in treatment modality pertaining to teeth having taurodontism.

Literature illustrates different types of taurodontism based on the apical displacement of the root furcation point given by various authors and researchers. The classification system includes main three types as hypotaurodont, mesotaurodont and hypertaurodont tooth [2-5]. Therefore, based on this classification system, the present case was diagnosed as 'hypertaurodontism' as there was complete absence of apical constriction of the root resulting in a rectangular shaped root canal morphology. This particular tooth was not associated with any clinical pathology and hence no treatment was considered.

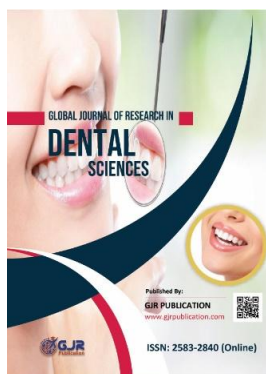
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