CASE REPORT

Dentistry Section

Emphasizing a new **developmental Variation** of the **Mandibular Molars -** A Mermaid In Dentistry?

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ABSTRACT

Dental size and morphology are easily recorded aspects of phenotypic variations. The majority of pathological variations in shape affect the crown of the tooth. The variations in the crown of the mandibular permanent molars include the occurrence of the sixth cusp on the first molars and the fifth cusp on the second molars. As the variations are always varied, we present here, a unique case of bilateral, mandibular, first permanent molars with an oblique ridge resembling the crown of the maxillary molars.

Key Words: Crown morphology, Unique, Mandibular molar, Oblique ridge, Variation

INTRODUCTION

The anomalies of the teeth have always been of great interest to the dentist from the scientific as well as from the practical view point [1].

These are the abnormalities of the tooth form, that range from common occurrences such as the permanent maxillary peg shaped lateral incisors to rare ones such as complete anodontia [2].

Most anomalies occur in the permanent than in the primary dentition and in the maxilla than in the mandible. They can be localized to one tooth, can be generalized to involve all the teeth or they may be a part of systemic or syndromic disorders [3].

Abnormal variations however, do occur in many cases [4] and deformities or abnormal formations of the teeth occur slightly more often, since it is frequently difficult to determine whether the deviation is a true anomaly or simply an extreme variation in tooth morphology [2].

The commonly occurring anomalies of the shape of the tooth include dens invaginatus, talon cusp, dens evaginatus, gemination, fusion, root dilaceration, taurodontism and concrescence [5].

The majority of the pathological variations in shape affect the crown of the tooth, some of which are relatively frequent, while others are less prevalent or may only affect only specific ethnic groups [6].

The reported variations in the crown of the mandibular molars of the Chinese and negroes include the tuberculum sextum, which is the sixth cusp which is located between the distal cusp and the distolingual cusp and the tuberculum intermedium which is located between the two lingual cusps on the first molars and the five cusps on the second molars. The pattern of grooves on the occlusal surface of the mandibular molars also show considerable variation [2].Apart and away from these above mentioned variations in the crown of the mandibular molars, we are presenting an unusual and unique case of mandibular first permanent molars with a normal root anatomy, but with the crown morphology resembling that of the maxillary molars, bilaterally.

CASE REPORT

A 20 year male student came to the institute with a chief complaint of carious teeth. Intra oral examination revealed class I caries in relation to 16,17,18,26,27,28,36,37,38,46 and 47.

The mandibular first molars also revealed a unique feature of having four cusps with an oblique ridge running from the mesiolingual to the distobuccal cusp, without any carabelli trait, resembling the maxillary second molar, while the occlusal contour resembled the maxillary first molar with a square to parallelogram outline and as wide on the lingual as on the buccal, unlike the maxillary second molar where it tapers more from the buccal towards the lingual surface due to the smaller distolingual cusp [Table/Fig 1].A class I molar occlusion was found along with the normal overjet and the overbite. [Table/Fig 1]

[Table/Fig 1]: Mandibular first molars (Arrows) showing morphology resembling maxillary molars

The intra oral periapical radiograph revealed a mesial and a distal root which was normal for the mandibular molars [Table/Fig 2].

[Table/Fig 2]: Intraoral periapical radiograph showing mesial and distal roots of mandibular first molar

[Table/Fig 3]. The patient was treated conservatively for the carious lesions and was kept on a follow up. [Table/Fig 3]

[Table/Fig 3]: Master casts of maxillary and mandibular arches. Arrows showing occlusal anatomy of mandibular first molars resembling maxillary molar

DISCUSSION

Early in the twentieth century, the world renowned paleontologist, Williamking Gregory (1922), expressed the view that tooth crown morphology varied hardly at all among the major races of human kind. Exceptions to this generalization are the shovel shaped incisors, carabelli's cusp and the molar cusp pattern and number [7].

Developmental anomalies of the dentition are not infrequently observed in the dental clinic. However, these anomalies account for a relatively low number as compared to the more common oral disorders such as dental caries and periodontal diseases [4].

The first molars are considered as key teeth which are stable in morphology than the second and the third molars, but the mandibular first molar can display several anatomical variations [8].

The variations in the root anatomy are commonly reported than those in the crown morphology. Variations in the mandibular molar crowns are sometimes seen, as an extra cusp on the buccal surface of the mesiobuccal cusp [9] or the prostostylid [10], and as a sixth cusp called the tuberculum sextum or the tuberculum intermedium [2].

The maxillary molars differ from the mandibular molars in many aspects, but the major and the important features which can be used in distinguishing them are the presence of an oblique ridge, which is unique to the maxillary molars2 and the presence of a carabelli trait on the maxillary first molars.

Our case was rare in the aspect that the crown of the mandibular first permanent molars presented with an oblique ridge running from the mesiolingual to the distobuccal cusp, resembling the maxillary molar without the carabelli cusp, while the roots were of the mandibular molars itself. Literature search did not divulge any reported case of this kind, except the case of 23 year male, where the mandibular premolars and the molars of the left arch were remarkably similar to the maxillary posteriors, while the mandibular first molar on the right side was a mixture of both the maxillary and the mandibular molars. However, the radicular aspects of these teeth were not discussed [2].

The aetiology for this kind of presentation is questionable, but mutations in those genes which encode transcription factors and signaling molecules which are involved in odontogenesis could be responsible for the numerous abnormalities of the teeth [11].

CONCLUSION

Developmental anomalies of the teeth are clinically evident abnormalities and hence a careful examination of the oral cavity abets the clinicians for planning a better treatment. In the present case, for any conservative and endodontic procedures of the abnormal mandibular molars, assessment of the crown morphology and the internal anatomy needs to be considered. Further, a new finding for the forensic odontologists and a question of what do we name it as… 'A Mermaid'?

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