



Bilateral ‘Molarization’ of the mandibular second premolars in association with unusual dental variation – report of a rarest case

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Abstract

Permanent mandibular premolars are the teeth most commonly affected by various clinical abnormalities like supernumerary teeth, tooth impaction, congenital agenesis and variation in root or root canals. The aim of this article is to present a rarest case of bilateral occurrence of molar mimicking (Molarization) permanent mandibular second premolars in association with bilateral supplemental supernumerary premolars and an occlusal tubercle in an Indian patient.

Keywords: premolars, molars, molarization, dental anomaly, dental evolution, supplemental premolars

INTRODUCTION

Developmental dental anomalies may occur pertaining to size, number, shape or structure of the teeth due to genetic defect in the dental lamina or the tooth germ during development of dental structures.[1] Fusion is the developmental anomaly caused by the union of two adjacent teeth resulting in a large tooth whereas supernumerary tooth is the extra tooth over the normal counterpart and which may be classified as mesiodens, distomolar and parapremolar based on tooth location.[1,2] Any of the above anomalies can occur most of the time isolated. Publications on occurrence of all these together in a same patient is a rare phenomenon. Literature shows a few cases of this condition [2-10] and needs to be explored to draw out proper diagnosis. The aim of this paper is to report an unusual occurrence of bilaterally developed mandibular second premolars looking like permanent first molar (molarization) along with presence of bilateral supplemental type of mandibular supernumerary premolars and an occlusal tubercle.

Case report

A 28-year-old male patient reported to a private dental clinic complaining of extra teeth in the lower arch. Patient was healthy with normal built. No other medical or systemic disorders found. On intraoral examination, bilateral abnormally looking, large teeth were observed in the mandibular both right and left second premolar region (Figure 1). Patient had complete set of permanent teeth. On careful observation it was found that both right and left second premolars were macrodontic and resembled adjacent first molar. On the left side, the second premolar measured wider mesio-distally and bucco-lingually. It had three prominent cusps on buccal side and two cusps on lingual aspect thereby resembling first molar. An occlusal central tubercle was also found in this tooth. The right side premolar also had three buccal cusps and two lingual cusps. But overall size was slightly smaller compared to left side. The developmental grooves were present on these both premolars. Lingual to both first and second premolars, bilaterally extra teeth resembling normal second premolars were observed (Figure 1). The occlusal anatomy of these extra teeth exactly looked like second premolar. It was difficult to diagnose which one are normal premolar and a supernumerary premolar. Unfortunately radiographic examination could not be carried out to examine root morphology and presence of other anomalies. Finally, based on the literature information, the case was diagnosed as molarization of the mandibular second premolars in association with bilateral supernumerary premolars. As patient did not have any discomfort with these teeth, routine oral prophylaxis was carried out and kept under regular follow-up.

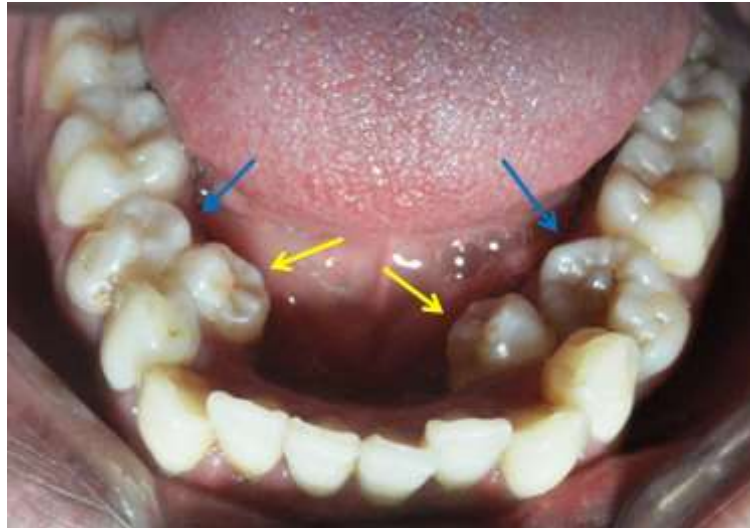


Figure 1: Intra-oral photograph showing bilateral occurrence of molar like (Molarization) mandibular second premolars (blue arrows). Presence of bilateral supplemental supernumerary premolars can also be seen (yellow arrows).

DISCUSSION

Mandibular second premolars are the most frequently affected and seen with numerous developmental morphological variations and hard to predict. Variation in number of cusps can be seen and various cross sectional studies have been showed prevalence of different cusps pattern among different population around the globe. [1,2] Molarization of mandibular premolars is an extremely rare anomaly and extensive review of the dental literature revealed very few cases of molarization of the mandibular premolars (Table 1). In the present case, the mandibular second premolars appeared larger in size, bulky and looked like a first molar. On the left side, occlusal tubercle was found. On the right side, the tooth measured longer mesio-distally compared to bucco-lingual direction. Dental twinning anomalies like fusion, concrescence and germination have been reported by various authors.[2] Canut and Arias [8] stated that although germination occurs rarely in the mandibular second premolar region but when it happens it results in the shape of molar to the premolar. Hence the tooth with germination appears huge, bulky and macrodontic. This unusual dental variation is called as “molarization of premolars” and this entity is rarely described in the dental literature. As of now, few cases of such isolated form of germination induced macrodontia of premolars are reported till now (Table 1). The present case almost appeared similar to the case published by Rajesh et al in 2013 and Canut and Arias in 1999. [5,8]

Table 1: Literature search revealed cases of molarization of mandibular premolars

Case No.	Author/Year	Age (years)/Gender	Unilateral/Bilateral	Associated anomalies
1	Pauly et al, 2019 [2]	16/Female	Unilateral, right side	None
2	Nagaveni NB et al, 2015[3]	12/Male	Unilateral, left side	None
3	Mangla et al, 2014[4]	14/Male	Unilateral, left side	None
4	Rajesh et al, 2013[5]	27/Male	Bilateral	None
5	Dapde et al, 2010 [6]	13/Male	Bilateral	Dentin dysplasia
6	Mora et al, 2004 [7]	12/Male	Bilateral	None
7	Canut & Arias, 1999[8]	11/Female	Bilateral	None
8	Lunt DA, 1976 [9]	Data not found	-	-
9	Hermel et al, 1968[10]	Data not found	-	-
10	Present case	28/Female	Bilateral	Occlusal tubercle in left side, bilateral supernumerary premolars.

The presence of anomalous teeth cause clinical implications like plaque accumulation, tendency to dental caries, spacing problems, crowding and occlusal derangements [2-11]. In the case described here, the macrodontic premolars had deep developmental grooves along with central tubercle in the left premolar. As large space was occupied by

macrodontic premolar crowding in the anterior teeth was also observed. The supernumerary premolars erupted in lingual side due to no space in the dental arch. When extra supernumerary teeth erupt either buccal or lingual to normal series of premolars in the maxillary arch, such teeth are termed as para premolars. These types of supernumerary teeth are more frequently seen in daily practice other than third molars. Occurrence of central tubercle shows anthropological significance and is prevalent in some populations.[11] In the present case, along with molarization, associated anomalies like central tubercle and multiple supernumerary teeth were also found. Dadpe et al in 2010, reported bilateral molariform second premolars in association with dentin dysplasia. They also reported that on one side, the megalodontic premolar had single root and on other side it was rootless on the radiographic examination. In the other published reports also the premolar had single root. Unfortunately, in the case described here radiographic examination could not be done to evaluate the pattern of root and for other anomalies.

Supernumerary teeth are the teeth representing the anomaly of number of teeth. These teeth may occur anywhere in the maxillary or mandibular arches. They may occur single or bilateral, erupted or impacted. Majority of these teeth remain unerupted and are asymptomatic diagnosed during radiographic examination. Supernumerary teeth occur more commonly in the mandible than maxillary arch and most are of supplemental type. The prevalence of mandibular supernumerary teeth varies from 0.075 to 0.26%.[1] Based on the shape of the supernumerary teeth, they are classified into supplemental, tuberculate, conical and rudimentary or odontome[1]. In supplemental type the shape of supernumerary tooth resembles the natural tooth in clinical morphology and is difficult to distinguish it from the normal series. In the present case too, the supernumerary premolars were of supplemental type as they exactly resembled the normal second premolars.

CONCLUSION

A thorough knowledge on the occurrence of abnormal dental variations is utmost important to diagnose it from the normal dental variations in order to diagnose and treat such dental anomalies. Hence publishing of such abnormal anomalies will enlighten the existing dental literature and also helps clinicians to obtain enough information about dental anomalies.

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