Case Report

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A Rare Case of Bilateral Maxillary Parapremolars in Non Syndromic Patient

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ABSTRACT

Background: Parapremolar is the rare entity of the supernumerary teeth. Supernumerary teeth may be present singly, multiply, unilaterally or bilaterally, erupted or impacted, in one or both jaws, and in the deciduous as well as in permanent dentition. Parapremolars rarely present in the maxilla as it was in our case. Parapremolars are generally Tuberculate type of supernumrrary according to their morphology with partial or complete root development. In present case 17 year male patient with no known history of the any syndrome presented with bilateral maxillary parapremolars.

Keywords: Parapremolar, supernumerary teeth, bilateral, non syndromic.

INTRODUCTION

Humans are considered as diphyodont; which has two successive sets of teeth, initially the deciduous set and consecutively the permanent set. [1] In absence of any pathology number of teeth present is deciduous dentition is 20 and for permanent dentition it is 32 for humans. [2] But in some individuals extra teeth or tooth like structure is present which is called as supernumerary teeth. By definition" Supernumerary teeth, or hyperdontia, is an odontostomatologic anomaly and may be defined as any teeth or tooth substance in excess of the usual configuration of 20 deciduous, and 32 permanent teeth."[2] Supernumerary teeth may be present singly, multiply, unilaterally or bilaterally, erupted or impacted, in one or both jaws, and in the deciduous as well as in permanent dentition. The reported prevalence of supernumerary teeth in the permanent dentition ranges from 0.1% to 3.8% and from 0.3% to 0.6% in the deciduous dentition. [3] Supernumerary teeth have a striking predilection for maxilla than the mandible and they are more frequently found in males compared to females in a ratio of 2:1. [4] But this sexual dismorphism is not observed in the deciduous dentition. [4] It also seems that Asian populations are more affected with supernumeraries than others. [5] Single supernumeraries occur in 76.86% of cases, double supernumeraries in 12.23% of cases, and multiple supernumeraries in less than 1% of cases. Multiple hyperdontia is rare in individuals with no other associated diseases or syndromes. [6] Bilateral ectopic occurrence of parapremolar in the maxillary molar region is rare in absence of associated syndrome. This paper reports a case of bilateral maxillary parapremolars in non syndromic patient. (Fig. 1)

CASE REPORT

17 year old male patient reported to the department of pedodontics and preventive dentistry with the chief complaint of extra teeth both in right and left side of the upper arch. Patient

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Fig 1: Showing extra teeth present bilaterally on palatal side in between the second premolar and 1st molar in maxillary arch.

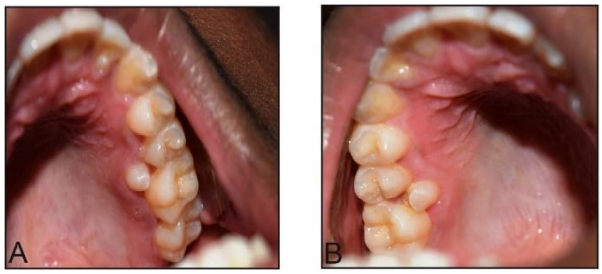

Fig 2: Showing extra teeth present bilaterally on palatal side in between the second premolar and 1st molar in maxillary arch.

Fig 3: cylindrical shape crown morphology.

also complaint of difficulty in chewing food and food lodgment in the same area. Patient's medical and familial history was noncontributory and there was no sign of any systemic diseases or syndromes.

An intraoral examination revealed a complete set of permanent dentition in both the arches except for the 3 molars in all the quadrants. Pt. had a well aligned upper and lower arch with class I occlusion. In addition there was an extra teeth present bilaterally on palatal side in between the second premolar and 1st molar in maxillary

Fig 4: Root apex not completely developed.

Fig 5: Extracted second paramolar tooth.

arch. (Fig. 1,2) These supernumerary teeth were diagnosed as parapremolar teeth since there were present mesial to the 1st molar and in the area of the premolars. Crown of these teeth have a barrel-shaped appearance and a crown consisting of couple of tubercles. (Fig. 3) Right side parapremolar had caused a mild distal rotation of the first molar, while left parapremolar had no impact on the alignment of the arch. Clinical examination revealed non carious crown. Soft tissue examination revealed

mild gingival inflammation of associated gingival tissue.

The patient was informed of the existing condition and extraction of the parapremolars was advised in order to address the chief complaint and to avoid the deleterious sequel of the food lodgment. The parapremolars were extracted in two subsequent appointments. After extractions post extraction instructions were given to the patient. Healing of the extraction sockets was uneventful.

The extracted tooth was cleaned, disinfected, and analyzed. The tooth had cylindrical shape crown morphology. (Fig. 3) The length of the root was normal relative to its crown. (Fig. 4) The root apex was not completely developed. The actual size of the tooth was measured with a caliper. The mesiodistal and buccopalatal width of the crown was 6 and 5.5 mm, respectively. The length of the crown was 6.5 mm, whereas the length of the root was 13.5 mm. (Fig. 5) The morphometric measurements displayed that the parapremolar had close values relative to the maxillary premolar except for the crown morphology.

DISCUSSION

The occurrence of parapremolar is a relatively uncommon dental finding. For the management of such dental anomalies it is utmost important to identify and diagnosed them at first. Supernumeraries can classify according to morphology or location. [7, 8]

Based on Morphology: 1) Conical : They have conical or triangular-shaped crowns and complete root formation. Mostly found as isolated single cases and are usually located between the maxillary central incisors (mesiodens) [9] 2) Tuberculate: They have a barrel-shaped appearance and a crown consisting of multiple tubercles. Tuberculate types have either incomplete or absent root formation. They are usually found in a palatal position relative to the maxillary incisors . Tuberculate supernumeraries are often bilateral .It has been suggested that tuberculate supernumeraries may represent a third dentition. [10] 3) Supplemental: Supplemental supernumerary teeth resemble their respective normal teeth. The most common supplemental tooth is the permanent maxillary lateral incisor, although supplemental premolars and molars also occur. 4) Odontomes: There are two different types of odontome: compound and complex. Compound odontomes comprise many separate, small tooth-like structures. A complex is a single, irregular mass of dental tissue that has no morphological resemblance to a tooth.

Based On Location: 1) Mesiodens: Typically, a mesiodens is a conical supernumerary tooth located between and palatally the maxillary central incisors. 2) Paramolar: A paramolar is a supernumerary molar, usually rudimentary, situated buccally or lingually/palatally to one of the molars or in the interproximal space buccal to the second and third molar. 3) Distomolar: A distomolar is a supernumerary tooth located distal to a third molar and is usually rudimentary. 4) Parapremolar: This is a supernumerary tooth that forms in the premolar region and resembles a premolar.

Supernumerary teeth are found to be associated with some syndromes like Gardner's syndrome, cleidocranial dysplasia [11] and in patients with cleft lip and palate [12] and less commonly with Ehlers-Danlos syndrome, Fabry's disease, chondroectodermal dysplasia, incontinentia pigmenti and tricho-phalangeal syndrome. [12]

The exact etiology of this anomaly is unknown. Various factors have been proposed as etiologic factors for development of this anomaly [13, 14] Several theories have been suggested for their occurrence such as the 'phylogenetic theory', the 'dichotomy theory,' a hyperactive dental lamina, and a combination of genetic and environmental factors unified etiologic explanation. [15]

According to phylogenetic theory, Atavism has been proposed as a cause; this hypothesis proposes a reversion to an ancestral human dentition that contained a large number of teeth. With the predominantly solitary occurrence and ectopic development of the supernumerary teeth, however, this theory has been rejected. [16]

An alternate theory is that a tooth bud may undergo dichotomy. If the tooth bud splits into 2 equal parts, the result is a supplemental tooth resembling the normal series; if unequal, however,

the additional tooth might be malformed and conical. [17]

A more favored hypothesis is that of excessive growth of the dental lamina, or hyperactivity of the dental lamina, as proposed by Black, [18] which has been cited as being responsible for the formation of additional tooth buds. This localized and independent hyperactivity of the dental lamina is the most accepted cause for the development of supernumerary teeth. According to this theory, the lingual extension of an additional tooth bud leads to a eumorphic tooth, while the rudimentary form arises from proliferation of epithelial remnants of the dental lamina induced by the pressure of the complete dentition.

While others tend to believe that hyperdontia is a disorder with pattern of multifactorial inheritance originating from hyperactivity of dental lamina. Remnants of the dental lamina can persist as epithelial pearls or islands, “rests of Serres” within the jaw. If the epithelial remnants are subjected to initiation by induction factors, an extra tooth bud is formed resulting in the development of either a supernumerary tooth or odontome. [19]

A combination of genetic and environmental factors was proposed by Brook [15] to explain the occurrence of supernumerary teeth. Furthermore, with the available data indicating a strong hereditary component that does not follow a simple Mendelian pattern, some authors support a multifactorial mode of inheritance. However, although the literature points to a familial predisposition to hyperdontia, in our case there was no such relationship noticed in any of the direct relatives of the patient.

The literature describes different management options for patients with multiple hyperdontia not associated with complex syndromes. Treatment is partly dependent upon the position and clinical manifestations of the supernumerary tooth. Thus, an early diagnosis is very important in order to decide among extraction, extraction followed by orthodontic treatment, or simply monitoring the supernumerary teeth, with the intent of minimizing the risk of complications secondary to the presence of these teeth.

CONCLUSION

Extensive literature review revealed very few reported cases of parapremolars. Parapremolars are less often seen in maxilla, rarely bilateral, Hence this case report is indeed a rare occurrence of bilateral parapremolar in maxilla in non syndromic patient.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Buchtova, M.; Stembirek, J.; Glocova, K.; Matalova, E.; Tucker, A. S. Early Regression of the Dental Lamina Underlies the Development of Diphyodont Dentitions".*Journal of Dental Research.* 2012; 91 (5): 491–498.

2. Schulze C. Developmental abnormalities of the teeth and jaws. In: Gorlin RJ, Goldman HM, editors. Thoma's oral pathology. St Louis: CV Mosby; 1970. pp. 112–22.

3. Díaz A, Orozco J, Fonseca M. Multiple hyperodontia: Report of a case with 17 supernumerary teeth with non syndromic association. Med Oral Patol Oral Cir Bucal. 2009;14:E229–31.

4. Kinirons MJ. Unerupted premaxillary supernumerary teeth: A study of its occurrence in males and females. Br Dent J. 1982;153:110.

5. So LL. Unusual supernumerary teeth. Angle Orthod. 1990;60:289–92.

6. Solares R, Romero MI. Supernumerary premolars: A literature review. Pediatr Dent. 2004;26:450–8.

7. Anthonappa RP, Omer RSM, King NM. Characteristics of 283 supernumerary teeth in southern Chinese children. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2008;105:e48-e54.

8. Shah A, Gill DS, Tredwin C, Naini FB. Diagnosis and management of supernumerary teeth. Dent Update 2008;35:510-20.

9. Liu JF. Characteristics of premaxillary supernumerary teeth: a survey of 112 cases. ASDC J Dent Child 1995;62: 262–65

10. Primosh RE. Anterior supernumerary teeth – assessment and surgical intervention in children. Pediatr Dent 1981;3:204–15

11. Bruning LJ, Dunlop L, Mergele ME. A report of supernumerary teeth in Houston, Texas school children. J Dent Child 1957;24: 98-105.

12. Dubuk AN, Selvig KA, Tellefsen G, Wikesjö UM. A typically located paramolar. Report of a rare case. Eur J Oral Sci 1996; 104(2):138-40.

13. Scheiner MA, Sampson WJ. Supernumerary teeth: A review of literature and four case reports. Aust Dent J 1997;42(3): 160-65.

14. Rao PV, Chidzonga MM. Supernumerary teeth: Literature review. Cent Afr J Med 2001;47(1):22-26.

15. Brook AH. A unifying etiological explanation for anomalies of human tooth number and size. Archs Oral Biol. 1984;29:373–8.

16. Smith JD. Hyperdontia: Report of a case. J Am Dent Assoc 1969;79:1191-2.

17. Taylor GS. Characteristics of supernumerary teeth in the primary and permanent dentition. Dent Pract Dent Rec 1972;22:203-8.

18. Black GV. Supernumerary teeth. Dent Summ 1909;29:83-110.

19. Hattab FN, Yassin OM, Rawashdeh MA. Supernumerary teeth: Report of three cases and review of the literature. ASDC J Dent Child. 1994;61:382–93.