**Case report and literature review**

**Parapremolar- A Rare Occurrence**

Kalpana.R.

Address for Correspondence:

Dr. R.Kalpana

No.25 Swaminathapuram(South)

Karue-639001

Email-drkalpana86@gmail.com

Contact No: 9840307190

ABSTRACT:

Supernumerary teeth in the premolar region occur more often in the mandible, unlike other supernumeraries, where they are generally of the supplemental type. Occasionally, they are conical or smaller than normal, particularly in the upper premolar regions. They might occur singly or in multiples, be erupted or impacted, but the majorities have been found to be unerupted and asymptomatic. The prevalence of supernumerary teeth in the premolar region has been demonstrated to be between 0.01 and 1 percent depending on the population studied. Various theories have been suggested to explain the etiology of supernumerary teeth in general including both genetic and environmental factors. Furthermore, it has been suggested that supernumerary premolar teeth belong to a third (post permanent) series, developing from extensions of the dental lamina. Several consequences can result from the presence of supernumerary premolars, especially in the mandible, such as cyst formation, transposition, and other clinical scenarios. An unusual case of a 30-year-old female with Para premolar in complete dentition is presented.

KEY WORDS:

Premolar, Supernumerary, Para premolar.

INTRODUCTION:

A supernumerary tooth is one that is additional to the normal series and can be found in almost any region of the dental arch.1 Supernumerary tooth is defined as a developmental anomaly of number characterized by the presence of an extra tooth in addition to the normal dentition.2 It can affect both maxilla and mandible; however, its occurrence in the mandible is rare. Supernumerary teeth usually occurs in permanent dentition and are rarely found to effect primary dentition.3 It is the most common type of supernumerary tooth which may appear as single, multiple, unilateral or bilateral.3,4

ETIOLOGY:

The etiology of supernumerary teeth is not completely understood. Various theories exist for the different types of supernumerary. One theory suggests that the supernumerary tooth is created as a result of a dichotomy of the tooth bud. 2 Another theory, well supported in the literature, is the hyperactivity theory, which suggests that supernumeraries are formed as a result of local, independent, conditioned hyperactivity of the dental lamina.2,5 Heredity may also play a role in

the occurrence of this anomaly, as supernumeraries are more common in the relatives of affected children than in the general population.

CLASSIFICATION:

Supernumeraries are classified according to morphology or location.

Classification based on morphology

**Conical**

Conical-shaped supernumerary teeth are the most common.6 They usually present with conical or triangular-shaped crowns and complete root formation. They are found most often as isolated single cases and are usually located between the maxillary central incisors (mesiodens).7 However, they can also occur as bilateral (mesiodentes) structures in the premaxilla.7

**Tuberculate**

The tuberculate supernumerary has a barrel-shaped appearance and a crown consisting of multiple tubercles.7 It may be invaginated.6 Unlike conical supernumerary teeth, which have complete root formation, tuberculate types have either incomplete or absent root formation.9 They are generally larger than conical supernumerary teeth and are usually found in a palatal position relative to the maxillary incisors.6,7 Tuberculate supernumeraries are often paired1 and bilateral supernumerary cases have a predominance of tuberculate shaped teeth.7 It has been suggested that tuberculate supernumeraries may represent a third dentition.7

**Supplemental**

Supplemental supernumerary teeth resemble their respective normal teeth. They form at the end of a tooth series. The most common supplemental tooth is the permanent maxillary lateral incisor, although supplemental premolars and molars also occur.6 The majority of supernumerary teeth in the primary dentition are supplemental and rarely remain unerupted.2,6

**Odontomes**

These are hamartomas (benign, disordered overgrowths of mature tissue) comprising all dental tissues and appearing radiographically as well-demarcated, mostly radio-opaque lesions in tooth-bearing areas. There are two different types of odontome: compound and complex. Compound odontomes comprise many separate, small tooth-like structures. A complex odontome is a single, irregular mass of dental tissue that has no morphological resemblance to a tooth

Classification based on location

**Mesiodens**

Typically, a mesiodens is a conical supernumerary tooth located between the maxillary central incisors.6 These supernumerary teeth are usually located palatal to the permanent incisors, with only a few lying in the line of the arch or labially.8 The mesiodens is usually small and short, with a triangular or conical crown.8

**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.

 **Distomolar**

A distomolar is a supernumerary tooth located distal to a third molar and is usually rudimentary. It rarely delays the eruption of associated teeth.

**Parapremolar**

This is a supernumerary that forms in the premolar region and resembles a premolar

CASE REPORT:

A 27-year-old female reported to the private clinic with complaint of food lodgement, itching in gum with occasional bleeding. There was no relevant familial, medical and dental history. The facial appearance was normal and presented no skeletal or other abnormalities suggestive of any syndrome. Intra oral examination revealed presence of full complement of permanent teeth along with supernumerary teeth which were present in mandibular [Fig-1] region on right side. A supernumerary tooth was found in between 44 and 45 region (parapremolar) which was present lingually. Patient was informed about presence of supernumerary teeth, which was the cause of her food lodgement. She was advised for extraction, followed by orthodontic treatment for alignment of her teeth. Patient refused for further treatment. So oral prophylaxis was done in the same visit and chlorohexidine mouthwash was prescribed for one week.



DISCUSSION:

Supernumerary teeth in the premolar region, unlike other supernumeraries, occur more frequently in the mandible9,10  where the supernumerary teeth are generally of the supplemental type 9,11,12 Occasionally, they are conical or smaller than normal particularly in the upper premolar regions 13,14,14. Oehlers 16 stated that supernumerary premolars can be distinguished from those of the normal series as being either diminutive, conical, or, if they are well formed, smaller than normal premolars.

Supernumerary teeth in the premolar region might occur singly or in multiples 17, 18 and be erupted or impacted. Seventy-five percent of supernumerary premolars were determined to be unerupted, and the majority of them appeared asymptomatic 19,20,21. Thus, a follow-up radiograph is quite useful for orthodontic patients to detect any unerupted supernumerary premolars that might have an effect throughout the treatment. The mandibular premolar region was found to have the highest frequency of supernumerary teeth in the condition “nonsyndrome multiple supernumerary teeth” 22 Stafne 9 found that 8.4 percent of all supernumerary teeth were in the premolar region, with 6.6 percent of the total in the mandible. A similar figure (8.0%) has been given by Nazif et al. 12 whereas Grahnen and Lindahl 23 reported that supernumerary premolars represent 9.1 percent of all supernumerary teeth.

Several theories have been suggested for occurrence of supernumerary. The “Phylogenic theory” relates to phylogenic process of atavism (evolutionary throwback) 24. Hyperdontia is the result of the reversional phenomenon or atavism. Atavism is the return to or the appearance of an ancestral condition or type. Hence a supernumerary paramolar or parapremolar may be an atavistic appearance. The “dichotomy theory” says that supernumerary tooth is created as a result of dichotomy of the tooth bud 2. Paramolars are often seen less in maxilla 25, rarely bilateral 26, extremely rare in primary dentition and only one such case has been reported.

Presence of supernumerary teeth leads to delayed eruption of associated permanent teeth retention or ectopic eruption of adjacent teeth, displacement or rotation of adjacent teeth, crowding, malocclusion: interdentally spacing, traumatic bite when buccally positioned paramolar causes laceration of buccal mucosa, dilaceration or delayed or abnormal root development, pulpal necrosis and root resorption of adjacent tooth due to pressure exerted by supernumerary tooth 27. Dental caries is caused due to plaque retention in inaccessible areas.

Clinical management of paramolars and parapremolars depends on its position and potential effect on the adjacent structures. Extraction or observations are the treatment modalities. Extraction is generally considered when there is failure of eruption of permanent teeth or potential complications such as crowding, cheek biting, root resorption, impaction and cyst formation.

The extraction of supernumerary teeth should be carried out cautiously, without causing any damage to the anatomical structures or to the roots of the adjacent teeth, if the supernumerary teeth are not causing any complications such as chewing difficulties or interference in orthodontic treatment, they can be monitored periodically 28.

CONCLUSION:

Although the presence of supernumerary tooth is infrequent but the clinician should be aware of the sign and symptoms associated with a supernumerary. After performing all the required investigations and diagnosis, proper treatment plans should be made so that the patients wouldn’t get any complications later.

BIBILIOGRAPHY:

1. M. Therese Garvey, Hugh J. Barry, Marielle Blak. Supernumerary Teeth — An Overview of Classification, Diagnosis and Management. J Can Dent Assoc 1999; 65:612-6
2. Liu JF. Characteristics of pre-maxillary supernumerary teeth: A survey of 112 cases. ASDC J dent child 1995;62:262-5.
3. Russel KA, Folwarczna MA. Mesiodens — Diagnosis and Management of a Common Supernumerary Tooth. J Can Dent Assoc 2003;69:332-6.
4. Alberti G, Mondani PM, Parodi V. Eruption of supernumerary permanent teeth in a sample of urban primary school population in Genoa, Italy. Eur J Paediatr Dent 2006;7:89–92.
5. Levine N. The clinical management of supernumerary teeth. J Can Dent Assoc 1961; 28:297-303.
6. Rajab LD, Hamdan MAM. Supernumerary teeth: review of the literature and a survey of 152 cases. Int J Paediatr Dent 2002; 12: 244−254.
7. Primosh RE. Anterior supernumerary teeth − assessment and surgical intervention in children. Pediatr Dent 1981; 3: 204−215.
8. Von Arx T. Anterior maxillary supernumerary teeth: a clinical and radiographic study. Aust Dent J 1992; 37: 189−195.
9. E. C. Stafne. Supernumerary teeth. Dental Cosmos, vol. 74, pp. 653–659, 1932.
10. H. Grahnen and L. E. Granath. Numerical variations in primary dentition and their correlation with the permanent dentition. Odontologisk Revy, vol. 12, pp. 348–357, 1961.
11. W. H. R. Still. A short study of supernumerary teeth in Southern Nigeria. British Dental Journal, vol. 79, pp. 215– 217, 1945.
12. M. M. Nazif, R. C. Ruffalo, and T. Zullo. Impacted supernumerary teeth: a survey of 50 cases. Journal of the American Dental Association, vol. 106, no. 8, pp. 201–204, 1983.
13. E. K. Tratman, “Compound composite odontomes: a case of six supernumerary premolars,” British Dental Journal, vol. 58, p. 239, 1940.
14. C. Price and G. S. Hoggins, “A category of supernumerary premolar teeth,” British Dental Journal, vol. 126, pp. 224–228, 1969.
15. R. M. Shah and V. Pauls, “Supernumerary premolars: report of two cases,” Journal of the Canadian Dental Association, vol. 44, pp. 114-115, 1978.
16. F. A. C. Oehlers, “Postpermanent premolars,” British Dental Journal, vol. 93, pp. 157-158, 1952.
17. S. V. Hegde and A. K. Munshi, “Late development of supernumerary teeth in the premolar region: a case report,” Quintessence International, vol. 27, no. 7, pp. 479–481, 1996.
18. P. J. Scanlan and S. J. Hodges, “Supernumerary premolar teeth in siblings,” British Journal of Orthodontics, vol. 24, no. 4, pp. 24297–24300, 1997.
19. C. Turner and C. J. Hill, “Supernumerary mandibular premolar: the importance of radiographic interpretation,” Journal of Dentistry for Children, vol. 53, no. 5, pp. 375–377, 1986.
20. P. Treasure and N. M. O’Neill, “Late discovery and location of unerupted supplemental premolars-At what age to screen?,” Dental Update, vol. 17, pp. 431–433, 1990.
21. J. J. W. Breckon and S. P. Jones, “Late forming supernumeraries in the mandibular premolar region,” British Journal of Orthodontics, vol. 18, pp. 329–331, 1991.
22. W. Z. Yusof, “Non-syndrome multiple supernumerary teeth: literature review,” Journal of the Canadian Dental Association, vol. 56, pp. 147–149, 1990.
23. H. Grahnen and B. Lindahl, “Supernumerary teeth in the permanent dentition: a frequency study,” Odontologisk Revy, vol. 12, pp. 290–294, 1961.
24. Smith JD. Hyperdontia: report of a case. J Am Dent Assoc.1969;79(5):1191-92.
25. Timocin N, Yalcin S, Ozgen M, Tanyeri H. Supernumerary molars and paramolars, A Case Report. J Nihon Univ Sch Dent. 1994;36(4):154-50.
26. Hou GL, Lin CC, Tsai CC. Ectopic supernumeray teeth as a predisposing cause in localized periodontics cause in localized periodontitis. Case report. Aust Dent J. 1995;40:226-28.
27. Dubuk AN, Selvig KA, Tellefsen G, Wikesjo UM. Atypically located paramolar. Report of a rare case. Eur J Oral Sci. 1996;104(2 Pt 1):138-40.
28. Nayak G, Shetty S, Inderpreet S, Pitalia D. Paramolars— a supernumerary molar: a case report and over view. Dent Res J. 2012;9(6):797–803.