



Asymptomatic Supplemental Premolar in a 12 year old child: A case report

Prasanna Kumar Bhat

Department of Pedodontics & Preventive Dentistry, Rajarajeswari Dental College and Hospital, Bangalore, India.

Keywords: *Supernumerary Teeth, Supplemental Premolar, Child, Dental,*

Abstract

Supernumerary teeth are present in addition to the normal complement of teeth in permanent or deciduous dentitions. Literature reports increased occurrence of the supernumerary premolars in the mandible. A case of unilaterally impacted supplemental premolar was reported with a routine orthopantomograph (OPG) view prior to the orthodontic treatment. Surgical removal was done as a prophylactic regimen.

***Corresponding author:**

Dr Prasanna Kumar Bhat, Senior Lecturer, Department of Pedodontics & Preventive Dentistry, Rajarajeswari Dental College and Hospital, Kumbalgodu, Bangalore. 560074, India
dr_prasannabhat@yahoo.com

Introduction

Supernumerary teeth present are one of the routinely encountered developmental disturbances in day-to-day clinical practice representing one or more extra teeth in the jaws. Sometimes the supernumerary teeth may closely resemble the teeth of the group to which it belongs i.e. molars, premolars or incisors or it may bear little or no resemblance to the teeth with which it is associated.¹

Based on the morphologic appearance Premosch²(1981) classified supernumerary teeth as Supplemental teeth or Rudimentary teeth. The supplemental teeth are those teeth that are of normal in size and shape and hence resemble the teeth with which it is associated.

Supernumerary premolars are 'extra' teeth morphologically belonging to the premolar group. Hyperdontia affecting premolars can be single (when only one supernumerary tooth is found), multiple (if several teeth are involved) or related to a syndrome such as cleidocranial dysplasia.³ Supernumerary premolars are said to represent between 8 per cent⁴ and 9.1 per cent⁵ of all supernumerary teeth. Unlike other supernumeraries, they are more likely to develop in the mandible than the maxilla and usually resemble normal premolars in shape and size. Stafne also states that there is a tendency for supernumerary teeth to commence their development later than the normal for teeth of that region.⁶

Supernumerary premolars occur three times more in males than in females, indicating a sex-linked inheritance, with the highest frequency of occurrence in the mandibular premolar region (74%). They are also the most common supernumerary teeth in the mandibular arch (7%).⁷ Supernumerary premolar locations are predominantly lingual. The buccally located ones are partially or completely erupted. The majority of the lingually located ones are in the alveolar bone. Seventy-five percent of these teeth are impacted, unerupted, and generally asymptomatic, and the majority are of a supplemental type.⁷

Supernumerary premolar may develop and erupt normally or may produce several adverse effects like, pathologic root resorption of adjacent tooth, malocclusion by interfering with normal eruption pattern of dentition, interference with eruption of normal teeth, fusions with normal teeth and these teeth may even be impacted.^{1,4} The unerupted teeth may lead to several complications like transformation in to a dentigerous cyst.¹ Hence, suitable treatment after proper clinical and radiographic evaluation is essential.⁴

A case of nonsyndromic single supplemental supernumerary teeth in maxillary premolar region of an adolescent female patient is presented.

Case Report

A 12 year old female patient reported to the Department of Pedodontics and Preventive Dentistry with a chief complaint of forward placement of upper and lower front teeth. The patient's medical and family histories were non-contributory and extra oral examination revealed no abnormalities. Clinical examination revealed the presence of simple tongue thrusting habit. A well-aligned full complement of teeth up to second molar was present in all quadrants with fair oral hygiene, generalized spacing present in relation to upper and lower anteriors, class II molar relation with overjet of 6 mm and overbite of 1 mm. Routine radiographic examination (Orthopantomography OPG) revealed the presence of impacted supernumerary premolar in relation to maxillary left II premolar region. (Fig 1) The appearance of teeth was very much similar to the associated premolars, which made the teeth to be considered as supplemental. No other supernumerary teeth were found on radiographic examination. No other abnormal finding was detected. The supernumerary tooth did not show any significant development of root. SLOB technique using 2 IOPA radiographs confirmed the palatal location of supernumerary premolar.

Habit reminder therapy using fixed tongue crib appliance was advocated for interception of tongue thrusting habit for a period of 6 months. Surgical intervention of impacted supernumerary premolar was then planned. Mucoperiosteal flap was elevated and the unerupted supplemental premolar was extracted along with the follicular tissue surrounding the tooth under local anesthesia. (Fig 2, 3) The mucoperiosteal flap was closed with vertical mattress sutures and the sutures were removed 1 week following extraction. The patient was recalled after one month for clinical and radiographic examination and the treatment was uneventful. (Fig 4) Patient is now under regular orthodontic review regarding the correction of anterior proclination and spacing.



Fig 1 showing pre operative Orthopantomography

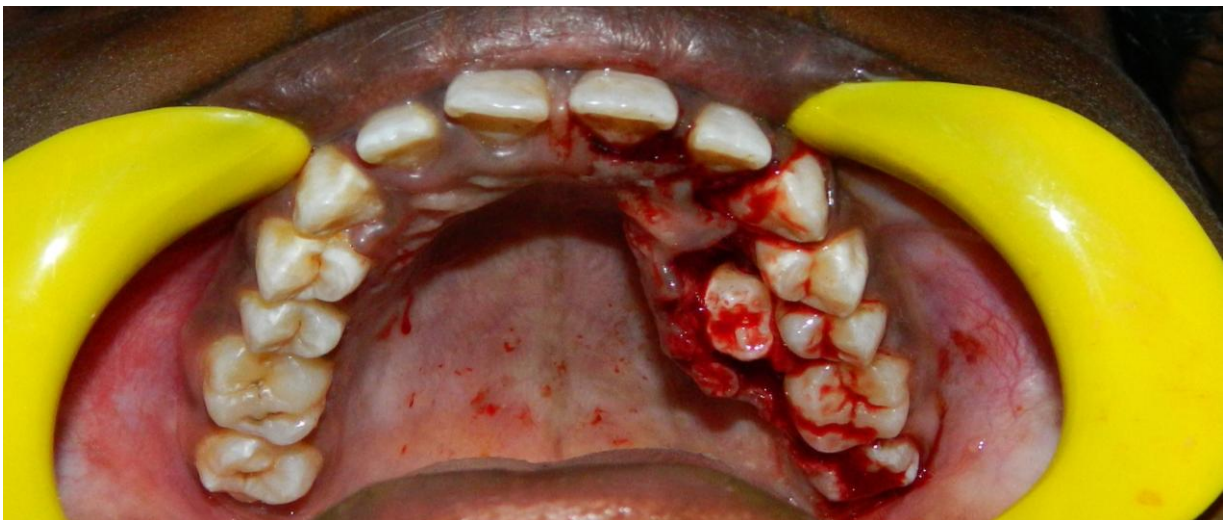
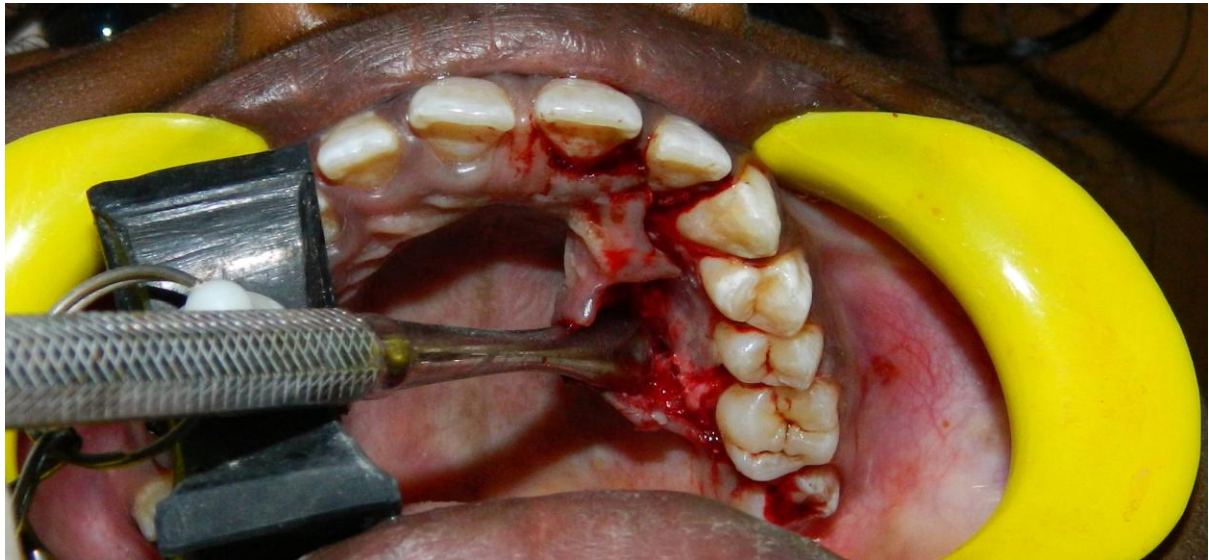


Fig 2 and 3 Showing Surgical Exposure of supplemental premolar.



Fig 4 showing post operative Orthopantomography

Discussion

Supernumerary teeth are infrequent developmental alterations that may manifest in any zone of the dental arches and involve any tooth. They may be associated with a syndrome or they can be found in non-syndromic patients.⁸ Current data in the literature show that supernumerary teeth are observed in 0.1% to 3.8% of the general population.⁹ It has been reported that the prevalence of the supernumerary premolars in permanent dentition is between 0.075 and 0.26% and that supernumerary premolars account for only 10% of all the supernumerary cases.¹⁰ The difference of these teeth from the other supernumeraries is that they more commonly occur in the mandible.¹¹ Single supernumeraries occur in 76 to 86% of cases, double supernumeraries occur in 12 to 23% of the cases and multiple supernumerary teeth in less than 1% of cases.¹² In the present case, single supernumerary premolar occurred in the maxillary left II premolar region.

Supernumerary premolars are usually asymptomatic and most cases are diagnosed by chance during inspection of radiographs prior to the commencement of orthodontic treatment.⁷ The case reported here is an ideal example for it. Bodin et al¹³ have reported that only 2% of the supernumerary premolars are likely to undergo pathological changes. Nevertheless, the most commonly encountered complications with these teeth are dentigerous cyst and root resorption at the adjacent tooth.⁷ In planning treatment alternatives for impacted supernumerary premolars, the potential risks of leaving them *in situ* and the hazards of surgical removal of these teeth should be assessed judiciously.¹⁴

According to many clinicians, surgical removal of these teeth is the only method of treatment.⁷ The timing of surgical removal of supernumerary premolars is as much debated among clinicians as are the treatment methods.⁷ Whenever these teeth are associated with any pathological formation or when they hinder the eruption of, or give rise to a malpositioning of the permanent teeth, they should be removed as soon as possible.¹² However, if the risks of surgery outweigh the benefits of removal, the teeth may be left *in situ*, and a regular clinical and radiographic monitoring should be made.¹⁵ Many clinicians recommend leaving asymptomatic supernumerary premolar teeth *in situ* until development of the adjacent anatomic structures and root development of the adjacent teeth has been completed at the end of the permanent dentition.⁷ In the present case supernumerary premolar extraction was carried out after the complete root formation of II premolar and I molar.

The presence of a supernumerary premolar does not necessarily occur in association with a malocclusion.¹⁶ Full complement of permanent dentition was present with none of the associated potential problems in the documented case. No cysts, enlargement in the follicular epithelium or root resorption were found. No other dental anomalies associated with supernumerary teeth were detected. The patient was completely asymptomatic and the presence of supernumerary teeth was an incidental finding. The potential risks and complications of this phenomenon were explained to the parents and they were willing for the extraction of supernumerary premolar.

Conclusion

Supernumerary tooth may resemble any tooth in the arch. Careful clinical and radiographic examination may provide us to find out that such rare entities helps us to detect other dental anomalies or syndromes and the associated clinical problems which should be appropriately treated. Early diagnosis followed by prompt quick treatment will definitely help in preventing any complications that could be associated with superneumery teeth.

Acknowledgements

None.

Funding

None.

Competing Interests

None declared.

References

1. Mopager V, Sudha P, Anegundi RT, Kulkarni S, Tavarageri A. Supplemental Premolars in a 13 year old child - A case report. *J Indian Soc Pedo. Prev Dent* December 2002;20 (4):169-172.
2. Primosch RE. Anterior supernumerary teeth - Assessment and surgical intervention in children. *Pediatr Dent* 1981;3(2); 204-215.
3. Valmaseda-Castellon E, Berini-Aytés L, Gay-Escoda C. Supernumerary premolars. Report of 10 cases. *Bull Group Int Rech Sci Stomatol Odontol* 2001;43(1):19-25.
4. Nazif MM, Ruffalo RC, Zulo T. Impacted supernumerary Teeth: A survey of 50 cases. *J Am Dent Assoc* 1983;106:201-4.
5. Grahnén J, Lindahl BC. Supernumerary teeth in the permanent dentition: A frequency study. *Odontol Revy* 1961;12:290-4.
6. Stafne EC. Supernumerary teeth. *Dental Cosmos* 1932;74:653-659.
7. Solares R, Romero MI. Supernumerary premolars: a literature review. *Pediatr Dent* 2004;26:450-8.
8. Leco Berrocal MI, Martín Morales JF, Martínez González JM. An observational study of the frequency of supernumerary teeth in a population of 2000 patients. *Med Oral Patol Oral Cir Bucal* 2007;12:E134-8.
9. 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.
10. Hyun HK, Lee SJ, Ahn BD, Lee ZH, Heo MS, Seo BM et al. Nonsyndromic multiple mandibular supernumerary premolars. *J Oral Maxillofac Surg* 2008;66:1366-69.
11. Yousof WZ. Non-syndromal multiple supernumerary teeth: Literature review. *J Can Dent Assoc* 1990;56:147-49.
12. Rajab LD, Hamdan MA. Supernumerary teeth: Review of the literature and a survey of 152 cases. *Int J Paediatr Dent* 2002;12:244-54.
13. Bodin I, Julin P, Thomsson M, Hyperodontia I. Frequency and distribution of supernumerary teeth among 21,609 patients. *Dentomaxillofac Radiol* 1978;7:15-17.
14. Moore SR, Wilson DF, Kibble J. Sequential development of multiple supernumerary teeth in the mandibular premolar region: A radiographic case report. *Int J Paediatr Dent* 2002;12:143-45.
15. Orhan AI, Ozer L, Orhan K. Familial occurrence of nonsyndromal multiple supernumerary teeth. *Angle Orthod* 2006;76:891-97.
16. Scanlan PJ, Hodges SJ. Supernumerary Premolar Teeth in Siblings. *Br J Orthod*. 1997 Nov;24(4):297-300