



CASE STUDY

NON SYNDROMIC MULTIPLE SUPPLEMENTAL SUPERNUMERAY PREMOLARS – A CASE REPORT

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ABSTRACT

Hyperdontia is a condition of having supernumerary teeth, or teeth that appear in addition to the regular number of teeth. Supernumerary teeth are considered to be most common dental anomalies affecting the primary and permanent dentitions. About 90% of all supernumerary teeth have been found in the anterior maxillary region. Multiple supernumerary teeth without any associated systemic conditions or syndrome are relatively rare. Complication associated with supernumerary teeth include displacement, delayed eruption and root resorption of adjacent teeth and even cyst formation with bone destruction. Surgical removal of supernumerary teeth is the first choice of treatment, avoiding any damage to neighbouring teeth and structures is important. We here by report a case of 17 years male having 5 supplemental premolars 4 in the mandible and 1 in the maxilla, which is a unusual clinical entity.

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INTRODUCTION

The occurrence of multiple supernumerary teeth in absence of any disease or syndromes is relatively rare. The development of an increased number of teeth is known as hyperdontia and the additional teeth are termed as supernumerary teeth (Neville *et al.*, 2009). Supernumerary teeth may be single or multiple, unilateral or bilateral, erupted or impacted and in one or both jaws. The condition is more common in permanent dentition than in deciduous dentition. Supernumerary teeth may be found in various location, they have prediction for certain sites, but most common supernumerary tooth is the mesiodens (Kuo-wei tai *et al.*, 2000). Majority cases of hyperdontia show only one additional tooth in anormal series. Supernumerary teeth may occur in isolation or as part of a syndrome or cleidocranial dysplasia, Gardner's syndrome or cleft lip and palate. Many authors have also reported familial occurrence of supernumerary teeth (Ayse *et al.*, 2016). Thus occurrence of multiple supernumerary teeth is relatively uncommon without any associated disease, syndrome or familial tendency. Supernumerary teeth can be classified on the basis of location or morphology.

According to location they can be classified as mesiodense, paramolars, distomolars and parapremolars. Various morphological forms of supernumerary teeth are conical, tuberculate, supplemental and odontome. Occurrence of multiple supernumerary teeth may suggest the diagnosis of a syndrome. Their presence may create various clinical problems such as crowding, delayed eruption, diastema, rotations, cystic lesions and resorption of adjacent teeth. It is important to correctly diagnose such conditions and institute suitable treatment to these patients at appropriate time.

Case History

A Male patient of 17 years old reported to our clinic with pain and swelling in right side of lower jaw.
Patient was throughly examined

Extraoral Examination: Patient was apperently normal (Fig-1). no other abnormality is seen extraorally.

Intraoral Examination: Patient has difficulty in opening in mouth. The swellig was observed in the lower right side of jaw in the last molar region possibly arise from unerupted molar. On further examination, additional tooth was found between 33 and 34 .no other significant clinical finding was observed intraorally Fig 2. Patient was then advised to go for

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orthopantomograph [OPG] to ensure the status of additional tooth. OPG (Fig.3) suggested additional single tooth was detected in relation to 14 &15 just above the root apices, Two teeth were also found in X-ray in relation to 33 &34 and 34&35. On further examination, two more teeth were seen in relation to 43&44. All together five additional premolars were found apart from normally erupted eight premolar which is rare clinical condition. Then patient was further advised for Cone beam computed tomography [CBCT]. CBCT remarks Cbet [Fig 4 and 5] confirmed presence of five additional premolars at different locations of jaw. No associated complications was reported with impacted premolars.



Fig. 1. Patient front view



Fig. 2. Patient intraoral view



Fig. 3. Orthopantomogram of the patient

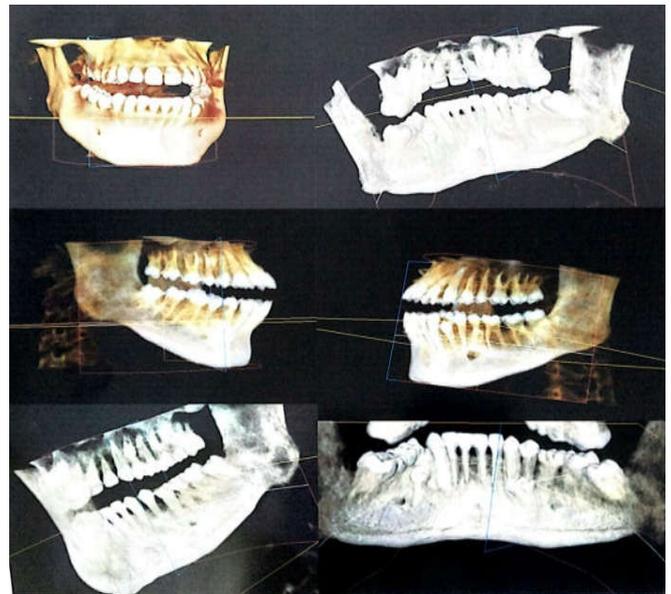


Fig. 4. CBCT Image of the patient

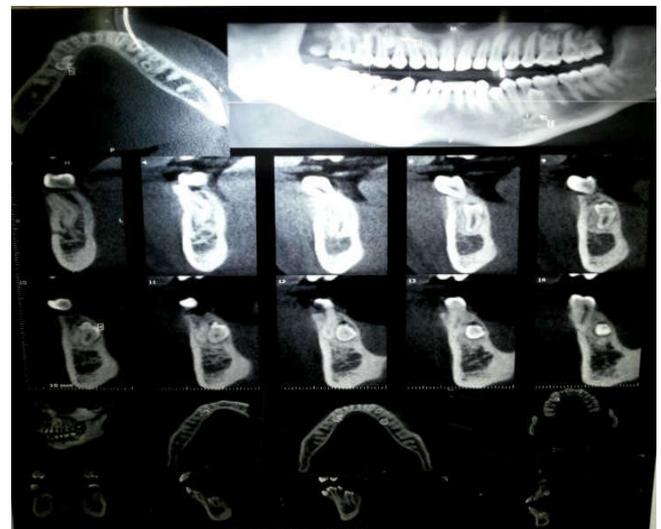


Fig. 5. CBCT X-ray

DISCUSSION

The presentation of multiple supernumerary teeth in the absence of association with other systemic diseases or syndromes is rare. The prevalence rates of supernumerary premolars are variedly reported in different studies due to the differences in population, age, ethnicity, and applied radiography techniques (Kaya *et al.*, 2011). The most common localization for multiple supernumerary teeth is premolar region (62.2%) and especially that the lower premolar region a characteristic location for nonsyndromic multiple supernumerary teeth (Açikgöz *et al.*, 2006), and the literature states that supernumerary premolars are more frequent in male than females. A majority of supernumerary premolars are of the supplemental type and develop later than their normal counterparts. Patient with a previous history of supernumerary teeth have a 24% possibility of developing single or multiple supernumerary premolar at the later age (Sharma *et al.*, 2012). Numerous theories have been proposed for the development of supernumerary teeth. The oldest is the theory of atavism which proposed the development of supernumerary teeth as related to phylogenetic reversion to extinct primates with three pairs of incisors. However, these theories have been discounted now. Two

other popularly accepted theories are the dichotomy theory, which stated that the splitting of the tooth bud into two equal or different-sized parts results in the formation of two teeth of equal size, or one normal and one dysmorphic tooth respectively (Shah *et al.*, 2008). Dental Lamina Hyperactivity theory, which suggests that supernumeraries are found as a result of local, independent, and conditioned hyperactivity of dental lamina (Pallavi *et al.*, 2012). Since individuals with some other dental anomalies and developmental disorders are the once who frequently present with the supernumerary teeth, combination of hereditary and environmental factors have also been considered in the etiology. Supernumerary teeth can be classified based on morphology as accessory and supplemental and based on syndrome as syndrome associated and nonsyndrome associated. The prevalence for nonsyndrome multiple supernumerary teeth is less than 1%. The male to female ratio has been reported as 9:2. Supernumerary teeth are associated with Gardner's syndrome, cleidocranial dysplasia, Fabry-Anderson syndrome, Ehlers-danlos syndrome, Down's syndrome, Crouzon's disease, Hallermann streiff syndrome, and Orodigitofacial Dysostosis.

Supernumeraries may erupt normally or may remain impacted or inverted in the jaw or reach heterotopic position or show abnormal eruptive patterns. Various pathological conditions such as delayed eruption or noneruption, displacement of permanent teeth, resorption or malformation of adjacent roots, and cystic formation may be caused because of these teeth. Their occurrence has also been noted in gingiva, soft palate, nasal cavity, maxillary sinus, Sphenomaxillary fissure, ophthalmic conchae, maxillary tuberosity, incisive suture, and between the orbit and the brain. Supernumerary teeth are usually asymptomatic and most cases are an incidental finding during a dental visit. Usually if the teeth are asymptomatic, it can be left in place and kept under observation. Surgical removal should be considered based on the pathological sequelae associated with it. And an orthopantomogram should be advised as a part of routine investigation to rule out the presence of multiple supernumerary teeth. In the premolar area, common complications associated with supernumerary teeth are cyst formation (9%) and damage to neighbouring teeth (13%). Also reports of compression of the supernumerary premolars on the adjacent teeth and their closeness to the mental and inferior dental nerves may lead to pain. Supernumeraries can be associated with other dental anomalies, such as hypodontia, taurodontism, gemination, and macrodontia. The treatment methods and the timing of surgical removal of supernumerary premolars is much debated among clinicians. Formation of supernumerary premolars are often delayed, and these teeth generally develop on the lingual side of the normal premolars. Developing cysts of the supernumeraries in young patients may be masked by the roots of the normal premolars, which makes yearly detection on routine radiographs difficult. Hence it is imperative to evaluate the patient clinically and radiologically when a single supernumerary is detected to rule out association with syndromes and for its appropriate and timely management.

And it is important on our part to educate the patient about the complications which can arise when the patient is reluctant to therapy.

Treatment

No treatment is required if impacted supernumerary premolars are not creating a problem. Patients are advised to go for frequent radiographic examination to confirm any subsequent changes. If any changes occur, patients should be treated accordingly. In this patient we have put the patient on forward.

Conclusion

The presence of multiple supernumerary teeth in absence of associated systemic condition or syndrome is unusual. It may be isolated dental findings. Complete mouth xrays and panoramic views are important diagnostic tools for diagnosis and management. The patients with impacted supernumerary teeth should be kept on long term follow up.

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