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Multiple Unerupted Impacted Supernumerary Teeth: A Rare Case Report of Father and Son

Múltiples Dientes Supernumerarios Impactados No Erupcionados: Presentación de un Caso Raro de Padre e Hijo

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SUMMARY: Multiple impacted supernumerary teeth without any associated systemic conditions or syndromes are rare. The prevalence rate of supernumerary teeth in the permanent dentition is between 0.1–6.9 % as compared to 0.3–0.6% in theprimary dentition. In this article, reporting a rare family history of non-syndromic multiple impacted supernumerary teeth,found incidentally during routine radiographic examination. Though the etiologic factor of multiple impacted supernumerary teeth are still not clearly known especially in cases without any syndrome. However, thorough evaluation is necessary toexclude associated systemic conditions.

KEY WORDS: Multiple impacted teeth; Supernumerary teeth; Non-Syndromic supernumerary impacted teeth.

INTRODUCTION

Supernumerary teeth are a different entity to the normal series and are seen in all the quadrants of the jaw. Presence of supernumerary teeth is well-recognized clinical and radiological phenomenon. However, it is uncommon to find multiple supernumerary teeth in individuals with no other associated disease or syndrome. Presence of multiple supernumerary impacted teeth is having genetic predisposition with variable clinical presentation. The incidences of such conditions without any associated syndromes are rarely reported. This may be observed clinically in the oral cavity or may be revealed on routine radiograph. The first description of Supernumerary teeth was in 23 and 79 A.D (Yassin & Hamori, 2009). The prevalence rate of supernumerary teeth in permanent dentition is between 0.1–6.9 % (Multani *et al*., 2015) in comparison to 0.3–0.6 % in primary dentition (Fernández Montenegro *et al*., 2006). Males are affected in a ratio of 2:1 as compared to females (Yusof, 1994). Exact etiology for development of supernumerary teeth is not understood. Many theories have been proposed to explain the mechanism for developmental interference and heredity. Luten (1967) proposed the order of supernumerary teeth in his study. Multiple supernumerary teeth are often associated with Gardner syndrome, Crouzon's disease, Ehler-Danlos syndrome, Fabry-Anderson syndrome, Hallermann-Steriff syndrome, cleidocranial dysplasia (Yagüe-García *et al*., 2009).

The familial pattern of multiple supernumerary teeth strongly supports a genetic

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influence from an autosomal dominant inheritance (Babacan *et al*., 2010). The aim of this report is to document a rare familial occurrence of multiple impacted supernumerary teeth in father and son with atypical Craniofacial and General Features, showing another evidence of genetic inheritance.

CASE REPORT

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individuals participants included in this study.

A 52 year old male reported to the Department of Oral and Maxillofacial Surgery for routine dental extraction. An Orthopantamogram (OPG) was advised to avoid multiple radiation exposure. OPG findings revealed multiple supernumerary impacted teeth in both the jaws. To rule out any systemic condition, patient was further evaluated and some atypical extra oral features have been co-related and recorded with associated syndromes (Table I), the data was conveyed to his son, whose external features were found to be similar. A thorough screening was performed and specific features have been recorded in both the individuals (Table II, Figs. 1, 2 and 3).

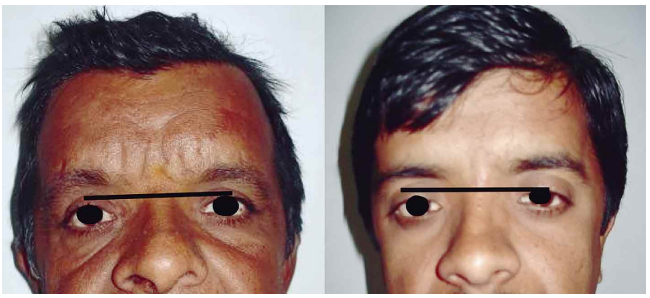

Fig. 1. Extra oral view of father and son showing altered globe level.

Table I. Illustrating the clinical features of this case with other relevant syndromes.

Sr. No.	Syndromes	Clinical features	Clinical features in this report
1.	Noonan Syndrome	Dental malocclusion Hypertelorism Multiple supernumerary teeth Micrognathia High arched palate Bifid uvula Posteriorly rotated ears Pulmonary stenosis Hypertrophic cardiomyopathy Rarely cleft palate	Dental malocclusion Hypertelorism Multiple supernumerary teeth
2.	Cleidocranial Dysplasia	Multiple impacted supernumerary teeth Delayed closure of cranial sutures Hypoplastic or aplastic clavicles Open pubic symphasis Scoliosis Bracydactyly Tapering fingers	Multiple impacted supernumerary teeth Delayed closure of cranial sutures
3.	Rubintein- Tybi Syndrome	Particular facial abnormalities Mental and growth retardation Brod thumb and great toes Small head Cryptorchidism H/O recurrent respiratory infections	Particular facial abnormalities (change in globe level, broad face)

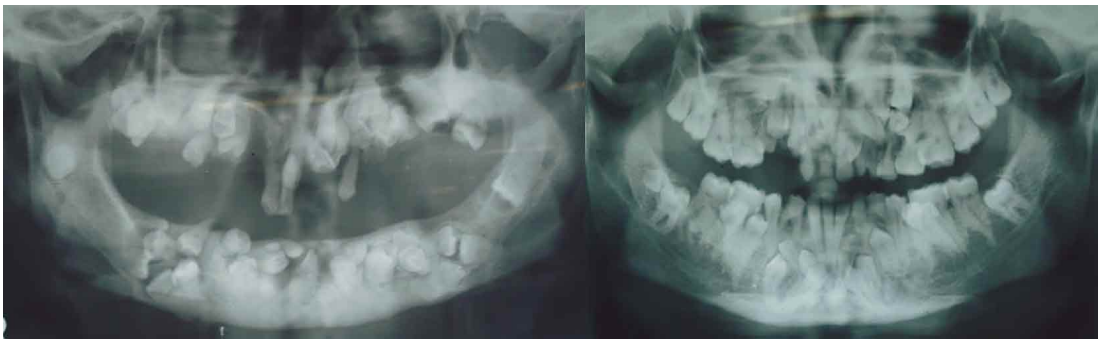

Fig. 2. Orthopantomogram showing multiple unerupted supernumerary impacted teeth.

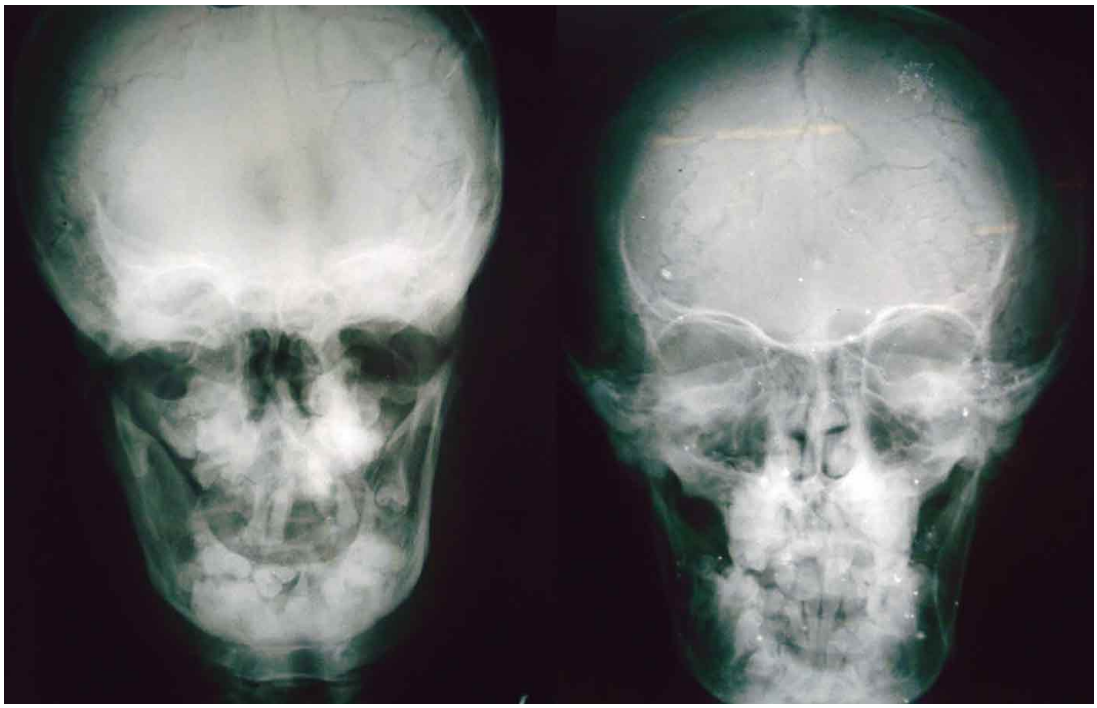

Fig. 3. Alien head appearance on skull radiograph.

Table II. Common clinical and radiological associated craniofacial and general features.

Features	
Extra-Oral	Asymmetry of face
	Increased intercanthal distance (37.2 mm)
	Increased interpupillary distance (66 mm)
	Change in the globe level
	Slight -depressed Nasal Bridge
	Broad alar base
Radiological	Multiple Impacted Supernumerary teeth (OPG)
	Typical Alien Head appearance (Skull radiograph)
Intra-oral	Hypodontia
	Mobile teeth
General	Short stature (149 cm)
	Heredity

DISCUSSION

The genetic trait for supernumerary and impacted teeth is poorly understood, which would require further studies. The pathogenesis of supernumerary teeth has been attributed to numerous theories which include hyperactivity of the dental lamina, a dichotomy of tooth buds heredity, a phylogenetic relic of extinct ancestors and some environmental factors. Researchers have focused on the genetic influence and had reported a higher incidence of supernumerary teeth among relatives than in the general population, suggesting a significant genetic component in the etiology (Babacan *et al*.). Heredity is also believed to be an important predisposition cause of supernumerary teeth. A relative small number of supernumerary teeth are due to common developmental dental anomaly, whereas genetic component has been considered in case of multiple supernumerary teeth (Wang & Fan). According to theory, mutant genes give rise to supernumerary teeth and supported by the finding of increased supernumeraries with dental and facial anomalies associated with cleft lip and palate. The mutant gene has suggested that it controlled the development of bilateral supernumeraries.

The increased number of supernumerary teeth found in relatives suggested the role of heredity, while an autosomal dominant inheritance with incomplete penetrance has been suggested; the increased incidence in males suggests possibility of sex-linked heredity (Bruning *et al*., 1957). It would prove true in the present case as males of 2 generations, were affected in a similar manner which indicates same role of sex-linked heredity. Such non-syndromic supernumerary teeth case reports have been documented in literature in 2 generations by many authors where Khambete & Kumar (2012), reported in 3 generations of family. Besides supernumerary teeth other clinical and radiological features have been observed in this report suspecting a genetic cause but not known.

CONCLUSION

Knowledge about the supernumerary teeth is important for dental clinicians, as they are rare but may be detected as an incidental finding on a radiograph. Clinical and radiographic evaluation of supernumerary teeth should always be thorough in order to detect their presence. A routine screening panoramic radiograph is needed to reveal this condition so as to assist the dental professionals in early diagnosis, intervention and prevent the possible complications like impactions and crowding associated with it. Further genetic investigations and karyotyping should be performed which is beyond the limit of this case report, as it would suggest the probability of other systemic manifestation present along with this clinical findings. This case report is just an initiative towards a new chapter for hereditary dental dysplastic manifestations which could predict the future systemic or congenital anomalies present depending upon the specific mutations.

DISCLOSURE OF CONFLICT OF INTEREST. Dr. Ajit Joshi, Dr. Manu Goel , Dr. Nitin Fating and Dr. Pawan Dawane declare that they have no conflict of interest.

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RESUMEN: Son raros los casos de sujetos con múltiples dientes supernumerarios impactados sin ningún tipo de afectación sistémica o síndrome. La tasa de prevalencia de dientes supernumerarios en la dentición permanente varía entre 0,1–6,9 % en comparación con el 0,3–0,6 % en la dentición primaria. En este artículo, se reporta una historia familiar rara de múltiples dientes supernumerarios impactados no sindrómicos, encontrados incidentalmente durante un examen radiográfico de rutina. El factor etiológico de dientes múltiples supernumerarios impactados aún no está claro, especialmente en los casos sin ningún tipo de síndrome. Sin embargo, es necesaria una evaluacion a fondo para descartar enfermedades sistémicas asociadas.

PALABRAS CLAVE: Dientes retenidos múltiples; Dientes supernumerarios; Múltiples dientes supernumerarios impactados No Sindrómicos.

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