Indian J.Sci.Res. 08 (2): 165-168, 2018 ISSN: 0976-2876 (Print)
Case Report ISSN: 2250-0138 (Online)

MANAGEMENT OF NON-SYNDROMIC MULTIPLE IMPACTED SUPERNUMERARY TEETH: A RARE CASE REPORT

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ABSTRACT

Supernumerary teeth or hyperdontia is additional tooth, teeth or tooth like structures that either have erupted or remain unerupted in addition to the 20 deciduous and 32 permanent teeth.Supernumerary teeth may erupt normally, stay impacted, appear inverted, or take an abnormal route of eruption.A supernumerary tooth may have no effect on dentition, or it may cause crowding, diastema, cyst formation, resorption, displacement or rotation of adjacent teeth, or it may delay or prevent eruption of permanent teeth.Extraction is not always the treatment of choice.The aim of this report is to document a rare case of non-syndromic multiple impacted supernumerary teeth and to discuss the treatment modalities.

KEYWORDS: Multiple Supernumerary Teeth, Treatment Options, Extraction Considerations

Supernumerary teeth or hyperdontia is additional tooth, teeth or tooth like structures that either have erupted or remain unerupted in addition to the 20 deciduous and 32 permanent teeth (Garvey et al, 1999). Supernumerary teeth may eruptnormally, stay impacted, appear inverted, or take an abnormal route of eruption (Desai and Shah, 1998). They can be classified by their location in the dental arch: mesiodens, paramolar, and distomolar (Nagaveni et al, 2010). According to theirmorphological forms, they have been divided into conical, barrel–shaped, or tuberculate, supplemental, odontoma, and incisiform (Nagaveni et al, 2010; Mason et al, 2000). Single supernumeraries occur in 76–86% of cases, double supernumeraries in 12–23% of cases, and multiple supernumeraries in less than 1% of cases (Rajab and Hamdan, 2002; Zhu, 1996). Supernumerary teeth were present in 0.8% of primary dentitions and in 2.1% of permanent dentitions (Brook, 1974).Males are more affected than females, the sex ratio being 2.2:1 (Rajab and Hamdan, 2002). Multiple Supernumerary teeth rarely occurs without being associated withsyndromessuch as Cleidocranial dysplasia, Gardner's syndrome, and cleft lip and palate (Rajab and Hamdan, 2002; Zhu, 1996). The most common supernumerary teeth, listed in order of frequency, are the maxillary midline supernumeraries, maxillary fourth molars, maxillary paramolars, mandibular premolars, maxillary lateral incisors, mandibular fourth molars, and maxillary premolars (Stafne, 1932). The etiology is unknown, although a number of theories have been proposed: atavism, tooth germ dichotomy, hyperactivity of the dental lamina, and genetic factors comprising a dominant autosomal trait characterised by low penetrance. Hyperactivity of the dental lamina is the most accepted theory (Garvey et al, 1999). A supernumerary tooth may have no effect on dentition, or it may cause crowding, diastema, cyst formation, resorption, displacement or rotation of adjacent teeth, or it may delay or prevent eruption of permanent teeth (Mason et al, 2000). Hence, suitabletreatment after proper clinical and radiographic evaluation is essential. The aim of this report is to document a rare case of non-syndromic multiple impacted supernumerary teeth and to discuss the treatment modalities.

CASE PRESENTATION

A fifteen years old male reported to the Department of Orthodontics with a chief complaint of extra teeth in his mouth. His medical and family history was not significant. Extraoral examination showed convex facial profile with competent lips.Intraoral examination showed Angle's Class I molar relation, 3 mm of overjet and overbite. Supernumerary teeth were observed in relation to 25 and 34. (Figure 1) Computed tomography revealed presence of ten supernumerary teeth in relation to 12, 14, 15, 24, 25, 34, 35, 44, 45 and 46, out of which, eight were impacted. In addition, mandibular left third molar was also impacted. (Figure 2) All the supernumerary teeth were healthy and no associated pathology was found. Extra teeth present in relation to 25 and 34 were extracted. (Figure 3)Remaining supernumerary teeth and impacted third molar were left intact.Patient was advised for follow-up after every 6 months.

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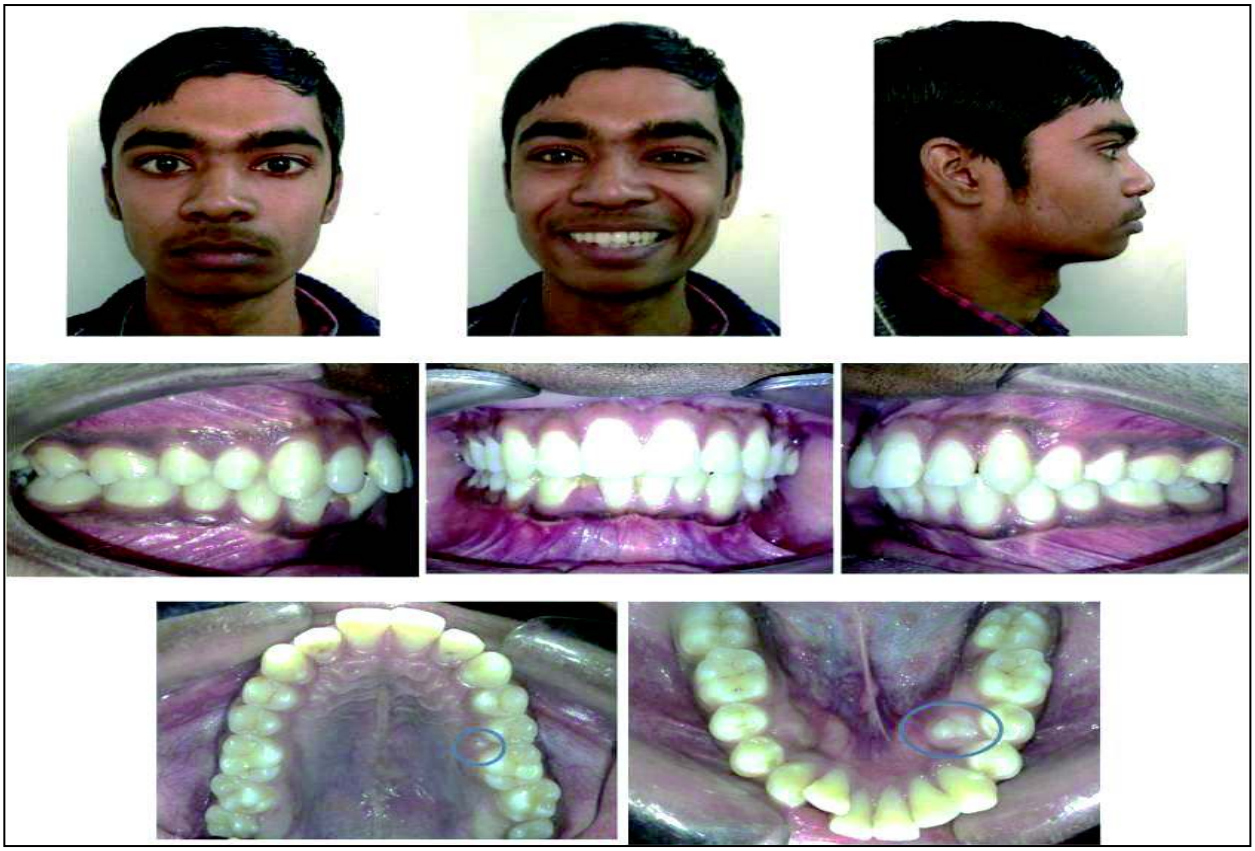

Figure 1: Pretreatment photographs

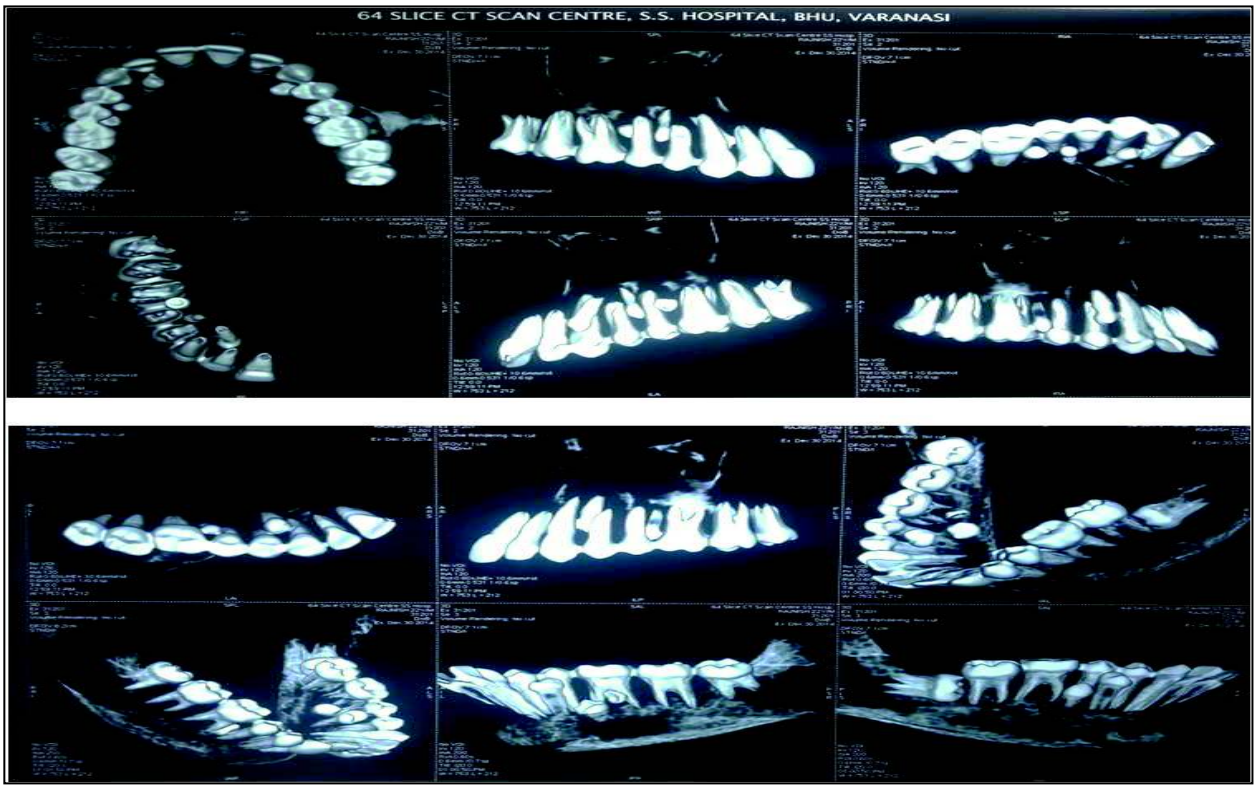

Figure 2: Computed tomogram

Figure 3: Extracted supernumerary teeth and postextraction intraoral photographs

DISCUSSION

Supernumerary teeth may erupt normally or remain impacted, but in either case their presence may lead to clinical problems. When nonsyndromal multiple supernumerary teeth are present (>5), the most common affected site is the mandibular premolar region, followed by the molar and the anterior regions, respectively (Yusof, 1990).About 74% of supernumerary teeth are located in the mandibular premolar region (Solares, 2004). According to literatures (Sivapathsundaram and Einstein, 2004; Srivatsan and Aravindha, 2007; Yan et al, 2014), there are only few reported cases of nonsyndromic multiple supernumerary teeth.Extraction is not always the treatment of choice.Surgical removal of supernumerary teeth is recommended in cases where delayed, inhibited or altered eruption of permanent teeth, associated pathology, interference in orthodontic tooth movement due to close proximity to permanent teeth, its presence would compromise secondary alveolar bone grafting and present in bone designated for implant placement. They may be monitored withoutremoval where: satisfactory eruption of related teeth has occurred, no active orthodontic treatment is envisaged, there is no associated pathology, removal would prejudice the vitality of the related teeth (Shah et al, 2008). Surgical removal of asymptomatic unerupted supernumerary teeth may cause damage to adjacent teeth and structures, particularly in the mandibular premolar region resulting in the loss of vitality and root malformation of adjacent teeth. Approximately 75% of incisors erupted spontaneously after removal of the supernumerary (Di Biase, 1971). Orthopantomogram (OPG) has been the modality of choice for investigating the status of supernumerary teeth, but the introduction of three dimensional radiography (Cone Beam Computed Tomography-CBCT/Computed Tomography-CT) to radiographic technology has proved as the most effective three dimensional means of examining dental and associated osseous structures. Supernumerary teeth could

be located in CT only which was easily missed in the OPG(extra tooth in relation to 35 and 46) due to overlapping of dental and osseous structures. Such shortcomings could affect the management of the case as a whole. It is self evident that there is no strong indication for removing third molars which are completely asymptomatic and disease free (Brickley et al, 1993). There are some definite indications for removal of third molars i.e., recurrent pain and discomfort even with the likely use of antibiotics, and where there have been multiple episodes of conservative treatment.

CONCLUSION

Not all supernumerary teeth require extraction. If, it is asymptomatic and the risks of surgery outweigh the benefits of removal, it may be left in situ and kept under observation.A regular clinical and radiographic monitoring should be made even after the removal of supernumerary teeth to determine whether further teeth are forming.

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