Case Report

Supernumerary tooth in Maxillary Anterior Region and its complications: A case report

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ABSTRACT

Supernumerary teeth can present in various forms and in any region of the mandible or maxilla but are more common in the anterior maxilla. These teeth may remain embedded in the alveolar bone or can erupt into the oral cavity. When it remains embedded, it may cause disturbance to the developing teeth. Early detection is an important key to avoid development of complications. This report presents a case of a 12-year-old girl with an impacted supernumerary tooth in the maxillary anterior region between the roots of right central and lateral incisor resulting in the rotation of central incisor leading to unaesthetic appearance. To prevent further complication, immediate surgical removal of the supernumerary tooth was recommended.

Key words: *Developmental anomaly, Hyperdontia, Supernumerary tooth*

Developmental anomalies of teeth may cause abnormalities in the number, size and shape of the teeth such as fusion, gemination, dental twinning, and concrescence [1]. Supernumerary teeth are one such developmental anomaly that is related to the increase in number of teeth present. The prevalence of hyperdontia is reported between 0.15% and 3.9%. Males are affected more than females [2,3]. Extra teeth may be present in both the permanent and the primary dentition, but are 5 times less frequent in the primary dentition [4]. They may occur as single or multiple, unilateral or bilateral, erupted or impacted, and in one or both jaws. They can be classified on the basis of shape or location. Based on shape, they can be Eumorphic (similar to the normal tooth) or Dysmorphic (can be small, conical or trabeculate). Based on location, they are divided as mesiodens (between central incisors), paramolar (buccal/palatal to molars) and distomolar (distal to molars) [5].

Among these, the tuberculate supernumerary tooth seems to occur most frequently palatal to the upper central incisor. It has also been documented that the conical-shaped supernumerary tooth does not usually affect the eruption of the adjacent permanent incisors but may cause their displacement. They may be non-inverted or inverted. When non-inverted, it may remain unerupted palatal to the permanent incisors. When inverted, it may point posteriorly towards the nose or may even erupt into the nose. The frequency of inverted mesiodens constitutes to approximately 9–67% of all reported cases [6,7]. Unless they are diagnosed early and managed properly, they may exert a variety of pathological effects on the developing permanent dentition, particularly those in the anterior maxilla, can cause failure of eruption of permanent teeth, displacement, rotation of the permanent maxillary incisors, median diastema and esthetic problems [5,6]. Here, we are reporting a case of an impacted supernumerary tooth in the maxillary anterior region between the roots of right central and lateral incisor.

CASE REPORT

A 12-year-old female patient reported to the Department of Pedodontics and Preventive Dentistry, with the chief

complaint of irregularly placed teeth in an upper front region of the jaw. There was no significant medical history, past dental history and family history. On clinical examination, her upper right central incisor was slightly mesially rotated. Other clinical findings include Grade II mobility with 53 (deciduous right canine) and erupting [23,33,43,44]. (Upper and lower left canine and lower right canine and first premolar). The patient was advised for IOPA (Intra Oral Periapical Radiograph) of an upper right central-incisor region.

Radiographic examination revealed that a supernumerary tooth was present between the roots of the upper right central and lateral incisor (Fig.1). A standard upper occlusal radiograph was also taken which showed the presence of supernumerary tooth (Fig. 2) and SLOB (Same-Lingual Opposite-Buccal) technique with two IOPA confirmed the presence of inverted supernumerary tooth on the palatal side.

After considering the chief complaint of the patient and location of the supernumerary tooth, surgical removal of the supernumerary tooth was planned. The patient was prescribed antibiotics and analgesics prior to the day of surgery and was recalled next day. Proper anesthesia was achieved in the labial and palatal area in the region 13 to 21 (upper right canine to left central incisor). The mucoperiosteal flap was raised and adequate bone was removed along with copious saline irrigation to expose the supernumerary tooth (Fig.3). The tooth was luxated with a periosteal elevator and was removed (Fig. 4). The bony socket was inspected for any pathology, bone margins were smoothened with bone file and the flap was repositioned and sutured with 3.0 black braided silk (Fig.5). The patient was kept on antibiotic, anti-inflammatory and analgesics regimen for 5 days. After 8 days, the patient was recalled for assessment of healing, the sutures were removed and an occlusal radiograph was taken (Fig. 6).

DISCUSSION

The literature reports that 80% to 90% of all supernumerary teeth occur in the maxilla.[5] Almost half of which are found in the anterior region. Mitchell and Bennett have suggested that different types of supernumeraries have been associated with different effects on the adjacent dentition [8]. Foster and Taylor examined this relationship and found that the tuberculate types more commonly causes delayed eruption, whereas the conical types more commonly causes displacement of the adjacent dentition [9].

Supernumerary teeth are a developmental anomaly and have been argued to arise from multiple aetiologies. One of the theory suggested that it arises from the dichotomy of tooth bud. Another theory well supported in literature is hyperactivity theory, which suggests that supernumeraries are formed as a result of local, independent, conditioned hyperactivity of dental lamina. Hereditary may also play a role in their occurrence.

Figure: Fig 1 - IOPA of 11 region (Upper right central incisor), Fig 2 - Pre-operative occlusal radiograph, Fig 3 - Raised mucoperiosteal flap

Figures: Fig 4 - Extracted supernumerary tooth, Fig 5 - Placement of suture, Fig 6 - Post-operative occlusal radiograph

They can affect the normal position and eruption of adjacent teeth and often require clinical intervention. It is essential not only to enumerate but also to identify the supernumerary teeth present clinically and Radiographically before a definitive diagnosis and treatment plan can be formulated [10]. In the present case, presence of the supernumerary teeth resulted in the medial rotation of the right central incisor giving unesthetic appearance to the patient. On radiographic examination, there was a presence of supernumerary tooth on the palatal aspect between the roots of right central and lateral incisors, which was conical and inverted. To avoid any future complication, surgical removal of the supernumerary tooth was planned under local anaesthesia.

Some researchers have argued for immediate surgical removal after diagnosis to permit spontaneous eruption of the permanent incisors and to avoid possible orthodontic problems, while others have advocated a delayed approach in order to avoid iatrogenic damage to the developing adjacent teeth [11,12]. The immediate surgical removal of the impacted supernumeraries is indicated when there are chances of developing complications if the supernumerary tooth left untreated is significant.[5] Surgical removal of supernumerary teeth is based on an accurate radiographic localization using IOPA, occlusal radiograph, OPG (Orthopantomogram), CBCT (Cone Beam Computed Tomography), which minimizes the risk of trauma to the permanent teeth when performed before the maturation of their apices and are also used to assess the number, location, path, and sagittal position of the impacted supernumerary tooth [8,13].

Controversy exists regarding the optimal treatment of delayed eruption due to supernumerary involvement. The options include removal of the supernumerary only, removal of the supernumerary and orthodontic treatment to re-establish sufficient space for the delayed tooth, with or without surgical exposure of the unerupted tooth at the time of supernumerary tooth removal. Radiographic examinations including IOPA, occlusal radiograph, OPG, CBCT are used to assess the number, location, path, and sagittal position of the impacted supernumerary tooth.[8] It plays an important role in deciding on an appropriate treatment plan and when to intervene, especially when removal of the supernumerary tooth is required [14].

CONCLUSION

Supernumerary teeth are relatively common developmental anomaly which requires early detection and management in order to avoid the development of future complication. Each case may require different treatment approach depending upon the age of the patient, location, number of supernumerary tooth and involvement of surrounding structure. The clinician should be well aware of the warning signs and should be able to diagnose the anomaly as early as possible so that a proper treatment plan can be formulated.

REFERENCES

1. More CB, Tailor MN. Tooth fusion, a rare dental anomaly: analysis of six cases. International. J Oral Maxillofac Pathol. 2012; 4: 50–53
2. Luten JR Jr. The prevalence of supernumerary teeth in primary and mixed dentitions. J Dent Child 1967;34:346–53.
3. Brabant H. Comparison of the characteristics and anomalies of the deciduous and the permanent dentition. J Dent Res 1967; 46(5):897–902.
4. Grahnen LG. Numerical variations in primary dentition and their correlation with the permanent dentition. Odontol Revy 1961; 12:348–57.
5. Primosch RE. Anterior supernumerary teeth - assessment and surgical intervention in children. Pediatr Dent 1981;3: 204-15.
6. Nik-Hussein NN. Supernumerary teeth in the premaxillary region: its effects on the eruption and occlusion of the permanent incisors. Aust Orthod J 1990; 11: 247-50.
7. Jathar P, Panse A, Jathar M, Gawali P. Surgical Removal of Supernumerary Teeth – A Case Report. IOSR J Dental Medical Sciences. 2014; 13 (9): 56-60.
8. Mitchell L, Bennett TG. Supernumerary teeth causing delayed eruption – a retrospective study. Br J Orthod 1992; 19:4.
9. Foster TD, Taylor GS. Characteristics of supernumerary teeth in the upper incisor region. Dent Pract 1969;20:8-12.(9)
10. Scheiner MA, Sampson WJ. Supernumerary teeth.Review of literature and four case reports. Aust Dent J. 2007;42: 160-5.
11. Humerfelt D, Hurlen B, Humerfelt S. Hyperdontia in children below four years of age: a radiographic study. ASDC J Dent Child. 1985; 52: 121-4.(11)
12. Solares R. The complications of late diagnosis of anterior supernumerary teeth. ASDC J Dent Child 1990; 57:(12
13. Jung Y-H, Kim J-Y, Cho B-H. The effects of impacted premaxillary supernumerary teeth on permanent incisors. Imaging Science in Dentistry. 2016;46(4):251-258.
14. Bodenham RS. The treatment and prognosis of unerupted maxillary incisors associated with the presence of supernumerary teeth. Br Dent J 1967; 123: 173-7.

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