

# Supernumerary Teeth and their Management- Report of 3 Cases

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## ABSTRACT

Diagnosing an Impacted supernumerary tooth is difficult as they are either clinically silent or diagnosed by chance during the radiographic examination or they cause some complication requiring immediate intervention. Some problems caused by an unerupted mesiodens are disturbed tooth eruption, tooth rotation, bodily displacement, crowding, spacing, or diastema of normal teeth. The frequency of supernumerary teeth is 3%, and a variety of symptoms and complications can be caused by them. Early diagnosis and timely surgical intervention can eliminate the need for orthodontic treatment and reduce complications to the regular dentition in such cases.

**KEYWORDS:** Impacted, Supernumerary teeth, Mesiodens

## INTRODUCTION

Tooth development is an extended process and involves various morphologic stages. Supernumerary teeth can be found as isolated, multiple, unilateral, bilateral, in both jaws or as a component of a syndrome or disease.<sup>1</sup> It is found as an additional tooth to the normal series and in almost any region of the dental arch.<sup>2</sup> Premaxillary region is the most common location of supernumerary teeth which can lead to conditions such as impacted maxillary incisors and displacement or rotation of the permanent teeth.<sup>3</sup> Further problems which can be caused include crowding, diastema and cyst formation and when such complications occur or are anticipated, surgical removal of the supernumerary tooth is indicated.<sup>4</sup>

Various hypotheses and speculations have been documented describing the etiology of supernumerary teeth. The phylogenetic relict theory described that man originally had six incisors, and ST in modern man is a remainder of his prehistoric dentition. The dichotomy theory involves splitting of the tooth germ resulting in the formation of an ST. The theory of hyperactivity of the dental lamina due to the pressures within the jaws that resulted in the splitting of the dental lamina is the most supported one. In the occurrence of ST because of the familial occurrence the genetic factor is always considered.<sup>5</sup> Brook proposed a unifying etiological model to explain the etiologic factors and associations of anomalies in tooth size and number. The model describes multifactorial, polygenic and environmental influences. As reported in the literature the prevalence rates of supernumerary teeth alter between 0.1% and 3.6% in the permanent dentition depending on the particular population. In deciduous teeth, prevalence is lower, amounting to 0.3-0.8%. Males are affected more commonly in the second dentition, with literature

informing rates of between 2:1 and 6:1. The first dentition shows an even gender distribution. The treatment depends on the individual case and may require interdisciplinary cooperation.<sup>6</sup>

## CASE REPORT

**Case 1:** A seven years old male patient reported with a complaint of malaligned teeth in the upper front region of mouth since one year. The child was asymptomatic and intraoral examination revealed mixed dentition with a mesiodens conical in shape erupted in the palatal aspect behind the right central incisor. On left side retained deciduous central incisor was present hindering the eruption of left permanent central incisor confirmed by palpating the soft tissue elevation in relation to the tooth. Treatment was instituted to surgically extract the supernumerary and the retained deciduous to facilitate proper alignment of teeth in each arch and eruption of left central incisor. (Figure 1-4)



Figure 1: Pre-operative Intraoral View

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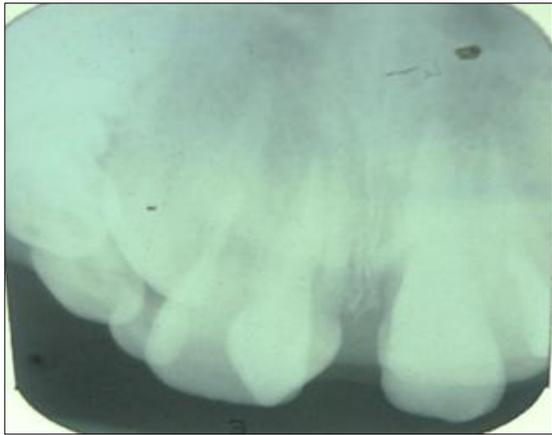


Figure 2: Pre-operative X-Ray



Figure 3: Pre-operative OPG

**Case 2:** A seven years old male patient came with a complaint of an extra tooth on the palatal aspect behind 61. Radiographic examination revealed the presence of two supernumerary teeth, one erupted and one impacted just above the incisal edge of 11 interrupting its path of eruption. Treatment was done to surgically extract the deciduous teeth 51 and 61 followed by extracting the supernumerary teeth. Postoperatively Six months, both the central incisors were aligned and properly positioned in the arch. (Figure 5-11)

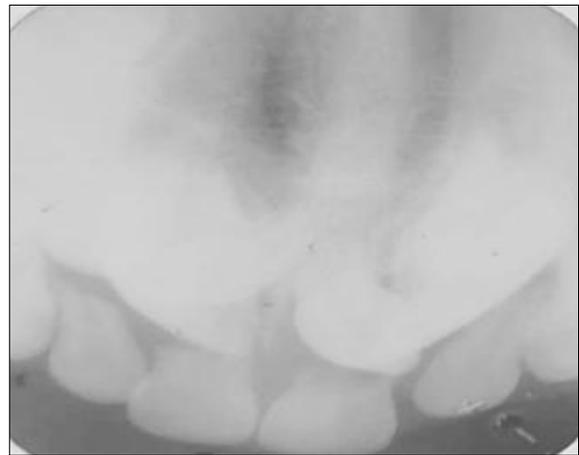


Figure 6: Pre-operative X-Ray



Figure 4: Post-operative Intraoral View

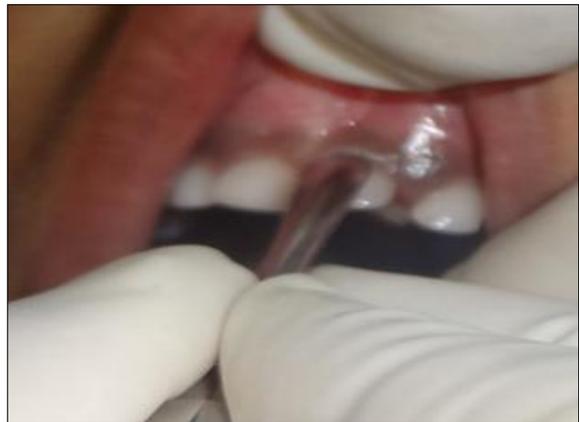


Figure 7: Extraction of Deciduous teeth



Figure 5: Pre-operative Intraoral View



Figure 8: Supernumerary tooth visible



Figure 9: Extracted Deciduous and Supernumerary tooth



Figure 10: Post-operative X-Ray



Figure 11: Post-operative Intra oral View

**Case 3:** A thirteen years old male patient came with a complaint of malaligned tooth in relation to 11. Radiographic examination revealed the presence of inverted supernumerary tooth just behind the root apex of 21. Hematological investigations were performed before surgery. LA was administered (infraorbital and nasopalatine block). Full thickness flap was raised using a

mucoperiosteal elevator. The root apex of 21 was cut, and the impacted tooth was exposed, luxated out of its socket and removed. Bleeding was controlled and the flap was repositioned back and sutured with non-resorbable black silk suture. Post surgical instructions were explained to the patient, and he was kept on analgesic and antibiotic coverage. Sutures were removed after a week and patient was on follow-up for 6 months after which orthodontic treatment was started for malaligned teeth in the upper arch. (Figure 12-16)



Figure 12: Pre-operative X-Ray



Figure 13: Flap raised for removal of Supernumerary tooth



Figure 14: Bony cavity prepared to expose the supernumerary tooth



Figure 15: Sutures given after removal of supernumerary tooth



Figure 16: Post-operative X-Ray after tooth removal

## DISCUSSION

The normal position and eruption of adjacent teeth can be affected by the presence of supernumerary tooth and often require clinical intervention. Enumeration and identification of the supernumerary teeth (ST) is important so that a definitive diagnosis and treatment plan can be formulated. Supernumerary teeth in the premaxillary region can be of normal morphology known as supplemental teeth, or it can be of an abnormal shape categorized as the conical type (peg-shaped) and the tuberculate type which occurs most commonly palatal to the upper central incisor. It has also been reported that the conical-shaped supernumerary tooth may cause the displacement of the adjacent teeth but does not usually affect the eruption of the adjacent permanent incisors.<sup>7</sup>

However, mesial movement of the lateral incisors, space loss and diminished development of dentoalveolar height can be caused by the delayed eruption of maxillary central incisors. When a supernumerary tooth prevents the eruption of an incisor, the eruptive potential of the incisor may be lost if intervention is delayed. The unerupted teeth usually erupt faster after the removal of

supernumerary teeth. The surgical removal of supernumerary teeth should be performed carefully avoiding the damage to the underlying permanent teeth, which might cause ankylosis, displacement, rotation, and ectopic position. Up to 91% of impacted permanent incisors erupt within 18 months following removal. The two essential factors determining whether spontaneous eruption occurs following the removal of a supernumerary tooth are the patient's age and the availability of space in the dental arch.<sup>8</sup>

As demonstrated by Hogstrom and Andersson the prognosis of the adjacent teeth was not affected by whether the ST was surgically extracted immediately upon diagnosis or was postponed till the complete root development of the adjacent teeth.<sup>9</sup> Nuvvula et al. postulated that in cases of severely rotated unerupted incisors self-correction and proper alignment can be achieved by the early removal of causative ST.<sup>10</sup> As stated by some authors the early removal of ST may effect the development of adjacent roots if the ST are adjacent to the developing roots of permanent teeth, and in those cases, delayed removal has been suggested. Another speculation suggested was that the surgical removal of impacted ST may not be necessary unless developing complications are suspected or tooth is associated with a pathological condition when early extraction is essential to adequate clinical and radiographic diagnosis and a sound surgical intervention with proper behavior management must be considered.<sup>11</sup>

Mesiodens is the most commonly impacted tooth in pediatric patients. Following delay in eruption of permanent central incisors the presence of supernumerary tooth should be suspected. The first phase of identification of supernumerary teeth is identification and localization of complications associated with them. Supernumerary teeth should be evaluated carefully as the overlapping cusp, and other anatomical landmarks may depict its presence. The inverted conical form of supernumerary tooth is frequently associated with cystic lesions and can erupt into the nasal floor, becoming more difficult to remove with time. To prevent clinical complication and also to treat established complication surgical treatment should be carried out.<sup>12</sup>

## CONCLUSION

The optimal treatment time and modality for impacted ST are still a controversy. The clinician should be able to recognize the signs as early as possible suggesting the presence of supernumerary teeth, particularly those that cause problems in eruption as seen with our presented case, and perform the relevant investigations and treatment. Diagnosis is based on radiographic examination as it is difficult to diagnose based on just clinical appearance. In situations like orthodontic treatment or in cases where it hinders the eruption of permanent tooth it is advisable to remove the supernumerary tooth as early as possible so as to avoid the further complications.

## REFERENCES

1. Hattab FN, Yassin OM and Rawashdeh MA .Supernumerary teeth: Report of three cases and review of the literature. ASDC J Dent Child, 1994; 61: 382-393.
2. Garvey MT, Barry HJ and Blake M. Supernumerary teeth – an overview of classification, diagnosis and management. J Can Dent Assoc, 1999; 65: 612-616.
3. Koch H, Schwartz S and Klausen B. Indications for surgical removal of supernumerary teeth in the premaxilla. Oral Maxillofac Surg Int J, 1986; 15: 273-281.
4. Giacotti A, Grazzini F, De Dominicis F, Romanini G, Arcuri C. Multidisciplinary evaluation and clinical management of mesiodens. J ClinPediatr Dent Spring, 2002; 26 (3):233-7.
5. Mallineni SK, Nuvvula S. Management of supernumerary teeth in children: A narrative overview of published literature. J Cranio Max Dis 2015; 4:62-8.
6. Brook AH. Dental anomalies of number, form and size: Their prevalence in British school children. J Int Assoc Dent Child 1974; 5: 37-53.
7. Jathar P, Panse A, Jathar M, Gawali P. Surgical Removal of Supernumerary Teeth – A Case Report. J Dent and Medi Sci.2014; 13 (9): 56-60.
8. Acharya S. Supernumerary Teeth in Maxillary Anterior Region: Report of Three Cases and Their Management. Int J Sci Stud 2015; 3(3):122-127.
9. Hogstrom A, Andersson L. Complications related to surgical removal of anterior supernumerary teeth in children. ASDC J Dent Child 1987; 54:341-3.
10. Nuvvula S, Melkote TH, Mohapatra A, Nirmala SV. Impacted mandibular permanent incisors related to supernumerary teeth: A rare condition. Pediatr Dent 2012; 34:70-3.
11. Arikan V, Ozgul BM, Firdevs TO. Prevalence and characterýstýcs of supernumerary teeth in a child population from Central Anatolýa-Turkey. Oral Health Dent Manag 2013; 12: 269-72.
12. Gupta S, Marwah N. Impacted Supernumerary teeth- Early or Delayed intervention: Decision making Dilemma? Int J Clin Pediatr Dent 2012; 5 (3):226-230.

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