



Case Report

Early Intervention of Supernumerary Teeth in Pediatric Dentistry: Short review and A Series of Case Reports

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ABSTRACT

The teeth that exceed the normal dental formula are termed as Supernumerary teeth. Supernumerary teeth are developmental anomalies seen in both primary and permanent dentition predominantly affecting the latter. They are commonly seen in maxillary arch. The presence of supernumerary teeth can present with diverse dental issues including displeasing esthetics, eruption and functional problems and are thus of clinical importance to the dentists and the parents. Early diagnosis and intervention is necessary to prevent further complications that could arise in the developing dentition.

Keywords: Supernumerary teeth, Mesiodens, Hyperdontia, Tooth eruption, Pediatric dentistry.

INTRODUCTION

Patterning alterations in dentistry refer to developmental, genetic, or environmental disruptions that affect the normal arrangement, number, size, shape and structure of dentition, as well as eruption sequence of teeth.¹ Presence of any of these deviations is a crucial diagnostic indicator of genetic syndromes, systemic conditions or environmental risks. An increase in the number of the teeth is one of the most common developmental anomaly in oral and maxillofacial development.² A supernumerary tooth is one that is in excess to the normal series of teeth.³ Supernumerary teeth are the result of a rare alteration in odontogenesis. The exact etiology of supernumerary teeth is not completely understood. However, some authors state that it could be multifactorial, a combination of genetic and environmental factors.⁴ Various theories exist for the presence of supernumerary teeth, Dichotomy theory states that a tooth bud divides into equal or different sizes with the resultant formation of two equal sizes or one normal and one dysmorphic tooth. Atavism theory suggests that supernumerary teeth are a result of phylogenetic reversion to extinct primates with three pairs of incisors. The most accepted theory is the dental lamina hyperactivity which states that supernumerary teeth are a result of localized, independent, and conditioned hyperactivity of dental lamina. According to this theory, supplemental ST develops from the lingual extension of an accessory tooth bud and a rudimentary form of ST from the proliferation of epithelial remnants of the dental lamina during its disintegration.^{5,6} Familial tendency and heredity may also have a role in the occurrence of supernumerary teeth. They can present isolated or in association with various syndromes that include cleft lip and palate, Down's Syndrome, Cleidocranial Dysplasia, Gardner's Syndrome, Ehlers-Danlos syndrome, and Fabry-Anderson syndrome, familial adenomatous polyposis, pyknodysostosis and Trichorhinophalangeal syndrome, Rothmund-Thompson syndrome, and Nance-Horan syndrome.⁷

Supernumerary teeth can be classified according to their morphology, number, and location. They can be rudimentary or supplementary, single or multiple and mesiodens, paramolar, and distomolar. Classification by Kalra et al is as follows (Figure 1).⁸

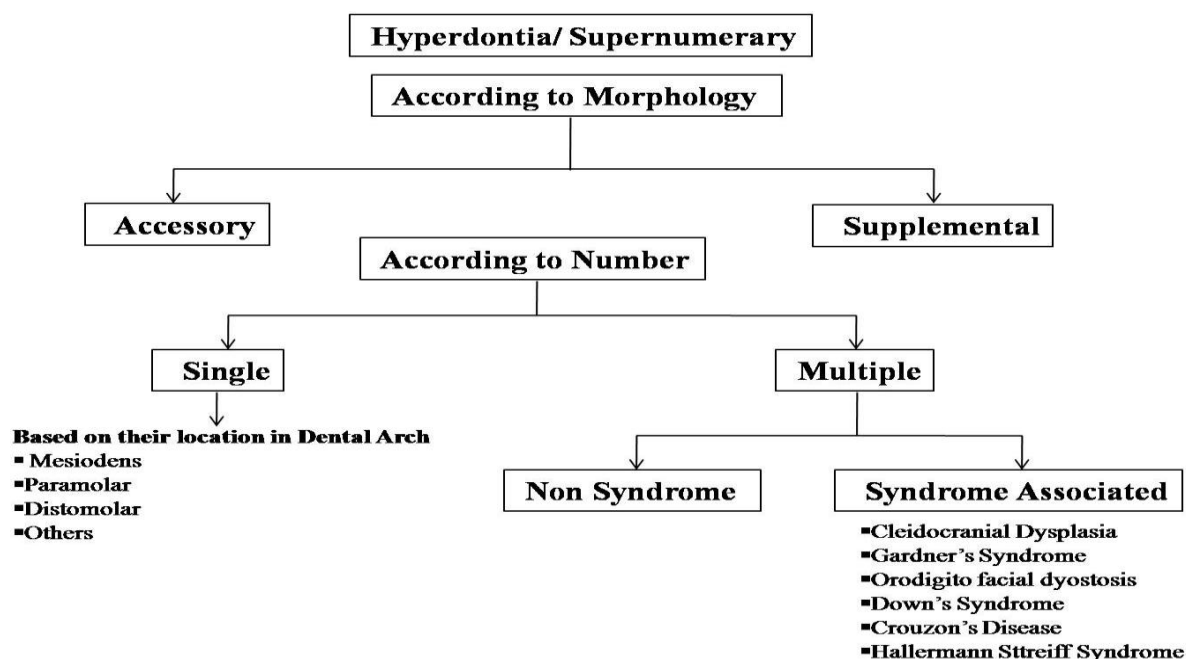


Figure 1: Classification of Supernumerary teeth by Kalra et al

Supernumerary Teeth classified based on morphology (conical, tuberculate, supplemental, and odontomes), location (mesiodens, paramolar, distomolar, and parapremolar), position (buccal, palatal, and transverse), orientation (vertical or normal, inverted, transverse, or horizontal) (Figure 2).⁴

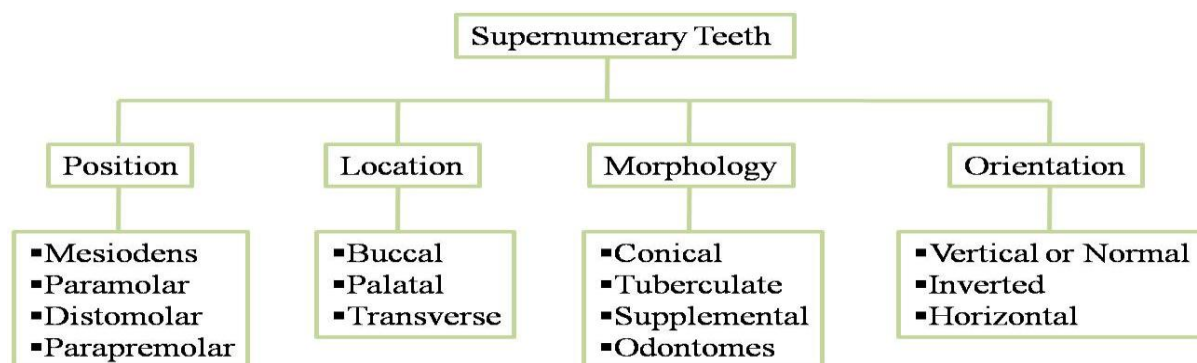


Figure 2: Classification of supernumerary teeth based on morphology, location, position, and orientation.

Scheiner and Sampson classified ST based on form, conical, tuberculate, supplemental, and odontoma, and based on location, mesiodens, paramolar, distomolar, and parapremolars. The mesiodens is located between the two central incisors and these are mostly in conical shape. Distomolars are located distally to the third molar, while paramolars are located palatally or labially next to a molar.⁴ According to Mitchell the classification is as shown (Figure 3).⁹

Classification of Supernumeraries

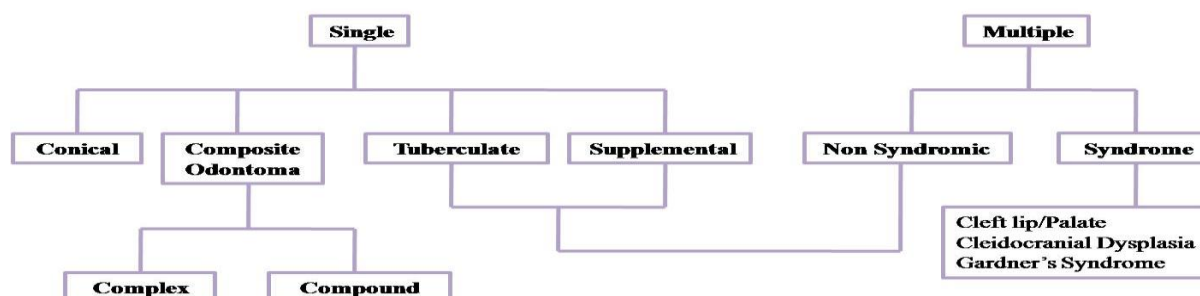


Figure 3: Classification by Mitchell

There are various complications associated with the presence of supernumerary teeth including delayed eruption or impaction of permanent teeth, spacing, crowding, malocclusion, cyst formation, diastema, root resorption of adjacent teeth, abnormal root development, alteration in path of eruption of teeth, ectopic eruption, over-retention of teeth, compromised alveolar bone grafting.⁴ The failure of eruption of maxillary incisors is considered the most common complication.¹⁰ This leads to not just aesthetic disturbances but also functional discomfort. Therefore the timely management of these teeth is necessary.

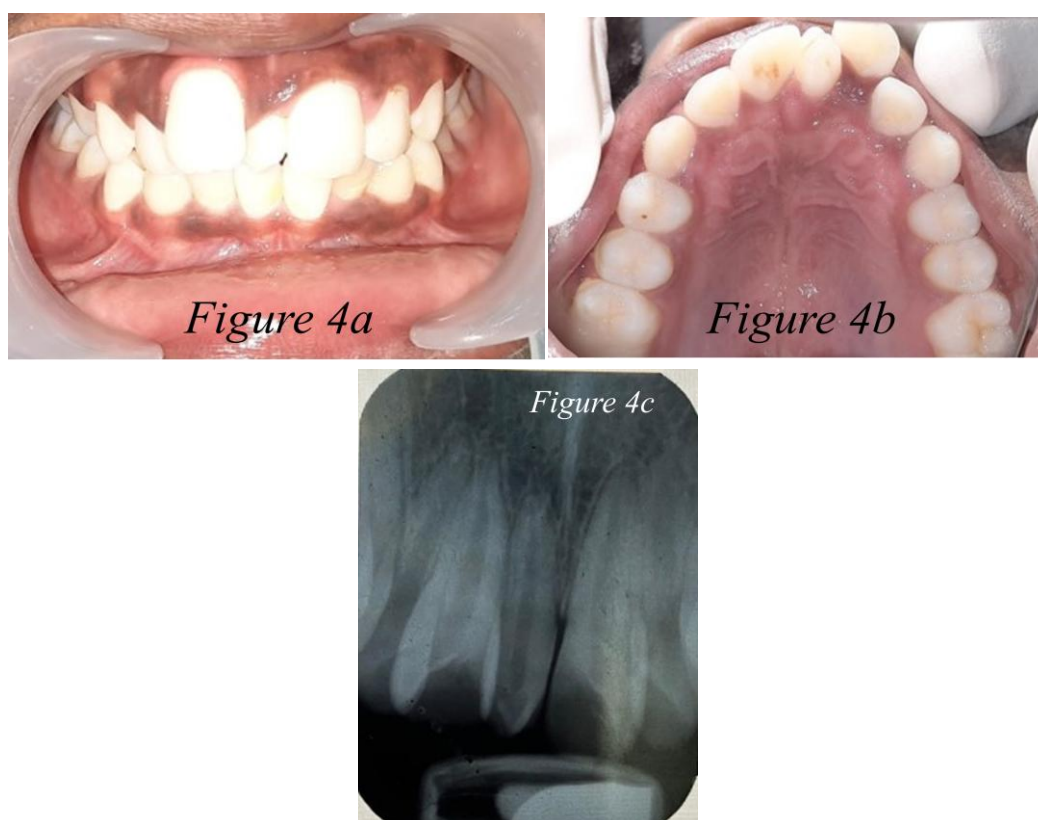
CASE PRESENTATION

Case 1:

A 12 year old male patient reported to the clinic with a chief complaint of extra tooth in the upper front teeth region. The medical and familial history of the patient was non contributory.

On intra oral examination, an extra tooth was noted between the maxillary central incisors which was termed as a mesiodens. (Fig 4a &b)

On radiographic evaluation, mesiodens was noted between the central incisors and 11 deviated slightly due to the presence of mesiodens.(Fig 4c)



Case 2:

A 12 year old male patient reported with a chief complaint of forwardly placed upper front teeth.

On intra oral examination, a supernumerary tooth was noted between 11 and 22, 21 was displaced labially.(Fig 5 a)

On radiographic evaluation, the supernumerary tooth was found mesial to 22 and 21 was deviated due to the presence of supernumerary tooth. (Fig 5 b)



Figure 5a



Figure 5b

Case 3:

A 9 year old male patient reported with a chief complaint of improperly placed tooth in upper front teeth region.

On intra oral examination, a conical shaped supernumerary tooth in maxillary anterior region in relation to 11 which was located labially.(Fig 6 a &b)

On radiographic examination, the supernumerary tooth was noted in the region of 11 and there was slight deviation noted in relation to 11. (Fig 6c)



Figure 6a



Figure 6b

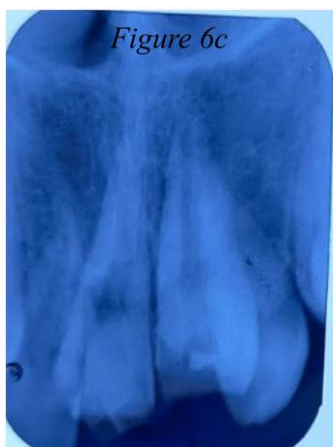


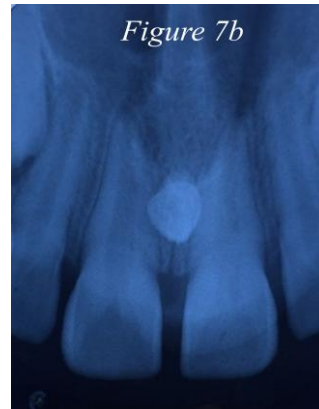
Figure 6c

Case 4:

A 9 year old female reported with a chief complaint of extra tooth in the upper front tooth region. Medical and familial history was non contributory. The supernumerary appeared isolated without signs of any syndrome.

On intra oral examination, a mesiodens was noted in the anterior palatal region between 11 and 21 in the midline. (Fig 7 a)

On radiographic examination, a conical shaped mesiodens was noted between 11 and 21. (Fig 7b)

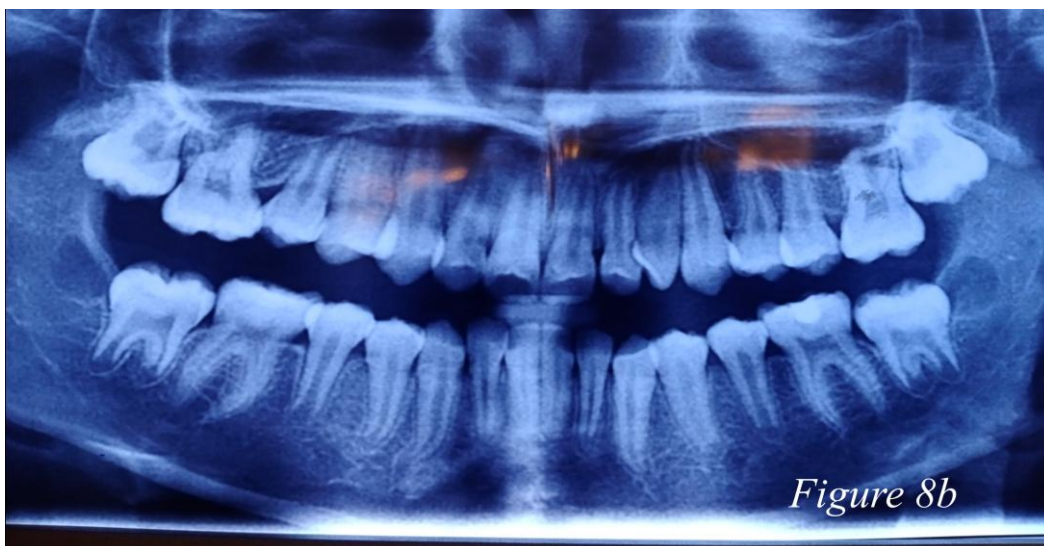


Case 5:

A 12 year old male patient reported with a chief complaint of irregularly placed upper front teeth and desired braces. The patient was non syndromic and the familial and medical history were non contributory.

On intra oral examination, a supernumerary teeth was noted between 22 and 23 and the supernumerary was rotated. (Fig 8a)

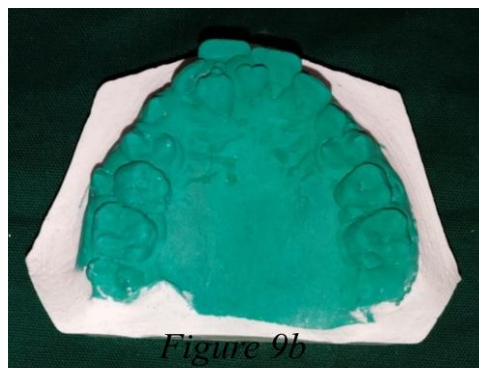
On radiographic examination, the supernumerary tooth was present between 22 and 23. (Fig 8b)



Case 6:

A 12 year old male patient reported with a chief complaint of forwardly placed front teeth and extra teeth in upper front teeth region. The patient was non syndromic and no notable familial history.

On intra oral examination, there were two supernumerary teeth present bilaterally in the anterior maxilla in the palatal region of 11 and 12 due to which 11 and 21 were proclined. Over retained maxillary deciduous second molars were noted.(Fig 9a & b)



Radiographic evaluation showed presence of two supernumerary teeth, one in the midline and one in the region of 11. (Fig 9c)

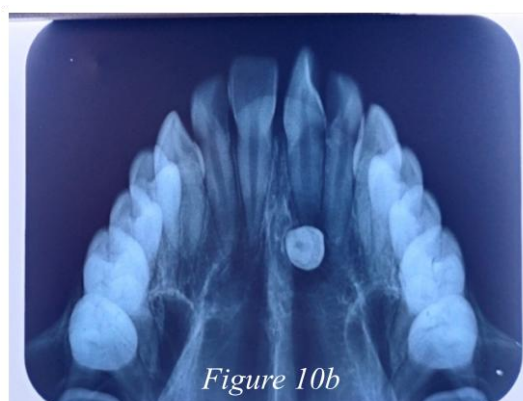
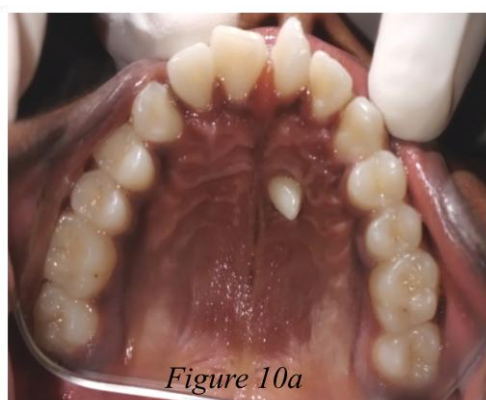


Case 7:

A 12 year old female patient reported with a chief complaint of improperly placed upper front teeth and an extra tooth in the palate. The patient did not have any familial history and was non syndromic.

On clinical examination, 11 was rotated and a conical shaped supernumerary teeth was noted in the palatal region on 11. (Fig 10a)

On radiographic examination, a radio opaque structure was noted at the root tip of 11 and as a result 11 was rotated. (Fig 10b)



Case 8:

A 11 year old male patient reported with a chief complaint of extra tooth in the upper front teeth region. On clinical examination, a supernumerary teeth was noted in the midline palatal region of 11. (Fig 11a)

On radiographic evaluation a mesiodens was noted in between 11 and 21, the roots of 11 and 21 were seen to be deviated distally. (Fig 11b)



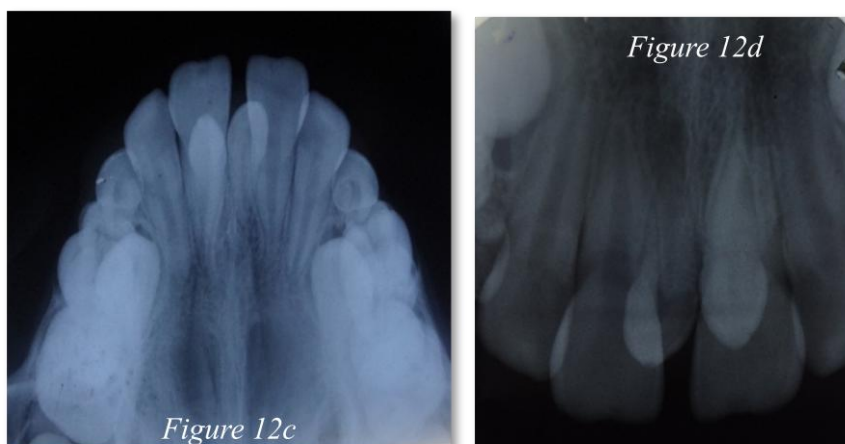
Case 9:

A 10 year old male patient reported with a chief complaint of gap in the upper front teth region with no familial history. The patient had no signs and symptoms of any syndrome.

On clinical examination, diastema was present between 11 and 21, and the teeth were proclined. Two supernumerary teeth were noted bilaterally in the palatal region on either side of midline in the region of 11 and 21. (Fig 12a & b)



On radiographic examination, two conical supernumerary teeth were noted in the region of 11 and 21. (Fig 12 c&d)

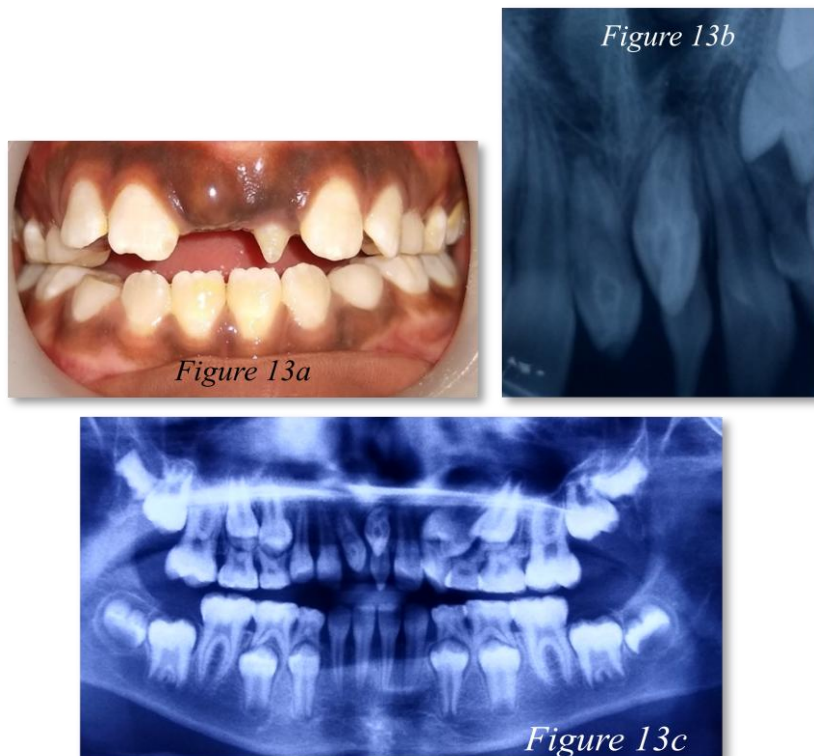


Case 10:

A 12 year old female patient reported with chief complaint of unerupted upper front teeth. The patient was non syndromic and had no familial history.

On clinical examination, a conical shaped supernumerary tooth was noted in region of 21, an eruption bulge in the region of 11 and clinically missing canines in all the four quadrants.(Fig 13a)

On radiographic evaluation of the orthopantomograph, three conical shaped supernumerary teeth were noted in the maxillary anterior region and the canines were congenitally missing in all the four quadrants. (Fig 13 b&c)



Case 11:

A 11 year old male patient reported to the clinic with a chief complaint of gap between teeth and extra tooth in the upper front teeth region and desired treatment. The medical and familial history of the patient was non contributory.

On intra oral examination, an extra tooth was noted between the maxillary central incisors 11 and 21 which was in eruptive stage and termed as a mesiodens. (Fig 14a)

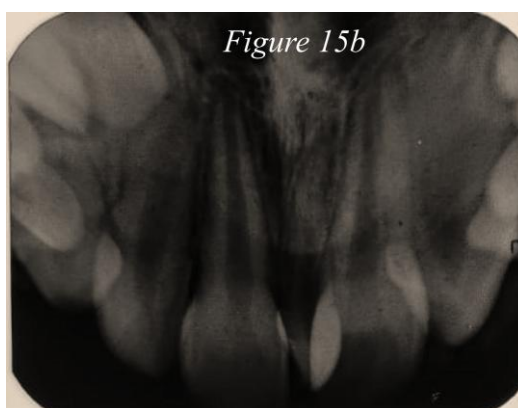
On radiographic evaluation, mesiodens was noted between the central incisors 11 and 21. (Fig 14b)



Case 12:

A 9 year old female patient reported to the clinic with a chief complaint of forwardly placed teeth in the upper front teeth region and desired treatment. The medical and familial history of the patient was non contributory.

On intra oral examination, an extra tooth was noted between the maxillary central incisors 11 and 21, termed as a mesiodens and 11 was labially placed (Fig 15a)



On radiographic evaluation, mesiodens was noted between the central incisors 11 and 21 and the teeth were deviated. (Fig 15b)

The treatment of choice in all the cases was extraction of teeth followed by orthodontic treatment where indicated.

DISCUSSION

Supernumerary teeth are defined as “any tooth or odontogenic structure that is formed from tooth germ in excess of the usual number for any given region of the dental arch”.⁴ Supernumerary teeth can be noted both in the primary (0.3-0.8%) and permanent dentition (1.5-3.5%). They are common in the Mongoloids with a frequency of more than 3%.¹¹ They can be single or multiple, unilateral or bilateral, may be found in maxilla or mandible, the latter being more rare, either erupted or impacted.⁶ Koch et al stated that the frequency of supernumerary teeth in the permanent dentition is 1 to 3% while in primary dentition, according to Primosch it is 0.3 to 0.6%. The incidence of supernumerary teeth as proposed by Mitchell was 2:1 in favor of males. Supernumerary teeth are estimated to be 8.2 times more prevalent in the maxilla than in the mandible.⁸ Rajab and Hamden found the prevalence in the primary dentition as 0.3-0.8% and in the permanent dentition as 0.1-3.8%. Supernumerary teeth are estimated to occur 8.2 times more frequently in the maxilla than the mandible and commonly affect the premaxilla. Multiple supernumerary teeth are commonly found in the mandibular premolar region.¹² Supernumerary tooth in the primary dentition is a less common finding, with one-fifth of this seen in the permanent dentition.

Supernumerary teeth can occur anywhere in the dental arch, they are most found in premaxillary region, the most common site being the palatal midline between the central incisors where they are termed as “mesiodens” and present themselves in conical and tuberculated forms.⁷ The word mesiodens was given by Balk (1917) to specify a supernumerary tooth present between central incisors in the premaxillary region. It is found more frequently in the permanent teeth (0.1-3.6%) than primary teeth (0.02-1.9%). They are usually found as singles however, its multiple occurrence is called as “mesiodentes” which could be either labial or palatal to permanent central incisors.¹³

It is important to diagnose the presence of supernumerary tooth clinically and radiographically before initiating any intervention in the management of the ST as a preventive measure for the permanent dentition. Recently computerized tomography has been used as a complimentary diagnostic test.¹⁰

The management of supernumerary teeth should be considered as a part of comprehensive treatment rather than in isolation.⁹ The treatment plans include extraction or observation as long as it does not provoke any complication and does not interfere with function or aesthetics followed by extraction when indicated which are directed to minimize the effects of the supernumerary tooth. Although surgical extraction is the most common treatment, other therapeutic option is to reposition supernumerary teeth in the dental arch.¹⁰ Recently, Omer and colleagues reported based on a retrospective analysis the ideal age of removal of ST 6 to 7 years.⁴ Extraction must be performed with care, avoiding any damage to blood vessels and nerves or to anatomical structures.¹⁰ The majority of delayed permanent incisors erupt spontaneously if sufficient space is created at the time of removal of the ST and maintenance of postoperative space is needed.⁴ Rao and Chidzonga claim that extraction should proceed only when the roots of adjacent teeth are fully developed.¹⁰

Indications for extraction of Supernumerary teeth include the following conditions:

- Delayed or failure of eruption of Central incisor;
- Displaced or altered eruption of central incisors;
- Pathology associated with tooth;
- Active orthodontic alignment of an incisor near the supernumerary is envisaged;

- In cleft cases where the supernumerary tooth would hamper secondary alveolar bone grafting;
- Indications for retention of Supernumerary tooth with monitoring include the following:
- The tooth associated with the supernumerary teeth is erupted satisfactorily;
 - Orthodontic treatment is not indicated in future;
 - Absence of any pathology;
 - Vitality of the involved tooth is not compromised.⁹

Amarlal and Muthu have designed a decision supporting system considering the various controversies of management of supernumerary teeth. The goal was to help the clinician with diagnosis of supernumerary teeth and treatment planning (Figure 16).¹²

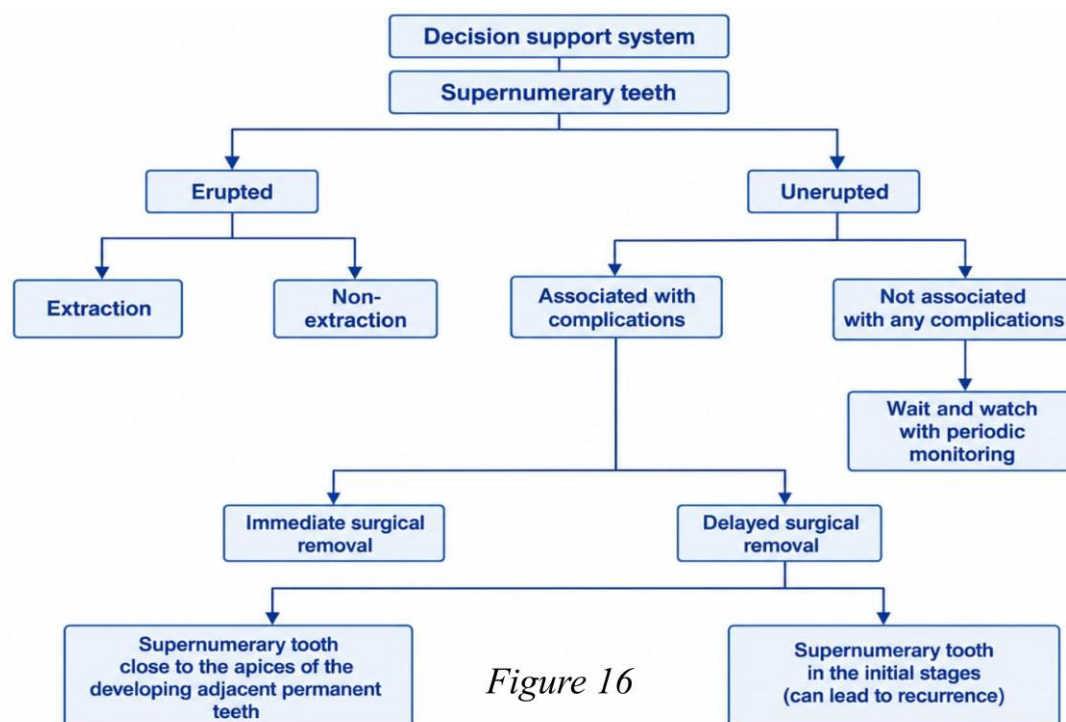


Figure 16

In cases where the permanent maxillary incisors remain unerupted with near complete apical formation; orthodontic bracket and chain may be placed during the surgical extraction to facilitate the extrusion of the unerupted tooth.⁴

Rotberg and Kopel recommended immediate extraction of the supernumerary teeth and preferably before the age of 5 years so that the root formation is incomplete in related permanent incisors. According to Koch, an urgent removal of supernumerary teeth is not required if no pathology is present. Högstöm and Andersson suggested removal of the supernumerary as soon as it has been diagnosed.⁷ Russel and others recommended extraction of mesiodens in the early mixed dentition stage for better alignment of teeth and minimizing the need for orthodontic treatment. According to research by Mitchell and Benett around 70% of the permanent teeth erupted spontaneously following extraction of the mesiodens. Some authors believe that the best time for removal of mesiodens is 8-9 years of age when the upper incisors erupt. At this age, behavior of a child is much easier to manage and the type of anesthesia required can be less invasive. Another treatment approach calls for late extraction of mesiodens when the adjacent permanent incisors have completed their root formation. However, if the mesiodens remains asymptomatic or when there is an increased risk of damaging the developing permanent incisors, surgery should be avoided and a periodic follow-up is necessary.⁷ To date, there is no clear consensus as to the best time to surgically extract an unerupted supernumerary tooth.¹⁰

If the complications of surgery outweigh the benefits of extraction, the teeth may be left in situ and a regular patient follow-up should be done even after the removal of supernumerary teeth to determine whether further teeth are forming.⁸

CONCLUSION:

A comprehensive understanding of the causes, diagnostic procedures, potential complications, and treatment options for supernumerary teeth enables dental surgeons to provide optimal care and manage patients with minimal trauma. The involvement of a pediatric dentist is particularly significant, as early detection of supernumerary teeth in a regular dental check up can reduce complications. Therefore, it is crucial for pediatric dentists to implement timely interventions to prevent or minimize orthodontic issues that may arise if these supernumerary teeth are not diagnosed at an early stage.

REFERENCES:

1. Monica. K, Lakshmi. T A, Pratibha Ramani, Gheena. S, Abilasha. R. Prevalence Of Supernumerary Teeth Among General Population - An Institutional Study. *International Journal of Early Childhood Special Education (INT-JECSE)* 2022. 14(01):3287-3291
2. Arikan V, Ozgul BM, Firdevs TO. Prevalence and characteristics of supernumerary teeth in a child population from Central Anatolia-Turkey. *Oral health and dental management*. 2013 Dec 1;12(4):269-72.
3. Garvey MT, Barry HJ, Blake M. Supernumerary teeth-an overview of classification, diagnosis and management. *Journal-Canadian Dental Association*. 1999 Dec 1;65(11):612-6.4.
4. Mallineni SK. Supernumerary teeth: Review of the literature with recent updates. In *Conference Papers in Science 2014* (Vol. 2014, No. 1, p. 764050). Hindawi Publishing Corporation
5. Kaur A, Bhutia T, Sharma I. Mesiodens with Impacted Inverted Supernumerary Tooth: A Rare Case Report. *Dental Journal of Advance Studies*. 2025 Apr 30;13(1):48-50.
6. Khandelwal P, Rai AB, Bulgannawar B, Hajira N, Masih A, Jyani A. Prevalence, characteristics, and morphology of supernumerary teeth among patients visiting a dental institution in Rajasthan. *Contemporary clinical dentistry*. 2018 Jul 1;9(3):349-56.
7. Amarlal D, Muthu MS. Supernumerary teeth: review of literature and decision support system. *Indian Journal of Dental Research*. 2013 Jan 1;24(1):117-22.
8. Garvey MT, Barry HJ, Blake M. Supernumerary teeth-an overview of classification, diagnosis and management. *Journal-Canadian Dental Association*. 1999 Dec 1;65(11):612-6.
9. Gopalakrishnan A, Subramani SM, Balachandran M, Manoharan V, Joy A, Mohan AP. Multiple Supernumerary Teeth in a Nonsyndromic 11-year-old Boy. *Oral & Maxillofacial Pathology Journal*. 2018 Jul 1;9(2).
10. Ata-Ali F, Ata-Ali J, Peñarrocha-Oltra D, Peñarrocha-Diogo M. Prevalence, etiology, diagnosis, treatment and complications of supernumerary teeth. *Journal of clinical and experimental dentistry*. 2014 Oct 1;6(4):e414.
11. Kumar A, Namdev R, Bakshi L, Dutta S. Supernumerary teeth: Report of four unusual cases. *Contemporary Clinical Dentistry*. 2012 Apr 1;3(Suppl1):S71-7.
12. Mukhopadhyay S. Mesiodens: a clinical and radiographic study in children. *Journal of Indian Society of Pedodontics and Preventive Dentistry*. 2011 Jan 1;29(1):34-8.
13. Sogi S, Patidar D, Patidar DC, Prasad P. " Mesiodentes-A Common Supernumerary in a Unique Appearance": A Case Report and Literature Review. *Journal of Clinical & Diagnostic Research*. 2018 Oct 1;12(10).