

CASE REPORT

Surgical Management of Impacted Supernumerary Tooth: A Case Series

Haseeb Ahammed¹, Thakur Seema², Chauhan Deepak³, Justa Ashish⁴

ABSTRACT

Supernumerary teeth are extra teeth in addition to the normal dentition. It is a developmental anomaly with multiple etiology. The present paper describes a series of three cases of impacted supernumerary teeth with some unique features located anterior maxillary region. All of them were extracted surgically.

Keywords: Cone-beam computed tomography, Impaction, Supernumerary tooth.

International Journal of Clinical Pediatric Dentistry (2021); 10.5005/jp-journals-10005-2008

INTRODUCTION

Hyperdontia is the condition of having supernumerary teeth or teeth which seem in addition to the regular number of teeth. It is a developmental anomaly and has been claimed to arise due to multiple etiologies.¹ It commonly occurs in maxilla but rarely in mandible.²

The prevalence reported in the general population ranges between 0.15% and 1.9% and is seen as more common in males than females.³

In a study carried out on 9-year-old children in Italy, the prevalence of this defect has been reported to be increased from 0.64 to 1.06 in recent years.²

The topographical classification of a supernumerary tooth is mesiodens, paralateral, paramolar, distomolar, and parapremolar and according to orientation as vertical, inverted, and transverse.⁴ According to Alberti et al., the most common type of supernumerary tooth is mesiodens.² Although the etiology of the supernumerary tooth remains uncertain, a few theories have been suggested.⁵ A genetic basis for supernumerary teeth was suggested considering observation of a higher rate of occurrence of hyperdontia among related families.⁶ Presence of supernumerary tooth in syndromes such as Gardner's syndrome and cleidocranial dysostosis strengthen the genetic basis of the disease.⁷

The complications like crowding, delayed eruption, impaction, spacing abnormal root formation, a median diastema, cystic lesion, rotation, and root resorption of the adjacent tooth, might occur due to the presence of the supernumerary tooth.⁸ Eruption of incisor in the nasal cavity has also been reported.⁹ Considering the multiple complications management of supernumerary usually remains immediate removal.

In this article, we are including three case series with surgical management of impacted supernumerary teeth.

CASE DESCRIPTIONS

Case 1

A 10-year-old female child reported to the Department of Pedodontics and Preventive Dentistry with a chief complaint of pain on the upper front tooth for 4 days. In a clinical examination, it showed yellowish discoloration of the 11, 22, and missing 21, with protrusive maxillary anterior segment (Fig. 1A). The parent recalled a

¹⁻⁴Department of Pedodontics and Preventive Dentistry, HP Government Dental College and Hospital, Shimla, Himachal Pradesh, India

Corresponding Author: Thakur Seema, Department of Pedodontics and Preventive Dentistry, HP Government Dental College and Hospital, Shimla, Himachal Pradesh, India, Phone: +91 9418470915, e-mail: cima2009@hotmail.com

How to cite this article: Ahammed H, Seema T, Deepak C, et al. Surgical Management of Impacted Supernumerary Tooth: A Case Series. *Int J Clin Pediatr Dent* 2021;14(5):726-729.

Source of support: Nil

Conflict of interest: None

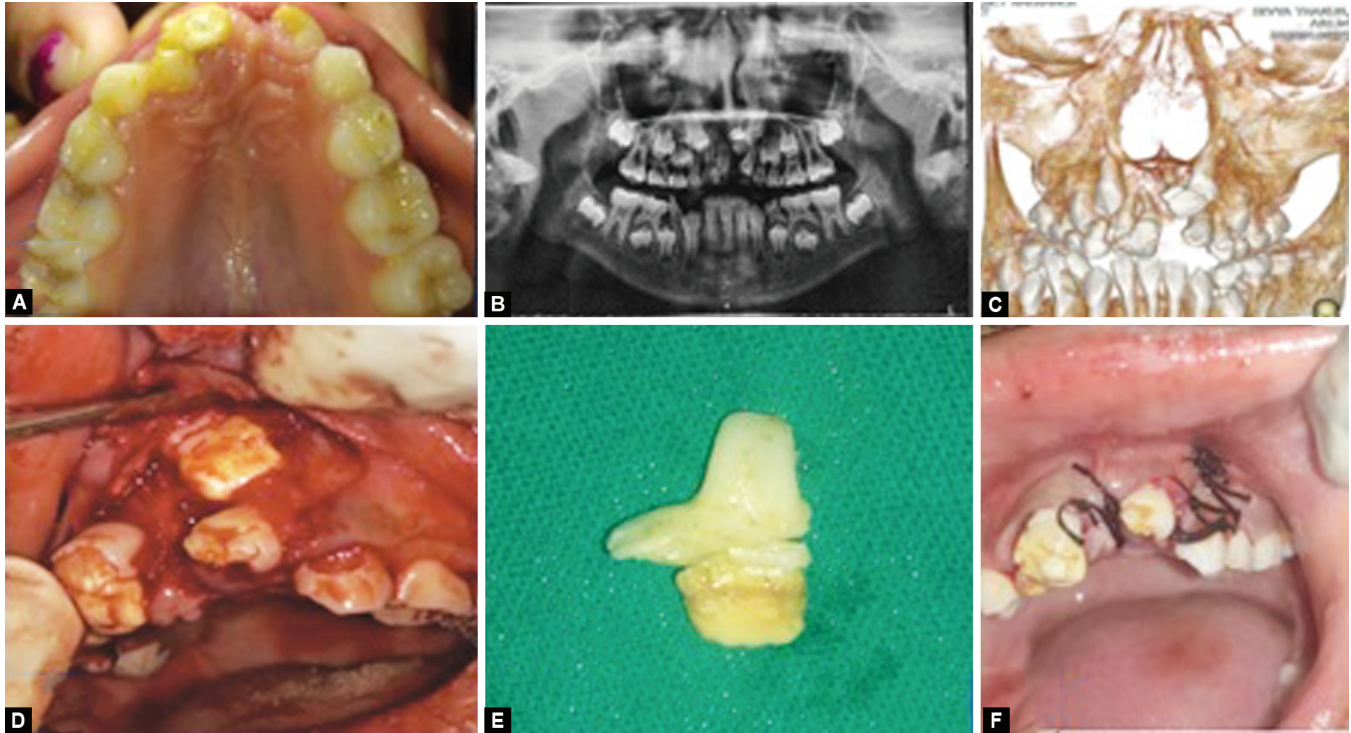
history of trauma to the anterior maxillary region 5 years back. Based on the history and clinical examination, we made a provisional diagnosis of Turner's hypoplasia on 11, and 22. IOPA radiograph and panoramic radiograph revealed that 21 is within the alveolar bone and was associated with a radiopaque mass (Fig. 1B). To confirm the position and structural relationship with adjacent structures, cone-beam computed tomography (CBCT) was advised and was suggestive of 21 with dilacerated root and single supernumerary tooth positioned palatally between 11 and 21 (Fig. 1C). After the consultation with an orthodontist, it was inferred that the forced eruption of 21 seemed practically impossible or technically difficult due to the position and morphology of the tooth. So, we planned the surgical extraction of the 21 along with the supernumerary tooth under local anesthesia. A full-thickness mucoperiosteal flap was raised, selective and circumferential removal of bone was done to expose the tooth till above the CEJ of 21 and the crown showed hypoplastic enamel (Fig. 1D). Following which odontectomy was done to section out the crown portion. The supernumerary tooth which was found fused with the root of 21 was surgically removed (Fig. 1E) and sutures were placed (Fig. 1F) and the patient was prescribed antibiotics and analgesics.

Case 2

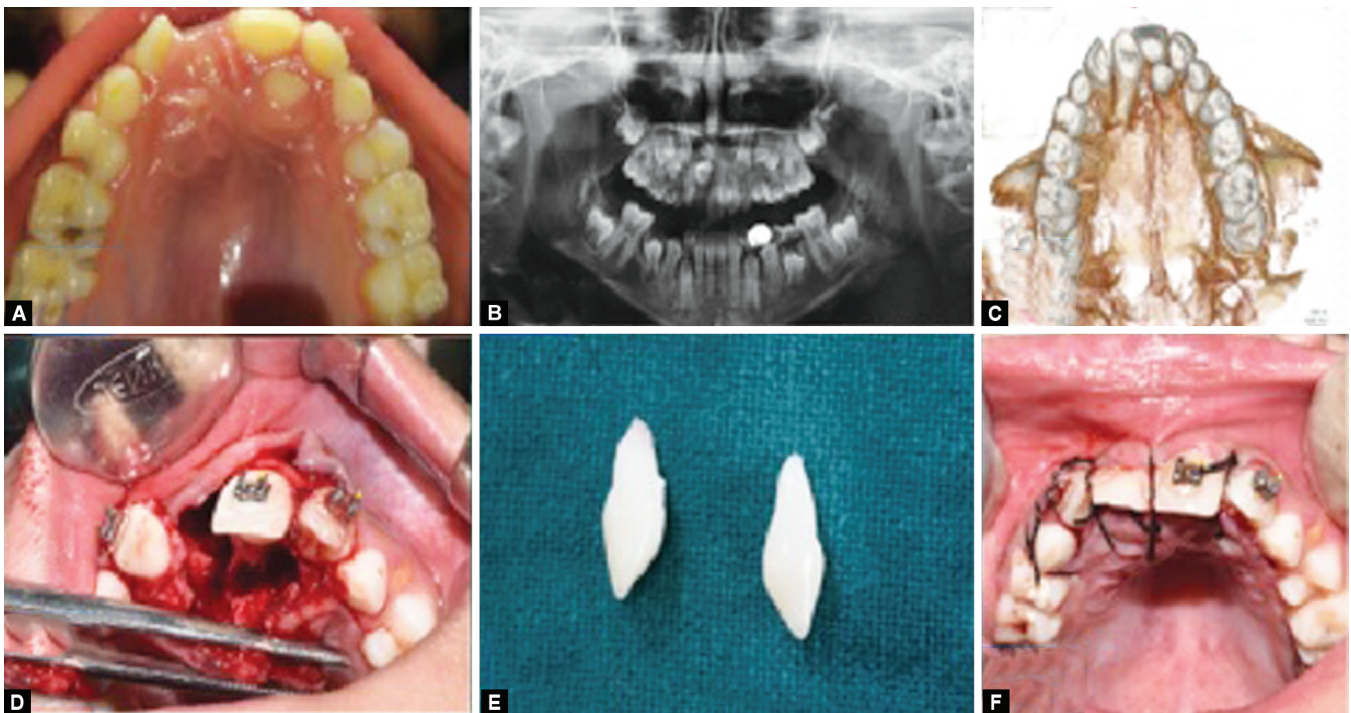
A 9-year-old female patient reported to the Department of Pedodontics, Govt Dental College and Hospital Shimla, Himachal Pradesh with a chief complaint of missing anterior front teeth.

There was no history of trauma. On clinical examination, there was a missing maxillary right central incisor. A supernumerary tooth was present palatally with respect to 11 (Fig. 2A). An eruption bulge was palpable on the labial gingiva of the 21 region. Occlusal and panoramic radiographs of 21 revealed that a tooth-like structure was placed superior to the horizontally impacted 21 (Fig. 2B). A

CBCT was advised to know the exact position and morphology of the tooth-like structure and also the impacted 21. CBCT images disclosed an impacted supernumerary tooth within the alveolar bone palatal to 11 and 21 having a complete crown and single root. It was positioned vertically, with crown tipped toward the occlusal plane. The crown of the supernumerary tooth is in close proximity to



Figs 1A to F: (A) Maxillary arch; (B) Panoramic radiograph; (C) Cone-beam computed tomography; (D) Surgical exploration of the impacted tooth; (E) Perpendicular fusion of supernumerary tooth with incisor; (F) Sutured the surgical site



Figs 2A to F: (A) Maxillary arch; (B) Panoramic radiograph; (C) Cone-beam computed tomography; (D) Surgical exploration of the impacted tooth; (E) Extracted supernumerary teeth; (F) Replanted the incisor

the CEJ of 11 and 21; positioned palatally with a little displacement of 11 and 21. Labially, the crown of supernumerary teeth was positioned superior to the crown of 21 (Fig. 2C). Our treatment plan was an extraction of supernumerary tooth associated with 11 and surgical extraction of 21 (since 21 cannot be extruded by orthodontic traction), under local anesthesia (Figs 2D and E). Following which extraoral endodontic treatment was done on 21 and replanted into its anatomic position (Fig. 2F). Sutures were placed, antibiotics and analgesics were prescribed.

Case 3

An 8-year-old male patient reported to the Department of Pedodontics, Govt Dental College and Hospital Shimla, Himachal Pradesh with a chief complaint of an irregularly placed upper front tooth. The parent of the patient noticed this irregularity for 1 year. Clinical examination revealed that an extra tooth was present in between 11 and 21 suggestive of a mesiodens (Fig. 3A). IOPA radiograph showed a tooth-like structure was found impacted in relation to the apical third of 11 which is in an inverted direction (crown toward the apex) suggestive of mesiodens (Fig. 3B). To determine the position of mesiodens, occlusal radiograph was advised and was located palatally (Fig. 3C). Surgical extraction of the mesiodens was planned under local anesthesia. Mesiodens which was visible on the oral cavity was extracted first. The palatal flap was elevated, and selective removal of the palatal bone by using bur, the supernumerary tooth was exposed and was extracted (Figs 3D and E). The flaps were sutured and a periodontal pack was placed (Fig. 3F).

DISCUSSION

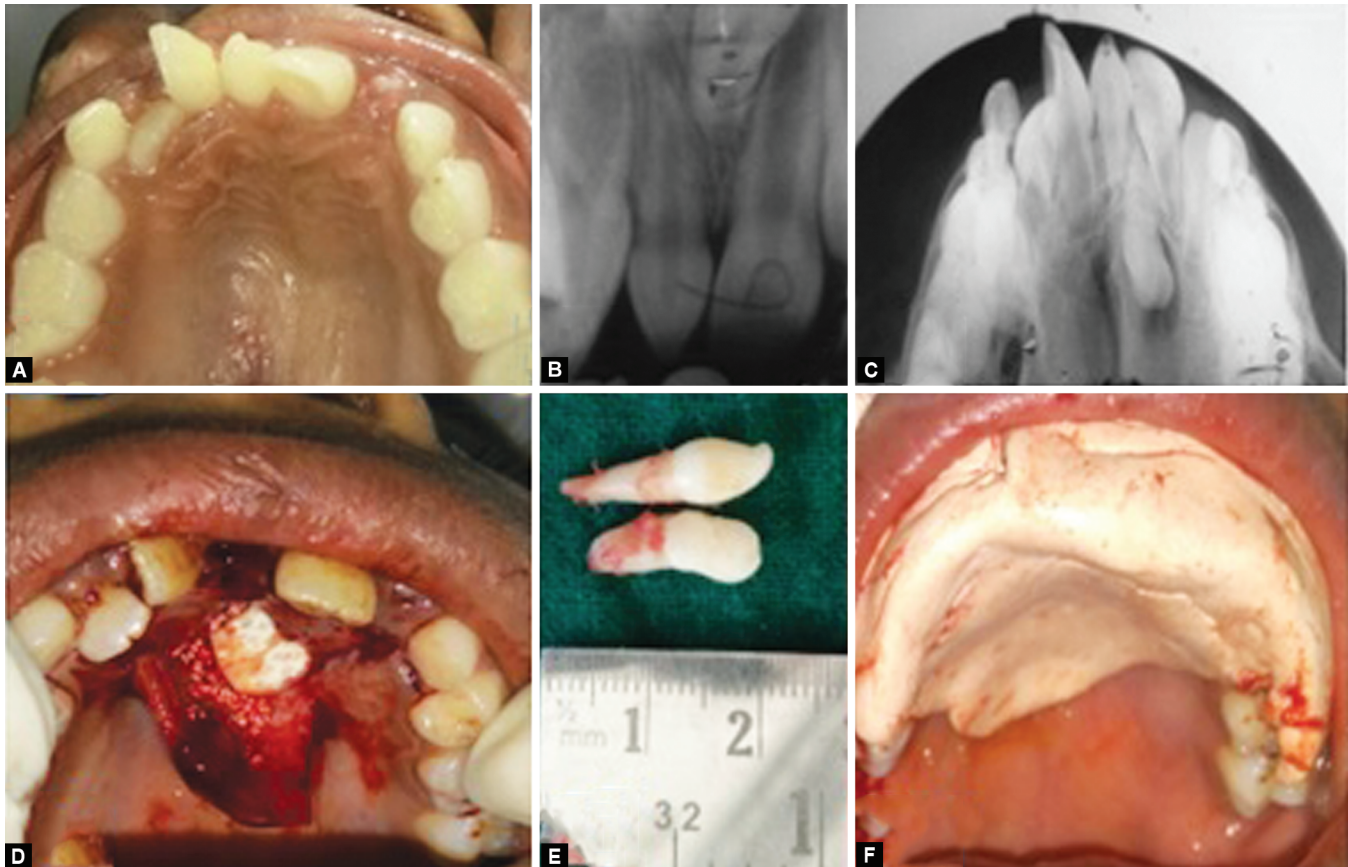
The diagnosis and management of the erupted supernumerary tooth is not a big deal. Sometimes the diagnosis is accidental when it is impacted and the management is also difficult.

The positional and structural relationship of the supernumerary tooth with the adjacent tooth is one of the factors that affect the management. Although the intraoral radiographs will give a preliminary assessment, newer imaging modality like CBCT reveals the more accurate positioning and spatial relationship of the structure. Two cases described above needed CBCT scanning because the conventional radiographs were inconclusive.

Manchanda et al. presented a case report of the development of supernumerary teeth after subluxation of the primary teeth. In the first case, the parent has given a history of trauma in the primary dentition.¹⁰ So, the etiology of trauma may be correlated with the development and the fusion of the supernumerary tooth. Another finding noted in the case was a perpendicular fusion of the supernumerary tooth with a permanent central incisor. This kind of fusion is rarely found in the literature.

The presence of multiple supernumerary teeth is usually associated with syndromes like Gardner's syndrome and cleidocranial dysplasia.¹¹ Of the three cases presented here, two of them had multiple supernumerary teeth. However, both of the patients were non-syndromic.

Management of supernumerary teeth depends on the type and position of the tooth. Immediate removal of mesiodens is usually indicated in the following situations; inhibition or delay



Figs 3A to F: (A) Maxillary arch; (B) Intraoral periapical radiograph; (C) Maxillary occlusal radiograph; (D) Surgical exploration of the impacted tooth; (E) Extracted supernumerary teeth; (F) Periodontal pack placed

of eruption, displacement of the adjacent tooth, interference with orthodontic appliances, presence of pathologic condition, or spontaneous eruption of the supernumerary tooth. Munns stated that “earlier the mesiodens is removed, the better the prognosis”.¹²

In all the above cases, surgical extraction of the supernumerary teeth was done. We faced some difficulties in the surgical removal in all the cases. In the first case due to abnormal fusion of the supernumerary tooth, odontectomy was needed. Since the position of the supernumerary tooth was unable to locate in the second case the extraction of associated permanent teeth was also required. Usually, the supernumerary tooth which is located in the anterior maxilla will be placed in an inverted position and so remain unerupted. In the third case also, the impacted supernumerary tooth was in an inverted position, which made it difficult during its surgical removal.

In all three cases, presence of supernumerary tooth possessed some complication to the adjacent teeth. An accurate diagnosis and multidisciplinary approach are mandatory to get good treatment results with fewer complications.

REFERENCES

1. Brook AH, An epidemiological study of dental anomalies in English school children with a detailed clinical and genetic study of a selected group, M.D.S. Thesis, University of London; 1974.
2. Alberti G, Mondani PM, Parodi V. Eruption of supernumerary permanent teeth in a sample of urban primary school population in Genoa, Italy. *Eur J Paediatr Dent* 2006;7(2):89–92.
3. Van Buggenhout G, Bailleul-Forestier I. Mesiodens. *Eur J Med Genet* 2008;51(2):17881.
4. Shah A, Gill DS, Tredwin C, et al. Diagnosis and management of supernumerary teeth. *Dent Update* 2008;35(8):510–520. DOI: 10.12968/denu.2008.35.8.510.
5. Primosch RE. Anterior supernumerary teeth-assessment and surgical intervention in children. *Pediatr Dent* 1981;3(2):204–215.
6. Stellzig A, Basdra EK, Komposch G. Mesiodentes: incidence, morphology, etiology. *J Ofac Orthop* 1997;58(3):144–153. DOI: 10.1007/BF02676545.
7. Townsend GC, Richards L, Hughes T, et al. Epigenetic influences may explain dental differences in monozygotic twin pairs. *Aust Dent J* 2005;50(2):95–100. DOI: 10.1111/j.1834-7819.2005.tb00347.x.
8. Gorlin RJ, Cohen MM, Hennekam RC. *Syndromes of the head and neck*. 4th ed., Oxford: Oxford University Press; 2001. pp. 547–1108.
9. Seddon RP, Johnstone SC, Smith PB. Mesiodentes in twins: a case report and a review of the literature. *Int J Paediatr Dent* 1997;7(3):17784. DOI: 10.1046/j.1365-263X.1997.00237.x.
10. Manchanda N, Anthonappa R, King N. Supernumerary teeth formation following subluxation of primary incisors. *Dent Traumatol* 2019;35(3):212–215. DOI: 10.1111/edt.12464.
11. Garvey MT, Barry HJ, Blake M. Supernumerary teeth overview of classification, diagnosis and management. *J Canadian Dent Assoc* 1999;65(11):612–616.
12. Munns D. Unerupted incisors. *Br J Orthod* 1981;8(1):39–42. DOI: 10.1179/bjo.8.1.39.