

Case Report

Bilateral Mesiodens in a 11 Year Old Patient- A Case Report

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ABSTRACT:

Mesiodens is a type of supernumerary tooth that occurs in the maxillary midline with a usual presentation as a single, erupted variant that is present in between the maxillary central incisors. Bilateral occurrence of this is extremely rare. This is a case of bilateral, unerupted mesiodens in a 11 year old male patient associated with unerupted permanent maxillary central incisors.

Key words: Mesiodens, unerupted teeth.

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INTRODUCTION:

Supernumerary teeth are developmental disturbances of teeth number which is characterized by the presence of extra teeth as compared to the normal set of teeth. There is a greater predilection for males than females for the occurrence of supernumerary teeth. Morphologically they may be conical, tuberculate, supplemental or odontome. They may be unilateral/bilateral, erupted/ unerupted, involving one jaw/ both and may or may not be associated with syndromes. Mesiodens has a prevalence ranging between 0.15-1.9%.¹ Impaction/ delayed eruption of permanent successor, malocclusion, impaired esthetics and dentigerous cyst formation are the frequently encountered problems with this condition.²

CASE REPORT:

A 11 year old male patient reported to the Department of Pediatric and Preventive dentistry, A.B. Shetty Memorial Institute of Dental Sciences with a chief complaint of unerupted upper front teeth. The patient was observed to be healthy with no contributory

medical or family history. There were no abnormalities observed in extra oral examination, but the intra- oral examination revealed a permanent dentition with Angle's Class I molar relation with missing upper central incisors. The soft tissues appeared normal. (Fig 1& 2)

Maxillary anterior occlusal radiograph revealed the presence of two conical supernumerary teeth in relation to impacted right and left permanent central incisors. One with an open apex was located on the midline in between the impacted 11 and 21; the other one with closed apex was present just beneath the crown of 11. (Fig 3)

To confirm the exact location and relation of the supernumerary teeth, a Cone Beam Computed Tomography (CBCT) was taken. (Fig 4) The CBCT revealed the presence of vertically impacted bilateral supernumerary teeth (mesiodens) situated palatal to 11 and 21 respectively. The distance of the root apex of right and left mesiodens from the floor of the nasal cavity were 6.08mm and 5.20mm respectively. (Fig 5&6) The presence of bilateral vertically impacted

maxillary permanent central incisors situated buccally with 11 having a sharp mesio- buccal dilaceration was noted on CBCT. The distance of the crowns of 11 & 21 from the occlusal surface were 6.01mm and 6.83mm respectively. The follicular space were within normal limits. (Fig 7-9). Correlating the clinical and radiographic findings, a diagnosis of bilateral mesiodens was made.

Surgical removal of the bilateral mesiodens was planned. Anesthesia was achieved using Nasopalatine nerve block and Buccal infiltration. A sulcular incision was made on the palate extending from the distal aspect of 23 on the crest of alveolar ridge to the distal aspect of 13. (Fig 10) A full thickness flap was raised, bone removal was carried out for better

visualization of the right mesiodens and both the mesiodens were successfully removed. (Fig 11) The bilateral mesiodens were approximately 16 mm size. (Fig 12) Simple interrupted sutures were placed and the patient was recalled after a week for suture removal. The post-operative healing was found to be satisfactory. (Fig 13)

The observation after a month showed the eruption of 11 with the incisal edge being clearly visible. However 21 was still unerupted, the IOPA taken to assess the position of 21 revealed the presence of the incisal edge of 21 at the level of middle third of the crown of 11. (Fig 14) Orthodontic treatment was planned to facilitate the eruption of 21.



Fig 1: Intra oral examination showing unerupted maxillary central incisors



Fig 2: Occlusal view



Fig 3 Maxillary anterior occlusal radiograph



Fig: 4 Panoramic view (CBCT)

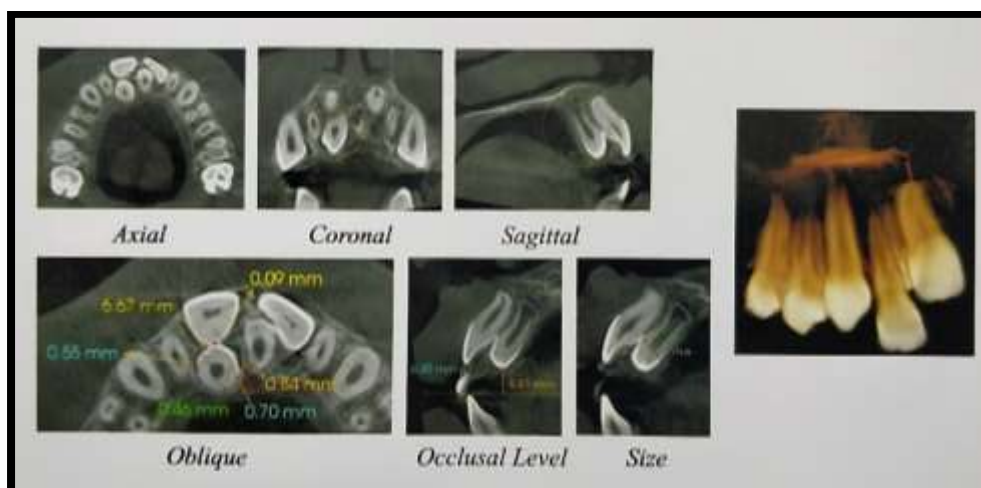


Fig 5: Impacted right mesiodens: Conical crown with single partially formed conical root; cusp tip 0.68 mm from cusp tip of 11 and 5.61 mm from occlusal plane; root apex 6.08 mm from floor of nasal cavity

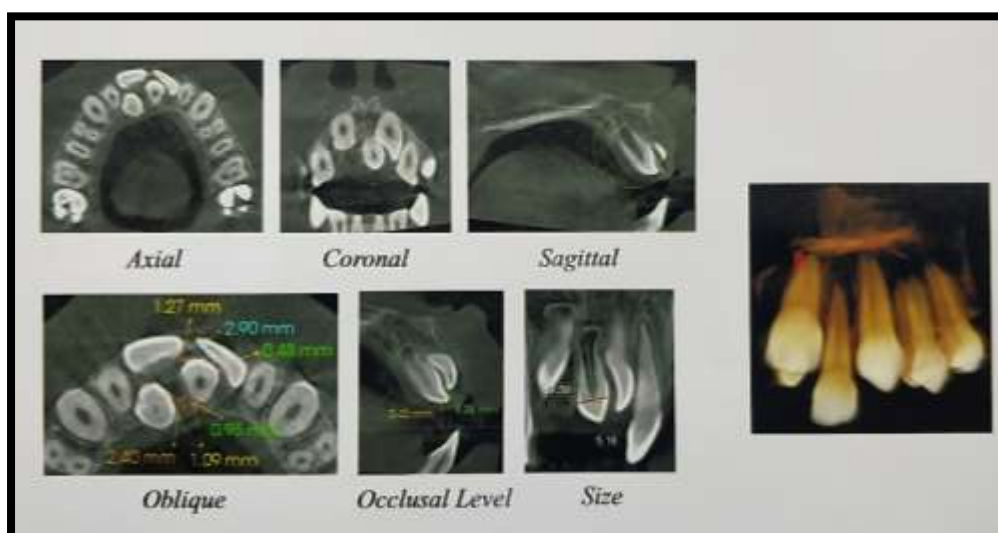


Fig 6: Impacted left mesiodens: Conical crown with single partially formed conical root; cuap tip 2.65 mm coronal to the incisal edge of 21 and 5.42 mm from occlusal plane; root apex 5.20 mm from floor of nasal cavity

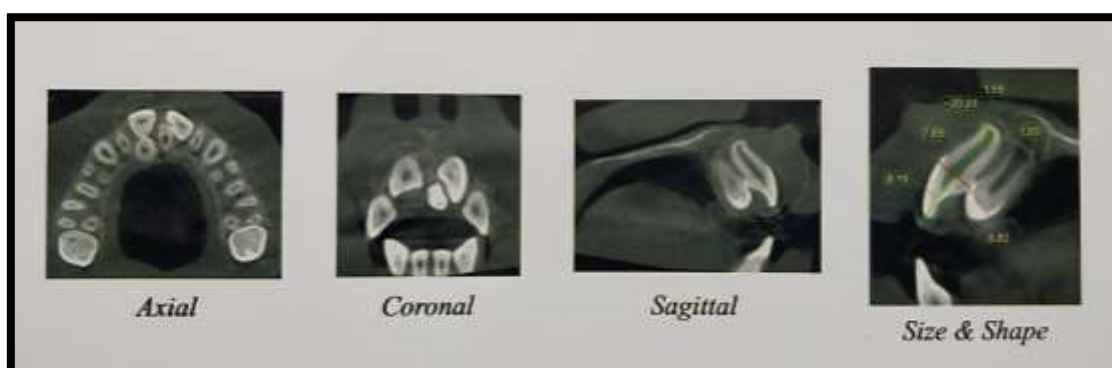


Fig 7: Impacted 11: Single conical root with single canal and closed apex with sharp mesio- buccal dilaceration starting at 3.25 mm from the apex; Crown being 6.01mm from occlusal plane

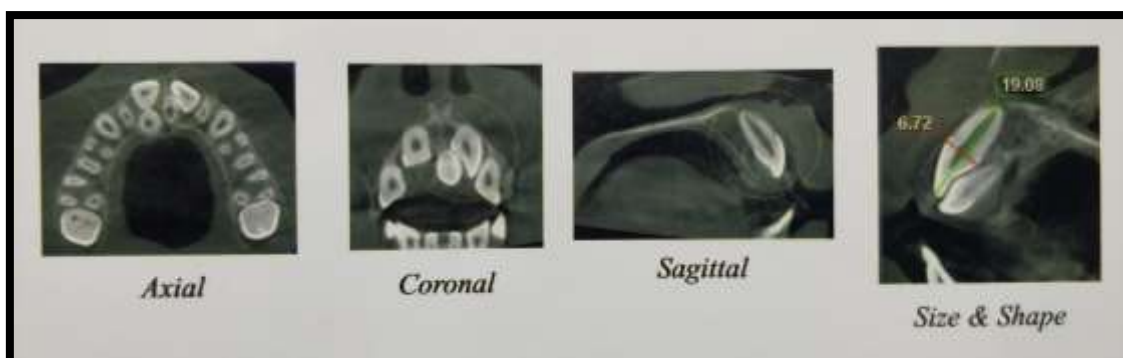


Fig 8: Impacted 21: Single conical root with single canal and closed apex; Crown being 6.83 from occlusal plane

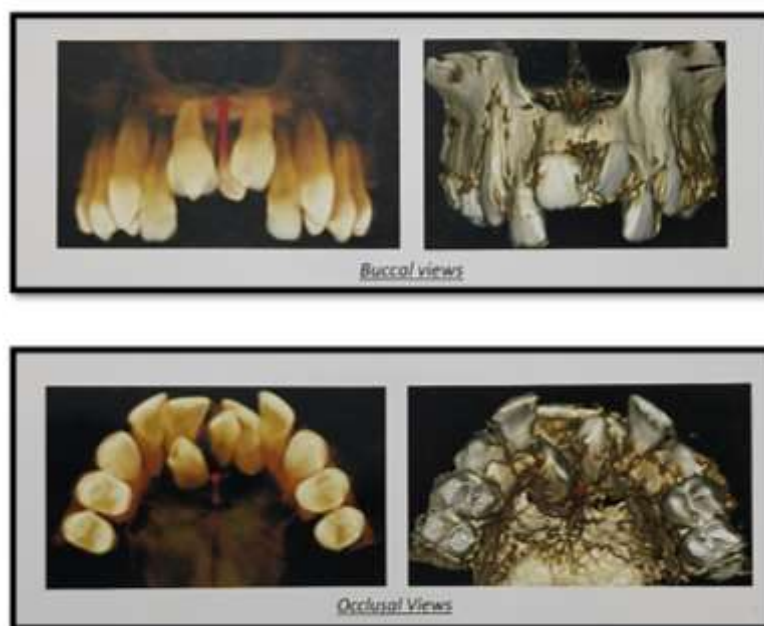


Fig 9: 3 – D Reconstruction



Fig 10: Sulcular incision made from distal aspect of 23 extending on the crest of alveolar ridge upto the distal aspect of 13 and full- thickness flap raised with left mesiodens being visible.



Fig 11: Faint outline of right mesiodens visible with partial bone coverage



Fig 12: Extracted mesiodens



Fig 13: Sutures placed and one week post- op healing

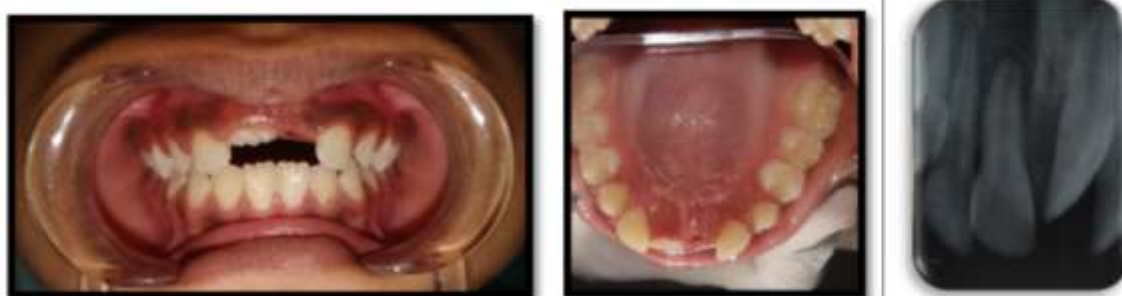


Fig 14: One month post- op showing the incisal edge of erupting 11. IOPA revealing the relationship of unerupted 21 to 11. 21 is rotated with its incisal edge in close proximity to the middle third of crown of 11.

DISCUSSION:

Supernumerary teeth are an additional entity to the existing teeth and the etiology is often unknown. Mesiodens can occur either as a single isolated anomaly or in association with cleft lip and palate, Down's syndrome, Gardner's syndrome, Fabry-Anderson's syndrome, Ellis-van crevald syndrome, Incontinentia pigmenti, Tricho-rhino-phalangeal syndrome and Cleidocranial dysplasia.^{2,3,4} Various etiologies have been hypothesized which include:

- The development of a third tooth bud arising from the dental lamina close to the permanent tooth
- Hyperactivity theory which states that supernumerary teeth arise due to local,

independent, uncontrolled hyperactivity of dental lamina

- Hereditary factors.³

Hogstrum and Anderson have given two approaches regarding the timing of removal. The first approach is to remove the supernumerary as soon as it is diagnosed, the disadvantage being a possible creation of dental phobia in the child and devitalization of permanent teeth. The second alternative is to allow the root development of the adjacent tooth to be completed prior to the removal of supernumerary tooth. This also has disadvantages that include loss of eruptive forces of the adjacent teeth, loss of space, cystic transformation, shift of midline and crowding

of the arch. The first approach is routinely practiced based on accurate radiographic localization to minimize the risk of trauma to the permanent teeth and also to assess the location, number, sagittal position and path of the impacted supernumerary tooth.⁵ In the present case the bilateral mesiodens were extracted to facilitate the eruption of the permanent central incisors but the successful eruption of only 11 was noted. Further orthodontic treatment was required in this case to bring about the eruption of 21.

CONCLUSION:

Supernumerary teeth pose a risk of various complications such as delayed eruption of permanent successor, malocclusion, impaired esthetics and dentigerous cyst formation. It is extremely detrimental when they occur in a young growing patient. Early diagnosis should be made and treatment plan must be formulated according to the type of supernumerary teeth and age of the patient so as to minimize the risk of complications.

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