Paired Erupted and Unerupted Mesiodens: A case report

Kumar Vinoda, Karthik Venkataraghavanb

aReader, Department of Pediatric & Preventive Dentistry, AME’S Dental College & Hospital, Raichur.
bProfessor & HOD, Dept. of Pedodontics & Preventive Dentistry, College of Dental Sciences & Research Centre, Ahmedabad -382115, Gujrat.

Abstract

Supernumerary teeth are extra teeth present in addition to normal series. By definition the supernumerary teeth are the extra teeth present in the oral cavity. These can be found in any region of the oral cavity. Most supernumerary teeth are found in the anteriormaxillary region. The most common position of these supernumerary teeth is in the midline. Mesiodens is a supernumerary teeth present between central incisors and its conical in shape. Mesiodens is the most commonly found supernumerary teeth on many occasions. Mesiodens are paired, single, unerupted and sometimes impacted. These mesiodens causes many complications like midline diastema, displacement, rotation, root resorption, unpleasing esthetics, and cyst formation. In the present case mesiodens was found bilaterally in the anterior maxilla, one erupted and another unerupted and inverted. In this case both mesiodens are prophylactically extracted in order to prevent its adverse effects on dentition.

Keywords:
Mesiodens, Supernumerary teeth, Inverted mesiodens
Introduction

Supernumerary tooth can be defined as one that is additional to normal series and can be found in almost any region of the dental arch. Though the etiology of this condition is not well understood, it has been suggested that the interference with the stage of the initiation results in either missing tooth or extra tooth. Supernumerary tooth is found more often in permanent dentition than in the primary.\(^1\)

Supernumerary teeth also known as hyperdontia, it’s the condition where more than normal number of teeth is present. By definition the supernumerary teeth are the extra teeth present in the oral cavity. These can be found in any region of the oral cavity. It is 0.8% in deciduous teeth and 2.1% in permanent teeth. These can be present unilaterally or bilaterally. It can be single or multiple. Normally it is single but multiple supernumerary teeth are present in cases of cleft lip and palate, cleidocranial dysplasia or Gardner’s syndrome. The incidence of supernumerary teeth in cleft lip and palate cases is around 22%. While in cleidocranial dysplasia cases it is 22.2% in maxillary region and 5% in molar region.\(^2\)

Most supernumerary teeth are found in the anterior maxillary region. The most common position of these supernumerary teeth is in the midline. This midline supernumerary tooth has been named a mesiodens because of its position in the centre of the maxilla. Mesiodens are usually conical in shape and may be paired. In children, 85% of anterior supernumeraries are unerupted, and 65% interfere with the normal eruption of the maxillary permanent incisors. The 15% that do erupt can do so at any age, but eruption usually occurs between the ages of 3 and 7 years.\(^3\)

Supernumerary teeth classification:

They can be classified on the basis of position:

- Mesiodens - present in the incisor region
- Paramolar - present beside molars
- Distomolar - present distal to last molar
- Para premolar - present beside premolar.\(^2\)

A rare combination of paired supernumerary teeth, one erupted supernumerary tooth palatal to maxillary permanent right central incisor and another inverted and unerupted supernumerary tooth palatal to the maxillary left central incisor prompted us to present this case report.

Case report

A 10-year-old patient reported to the dental department, with a chief complaint of extra tooth in the upper front region. The familial, medical and dental history was non-contributory. Extra oral examination didn’t reveal any abnormalities. Intra oral examination showed mixed dentition with the following teeth:

- 36 15 14 13 53 12 11 21 22 63 24 25 26
- 46 45 44 43 42 41 31 32 33 34 35 36

S: Supernumerary tooth (mesiodens)

Patient’s occlusion was class I molar relation with very mild upper anterior crowding. A supernumerary tooth (fig1) was seen palatal to maxillary right central incisor; it was conical in shape (mesiodens) measuring about 5 mm mesiodistally. After obtaining intra-oral radiograph (fig 3) of maxillary right
and left central incisors one more supernumerary tooth was found in relation to maxillary left central incisor it was impacted and inverted. Occlusal radiograph was taken to assess the buccolingual position of unerupted supernumerary tooth. After occlusal radiographic assessment unerupted supernumerary tooth was found to palatal to 21.

So there were two paired mesiodens supernumerary teeth, one erupted and another impacted and inverted. In the present case patient’s age was 10 years and adjacent permanent central incisors were totally erupted, so it was decided to extract both erupted and unerupted supernumerary teeth under local anaesthesia. Parent’s informed written consent was taken prior to surgical procedure.

1) Intra-alveolar extraction (forceps technique) of erupted supernumerary teeth was done.

2) Surgical extraction (transalveolar extraction) of the unerupted supernumerary tooth was done by raising mucoperiosteal flap: first intracrevicular incision is made from right 1st premolar to left 1st premolar on palatal side than a mucoperiosteal flap was raised (fig 4). After careful elevation of the flap, adequate amount of bone was removed (fig 5) using rotary cutting instruments. The supernumerary tooth was removed surgically and the extraction socket was inspected for any pathological tissue (fig 6). The flap was repositioned and sutures placed (fig 7) for a week. Patient is recalled after 1 week and sutures removed. Post surgical phase was uneventful.
Paired erupted and unerupted Mesiodens

Discussion

Early diagnosis of erupted and unerupted supernumerary teeth is essential because it can lead to

- Failure of eruption of adjacent teeth
- Crowding
- Diastema formation
- Malocclusion
- Esthetic problems
- Dentigerous cyst formation

Unerupted multiple supernumerary teeth characteristically found in cleidocranial dysplasia and Gardner’s syndrome. Supernumerary teeth have a predilection for maxilla and for specifically the premaxilla. Most commonly they occur between central incisors and termed as mesiodens. These mesiodens are conical in shape, they may occur singly, bilaterally, unerupted or Inverted.

In the present case it was found bilaterally in the anterior maxilla, one erupted palatal to 11 and another unerupted and inverted palatal to 21. The present case is rare since paired mesiodens, one erupted and another unerupted has only been reported only few times. Prophylactic removal of these supernumerary teeth is indicated in order to prevent problems and decrease complications. In the present case the timing for surgical removal of both mesiodens was suitable since both maxillary central incisors totally erupted showing complete root formation.

Munns has stated that early the supernumerary tooth is removed better will be the prognosis.

Figure 4: After extraction of erupted mesiodens, intra-crevicular incision given on palatal side to raise mucoperiostea flap for removal of unerupted mesiodens.

Figure 5: Mucoperiostea flap raised and unerupted mesiodens removed by rotary cutting instruments.

Figure 6: Both Mesiodens extracted.

Figure 7: Flap repositioned and sutures placed.
Primosch⁶ has described surgical intervention of supernumerary teeth based on tooth type and stage of eruption of adjacent permanent teeth. He discourages early extraction of mesiodens due to the risk of iatrogenic damage to the developing adjacent permanent teeth. Once it has been determined that removal is warranted, the timing is controversial. There are two schools of thought: immediate removal vs. delayed removal. Immediate denotes removal within a short period of time following identification. Disadvantages of immediate intervention include potential damage to adjacent teeth, traumatic procedure for young children to endure, and performance of an unnecessary surgery if future complications fail to develop. Delayed denotes observation until adjacent root formation is complete, i.e., between eight and 10 years of age.

In the present case, the timing for surgical removal of the inverted mesiodens was judged to be suitable, since both maxillary central incisors had totally erupted, showing complete root formation and patient’s age was 10 years.

However, the occurrence of two mesiodens was definitely regarded as a contributory factor to the crowding in the anterior maxillary region.⁷

Most problems of supernumerary teeth are due to their ability to delay, displace or prevent eruption of permanent teeth, unaesthetic situation and parental concern.⁶ Rarely nasal eruption (inverted), cystic degeneration, root resorption, loss of vitality or diastema formation may occur.⁸

In the present case both supernumerary teeth were extracted to

1) Alleviate patients concern of occlusal interference and unpleasing esthetics (erupted Supernumerary tooth)

2) To avoid root resorption of central incisor, nasal eruption and cyst formation (Unerupted and inverted supernumerary tooth)

Conclusion

Supernumerary teeth are of great concern to both dentist and patient because of its potential problems and complications. Radiographic evaluation of erupted supernumerary teeth is important in order to accidental detection of unerupted contra lateral supernumerary teeth.

From surgical point of view it’s essential to know the buccolingual position of unerupted supernumerary teeth. Prophylactic removal of these supernumerary teeth is advised in order to prevent problems and decrease complications.

Once diagnosed surgical removal of mesiodens is advised and the suitable timing for their extraction is when adjacent maxillary central incisors had totally erupted with complete root formation.

References
1. Dr Shanmugha Bai G, Dr Arangannal P. Supernumerary teeth associated with primary and Permanent teeth: a Case report. Jisppd.sep 2002 20(3):104-106