

## Case Report

### Inverted Impacted Mesiodents: A Case Series

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#### Abstract

Mesiodens is a most commonly occurring supernumerary tooth. It is defined as a dental anomaly which is a disorder of odontogenesis. Inverted impacted mesiodens is a rare type of mesiodens. Etiology behind its inverted impaction is still unclear. It is usually present in the middle of the hard palate between the centrals. Complications associated with inverted impaction are eruption disturbance of permanent teeth, diastema, rotation, spacing, crowding, root resorption, formation of dentigerous cyst or its eruption into nasal cavity. It is an asymptomatic condition and are diagnosed on routine radiographic examination. This article presents cases with inverted impacted mesiodens and their associated problems. As such no treatment is required but surgical innervations are required if associated with any complication.

**Keywords:** Inverted, Impacted, Supernumerary, Hyperdontia

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#### Introduction:

Mesiodens is defined as an extra tooth between the maxillary central incisors. It may be single/multiple and erupted/impacted, commonly found in males. Prevalence of inverted impacted mesiodens is 9-67 % in literatures<sup>1</sup> The etiology of mesiodens is clear but there are three theories such as dichotomy of the tooth bud, hyperactivity of the dental lamina and avatasim. Genetics and consanguineous marriages are also considered as etiological factors. Very few cases of inverted impacted mesiodens are reported till now.<sup>2</sup> According to its occurrence mesiodens is divided into

two types, rudimentary mesiodens if occurs in permanent dentition, supplementary mesiodens in deciduous dentition. According to the shape and size it is of two types' eumorphic and dysmorphic. Eumorphic is having similar size of central incisor and dysmorphic have different shapes including conical, supplemental, tuberculate and odontomes.<sup>3</sup>

Authors present non-syndromic occurrence of inverted impacted mesiodens in otherwise normal healthy subjects. Written consent was obtained from all the patients and parents consent was obtained for

investigation. No other member of the family had similar dental finding and history of consanguineous marriage was ruled out in all the cases.

**Case 1:** A 12 years old male patient came to the Oral medicine and radiology department with chief complaint of proclined maxillary anteriors. Intraoral examination revealed proclined maxillary central incisors and deep bite (Figure 1). Panoramic examination revealed two inverted impacted mesiodents, one was located in close approximation to the root apex of right maxillary central incisor and other was appeared at the apex of left central incisor (Figure 2). Both mesiodents caused proclination of central incisors.



**Figure 1:** Intraoral view of patient showing proclined maxillary anteriors



**Figure 2:** Panoramic radiograph showing two inverted impacted mesiodents

**Case 2:** A 7 year old male patient reported with chief complaint of unerupted upper front teeth region. On examination, patient

had proclined maxillary right central incisor and retroclined lateral incisor (Figure 3). An occlusal radiograph of maxilla revealed inverted impacted mesiodents. One was present at apex of right central incisor and other was parallel to first one (Figure 4). Left central incisor and both permanent canines were congenitally missing. Hematological investigations were performed which showed no positive findings.



**Figure 3:** Clinical view of missing left permanent maxillary central incisor



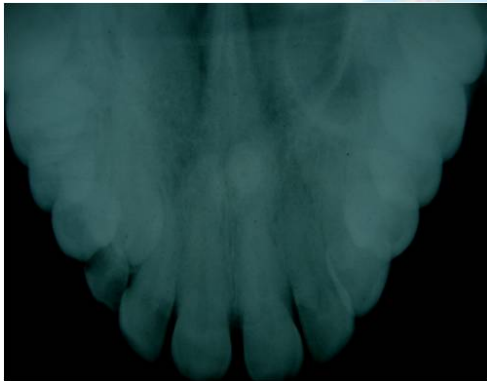
**Figure 4:** Occlusal radiograph showing two well developed mesiodents and congenitally missing left central incisor

**Case 3:** A 25 years old female patient complained of discoloured tooth in right side of maxilla. Intraoral examination revealed presence of deciduous maxillary right canine and missing permanent canine (Figure 5). Occlusal and intraoral radiographic examination depicted two inverted impacted

mesiodents, one is placed at the apex of right maxillary central incisor and another is placed 2 mm below the apex of left central incisor. Right maxillary canine is impacted (Figure 6). Both impacted mesiodents caused spacing between the maxillary centrals.



**Figure 5:** Intraoral view showing over-retained right deciduous canine and missing permanent one



**Figure 6:** Occlusal radiograph showing two mesiodents with impacted maxillary right canine

**Case 4:** A 12 years old female patient came with a chief complaint of extra tooth in upper front teeth region. She gave history of irritation from this tooth. Intraoral examination confirmed the patients complain and showed conical mesiodens palatal to left central incisor (Figure 7). On taking intraoral periapical radiograph one more inverted impacted mesiodents was found which was present parallel to the root of right central incisor and one mesiodens was present from cemento-enamel junction

till the apex of left central incisor (Figure 8). Both the mesiodents led to the distal tipping of roots and mesial shifting of crowns of centrals.



**Figure 7:** Clinical view of erupted conical mesiodens palatal to left central incisor



**Figure 8:** Intraoral periapical view showing one erupted and one inverted impacted mesiodens

**Case 5:** A 10 years old male patient reported with complaint of forwardly placed upper front teeth and wanted their correction. On intraoral examination right maxillary central incisor was lingually tipped and left central was labially tipped. A conical mesiodens was present palatal to left central incisor and right first maxillary deciduous molar was decayed (Figure 9). Occlusal radiograph revealed another inverted impacted mesiodens was present at the apex of right central incisor, Erupted mesiodens caused proclination of left central incisor. Mesioocclusal radiolucency present on right



first primary molar suggestive of pulpitis (Figure 10).



**Figure 9:** Intraoral view of mesiodens palatal to proclined left central incisor

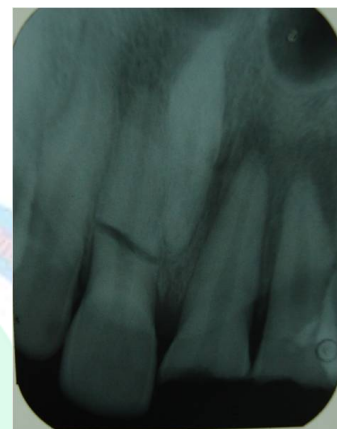


**Figure 10:** Occlusal radiograph showing erupted and impacted mesiodens

**Case 6:** A 23 years old male patient reported to the Oral medicine and radiology department with chief complains of broken teeth in upper front region. Intraoral examination revealed fractured half of the crown structure of right maxillary central and lateral incisor. Patient gave history of quid placement in lower labial vestibule causing staining of corresponding teeth (Figure 11). Maxillary intraoral radiograph showed involvement of enamel, dentin and pulp in maxillary right central and lateral incisor suggestive of Ellis class III fracture and horizontal root fracture of left central incisor. It also showed inverted impacted mesiodens mesial to right central incisor from the mid of the root till apex (Figure 12).



**Figure 11:** Clinical view of fractured right central and lateral incisors with heavy staining in mandibular anteriors.



**Figure 12:** Intraoral periapical view showing inverted impacted mesiodens with horizontal root fracture of left central incisor

**Case 7:** A 20 years old male patient complains of spacing in upper front teeth region. Intraoral examination revealed midline diastema and accessory tooth like structure palatal to both maxillary centrals indicating talon's cusp (Figure 13). Radiographic examination showed a impacted mesiodens on the mesial aspect of left central incisor and radiopaque structures at the cemento-enamel junction of both centrals having density similar to that of tooth of enamel (Figure 14). Mesiodens caused midline diastema in maxillary centrals.



**Figure 13:** Clinical picture with midline diastema and talon's cusp on both maxillary centrals.



**Figure 14:** Radiographic view of conical impacted mesiodents

**Case 8:** A 8 year old male patient visited to the department with chief complaint of broken tooth in upper front teeth region. Introral examination revealed mixed dentition with broken primary central incisor and palatally tipped permanent central. Intraoral radiograph was taken which showed impacted mesiodents at the apex of left central incisor causing midline diastema. (Figure 15 and 16)

**Discussion:** Mesiodens is defined as an extra tooth along with normal teeth. It may occur in either arches and in both dentition. Prevalence of supernumerary teeth is 0.1 to 3.8% and mesiodents is 0.15 to 1.9%. Single supernumerary tooth are more common about 76-86% but multiple are very rare

about less than 1%. Eruption frequency varies between 15 - 34%.<sup>4,5</sup>



**Figure 15:** Introral view showing fractured left deciduous central incisor and palatally shifted permanent central incisor.



**Figure 16:** Intraoral periapical view showing conical inverted impacted mesiodens superimposed over the root of right central incisor.

Mesiodents can erupt into three directions normal, horizontal or in inverted. Most common type is inverted which is impacted in most of cases. Inverted impacted mesiodents usually have conical crown and single root. These teeth usually follow an abnormal path of eruption or take a ectopic position. It is a chance finding and diagnosed only through radiographic examination.<sup>2,6</sup> Introral perapical and occlusal radiograph are more indicative to view exact location of mesiodents in

anterior. Localization techniques can help in determining the exact location.

In a study by Nagaveni et al, out of 27 mesiodents, complications associated with mesiodents occurred in frequency of 23% midline diastema, 14.8% occlusal interference, 7.4% root resorption, and 3.7% delayed eruption of permanent incisors.<sup>5,7</sup>

In a study by Gunduz et al, 78.8% of mesiodentes were fully impacted, 7% were partially erupted and 14.1% were fully erupted. Most of the mesiodentes (55.2%) were found to be in vertical position (55.2%) followed by inverted position (37.6%) and horizontal position (7%).<sup>8</sup>

In the present case series, total 13 mesiodents were present in eight cases, seven were presented with complete root formation. The number of inverted impacted mesiodents were one in 3 cases, two in 3 cases and one erupted plus one inverted impacted in 2 subjects. Out of eight cases, four cases of impacted mesiodents caused proclination of maxillary anterior, two with anterior spacing and remaining two with distal divergence of roots. Whereas case number seven presented two dental anomalies inverted impacted mesiodents and talon's cusp.

Impacted teeth do not require any kind of treatment if it remains in position without any symptoms and do not disturb adjacent teeth only periodic observation is indicated. If it causes any disturbance in eruption or alignment of permanent dentition then dentist should plan extraction during mixed dentition.<sup>1,3</sup>

**Conclusion:** Inverted impacted mesiodents in children is of great concern because of esthetic and associated complications. In the present article out of eight cases, five were children. So early recognition and timely treatment is mandatory to prevent further problems and limit the need of orthodontic treatment.

#### References:

1. Ebru Canoglu, Nuray Er, and Zafer C. Cehreli, Double Inverted Mesiodentes: Report of an Unusual Case. *Eu J Dent* 2009; 3(3):219–223.
2. Avsever H, Gunduz K, Orhan K, Aksoy S. An Inverted Eruption of Mesiodents: Report of a Rare Case. *J Marmara University Institute of Health Sciences*, 2012, 2(1), 37-39.
3. Chaturvedi R, Kumar A, Kumar V. Palatally impacted mesiodents - A case report. *Indian J Dent Res Review* 2012; 54-56.
4. Jindal R, Sharma S, Gupta K. Clinical and surgical considerations for impacted mesiodents in young children: An update. *Indian J Oral Science* 2012;3:94-98.
5. Sandhyarani, Huddar D. Mystery behind Malocclusion: Report of Two Mesiodents Cases. *J Dent Med Scie* 2012; 2(5):46-49.
6. Patel K, Patel N, Venkataraghavan K. Management of dentigerous cyst associated with inverted and fused mesiodents: A rare case report. *J Int Oral Health*, 2013;5(13): 73-77.
7. Nagaveni NB, Sreedevi B, Praveen BS, Praveen Reddy B, Vidyulatha BG, Umashankara KV. Survey of mesiodents and its characteristics in 2500 children of Davangere city. India. *Eur J of Ped Dent* 2010;11(4):185-188.
8. Gündüz K, Celenk P, Zengin Z, Sümer P. Mesiodents: a radiographic study in children. *J Oral Sci* 2008;50(3):287–91.

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