



## A Rare Case of Impacted and Inverted Primary Incisor Tooth “A Case of Developmental Anomaly”

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### ABSTRACT

**Introduction:** Children generally suffer from dental traumas to their primary teeth. Traumas may lead to complications, depending on the site and potency of the injuries. The acute dental abscess usually occurs secondary to dental caries or dental trauma. The necrotic pulp tissue becomes colonized by a specialized mixed anaerobic biofilm.

**Case Presentation:** A 5-year-old boy referred to clinic (Gaziosmanpasa University, Department of Pediatric Dentistry), with a complaint of acute dental abscess. His mother reported a history of dental injury to upper anterior region at the age of 4-6 months and the boy was not seen by dentist following the trauma. Clinical examination revealed unerupted or missing left primary central tooth. There was pain, swelling and erythema localized to the affected region. Radiographic examination revealed that the left primary tooth was impacted and inverted. Treatment consisted of extraction of the impacted and inverted tooth. Parents were informed about the procedure and written informed consent was taken. The impacted and inverted tooth was extracted under local anesthesia. The patient was recalled for a control visit 6 months later but he came back clinic 2 years later. Postoperative recovery was uneventful and erupted permanent maxillary central tooth had normal morphology.

**Conclusion:** In the present case, the malpositioning of the tooth germ may have been the cause of inversion and impaction. In our opinion, previous trauma could have been the cause of malpositioning of the tooth germ. Parents should be aware of characteristic of primary dentition period and effects of dental injuries. Long-term follow should be planned for traumatized children in primary and permanent dentition period.

**Keywords:** dental trauma, impacted tooth, inverted tooth, primary teeth

### I. INTRODUCTION

Children's coordination and judgement are not properly developed, therefore they generally suffer from dental traumas in primary dentition period.<sup>[1]</sup> Trauma to thin alveolar bone where the primary incisors is placed may lead to developmental anomalies on developing primary tooth germ. The severity of the sequelae is highly associated infant's age, the stage of the developing tooth and the potency of the trauma.<sup>[1-5]</sup> Impaction is defined as any tooth that fails to reach dental arch and remains unerupted beyond the time.<sup>[6]</sup> Another developmental anomaly inversion is defined as “the malposition of a tooth in which the tooth has reversed and is positioned upside down”.<sup>[6]</sup> The factors that play a role in the impaction of the primary teeth can be divided into two groups, locally and generally (syndroms, genetical factors, postnatal causes).<sup>[2]</sup> Local traumas to the tooth germ may lead to complications just as crown and root malformation, eruption problems, arrest of root development or necrosis of pulp tissue.<sup>[5]</sup> The acute dental abscess may occurs secondary to dental trauma and the necrotic pulp tissue becomes colonized by a specialized mixed anaerobic biofilm.<sup>[7]</sup> This case report describes the management of a rare case of impacted and inverted primary incisor tooth in 5-year-old patient.

### II. CASE REPORT

A 5-year-old boy referred to clinic (Gaziosmanpasa University, Department of Pediatric Dentistry), with a complaint of acute dental abscess. His mother reported a history of dental injury to upper anterior region at the age of 4-6 months and the boy was not seen by dentist following the trauma. Clinical examination revealed unerupted or missing left primary central tooth. There was pain, swelling and erythema localized to the

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affected region (Fig. 1). Radiographic examination revealed that the left primary tooth was impacted and inverted (Fig. 2). The remaining primary dentition was present and normal in shape and alignment. Also, the boy had early childhood caries. Treatment consisted of extraction of the impacted and inverted left primary central tooth. Parents were informed about the procedure and written informed consent was taken. The impacted and inverted tooth was extracted under local anesthesia by an oral surgeon. The patient was reminded about the necessary of oral hygiene procedures and recalled for a control visit 6 months later. The patient came back clinic 2 years later. Postoperative recovery was uneventful and erupted permanent maxillary central tooth had normal morphology.

### III. DISCUSSION

Dental trauma may led to developmental disturbances or sequelae on the primary and permanent teeth.<sup>[5]</sup> Inverted impaction has been described as complicated as the crown points downwards and root points towards the alveolar crest.<sup>[8]</sup> Inverted tooth can remain without symptoms for a long time or may lead to complications such as disrupt natural alignment of teeth, eruption problems, eruption into the nasal floor and development of serious pathology.<sup>[9]</sup> The malpositioning of the tooth germ may have been the cause of inversion and impaction. In our opinion, previous trauma in the reported patient could have been the cause of malpositioning of the tooth germ.

Primary teeth with developmental anomalies can be diagnosed by clinical and radiological examinations. Depending on the age of the patient, if the primary tooth are not visible in the mouth, the clinician should suspect the condition and make a diagnosis by radiological examination.<sup>[4,5]</sup> Intraoral, extraoral and three dimensional radiographs play an important role in detecting localization and dimensions of impacted tooth germ, proximate anatomic structures and eruption potential of nonerupted tooth.<sup>[10]</sup> Also, odontoma-like hard tissue formations should be distinguished at radiographic evaluation.<sup>[4,5]</sup>

Although, a few inverted and impacted third molars have been reported in the literature,<sup>[11]</sup> the impaction of inverted primary incisor is very rare condition. One of them has reported impaction and inverted lower primary incisors in a 4 year old child. It is considered that the child might have a developmental dental anomaly named ectodermal dysplasia.<sup>[12]</sup> And the other article has presented inverted and impacted maxillary incisors in 5 years old boy.<sup>[13]</sup> No other case reports was found reporting both inverted and impacted primary tooth due to previous trauma.

### IV. CONCLUSION

Parents should be aware of characteristic of primary dentition period and effects of dental injuries. Long-term follow should be planned for traumatized children in primary and permanent dentition period.

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**Figure Legends**

**Figure 1:** Intraoral photograph of case



**Figure 2:** Periapical radiograph of inverted and impacted teeth

