

Inverted Impacted Primary Maxillary Incisors: A Case Report

B. Seraj^{1,2}, S. Ghadimi^{3,4}, G. Mighani⁴, H. Zare⁵, M. Rabbani⁶

¹Associate Professor, Dental Research Center, Tehran University of Medical Sciences, Tehran, Iran

²Associate Professor, Department of Pediatric Dentistry, Faculty of Dentistry, Tehran University of Medical Sciences, Tehran, Iran

³Assistant Professor, Laser Research Center of Dentistry, Tehran University of Medical Sciences, Tehran, Iran

⁴Assistant Professor, Department of Pediatric Dentistry, Faculty of Dentistry, Tehran University of Medical Sciences, Tehran, Iran

⁵Postgraduate Student, Department of Periodontics, Faculty of Dentistry, Tehran University of Medical Sciences, Tehran, Iran

⁶Postgraduate Student, Department of Prosthodontics, Faculty of Dentistry, Hamedan University of Medical Sciences, Hamedan, Iran

✉ Corresponding author:
S. Ghadimi, Department of
Pediatric Dentistry, Faculty of
Dentistry, Tehran University of
Medical Sciences, Tehran, Iran
sghadimi@tums.ac.ir

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Abstract

Tooth impaction rarely occurs in primary dentition. Most of the primary teeth impactions are seen in second molars. The purpose of this article is to present a 4-year-old girl with bilateral impaction of inverted primary maxillary central incisors which trauma had displaced their tooth germ before erupting.

Key Words: Impaction; Inverted; Primary Central Incisor

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INTRODUCTION

Tooth impaction is a condition in which a tooth fails to erupt into normal position beyond the expected time [1]. Commonly tooth impaction occurs in permanent dentition and rarely happens in primary teeth. Most of the primary teeth impactions are seen in second molars [2-3]. Generally two types of impaction exist:

- 1) Primary, the tooth has never appeared into the oral cavity which is rare;
- 2) Secondary, defines teeth which have once erupted, but subsequently appear to have clinically regressed from this position [2-4].

In the literature, several etiologies have been explained for tooth impaction. Overall two etiologies have been explained: local and systemic factors. Local factors such as trauma [4], odontogenic cysts and tumors (dentigerous cyst) [5], odontomas [6,7], ankylosis [8], mal-

formation of the tooth germ, dentofacial incoordination and infection [5,9].

Systemic factors such as alveolar cleft [10], cleidocranial dysplasia and Gardner's syndrome [5]. The aim of this paper is to present a case with inverted impacted primary maxillary central incisors.

CASE REPORT

A 4-year-old girl was referred to the Pediatric Dentistry Department of Tehran University of Medical Sciences with the chief complaint of upper anterior teeth missing and esthetics problem.

Her parents stated that her teeth have never erupted and when their daughter was 8-9-months-old she fell from the stairs and after that her upper lip was swollen.

IQ of the patient was normal and the family and medical histories were not remarkable.



Fig 1. Intra oral examination showed bulgy tissue in the maxillary incisor region



Fig 2. Radiographic examination showed inverted incisors with open apices and incomplete roots



Fig 3. Maxillary central incisors with open apices and incomplete roots removed surgically

In the intraoral examination, the child's occlusion was mesial step and there were some carious teeth in the oral cavity.

The maxillary incisors were absent and gingival tissues in this region had a normal color and seemed bulgy without any pain in palpation (Figure 1).

Radiographic examinations showed inverted incisors with open apices and incomplete roots and odontoma-like particles were seen near the permanent maxillary incisors (Figure 2).

Because the child was not cooperative and she needed other dental procedures, surgical removal of the teeth under general anesthesia was decided.

This condition was explained to the parents and informed consent was taken. First all carious teeth were restored.

Then after elevation of the mucoperiosteal flap in the anterior sextant of the maxilla, the teeth were removed. The teeth were rotated 180° and the palatal and incisal sides were located in the buccal and apical, respectively.

Teeth had short roots with open apices (Figure 3).

After suturing the impression was made. The molds were then used to create Nance appliance because the child was not cooperative and fix appliance was chosen (Figure 4).

After soft tissue healing, the Nance appliance was delivered to the child and oral hygiene

instructions were explained to the parents and the child.

Moreover, follow-up visits were scheduled for monitoring of the patient (Figure 5).

In the follow-up visit, the Nance appliance was removed and the abutment teeth were cleaned and fluoride therapy was done, then the Nance appliance was recemented in her mouth.

DISCUSSION

Impaction of permanent teeth is a usual finding, but primary teeth impaction is rare occurring in 1:10,000 of the cases [10, 11]. A few cases of inverted impacted primary maxillary [10, 12] and mandibular central incisors have been reported [4, 13].

In none of them trauma has been mentioned, although it is not completely ruled out as an etiological factor [10]. In our case, the parents have recalled trauma to the teeth, but the impaction was primary, because the teeth have never been seen in the oral cavity. However, trauma can displace tooth germ before erupting and may have impact on the unerupted developing teeth.

The outcome of traumatic injuries to the primary teeth is based on personal belief and experience rather than evidence based documents.

Partial or complete arrest of root formation is a rare complication after trauma to primary teeth, affecting involved permanent teeth [14].



Fig 4. The child with Nance appliance in the mouth



Fig5. Radiographic examination after 6 months

In this case, the root formations of both primary central incisors were stopped. The close proximity of the developing permanent teeth to the root of the primary teeth may result in an injury to the developing permanent successor. In our case, the effect of trauma was seen in the permanent maxillary central incisor region. Anterior primary maxillary teeth impactions are problematic for both parents and the physician because of its effect on the patient's speech, esthetics, function and psychology.

Four treatment options have been suggested for impacted teeth: observation, intervention, relocation and extraction [15].

In this case, the teeth were removed because they were inverted and normal eruption of the teeth would not occur and it seemed that they may interfere with the underlying permanent teeth development and eruption. For esthetically and psychological reasons a Nance appliance was delivered to the patient. Now the child is satisfied with her artificial teeth.

CONCLUSION

Although tooth impaction rarely happens in primary teeth, when dentists encounter to delay eruption, it is important to take a medical and dental history and to evaluate the problem with radiographic examination to rule out or confirm missing or other anomalies. In this case, trauma to the gums displaced the tooth germs before eruption of the teeth.

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