

## Management of Trauma of Primary Tooth: Report of Intrusion Case

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**Abstract:** Tooth intrusion is the most common trauma during infancy. We described 11 cases of primary tooth and followed up for a period between 2 and 6 years. Clinical and radiographic examinations and oral color photos were used for the evaluation. The patients who treated in the present study were 1 to 3 years old at the first visit the Pediatric Dental Clinic, Hiroshima University Hospital. Seven cases have been observed satisfactory without surgical treatments such as re-positioning and fixation, and all those re-erupted to the occlusal level of the contra-lateral side within 1.5 year. Otherwise, 4 cases treated with re-positioning and fixation revealed periapical periodontitis in radiographic feature, alveolar abscess formation, or discoloration. It is suggested that cases of intrusion of primary tooth should be observed until some symptom, periapical periodontitis in radiographic feature and alveolar abscess formation, reveals.

**Key words:** primary teeth trauma, intrusion, case reports

### Introduction

Tooth intrusion is the most common trauma during infancy. It has been controversial in the Pediatric Dental field whether re-positioning and fixation for the intrusion of primary tooth should be done or not. In the present study, we described 11 cases of primary tooth, and followed up to for a period between 2 and 6 years. From these cases, we report 3 cases in details.

### Subjects and methods

Eleven children having intrusion of primary tooth by trauma visited the Pediatric Dental Clinic, Hiroshima University Hospital. The subject age was from 1 to 3 years old at the first visit. All cases followed up to for a period between 2 and 6 years. Clinical

and radiographic examinations and oral color photos were used for the evaluation.

### Case Reports

#### Case 1

This case describes a 1-year-6-month-old boy who had intruded #61. (Fig. 1-a, b). We examined the tooth clinically and radiographically, and decided to put under the observation without any surgical treatments. At 3 months after the injury, partial re-eruption occurred. (Fig. 1-c). At 4 months after the injury, re-eruption to the occlusal level of the contra-lateral side was observed. At 11 months after the injury, discoloration of #51 was observed and then the infected root canal treatment was conducted. At 3 years and 10 months after the injury (5 years and 4 months of age), physiological root resorption was started (Fig. 1-d).

#### Case 2

This case describes a 1-year-2-month-old girl who had intruded #51 (Fig. 2-a,b). We examined the tooth clinically and radiographically, and decided to put under the observation without any surgi-

Fig.1

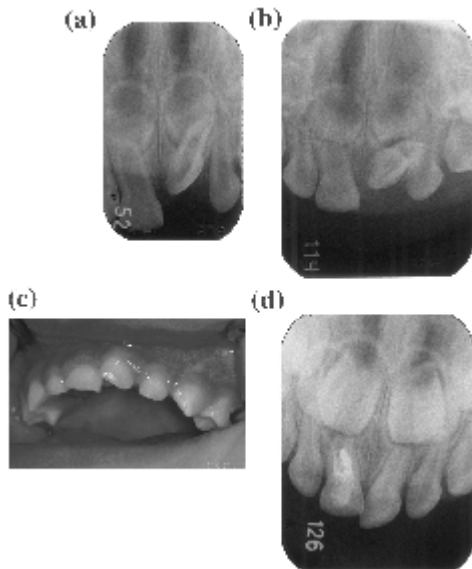


Fig. 1 Initial dental radiograph (a) and occlusal radiograph (b) (1y6m, male) An oral color photo at months after the injury (c) A radiograph at 3 years and 10 months after the injury (d)

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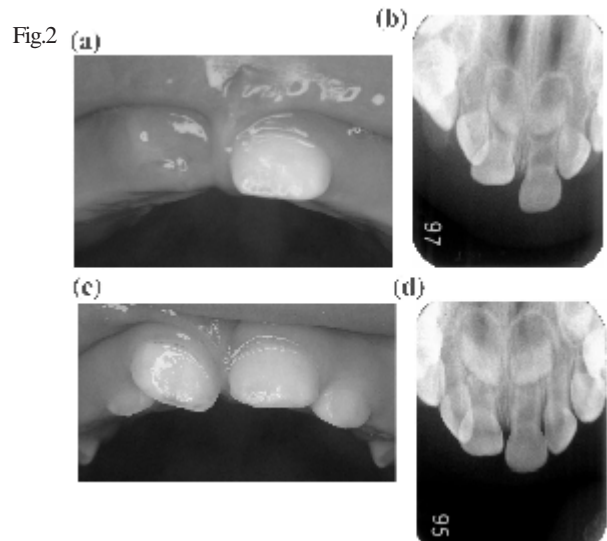


Fig. 2 Initial oral color photo (a) and radiograph (b) (1y2m, female) An oral color photo at 3 months after the injury (c) A radiograph at 6 months after the injury (d)

cal treatments. At around 10 days after the injury, partial re-eruption was observed. At 3 months after the injury, re-eruption to the occlusal level of the contra-lateral side was observed although rotation was present (Fig. 2-c). At 6 months after the injury, root resorption was observed (Fig. 2-d). At 1 year and 3 months after the injury (2 years and 5 months of age), there was not particular findings.

**Case 3 (re-positioning and fixation)**

This case describes a 1-year-11-month-old boy who had incisal

Fig.3

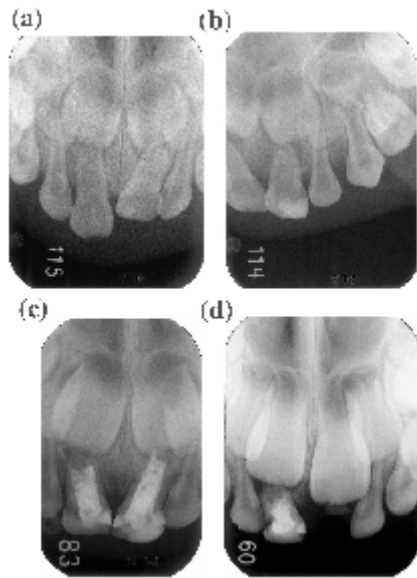


Fig. 3 Initial radiograph (a) (1y11m, male) A radiograph at 4 months after the injury (b) A radiograph at 1 year 10 months after the injury (c) A radiograph at 4 years and 2 months after the injury (d)  
Abbreviations #51: upper right primary central incisor  
#61: upper left primary central incisor

fracture and partial intrusion in #61, and tooth mobility in #51 (Fig. 3-a). We treated with re-positioning and fixation in #61. On 11 days after the injury, discoloration of #61 was observed. On 25 days after the injury, wire for fixation was removed. At 4 months after the injury, since a fistel was formed in #51, and periapical periodontitis was formed in #51 and #61 radiographically, the infected root canal treatment was conducted (Fig. 3-b). At 1 year and 10 months after the injury, root resorption was started in #61 (Fig. 3-c). #61 was exfoliated 4 years and 2 months after the injury (6 years and 1 month of age) (Fig. 3-d).

**Results and discussion**

Seven cases have been observed satisfactory without treatments such as re-positioning and fixation, and all those re-erupted to the occlusal level of the contra-lateral side within 1.5 year. Otherwise, 4 cases treated with re-positioning and fixation revealed periapical periodontitis in radiographic feature, alveolar abscess formation, or discoloration.

From the present reports of 11 cases, We can expect that an intruded primary tooth may re-erupt spontaneously, and we got relatively good results with observation compared with surgical treatments. Although the intrusion of primary anterior tooth is often happened, the treatment procedure for it has not been established yet. For example, Diab et al1) described that when the tooth was intruded completely, the tooth should be extracted because re-eruption could not be expected. On the other hand, Holan et al2) reported 108 of 123 intruded teeth were re-erupted spontaneously. Our results support that case of intrusion in infants aged 1 to 3 years old should be observed instead of surgical treatments until some symptom, periapical periodontitis radiographically and alveolar abscess formation, reveals.

**References**

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