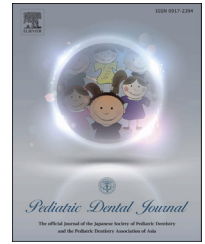


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## Case Report

# Mandibular condyle fracture in Japanese girl and 10-year follow-up findings

Masakazu Hamada <sup>a,\*</sup>, Ryota Nomura <sup>b</sup>, Hiroyuki Yano <sup>a</sup>, Atsushi Masui <sup>a</sup>,  
Kazuma Kokomoto <sup>b</sup>, Kazuhiko Nakano <sup>b</sup>, Yoshiaki Yura <sup>a</sup>

<sup>a</sup> Department of Oral and Maxillofacial Surgery, Osaka University Graduate School of Dentistry, 1-8 Yamada-oka, Suita, Osaka, 565-0871, Japan

<sup>b</sup> Department of Pediatric Dentistry, Osaka University Graduate School of Dentistry, 1-8 Yamada-oka, Suita, Osaka, 565-0871, Japan

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### ABSTRACT

A condyle fracture is the most common type of those that occur in the mandible, and is generally treated by an open reduction procedure or conservatively when encountered in children. Conservative treatment often results in a satisfactory long-term outcome of jaw function. Nevertheless, follow-up examinations after treatment are important to minimize potential effects of late complications. An 11-year-old Japanese girl came to us with a fracture of the left-side mandibular condyle. Intermaxillary fixation and Schuchardt splints were initially performed, followed by mouth opening training. Neither trismus nor malocclusion were observed, and the fractured condyle was recovered at 1 year after injury. Additional findings obtained over the 10-year follow-up period are also presented, which indicate the efficacy of conservative treatment of a fracture of the mandibular condyle occurring in children.

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## 1. Introduction

Fractures of the mandible are classified based on the affected location, such as the condyle, body, angle, mental, ramus, and coronoid process [1], with a fracture of the mandibular condyle encountered most frequently in these cases [2]. Immediate and proper treatment for affected patients is needed, since malfunctions, including trismus, malocclusion, and facial deformation, are often seen [3].

When a mandibular condyle fracture occurs in a child, especially under 12 years of age, conservative treatment

rather than an open reduction procedure is generally selected as the first choice because of its non-invasiveness, thus lightening the burden imposed on the patient [4]. The majority of cases that receive conservative treatment show satisfactory long-term outcomes, including jaw function, occlusion, and facial esthetics, despite a high frequency of radiological aberrations [5,6].

Late complications are frequently observed after oral trauma and cases of fracture of the mandibular condyle often show asymmetry, interference with facial growth, and ankylosis as late complications [3]. To avoid development of such

\* Corresponding author.

E-mail address: [hmdmskz@dent.osaka-u.ac.jp](mailto:hmdmskz@dent.osaka-u.ac.jp) (M. Hamada).

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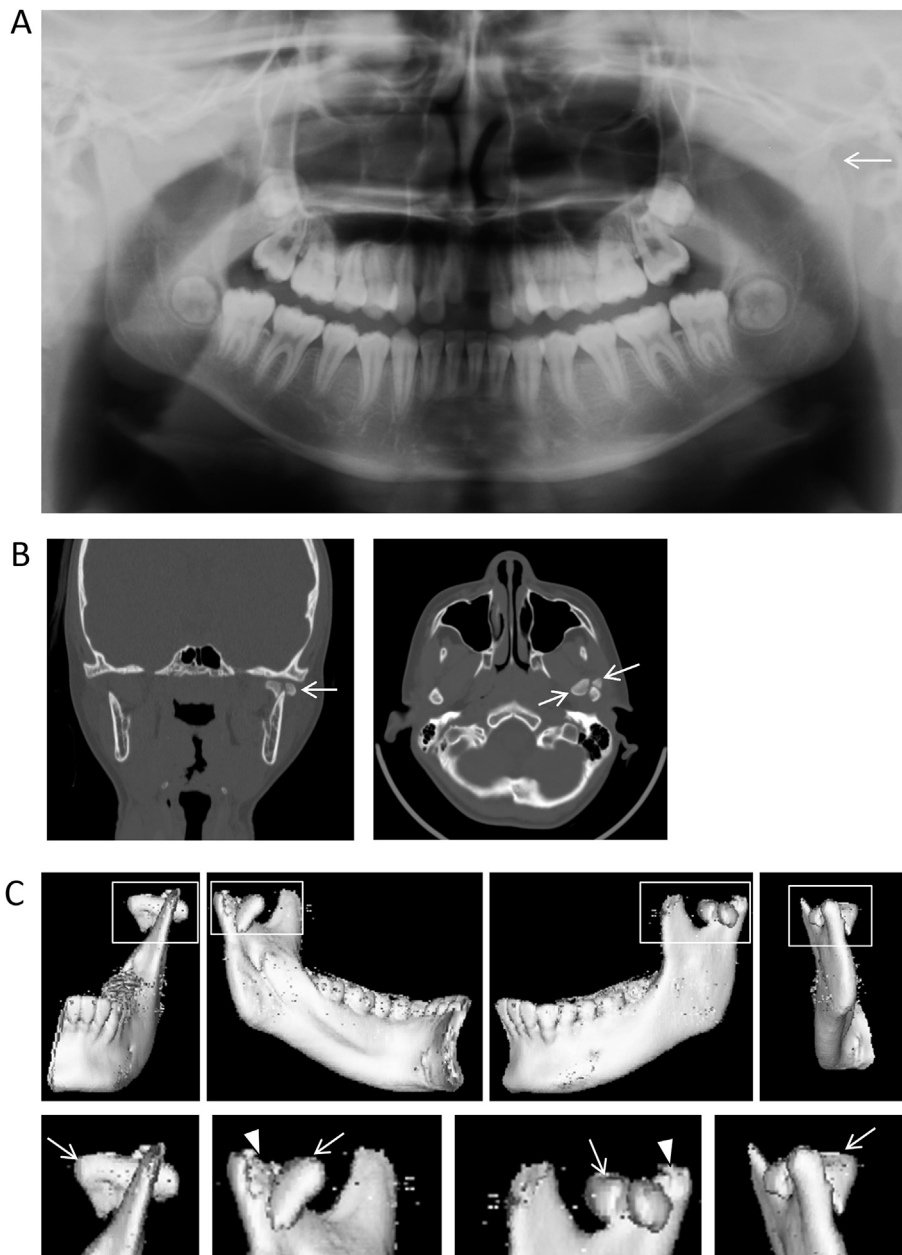
complications, long-term follow-up examinations are required and appropriate treatment should be performed if necessary. Here, we report a case of fracture of the mandibular condyle that occurred in an 11-year-old Japanese girl. For this case, we selected conservative treatment and also present findings from 10 years of follow-up examinations.

## 2. Case report

An 11-year-old girl fell off of a stage and suffered an injury to her mentum. On the same day, she was referred to the

Department of Oral and Maxillofacial Surgery at Osaka University Dental Hospital with the chief complaints of trismus and pain due to the injury. Our initial extra-oral examination showed that the mental region and lower lip were lacerated, while intra-oral findings revealed trismus, as well as complete dislocation of the upper left central incisor and intrusion of the upper right central incisor.

Orthopantomograph and computerized tomography (CT) results showed that the left-side mandibular condyle was fractured (Fig. 1). Under a diagnosis of left-side condylar head fracture of the mandible, with sagittal split and dislocation of the condyle head, intermaxillary fixation was immediately



**Fig. 1** – X-ray examination findings at the initial visit (11Y7M). (A) Orthopantomograph and (B) computerized tomography images. Arrows indicate the bone fragment. (C) Three-dimensional construction of the affected region. Upper and lower panels show low- and high-magnification images, respectively. Arrows and arrowheads indicate the bone fragment and fractured condyle, respectively.

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