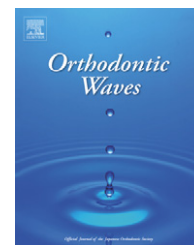


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## Case report

# Orthodontic treatment using maxillary distraction osteogenesis on a patient with cleft soft palate, maxillary hypoplasia, total crossbite and mental retardation

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## ARTICLE INFO

### Article history:

Received 18 April 2007

Received in revised form

16 November 2007

Accepted 21 November 2007

Published on line 15 January 2008

### Keywords:

Mental retardation

Cleft palate

Maxillary hypoplasia

Nursing care

Distraction osteogenesis

Orthodontic treatment

## ABSTRACT

It has been reported that the treatment of patients with mental retardation is difficult because their ability to cooperate with the treatment has been insufficient. This case report describes a successful orthodontic treatment with a maxillary advancement and expansion using distraction osteogenesis in an adult female who was mentally retarded, with the intelligence of a person around 9 years old. She was diagnosed as having an Angle Class III malocclusion with a cleft soft palate, maxillary hypoplasia, total crossbite and a skeletal Class III jaw relationship. This case report indicates an effective application of sympathetic nursing care and therapeutic play intervention to patient's psychological stress symptoms during hospitalization, and the treatment results of maxillary distraction and orthodontic treatment.

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## 1. Introduction

It is known that patients with clefts and mental retardation show higher rates of facial disfiguration and impaired speech [1]. For the orthodontic treatment of these patients, various types of treatment strategies with orthodontic

appliances and orthognathic surgery are performed at appropriate times [2]. Regarding orthognathic surgery on patients with mental retardation, it has been reported that dental and skeletal deformities were corrected by the close combination of orthodontic therapy and orthognathic surgery [3].

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doi:10.1016/j.odw.2007.11.022

The willingness and ability of patients to undergo orthodontic treatment are considered to be important factors in achieving optimal treatment outcomes [2]. Patients with mental retardation usually feel anxiety about hospitalization and orthognathic surgery because of their poor ability to cooperate. To reduce anxiety in these patients, appropriate care for them by the dental and medical staff is considered to be important. It has been well known that anxiety and stress regarding the surgery can affect patients' physical and psychological health and have caused negative behavior in the treatment progress in children [4]. To cope with the psychological stress during hospitalization for surgery, therapeutic play intervention has been reported as very effective in some researches [5-7]. However, to our knowledge, few reports have been published on the actual practice of caring for adult patients with mental retardation during hospitalization for the orthognathic surgery.

This report demonstrates the practice of our staff regarding psychological stress symptoms that an adult patient with mental retardation showed during hospitalization for the distraction of the maxilla and the treatment progress and result.

## 2. Case report

The patient was a 19-year-old female with the chief complaints of facial disfiguration and a total crossbite. Medical

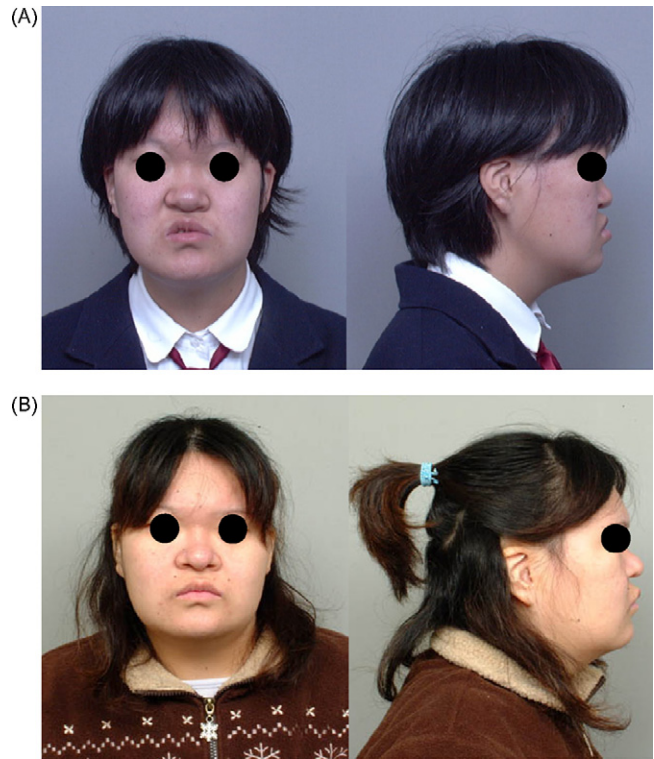


Fig. 1 - Facial photographs: (A) pre-operation (19 years 2 months) and (B) postretention (26 years 3 months).

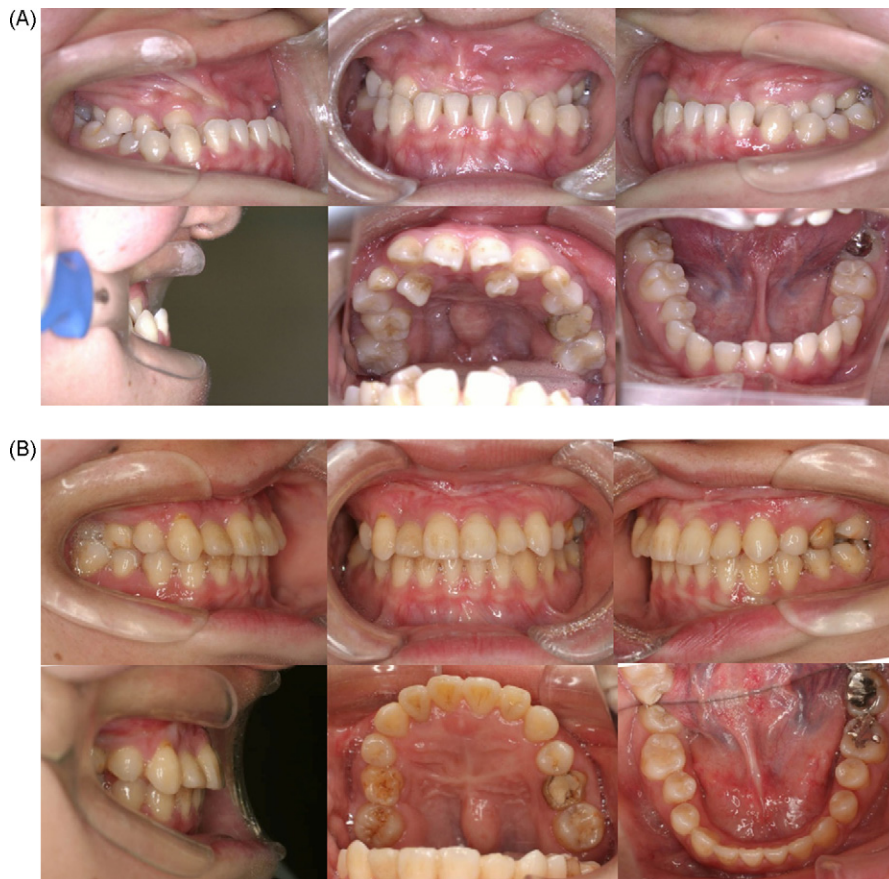


Fig. 2 - Intraoral photographs: (A) pre-operation (19 years 2 months) and (B) postretention (26 years 3 months).

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