

Orthognathic Surgery for Mentally Retarded Patient with an Open Bite

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Abstract : There have been many discussions regarding surgical treatments for the esthetic reasons in mentally retarded children. However, in retarded adults, especially those showing moderate retardation with an awareness of the norms and with motivation to undergo surgery, orthognathic surgery offers an opportunity to improve their oral dysfunction along with the appearance. The patient selection as well as the appropriate procedures for orthognathic surgery are together considered to play a significant role in obtaining sufficient results. We herein report the case of 24-year-old mentally retarded male with an open bite.

Key words : Orthognathic surgery, Mental retardation, Open bite

Introduction

Orthognathic surgery is routine and worldwide for oral and maxillofacial deformities. Most patients with jaw deformities have serious complaints regarding oral dysfunction as well as their appearance; on the other hand, mentally retarded patients do not usually have any cosmetic dissatisfaction regarding their facial appearance.

Recently for the children with mental retardation, the ethical indications for oral and maxillofacial corrective surgery have been extensively discussed in the literature.¹⁾²⁾ For adults, we consider that the adequate patient selection for surgery according to the age and the mental state is a very important factor for obtaining successful results because the nature of this surgery is elective.

The following adult patient with mental retardation is herein reported and discussed in this article.

Report of a case

Pre-surgical course

In January 1995, a 24-year-old male with complaint of a masticatory dysfunction was referred to our clinic, and we observed no apparent physical problems in this patient. He complained of difficulty in incising and chewing fried chicken with bones, and he was also distressed by the ridicule from others regarding his facial appearance while eating. He himself had no dissatisfaction with his facial appearance in spite of his upper lip scar after undergoing cheiloplasty for the treatment of a cleft lip. His malocclusion had appeared since his childhood because he had never received solid food nor required the necessity of biting and chewing.

In his medical history, he suffered from frequent cramps from two months to five years of age and had been treated by his pediatrician, and he also

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had undergone a couple of surgeries at other hospitals. He graduated from high school with difficulty supported by his parents and the teachers. He worked as a cleaning man in a building at the time that he visited our clinic.

His physical examination was as follows ; 175.0 cm tall and he weighted 73 kg. His facial profile was flat because of his previous cheiloplasty and

palatoplasty. He had a Class (mandibular excess) anterior open-bite malocclusion, an overbite of - 8 mm (8 mm opening between the upper and lower front teeth), and an overjet of - 2 mm (2 mm anterior position of the lower front teeth to the upper teeth) (Fig. 1). His lateral cephalogram showed maxillary hypoplasia (Fig. 2).

He was suspected to have mental retardation and



Fig. 1. Initial occlusion ; Class II anterior open-bite



Fig. 2. pre-surgical lateral cephalogram

was referred to the clinic of Neuropsychological Department in our hospital before performing orthodontic treatments. The psychiatrist diagnosed him to have a moderate level of mental retardation based on the results of psychiatric examinations by a clinical psychologist, in which his state of intellectual functioning level (IQ) was 47, namely the same level as a 7 and 1/2 - year - old - boy. Psychiatrically the understanding and the development of language with this mental level is regarded as usually slow and limited toward the end of growth so that he is able to do only simple work in an environment with a good leader and/or a superintendent.

We received the appropriate response from both the patient and the mother for the patient to undergo orthodontic treatment and orthognathic surgery after providing detailed explanations. As the psychiatrist informed us that all treatments including orthognathic surgery were feasible when sufficient informed consent was obtained, we therefore planned Le Fore I and bilateral sagittal split mandibular osteotomies with concomitant ortho-

dontic treatment.

For 2 years and 9 months long during the pre-surgical orthodontic therapy, he complained to be impatient due to difficulty of chewing and extreme discomfort which was caused by the oral appliance. As a result, we determined that it would not be possible to perform the bi-maxillary surgery and elastic traction, and therefore the surgery was changed to a simple Koele mandibular osteotomy with the following procedures : autologous bone graft, the extraction of bilateral lower first premolars and genioplasty (Fig. 3). There were no eventful findings during the surgery.

Post-surgical course

He complained about the inability to completely open his mouth and a swollen cheek from the third day. He was confused after surgery so that an anti-anxiety drug was used to calm him down. He needed a nurse to assist him with brushing his teeth. From the eighth day, he was able to brush his teeth and rinse his mouth by himself. He calmly read car magazines on his bed. Although



Figure 3. post-surgical lateral cephalogram



Fig. 4. Final occlusion

he complained that water leaked from his lips while drinking, this problem disappeared by 3 months after surgery.

At almost 10 years after surgery, he now has great pleasure in his ability to incise and chew everything well. He is no longer laughed at when eating and he speaks clearly. His parents are also satisfied with his facial appearance and his occlusion (Fig. 4).

Discussion

The surgical treatment of facial deformities in children with Down's syndrome has been discussed for many years.¹⁾ Tongue reduction with the aim to improve the oral function is routinely performed in some countries.²⁾³⁾ Some authors claim positive effects of corrective surgery on social behavior and mental development⁴⁾; this kind of treatment is also criticized in regard to whether it is ethical to change the facial appearance of mentally retarded children who are not aware of their facial deformity.

In mentally retarded adults, however, a jaw deformity increases the risks of oral functional problem. We consider that orthognathic surgery is a rational and effective procedure to reduce these above risks depending upon the patient's mental state.⁵⁾ Our patient had a moderate intellectual functioning level (IQ : 47) for an individual with mental retardation. By 18 years of age, he could

manage his personal care, education and job training.

Corrective surgery in mentally retarded adults is less controversial. Sometimes the patients with a moderate intellectual functioning level may request changes to correct their occlusion and facial appearance. Stigmatizing facial features and lip movements may emphasize or exaggerate an individual mental state. Psychological changes after the orthognathic surgery can be better predicted in adults than in children. Our patient had been already aware of his oral disturbances. After surgery he now has great pleasure in eating and biting all kinds of food, moreover, he is no longer laughed at during lunch and is able to speak more clearly after the surgery. Therefore, functional disturbances, such as mastication and speech, are also sufficient reasons for such individuals to undergo corrective surgery.

In our opinion, orthognathic surgery offers an opportunity for the mentally retarded young-adult patients to improve their functional and esthetical problems if they fulfill certain conditions to undergo surgery including a full understanding of social norms and sufficient motivation for obtaining a surgical correction.

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