Craniofacial Microsomia: A Long-term Outcome of Early Mandibular Distraction Osteogenesis and Comprehensive Care at the Tawanchai Center

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Background: Craniofacial microsomia (CFM) is a complex, congenital malformation, primarily involving structures derived from the first and second branchial arches. There is limited information on its long-term management and outcomes.

Objective: To present the long-term management and outcome of a patient with CFM treated by early distraction osteogenesis and a protocol of comprehensive care at the Tawanchai Center, Srinagarind Hospital, Khon Kaen University.

Material and Method: After reviewing the medical records for the clinical presentations, assessments, and long-term management and outcomes of patients with CFM at Srinagarind Hospital, we focused on one patient, treated by early surgical reconstruction, mandibular distraction osteogenesis (DO), and comprehensive care according to the protocol developed at the Tawanchai Center.

Results: The patient presented normal speech, mouth breathing, normal swallowing, and normal temporomandibular joint function. He had an antimongoloid slant, left malar hypoplasia, a cross bite, occlusal plane canting and a slightly deviated chin to the right, a good mouth opening, and a normal bite pattern. The patient was completely satisfied according to overall satisfaction, nose, and upper lip; and moderately satisfied according to overall face, head shape, and occlusion.

Conclusion: Our study suggests that the use of DO in young children with CFM provides good long-term distraction on the growth of the mandible and greater facial symmetry. The study addresses the comprehensive evaluation of the long-term, interdisciplinary, comprehensive care of a patient with CMS. Consideration of the needs and expectations of the patient and his/her family and other involved stakeholders is essential.

Keywords: Craniofacial microsomia, Early mandibular distraction osteogenesis, Comprehensive management, Long-term outcome

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Craniofacial microsomia (CFM) is a complex congenital malformation involving craniofacial structures derived from the first and second branchial arches with highly variable phenotypes, including macrostomia, cleft lip with and/or without cleft palate, pre-auricular appendages or sinuses, ear deformities, hearing loss and orbit, zygomatic, maxilla and mandibular deformity. Syndromic and non-craniofacial anomalies may be findings, including to the cardiac system, the vertebral or central nervous system, the limbs, hemifacial microsomia, first and second branchial arch syndrome, otomandibular dysostosis, oculo-auriculo-vertebral spectrum, facio-auriculo-vertebral syndrome, Goldenhar syndrome, and lateral facial dysplasia(1,2). การวิเคราะห์ในเอกสารแล้วเรียกลำดับ 1, 2, ..., n

The objectives of the study are to review the clinical presentations, assessment, and long-term management and outcome of a patient with CFM, treated by early surgical reconstruction, distraction osteogenesis and comprehensive care as per the protocol of the Tawanchai Center, Srinagarind Hospital, Khon Kaen University(3).

Material and Method

Study design

From the medical records of patients with...
Table 1. Patient satisfaction

<table>
<thead>
<tr>
<th>Category</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall satisfaction</td>
<td>5*</td>
</tr>
<tr>
<td>Overall face and head shape</td>
<td>3</td>
</tr>
<tr>
<td>Nose</td>
<td>5*</td>
</tr>
<tr>
<td>Upper lip</td>
<td>5*</td>
</tr>
<tr>
<td>Occlusion</td>
<td>3</td>
</tr>
</tbody>
</table>

5 = completely satisfied; 4 = very satisfied; 3 = moderately satisfied; 2 = slightly satisfied; 1 = not at all satisfied

A multidisciplinary craniofacial team is needed for comprehensive management and treatment.
effect on growth of the mandible which will serve as a platform for further surgical correction. A consideration of the needs and expectation of patient and family and other involved stakeholders is essential.

Limitations of the study
The was a patient report. A study with more patients would be helpful.

What is already known on this topic?
The described deformities and classification of CFM.

What this study adds?
The long-term outcome of a patient with CFM, using mandibular DO, and comprehensive management.

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Potential conflicts of interest
None.

References