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*Title: Bilateral intra-oral distraction osteogenesis for the management of severe congenital mandibular hypoplasia in early childhood*

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**Abstract:**

**Introduction:** Young children with severe mandibular hypoplasia usually present with varying degrees of peripheral airway obstruction and difficulty with feeding. Early treatment is important for such children. Distraction osteogenesis (DO) using intra-oral devices provides an excellent alternative when other surgical techniques do not prove to be satisfactory.

Aim of the work: to evaluate the long-term efficacy of intra-oral bilateral DO in the treatment of severe congenital mandibular hypoplasia in early childhood.

Patients and method: seven patients (4 females and 3 males), their ages ranged from 7 months to 8 years (with a mean of 34 months). They presented with severe congenital mandibular hypoplasia with obstructive sleep apnoea and difficulty in feeding. All patients were treated with bilateral mandibular DO, using an intra-oral unidirectional unburied distractor. The average follow-up period was 3.7 years (range, 2-5 years).

Results: The patients were successfully treated using bilateral intra-oral unidirectional distractor by the use of a modified technique. After completion of distraction, retrognathia was corrected in all patients. The "subjective" symptoms had disappeared completely or had been alleviated. The mean effective airway space increase (defined by the lateral cephalograms measurements) was 70.5% (range, 31-105%,  $p < 0.01$ ) when compared with predistraction. The apnoea/hypopnoea index was lowered from 60 (9.8-126.5) to 1.57 (0-16.4) and the sleep apnoea symptoms had disappeared. The mean oxygen saturation increase was from 80% to 98% postdistraction.

Conclusion: DO can consistently produce a measurable cross-section airway improvement in patients as young as 7 months.

**Key words:**

Distraction osteogenesis, obstructive sleep apnoea in children, mandibular lengthening, surgical correction of mandibular hypoplasia.