# Extreme maxillomandibular discrepancy in unilateral cleft lip and palate: Longitudinal follow-up in a patient with mandibular prognathism

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Growth deficiency of the maxilla is a frequent finding in patients with complete unilateral cleft lip and palate. When the sagittal discrepancy is severe, orthodontic treatment combined with orthognathic surgery is required. This article reports the treatment of a girl born with unilateral cleft lip and palate who had lip and palate repair at 3 and 12 months of age, respectively. At 3 years of age, she already showed a severe anteroposterior maxillary deficiency with an anterior crossbite in the deciduous dentition. A Class III skeletal pattern progressively increased during the mixed dentition period. Mandibular prognathism coupled with an extremely hyperdivergent growth pattern was observed. An alveolar bone graft was performed at 10 years of age. At 16 years of age, the ANB angle was −13.7° with a negative overjet of −9.8 mm. Comprehensive orthodontic treatment was conducted with extraction of the mandibular first premolars and maxillary lateral incisors due to dental crowding. Orthognathic surgery was performed at 18.9 years of age involving maxillary advancement of 7.4 mm and mandibular setback of 6.6 mm. Facial and occlusal changes were dramatic. Final nose repair was conducted at 19.7 years of age. At 22 years of age and 3 years after debonding, stability of the occlusal and skeletal results was observed, clearly demonstrating that the objectives established for the rehabilitation have been achieved. (Am J Orthod Dentofacial Orthop 2018;154:294-304)

The rehabilitation process of patients with complete unilateral cleft lip and palate (UCLP) starts with the primary surgeries.[1] Lip and palate repairs are usually performed at early ages.[2] Upper lip tension and the scar of the primary surgeries are considered etiologic factors of gradual maxillary anteroposterior growth restriction.[3,4] The severity of the maxillary deficiency varies among patients, depending on the initial cleft width, the technique and number of the primary surgeries, the age when the surgeries were performed, and the growth pattern.[4-6] Maxillary growth also depends on surgical variations.[7]

LeFort I osteotomy with maxillary advancement surgery is required in approximately 25% of patients with UCLP.[5] The interarch relationship in the deciduous and mixed dentitions may provide an early prognosis for orthodontic treatment as well as the need for orthognathic surgery.[8-10] Comprehensive orthodontic treatment has distinct objectives and is conducted in different ages, when orthognathic surgery or compensatory treatment is required.[11] For this reason, longitudinal follow-ups of facial growth are important in patients with UCLP.

Orthognathic surgery in noncleft patients may demonstrate some relapse.[12] In patients with cleft lip and palate, studies have shown that 5 to 6 mm of maxillary advancement with the LeFort I technique relapsed in 25% to 30% of patients.[13] A greater amount of maxillary advancement was previously associated with instability.[14]

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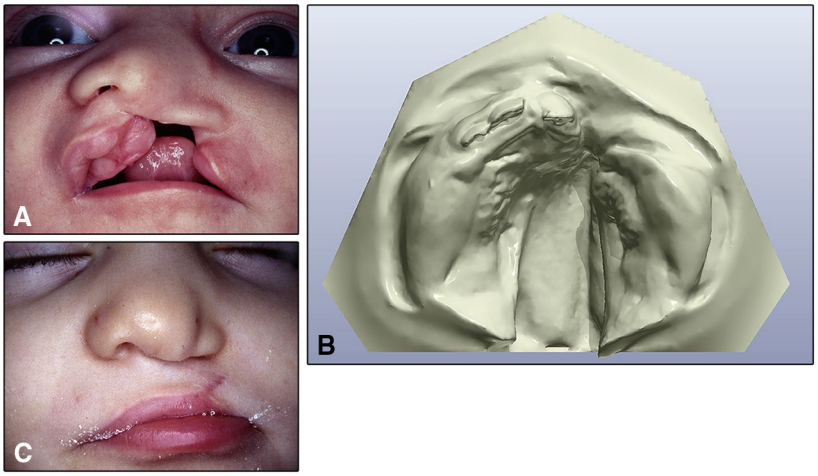


**Fig 1. A,** Facial frontal view before lip repair at 28 days of age; **B,** maxillary dental model taken after lip repair and before palate repair; **C,** nasolabial region after lip repair.

**Fig 2.** Facial and intraoral photographs in the deciduous dentition at 3 years of age.