

# Longitudinal Study of Effect of Hotz's Plate and Lip Adhesion on Maxillary Growth in Bilateral Cleft Lip and Palate Patients

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論 文 名	Longitudinal Study of Effects of Hotz's Plate and Lip Adhesion on Maxillary Growth in Bilateral Cleft Lip and Palate Patients					
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### 論 文 審 査 の 結 果 の 要 旨

**Objective:** To investigate the effects of infant orthopedic treatment and lip adhesion on maxillary growth of patients with bilateral cleft lip and palate (BCLP).

**Design:** The present study was conducted at the Cleft Lip and Palate Center, Harapan Kita, Children and Maternity Hospital, Indonesia, and the Department of Oral and Maxillofacial Surgery, Kyushu University Hospital, Japan.

**Subjects:** The study sample consisted of 53 patients with complete BCLP were divided into three groups: H(-), 11 patients treated without Hotz's plate; H(+), 24 treated with Hotz's plate; and LA-H, 18 treated with lip adhesion and Hotz's plate.

**Methods:** Serial dental casts were obtained from each BCLP child at the following four time points: first visit, labioplasty, palatoplasty, and 5 years of age. Each maxillary dental cast was scanned, and the linear and angular dimensions were measured.

**Results:** Lip adhesion showed a temporary negative effect. In all patients with BCLP, the surgeries affected the growth of anterior arch width until the age of 5 years. Collapse of the premaxilla following labioplasty in the H(-) group affected the growth of dental arch length until the age of 5 years. Treatment using Hotz's plate prevented collapse of the premaxilla, and the growth of the arch length was comparable that observed in the noncleft group.

Therefore, the results suggest that treatment using Hotz's plate until about 18 months of age prevented collapse of the premaxilla and supported the growth of the arch length until the age 5 years. This research contains novel findings through the prospective longitudinal study and this paper was already published by well-recognized journal, Cleft Palate-Craniofacial Journal. Thus, this paper could deserve a doctor of philosophy degree (Doctor of Dental Science) in Graduate School of Dentistry, Kyushu University.