

## **17** Dental Arch Shape and Speech Evaluation after Palatoplasty According to the Supraperiosteal Technique

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Management of palatal mucosa in cleft palate closure is considered to be responsible for affecting maxillary growth. Palatoplasty by the Kohama supraperiosteal technique (SP technique) has been employed in our clinic since 1980, replacing the formerly used mucoperiosteal flap technique (MP technique). This study evaluated dental arch shapes and speech proficiency of UCLP and ICP after palatoplasty by the SP technique in comparison with the MP technique.

**Materials and Methods:** One hundred forty two patients consisted of 78 patients with ICP and 64 patients with UCLP were evaluated in this study. The palate was closed in one stage at a mean age of 17 months. In ICP group, 32 patients were treated using the SP technique, and 46 patients using the MP technique. In UCLP group, 33 were treated using the SP technique, and 31 patients using the MP technique. Dental arch shapes were monitored in all patients using cast models and classified into U type or V type. The 1st deciduous molar width was measured before and after palatoplasty on cast models. Speech proficiency was evaluated in the postoperative period at intervals of 6 months to 1 year.

**Results:** In patients with ICP, the U type of dental arch shape was observed in nearly all patients after surgery. In patients with UCLP, patients received palatoplasty of the SP technique generally developed the U type, while only 12 of 31 patients received palatoplasty of the MP technique showed the U type. The palatal width tended to be decrease by the palatoplasty. In patients with UCLP, this decrease was observed far more often and a greater degree in patients received the MP technique compared with that in patients received the SP technique. We found normal articulation in about three-quarters of patients with ICP. Patients with UCLP had normal speech in two-thirds of patients received the SP technique, but in only half of patients received the MP technique.