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Author(s)	加藤, 純也
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学位論文内容の要約

学位論文題目

A Three-Center Study of Dental Arch Relationship Outcomes Following Two-Stage Palatoplasty for Japanese Patients with Complete Unilateral Cleft Lip and Palate

（異なる2段階口蓋形成手術法を行う３施設間の歯槽弓関係・咬合関係の成績比較）

博士の専攻分野名称　　博士（歯学）　　氏名　加藤　純也

Objective: To compare dental arch relationship outcomes following three centers two-stage palatal repair that the timing and the surgical techniques were different.
Design: Retrospective, cross-sectional study.
Setting: Three cleft palate centers in Japan, Department of Oral and Maxillofacial Surgery of Hokkaido University Hospital, Department of Oral and Maxillofacial Surgery of Niigata University Hospital, and Department of Oral and Maxillofacial Surgery of Osaka Women's and Children's Hospital
Patients: Ninety consecutively treated Japanese patients with complete unilateral cleft lip and palate, consisting of 39 patients In Hokkaido University Hospital born from 1997 to 2011, 26 in Niigata University Hospital born from 1995 to 2004 and 25 in Osaka Women's and Children's Hospital born from 2007 to 2010. The inclusion criteria were complete UCLP, patients without Simonart's band, normal birth weight infants and no associated congenital anomalies.
Interventions: In Hokkaido University Hospital(HU), Cheiloplasty was performed by modified Millard method at the mean age 5.0 months. Soft palate and the posterior half of hard palate closure was done using Perko method or modified Furlow method at the mean age of 1 year 7 months. In Niigata University Hospital(NU), Cheiloplasty was performed by Cronin method at the mean age 6.1 months. Soft palate was repaired using modified Furlow method at the mean age of 1 year 6 months. Hard palate was closed using Pichler method at the mean age of 5year 8months. In Osaka Women's and Children's Hospital(OW), Cheiloplasty was performed by modified Millard method at the mean age 3.0 months. Soft palate was repaired using modified Furlow method at the mean age of 1 year. Hard palate was closed using the Veau method or bridge flap at the mean age of 1 year 5 months.
Main outcome measures: Thirty nine dental casts in H.U. were taken at a mean age of 5.1 years (range 4.9 to 6.3 years), and 26 casts in N.U. were at a mean age of 6.4 years (range 4.3 to 8.0 years) and 25 casts in OW group were at a mean age of 5.1 years (range 4.3 to 6.5 years). The casts were randomly numbered, and dental arch relationships were assessed using the 5-Year-Olds' Index (5-Y) by 4 raters and the Huddart/Bodenham Index (HB) by 2 raters.
Results: Intrarater and interrater reliabilities evacuated using weighted kappa statistics were good or very good for the 5Y and HB rating. The mean 5Y score was 3.0 in H.U.,3.1 in O.W.,2.5 in N.U. (P= ns). There was a significant difference in distributions among three groups ($P < .05$). The mean HB scores of molars on minor segment in OW were significantly smaller than in HU and NU ($P < .05$) and those of canine on minor segment in OW was significantly smaller than in NU ($P < .05$).

Conclusions: We compared dental arch relationship and occlusal relationship outcomes of the patients with UCLP treated in three hospitals with two stage palatoplasty that the timing and the surgical techniques were different. There was no difference in dental arch relationships at around 5 years of age regardless of the time of hard palate closure. Earlier hard palate closure might lead to constriction tendency of minor segmental occlusion.

KEY WORDS: unilateral cleft lip and palate, two-stage palatoplasty, dental arch relationships, 5-Year-Olds' Index, Huddart/Bodenham Index, Japanese infants.

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