

[\[Print Version\]](#)

[\[PubMed Citation\]](#) [\[Related Articles in PubMed\]](#)

The Angle Orthodontist: Vol. 67, No. 5, pp. 389–394.

A retrospective comparison of frontal facial dimensions in alveolar-bone-grafted and nongrafted unilateral cleft lip and palate patients

Carroll-Ann Trotman, BDS, MA, MS;^{a, b} Felix Papillon, BSc;^c Robert B. Ross, DMS, MSc;^d James. A. McNamara, Jr., DDS, PhD;^e Lysle E. Johnston, Jr., DDS, MS, PhD, FDSRCS(E)^f

^aDr. Carroll-Ann Trotman, Assistant Professor, Department of Orthodontics and Pediatric Dentistry, The University of Michigan, 1011 North University Avenue, Ann Arbor, Michigan 48109-1078, Phone: (313) 764-5117, Fax: (313) 763-8100, E-mail: ctrotman@umich.edu

^bCarroll-Ann Trotman, assistant professor, Department of Orthodontics and Pediatric Dentistry, University of Michigan, Ann Arbor, Michigan.

^cFelix Papillon, dental student, School of Dentistry, University of Michigan, Ann Arbor, Michigan.

^dRobert B. Ross, Division of Orthodontics, Hospital for Sick Children, Toronto, Ontario, Canada.

^eJames. A. McNamara Jr., professor, Department of Orthodontics and Pediatric Dentistry, and Department of Anatomy and Cell Biology and Research Scientist, Center for Human Growth and Development, University of Michigan, Ann Arbor, Michigan.

^fLysle E. Johnston Jr., chair, Department of Orthodontics and Pediatric Dentistry, University of Michigan, Ann Arbor, Michigan.

ABSTRACT

This retrospective study was undertaken to describe and compare frontal craniofacial dimensions in alveolar-bone-grafted and nongrafted complete unilateral cleft lip and palate (CUCLP) patients and in noncleft subjects with normal occlusions and good facial balance. Clinical data were obtained from the files of the Hospital for Sick Children, Toronto. Patients were eligible for inclusion if they had posteroanterior cephalograms (PA) taken at adulthood and no congenital anomalies other than CUCLP. A total of 86 adult Caucasian CULCP patients were studied, including 58 who had not received grafts, 28 who had received secondary alveolar bone grafts, and, for comparison, 60 noncleft Caucasian adults. The PA cephalometric radiographs were traced, digitized, and measured. Analysis of variance (ANOVA) was used to test for among-groups differences in the means of the ratios, proportions, and angular measures. Tukey-Kramer HSD procedure was used to conduct post-hoc pairwise comparisons following significant ($p \leq 0.05$) F-ratios from ANOVA. Sexual dimorphism was a common finding, with males demonstrating greater facial width. Despite primary surgical repairs, the anterior nasal spine in the nongrafted CUCLP patients was deviated to the noncleft side, and the alar base was depressed on the cleft side. The maxillary incisors close to the cleft site were irregularly inclined, and this irregularity was more severe in the nongrafted CUCLP patients. The long-term effects of secondary alveolar bone grafting on transverse craniofacial growth appears to be

minimal and limited to the immediate area of the cleft.

KEY WORDS: Frontal, Cephalometric, Gender, Cleft palate, Alveolar bone grafting.

Submitted: March 1996

Accepted: July 1996.