

[\[Print Version\]](#)

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

The Angle Orthodontist: Vol. 63, No. 2, pp. 99–109.

Maxillary canine - first premolar transposition, associated dental anomalies and genetic basis

Leena Peck, DMD, MSD;^a Sheldon Peck, DDS, MScD; Yves Attia, DSO

^a1615 Beacon Street, Newton, MA 02168

ABSTRACT

Maxillary canine - first premolar (Mx.C.P1) transposition, an uncommon dental anomaly involving positional interchange of the two teeth, was studied using a sample of 43 subjects with the abnormality. Data were recorded on sidedness, sex, race, tooth agenesis, and peg-shaped maxillary lateral incisors for each case. Mx.C.P1 transposition occurred bilaterally in nearly one-quarter of the sample and favored female expression (sex ratio, M1:F3.8) and left-side occurrence (61% of unilateral cases). Familial occurrence was noted, as was a predilection for white subjects. Tooth agenesis (excluding third molars) and/or peg-shaped maxillary lateral incisors accompanied Mx.C.P1 transposition in 49% (21) of the subjects, four to ten times the normal rate of occurrence. Data from this study and the analysis of previously published cases provided strong evidence that Mx.C.P1 transposition is a disturbance of tooth order and eruptive position resulting from genetic influences within a multifactorial inheritance model.

L. Peck is Assistant Clinical Professor of Orthodontics, Harvard School of Dental Medicine, Boston, MA

S. Peck is Assistant Clinical Professor of Orthodontics, Harvard School of Dental Medicine, Boston, MA

Y. Attia is Professor, Faculté de Chirurgie Dentaire, Université de Nice Sophia-Antipolis, Nice, France

KEY WORDS: Tooth eruption, ectopic, Tooth abnormalities, Genetics, Hypodontia, Malocclusion.