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Dental arch asymmetry in children with large overjets

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ABSTRACT

Little is known about asymmetry of children's dental arches. The purposes of this study were to quantify and describe dental arch asymmetry of 151 children with large overjets, and to determine if a spatial relationship exists between dental landmarks in opposing arches. The median palatal plane (MPP) was the reference for transverse measurements. A computer-constructed transverse palatal plane (TPP) was the reference for anteroposterior measurements. More than 30% of the children had transverse asymmetries ≥ 2 mm at the maxillary first permanent molar (paired *t*-test; $p=0.0001$). The highest mean transverse asymmetry (1.59 ± 1.24 mm) and anteroposterior asymmetry (1.51 ± 1.23 mm) were at the maxillary first permanent molars. A higher proportion of children with large overjets had clinically significant intra-arch asymmetries (≥ 2 mm) at several bilateral landmarks than norms (99% confidence intervals). Only 3% of these children exhibited interarch molar asymmetries ≥ 4 mm. The position of the landmarks in one arch varied with the landmarks in the opposing arch (Pearson's correlation; $p=0.0001$). Although many children with large overjets have significant intra-arch asymmetries, few exhibit asymmetric interarch asymmetries.

KEY WORDS: Asymmetry, Children, Dental arch, Overjets.

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