Comparison of the Mesiodistal Tooth Width between Skeletal Cl I and Cl III Malocclusions in an Iranian Population

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Abstract

Statement of Problems: Tooth size is correlated to gender, race, arch alignment, and malocclusion type. Correct tooth size relationship between the maxillary and mandibular teeth is an important factor to achieve a proper occlusal interdigitation during the final stages of orthodontic treatment.

Purpose: The aim of this study was to compare the mesiodistal tooth size between cl III and cl I patients in an Iranian population.

Materials and Method: In this cross-sectional study, 120 patients (50 cl I and 70 cl III malocclusion) were selected. The inclusion criteria for the subjects were complete permanent dentition with no caries, proximal restorations, attrition or dental anomalies. The greatest mesiodistal tooth width from the first molar to the other side was measured on the orthodontic models by digital caliper with 0.01 accuracy. The measurements were obtained by a single person twice. All the data were categorized in different malocclusion groups and sex differentiation and analysed by student’s t-test and one way ANOVA.

Results: This study showed that a significant right to left side tooth size discrepancy was found in some of the teeth in cl I and cl III with maxillary deficiency. No significant tooth size differences were found between the two sides in the mandibular excess cl III. Females showed a tendency of having smaller teeth than males. In the maxillary deficient cl III malocclusion, the maxillary first molar, the first mandibular and maxillary premolars were larger than cl I malocclusions. The maxillary first molars were smaller in the mandibular excess cl III than cl I malocclusions.

Conclusion: Although this study showed some differences in the mesiodistal tooth size between cl I and cl III malocclusion, this difference was not for all the teeth.

Key words: Tooth size, Cl III malocclusion, Cl I malocclusion, Iranian population

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