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Three Dimensional Morphological Correlates of Facial Attractiveness in Patients with Class II Skeletal Malocclusion

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Objective: Class II patients comprise a major group of patients in an orthodontic office with many of them expressing dissatisfaction with their facial esthetics. It is essential that the facial morphological characteristics of this group of patients be more clearly defined. The objective of this study is to identify 3D morphological correlates of facial attractiveness using CBCT studies of skeletal class II patients.

Methods: 40 CBCT videos of faces were evaluated by 23 laypeople using a Visual Analog scale (VAS). The CBCT images were categorized as Class I (control group), Mild Class II, Moderate Class II and Severe Class II using the ANB angle. Twenty percent of the images were duplicated to test for reliability. A linear regression analysis was done by comparing the VAS scores with the computed landmark measurements.

Results: The faces that were rated least attractive had an ANB average of 6.64 and contained more severe class II, while the faces that were rated as most attractive contained more Class I and Mild Class II subjects (ANB average of 4.37°). VAS predicted 9.05% of shape variation in the sample and was associated with relative projection of the mandible. The changes were almost all profile specific and normalization of the mandible predicted perceived facial attractiveness.

Conclusions: The results of this study suggest that more severe CI II malocclusions are rated as less attractive while CI I and mild CI II subjects are rated as more attractive with the VAS scores being associated with relative projection of the mandible.