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The effect of premolar extractions on the soft-tissue profile in adult African American females

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ABSTRACT

The present study was designed to evaluate the effect of four first premolar extractions on the soft tissue profile in African American patients. Pretreatment and posttreatment cephalograms of 28 adult female patients were assessed. The data were subjected to ANOVA, and correlation coefficients were performed between the significantly different dental and soft tissue variables. Variables that showed correlation at r value of greater than 0.6 were subjected to a stepwise multiple regression. The results of the study indicate that retraction of the lower lip correlates with retraction of both maxillary and mandibular anterior teeth. A ratio of 1.75 : 1 was obtained between mandibular incisor retraction and retraction of the lower lip. The relationship between the upper lip and retraction of maxillary incisors was not significant. A ratio of 1.2 : 1 was attained between maxillary incisor retraction and upper lip change. The upper lip correlated most strongly with lower lip retraction. Mandibular incisor angulation was the only hard-tissue variable that could be used as a predictor in a regression model to explain lip response to orthodontic therapy. Changes in the maxillary complex were more difficult to predict because of the complex nature of the soft-tissue integument and the details of muscle tension and soft-tissue tone that were lost by conversion of a three-dimensional structure into a roentgenographic cephalogram. A significant profile change did occur following the extraction of four first premolars and subsequent orthodontic therapy.

KEY WORDS: African American, Bimaxillary protrusion, Extraction, Soft tissue profile.

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