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Dentoalveolar compensation related to variations in sagittal jaw relationships

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ABSTRACT

The purpose of this study was to investigate dentoalveolar compensation for variations in sagittal jaw relationships in 44 adult females with normal incisor relationships and either skeletal Class I or skeletal Class III jaw relationships. Cephalometric analysis was performed to evaluate sagittal jaw relationship, maxillary and mandibular incisor inclination, and the cant of the occlusal plane. Molar relationships were evaluated from study models. Correlation analysis was performed between skeletal and dental measurements. The most appropriate cephalometric parameters describing dental compensation quantitatively were SN-AB as a skeletal measurement and SN-U1, SN-L1, and SN-OP as dental measurements. Among the compensatory dentoalveolar changes, lower incisor inclination was strongly related to the sagittal jaw relationship and played an important role in obtaining a normal incisor relationship. Compensatory changes in the occlusal plane angulation were slight when compared with changes in the incisor regions. A Class I molar relationship was rare when SN-AB exceeded 84°, even when incisor relationships were normal.

KEY WORDS: Dental compensation, Skeletal Class III, Incisor angulation, Occlusal plane.

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