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Dentoskeletal effects and facial profile changes in young adults treated with the Herbst appliance

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ABSTRACT

This prospective Herbst study analyzed the sagittal dental and skeletal changes contributing to Class II correction in young adults. Additionally, the alteration in skeletal and soft tissue convexity occurring during treatment was assessed. Early adolescent subjects in the permanent dentition who had been treated with the Herbst appliance were used for comparison. Lateral headfilms from before and after an average treatment period of 8.5 months for the young adults and 7.1 months for the adolescents were evaluated. All adult and adolescent subjects were treated to either Class I or overcorrected Class I occlusal relationships. In both groups the improvement in sagittal incisor and molar relationships was achieved more by dental changes than by skeletal ones. The amount of skeletal change contributing to overjet and molar correction was smaller in the young adult group (22% and 25%, respectively) than in the early adolescent group (39% and 41%, respectively). Skeletal and soft tissue facial profile convexity was reduced in adults and adolescents. Facial profile improvement did not differ between the two groups. The results of this study revealed that the Herbst appliance is most effective in the treatment of Class II malocclusion in young adults. It is suggested that this treatment method could be an alternative to orthognathic surgery in borderline Class II cases.

KEY WORDS: TMJ adaptation, Growth stimulation, Young adults, Class II malocclusion, Herbst appliance, Orthodontics, Dentofacial orthopedics, Dentoskeletal treatment effects, Facial profile.

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