Original Article

The Effects of Early Preorthodontic Trainer Treatment on Class II, Division 1 Patients

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Abstract: The aim of this study was to clarify the dentoskeletal treatment effects induced by a preorthodontic trainer appliance treatment on Class II, division 1 cases. Twenty patients (10 girls and 10 boys, mean age 9.6±1.3 years) with a Class II, division 1 malocclusion were treated with preorthodontic trainer appliances (Myofunctional Research Co., Queensland, Australia). The patients were instructed to use the trainer every day for one hour and overnight while they slept. A control group of 20 patients (mean age 10.±0.8 years) with untreated Class II, division 1 malocclusions was used to eliminate possible growth effects. Lateral cephalograms were taken at the start and end of treatment. Final cephalograms were taken 13.1±1.8 months after trainer application, compared with a mean of 11.2±2.4 months later for the control group. The mean and standard deviations for cephalometric measurements were analyzed by paired samples t-test and independent-samples t-tests. At the end of the study period, the trainer group subjects showed significant changes including anterior rotation and sagittal growth of the mandible, increased SNB and facial height, reduced ANB, increased lower incisor proclination, retroclination of upper incisors, and overjet reduction. However, only total facial height increase, lower incisor proclination, and overjet reduction were significantly higher when compared with the changes observed in the control group. This study demonstrates that the preorthodontic trainer application induces basically dentoalveolar changes that result in significant reduction of overjet and can be used with appropriate patient selection. (Angle Orthod 2004; 74:605–609.)

Key Words: Myofunctional treatment; Preorthodontic trainer; Class II, division 1