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Changes following the use of protraction headgear for early correction of Class III malocclusion

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ABSTRACT

The purpose of this study was to evaluate treatment effects and posttreatment changes following the application of elastic forces from a facemask to the dentition for the early correction of Class III malocclusion. Cephalograms made before and after treatment and at a minimum of 1 year follow-up (mean 3.57 years, SD. 2.07) of 16 patients were compared with those of 13 untreated matched controls. Pretreatment age ranged from 4.58 to 8.25 years (mean 6.80 years, S.D. 1.13), and mean active treatment time was 0.61 years (S.D. 0.15). Available study models at the three time periods were also analyzed. Treatment resulted in a significant improvement in the maxillomandibular relationship and overjet ($P < 0.001$). The major treatment effect was a downward and backward movement of the mandible and retroclination of the mandibular incisors. However, any skeletal and dentoalveolar advancement of the maxilla contributed to the clinically significant improvement. No differences were observed between the patients and the controls during the posttreatment follow-up. Despite some relapse, the patients demonstrated a net improvement in maxillomandibular relationship and overjet at the end of follow-up relative to the controls. Overcorrection of the overjet during treatment may be important for maintaining a successful correction.

KEY WORDS: Treatment changes, Posttreatment changes, Protraction headgear, Early correction, Class III malocclusion.

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