

OP28 THE EFFECTS OF FUNCTIONAL THERAPY ON SAGITTAL PHARYNGEAL DIMENSIONS IN SUBJECTS WITH SLEEP-DISORDERED BREATHING AND A CLASS II MALOCCLUSION

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AIM: To cephalometrically evaluate the craniofacial changes induced by functional treatment of mandibular advancement with special regard to the pharyngeal sagittal airway dimensions, tongue dimension and hyoid bone position in subjects with sleep-disordered breathing (SDB) and a dentoskeletal Class II malocclusions when compared with an untreated Class II control group.

SUBJECTS AND METHOD: Fifty one subjects (24 females, 27 males; mean age 9.9 ± 1.3 years) with a Class II malocclusion and SDB consecutively treated with a functional appliance [modified monobloc, (MM)] were compared with a control group of 31 subjects (15 males, 16 females; mean age 10.1 ± 1.1) with an untreated Class II malocclusion. For the study group, mode of breathing was defined by an otorhinolaryngologist according to complete physical examination. The parents of all participants completed a modified version of the paediatric sleep questionnaire (PSQ-SRBD) scale (Chervin; the Italian version in 22 items form) before and after the trial. Lateral cephalograms were available at the start and end of treatment with MM. Descriptive statistics were calculated for all cephalometric measurements in the two groups for the active treatment changes.

RESULTS: Significant favourable skeletal changes in the mandible were observed in the treated group after treatment T2. Significant short term changes in the sagittal airway dimensions, hyoid position and tongue dimensions were induced by functional therapy of mandibular advancement in subjects with a Class II malocclusion and SDB when compared with untreated controls. After orthodontic treatment, a significant reduction in diurnal symptoms was observed in 45 of the 51 participants who had received an oral appliance.

CONCLUSIONS: Orthodontic treatment is considered to be a potential therapeutic approach for SDB in children. Orthodontists are playing an increasingly important role in managing snoring and respiratory problems by means of oral mandibular advancement devices and rapid maxillary expansion.