Effects of camouflage treatment on dentofacial structures in Class II division 1 mandibular retrognathic patients

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SUMMARY The aims of this study were to determine the changes in the dentofacial structures of Class II division 1 mandibular retrognathic patients treated with bilateral extraction of the upper first premolars, and to compare pre- and post-treatment values with the cephalometric norms of Anatolian Turkish adults. The Class II division 1 subjects included 20 males and 33 females (mean age: 17.08 ± 1.03 years). All received comprehensive orthodontic treatment using an edgewise appliance and appropriate headgear. Lateral cephalograms were taken at the beginning and end of treatment. Twenty-five (14 linear and 11 angular) measurements were analysed on each radiograph. Each cephalogram was traced and digitized. For statistical evaluation, paired and independent-samples t-tests were performed.

When the pre- and post-treatment measurements were compared, statistically significant differences were found for nine of 25 measurements. During treatment the facial axis, U1–SN (°), U1–NA (mm), U1–NA (°), H angle and upper lip to E plane measurements decreased, while N–ANS, interincisal angle and upper lip to Steiner S line increased. No statistically significant gender differences were found. Significant improvements were determined in ANS–Me and L1–APo measurements compared with Turkish norms. However, statistically significant deterioration was found in values related to point A, upper incisor and lower lip measurements. The findings demonstrate that camouflage treatment in Class II, mandibular retrognathic subjects has characteristic skeletal, dental and soft tissue effects on the dentofacial complex.