1677 Correlation between craniofacial morphology and overjet in Class II patients

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Objective: To evaluate the relationship between craniofacial growth pattern and overjet in untreated preadolescent Class II subjects. Methods: The issue was approached by studying Lateral cephalograms of 140 skeletal and dental Class II subjects (68 males and 72 females, mean age 9.9 ± 1.1 years) divided into three groups based on overjet value measured on the study casts: Group I normal overjet {0-3 mm}, Group II increased overjet {>3- 6 mm}, and Group III extreme overjet {>6 mm}. Mean values and standard deviations of 47 variables measured on lateral cephalograms were calculated. The differences between the three groups were tested by a one-way ANOVA, followed by Bonferroni test. The differences between each group and the norms calculated for the Syrian population were evaluated by using independent t-test. The distribution of subjects was counted in each of the measurements that determine craniofacial growth pattern. Pearson correlations coefficient was calculated for detecting the relationships between overjet and other cephalometric variables. Results: Subjects with normal overjet showed a horizontal facial morphology (Sum = 392.58 ± 3.34) and posterior inclination of the maxilla whereas increased overjet subjects exhibited a neutral growth pattern (Sum = 394.11 ± 4.31). In contrast, subjects with extreme overjet had a vertical facial morphology (Sum = 398.54 ± 4.70) and anterior inclination of the maxilla. The mandible was retrognathic and the maxilla was normally positioned in the three groups. Statistically significant correlations were found between overjet value and the measurements that determine craniofacial growth pattern (Y-Axis, S-Go/N-Me, Björk Sum, S-N:Go-Me, SPP:Go-Me, and N Go Me). Conclusions: A positive relationship was found between overjet value and the tendency toward vertical growth pattern. There was a trend that as overjet value increased, vertical facial morphologic characteristics increased.

Keywords: Malocclusion and craniofacial morphology

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