

3rd Euro Congress and Expo on

Dental & Oral Health

June 16-18, 2015 Alicante, Spain

Association of maxillary and mandibular base lengths with dental crowding in different skeletal malocclusions

Aisha Khoja¹, Mubassar Fida² and Attiya Shaikh³
Aga Khan University Hospital, Pakistan

Background: Dental crowding is the one of the most frequently encountered problem for an orthodontist. The relationship between crowding and various skeletal, dental and soft tissue parameters is important to establish and consider during the overall orthodontic treatment planning.

Objectives: 1. To determine the correlation of maxillary and mandibular base lengths with dental arch crowding in different malocclusions and to evaluate the gender dimorphism for these variables.

Methods: A sample of 120 subjects divided into three skeletal malocclusions was further subdivided based on amount of mandibular arch crowding. Maxillary and mandibular base lengths and dental arch crowding were measured on pre-treatment lateral cephalograms and initial casts using vernier caliper respectively. Intergroup comparisons were assessed by univariate analysis of variance. Correlation between base lengths and dental crowding was assessed by Pearson's correlation ($p \leq 0.05$).

Results: Statistically significant differences were found for maxillary ($p=0.008$) and mandibular base lengths ($p=0.000$) between different skeletal malocclusions. Mandibular base length was significantly larger in males ($p=0.000$). Mandibular crowding was highest in Class II and lowest in Class III ($p=0.01$). A significant but weak negative correlation was found between dental crowding and maxillary ($r=-0.28$, $p=0.02$) and mandibular ($r=-0.20$, $p=0.02$) base lengths, significant but moderate positive correlation between maxillary and mandibular base lengths ($r=0.566$, $p=0.000$) and between maxillary and mandibular crowding ($r=0.408$, $p=0.000$).

Conclusions: Maxillary and mandibular base lengths are largest in skeletal Class II and Class III malocclusions respectively. Mandibular base length is larger in males as compared to females. An increase in amount of dental crowding is weakly associated with smaller skeletal base lengths.

Keywords: Dental crowding, Base lengths, skeletal malocclusions

aisha.khoja@aku.edu

Notes: