

Symphysis Dimension dan Lower Incisor Position among Class I and III Skeletal Malocclusion with different facial vertical pattern

ABSTRACT

Background : Mandibular symphysis is an anatomical structure of mandible in which the lower incisor are found including the anterior portion of chin, contributes to the composition and balance of facial and must be considered when deciding on orthodontic treatment in borderline case. Alveolar bone thickness varies by location and pattern of face. The effectiveness of tooth movement is established by the boundaries of the bones that construct the alveolar bone. Out of this bound, iatrogenic condition can be appear.

Objective : The aim of this study was to determined the dimension of mandibular symphysis and to evaluate the relationship between mandibular symphysis dimension with mandibular plane angle in class I and class III skeletal malocclusion wich have different vertical facial pattern.

Material and Methode : Samples were 97 cephalometric orthodontic patients that have not been done for orthodontic treatment. Sample were divided into two groups wich are class I skeletal malocclusion group and class III skeletal malocclusion group. Then, each group was separated in 3 subgroups by vertical skeletal patterns that are hyperdivergen, normodivergen and hypodivergen in accordance with the sample criteria. Mandibular symphysis dimension LP (lingual cortex), LA (labial cortex), mandibular symphysis height (LH), IMPA and relationship between mandibular symphysis dimension (LP, LA, dan LH) with mandibular plane angle and then measured in each group.

Result : Data were analysed by Kolmogorov Smirnov Test, oneway ANOVA, paired t-test, and Spearman correlation test with significance level ($p=0.05$). Oneway ANOVA analysis result showed significant differences in measurement result of mandible symphysis (LP, LA, and LH) to each sagital skeletal pattern and vertical skeletal pattern. Spearman correlation test results significance negative correlation among mandibular symphysis dimension (LP and LA) and showed an adequate significant positive correlation between mandibular symphysis dimension (LH) and mandibular plane angle in class I and class III