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Evaluation of lower incisor alveolar bone in skeletal class-3 adults using CBCT images

Soonshin Hwang, Sanghee Lee and Kyung Ho Kim
Gangnam Severance Hospital, Republic of Korea

The aim of this study is to investigate the alveolar bone width of lower incisors in skeletal class-3 adults of different vertical facial patterns. CBCT images of 90 skeletal class-3 patients were evaluated and 29 class-1 patients were assigned as the control group. Class-3 subjects were divided by mandibular plane angle; high (SN-MP>38.0°), normal (30.0°<SN-MP<37.0°) and low (SN-MP<28.0°) group. Buccal and lingual alveolar bone thickness was measured at the alveolar crest and 3, 6, 9mm apical level. Linear mixed model, Bonferroni post-hoc test and Pearson correlation analysis was used for statistical significance. Buccal and lingual alveolar bone in class-3 high, normal and low angle subjects was not significantly different at the alveolar crest and 3mm apical level while the lingual bone was thicker at the 6 and 9mm apical level. Class-3 high angle group had thinner alveolar bone at all levels except at buccal alveolar crest and 9mm apical level on the lingual side compared to class-1 group. Class-3 high angle group showed thinner alveolar bone than class-3 normal or low angle groups in most regions. Mandibular plane angle showed negative correlations with mandibular anterior alveolar bone thickness. Class-3 high angle patients undergoing orthodontic treatment should be treated with care as the mandibular anterior alveolar bone showed relatively narrow widths compared to class-1 and class-3 normal or low angle patients.

Biography

Soonshin Hwang has completed her Dental education from Creighton University School of Dentistry and has completed her Advanced Education in General Dentistry program from Columbia University, New York and Orthodontic Specialty training from Yonsei University, Gangnam Severance Hospital. She is currently working at the Orthodontic Department of Gangnam Severance Hospital as a Clinical Assistant Professor.

sshwang@yuhs.ac

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