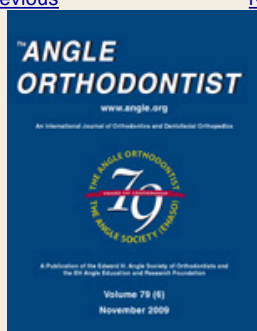


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Original Articles

Alveolar Bone Loss around Incisors in Surgical Skeletal Class III Patients A Retrospective 3-D CBCT Study

Yoonji Kim^a, Je Uk Park^b, and Yoon-Ah Kook^c

Abstract

Objective: To test the hypothesis that there is no difference in the vertical alveolar bone levels and alveolar bone thickness around the maxillary and mandibular central incisors in surgically treated skeletal Class III malocclusion patients.

Materials and Methods: The study sample comprised 20 Korean patients with skeletal Class III malocclusion with anterior crossbite and openbite (9 male, 11 female, mean ages 24.1). Three-dimensional cone beam computed tomography images were taken at least 1 month before the orthognathic surgery, and sagittal slices chosen at the labio-lingually widest point of the maxillary and mandibular right central incisor were evaluated. Measurement of the amount of vertical alveolar bone levels and alveolar bone thickness of the labial and lingual plate at the root apex was made using the SimPlant Pro 12.0 program.

Results: The mandibular incisors showed reduced vertical alveolar bone levels than the maxillary incisors, especially on the lingual side. The alveolar bone thickness was significantly greater on the lingual side in the maxillary incisors, whereas the mandibular incisors exhibited an opposite result ($P < .05$). The percentage of vertical bone loss to root length showed a statistically significant difference between the upper labial and lower labial alveolar bone and also between the upper lingual and lower lingual alveolar bone, showing more bone loss in the lower incisors ($P < .001$).

Conclusions: The hypothesis is rejected. For the skeletal Class III patients undergoing orthognathic surgery, special care should be taken to prevent or not aggravate preexisting alveolar bone loss in the anterior teeth, especially in the mandible.

Keywords: [Alveolar bone loss](#), [Alveolar bone thickness](#), [Central incisors](#), [3-D CBCT](#)

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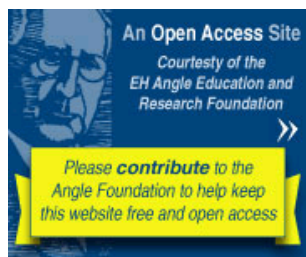
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