Letters to the editor*

What happened to the alveolar bone during retraction?

Professors Yanagita, Kuroda, Takano-Yamamoto, and Yamashiro are to be congratulated on successfully attaining a Class I occlusion on a skeletal Class III dental base, achieved by retracting the mandibular dentition using miniscrew anchorage (Yanagita T, Kuroda S, Takano-Yamamoto T, Yamshiro T. Class III malocclusion with complex problems of lateral open bite and severe crowding successfully treated with miniscrew anchorage and lingual orthodontic brackets. Am J Orthod Dentofacial Orthop 2011;139:679-89).

The posttreatment lateral cephalometric radiograph shows not only retraction of B-point but also marked reduction of the labiolingual alveolar bone width so that it appears that only the apex of the mandibular incisor roots remains in the alveolar bony envelope. In the absence of 3-dimensional imaging, I postulate that the actual bone coverage of the roots of the mandibular incisors resembles the images that Wehrbein et al1 reported in their study of the mandible of a deceased person who had undergone orthodontic treatment. In that article, the lateral cephalometric radiograph of the subject showed images of the mandibular incisor roots devoid of any labiolingual alveolar bone, except for the extreme apical area. The photographs of the dry mandible of the same subject showed that, instead of the incisor roots encased in bone, as is desirable, there were moderate bone dehiscences on the labial aspects of the mandibular incisors and severe dehiscences on the lingual aspects that resulted in only interradicular bone to provide lateral support to the incisors.

Sarikaya et al2 in their computed tomography scan study of alveolar bone thickness after retraction of anterior teeth also reported significant lingual bone loss that failed to recover by 3 months posttreatment. It was uncertain whether the lost cortical bone would regenerate.

I am concerned about the long-term prognosis of teeth that experience such severe dehiscences on the labial and lingual root surfaces and question whether we should continue to close our eyes when, in the pursuit of the ideal Class I occlusion, we seem to be bringing orthodontic tooth movement beyond the biologic limits of anatomy with our mechanotherapy.

Grace Ang  
Bandar Seri Begawan Brunei

We appreciate Dr Ang’s interest in our article and are happy to have an opportunity to respond.

Of course, we are concerned about bone remodeling around the mandibular incisor. But, at the present time, there are no long-term follow-up studies after extreme retraction of the mandibular incisors. Perhaps our patient has a similar condition to that reported in the example of Wehrbein et al.1 They found low density and decreased thickness of alveolar bone around the mandibular incisors; however as far as I can determine, their CT image showed decreased thickness and low density of alveolar bone around the premolars. Therefore, I think bone remodeling in the mandible was in process at 3 months posttreatment.

In addition, the report of Sarikaya et al2 certainly gave us a shock. We have never seen such severe bone resorption, although we have moved mandibular incisors significantly in some cases. I’m afraid that the patient had some systemic problems during her orthodontic treatment.

I recalled our patient last month. After 3 years of retention, neither attachment loss nor abnormal physiologic mobility was found in her mandibular incisors, and they seemed clinically normal. Moreover, significant root resorption was not found in her 2-dimensional radiographic evaluation. However, I will take 3-dimensional computed tomography scans to make a detailed observation soon. Thank you for your advice.

REFERENCES

Author’s response

*The viewpoints expressed are solely those of the author(s) and do not reflect those of the editor(s), publisher(s), or Association.
学霸图书馆

www.xuebalib.com

本文献由“学霸图书馆-文献云下载”收集自网络，仅供学习交流使用。

学霸图书馆（www.xuebalib.com）是一个“整合众多图书馆数据库资源，提供一站式文献检索和下载服务”的24小时在线不限IP图书馆。

图书馆致力于便利、促进学习与科研，提供最强文献下载服务。

图书馆导航：

图书馆首页  文献云下载  图书馆入口  外文数据库大全  疑难文献辅助工具