A New Clinical Recommendation for Maxillary Sinus Augmentation

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Abstract:

Lack of available bone and enlarged sinus cavities is often a significant obstacle to the placement of dental implants in the posterior maxilla. Poor bone quality is also a common finding in the posterior maxilla. In addition, bone resorption after tooth loss in the posterior maxilla often results in a lack of vertical and horizontal bone for long-term successful implant treatment. A maxillary sinus augmentation is a predictable method of grafting bone for implant placement in the posterior maxilla. Over the past decade, tissue engineering has become an increasingly important consideration in implant dentistry. Recent systematic reviews of human studies show higher bone regeneration when applying mesenchymal stem cells than controls. The purpose of this presentation is to highlight the factors that affect the success of maxillary sinus augmentation using different graft materials, including mesenchymal stem cells, and provide histological findings and evidence-based on 3D sinus anatomy.

Several factors have been shown to affect the quality of the sinus augmentation procedure, including the type of graft and sinus anatomy. This presentation will illustrate the histological findings of a clinical study on patients who received lateral window maxillary sinus augmentation using Osteocel Plus and cortical-cancellous allograft. Core samples were retrieved based on 3D sinus anatomy from anterior and posterior sites of both test and control sinuses for histomorphometric analysis. The result of the percentages of vital bone formed based on the new clinical recommendation will be discussed in detail through the presentation.

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