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The maxillary sinus membrane elevation technique using venous blood without grafting material and immediate implant placements: A case series analysis

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Introduction: Various sinus augmentation techniques have been successfully used in order to enable the implant placements in the atrophic posterior maxilla. The object of the study was to evaluate whether sinus membrane elevation technique using venous blood without any grafting material constitute an effective technique for the maxillary sinus augmentation.

Method: Eighteen patients who have not sufficient bone for implant placement at maxillary posterior sides were included in the study. Twenty-eight dental implants were inserted to twenty-two maxillary sinus just after the sinus membrane elevations via lateral approaches. After implant placements the cavity between relocated schneiderian membrane and sinus inferior wall was filled with venous blood without any bone grafting material. Cone beam computerized tomography was used for follow-up evaluation.

Results: Comparisons of pre- and postoperative radiographs clearly demonstrated new bone formation between the new and former sinus inferior walls. Within the mean follow-up period of 1.5 years two implant failures were recorded. One of the failures was occurred just three months after the surgery due to infection, and the other implant failure was recorded almost a year after the prosthetic rehabilitation. The survival rate was nearly 93% in the study. In a systematic review by Wallace et al., it was reported that average survival rate of implants placed in maxillary sinuses augmented with the lateral window technique was nearly 92%. It was shown that the technique used in this study has provided high implant survival rate as studies using grafting materials for maxillary sinus augmentation.

Conclusion: The case series of 18 patient demonstrated that the maxillary sinus membrane elevation procedure without grafting material and immediate implant placements is considered to be more cost-effective and less time-consuming compared with conventional procedure.

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