Surgical repair of sinus membrane perforations using stabilized collagen barrier membranes

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A review of the sinus augmentation literature of the past 25 years reveals the evolution of the sinus grafting technique, with subsequent prosthetic rehabilitation, into a highly predictable discipline.

The most frequent intra-operative complication with this type of surgery is the perforation of the Schneiderian membrane and the repair of perforations with bioabsorbable collagen barrier membranes has been previously documented.

New techniques are presented on 20 consecutive cases for the management of large perforations of the Schneiderian membrane that could occur during maxillary sinus elevation. A bioabsorbable collagen membrane (BioGide, Geistlich Pharma) is stabilized outside the antrostomy and then folded inward to create either a new superior wall that can obliterate a large perforation or a ''pouch'' that can completely contain the particulate graft material.

Based upon the clinical and radiographic outcomes of the cases presented in this report the following may be stated: 1) bioabsorbable membranes can be utilized to repair large perforations allowing for the completion of the surgical procedure; 2) histological evidence reveals that vital bone formation is not affected by the occurrence of and proper repair of a perforation; 3) radiographic evidence reveals that 100% graft containment can be achieved with a properly stabilized perforation repair; 4) clinical and radiographic examination revealed that normal sinus health was present following grafting of a repaired perforation; 5) limited short-term implant survival was not negatively affected by the presence of large perforations in the cases presented in this report; 6) further studies are needed to confirm the results achieved in this limited presentation of clinical cases.