



# BIOMATERIALS IN RESTORATION OF THE MAXILLARY SINUS MEMBRANE DEFECTS FOLLOWING ORAL SURGERY PROCEDURES

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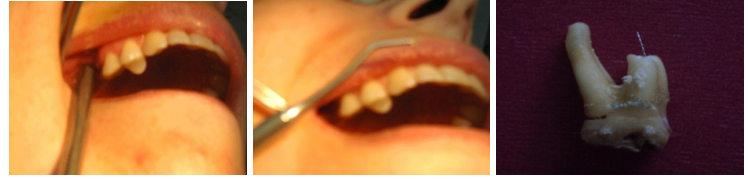
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**Introduction:** the most common sinus complication during superior jaw surgeries is perforation of the membrane. The aim of study was to clarify possibility of restoration of sinus defect with resorbable membrane; resorbable sponge scaffold (collagen, hydroxyapatite, and calcium phosphate - CaP, lincomycin and metronidazole); granules of CaP and immediate implantation of the bioactive CaP coated dental implants with S.L.A. surface (Alfa Gate, Israel).

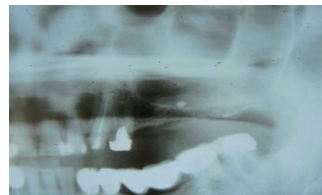
**Materials and methods:** we treated 28 patients with Schneiderian membrane perforation following routine surgeries: 6 following transcrestal sinus lift, 7 - extraction of premolars, 10 - extraction of molars, 2 - premolars apexectomy and 3 - removal procedure of the cysts.

**Results:** the main symptom was positive probe of oro - sinus communication. X-ray confirmed sinus perforation. For patients with apexectomy we extracted these teeth. A blood clot was created after extraction of all roots. For separation of the sinus from the jaw we used a resorbable collagen membrane. It has 2 surfaces: harsh (active) and smooth. The active surface is treated with hydroxyapatite and is oriented to the jaw. Then we introduced sponge scaffold treated in patient blood with CaP granules. The final was 2 stage implantation of the Bioactive Alfa Gate implant. Comparing X-rays we determined an increasing level of sinus floor. Under the adequate medication the postsurgical period was tolerated well. After 4 months of healing, the prosthetic rehabilitation was done.

**Conclusions:** combination of bioactive materials in reconstruction of sinus perforation, augmentation of the jaw-sinus space and simultaneous implantation of bioactive implants will increase level of bone and osseointegration. The prosthetic rehabilitation is possible to be done after 4 months of healing. The technique doesn't induces complications for sinus or implant.



Oro-sinus perforation



Preoperative X-ray



Sinus membrane



Granules of CaP



Resorbable sponge scaffold



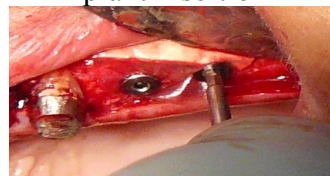
Bioactive Alfa Gate Implant + Augmentation



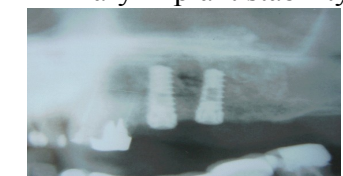
Implant insertion



Primary implant stability



Resorbable membrane



Final X-ray



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