

26. EVALUATION OF GUIDED BONE REGENERATION AND BONE GRAFTING WITH AUTOGENOUS LAMINATES IN ORAL SURGERY



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Introduction. Oral rehabilitation, using dentures fixed on dental implants, has made a revolution in modern dentistry. However, it is often found that patients have significant bone atrophy of the alveolar processes of the jaws, which creates unfavorable conditions for the placement of dental implants. In these cases alveolar bone rehabilitation is the solution. It is considered that the “golden standards” of alveolar process atrophy rehabilitation are Guided Bone Regeneration (GBR) and bone grafting with autogenous laminates according to the method of Prof. Khoury.

Aim of study. The aim of this study is evaluation of bone regeneration techniques based on postoperative outcomes and complications.

Methods and materials. In this study, 20 patients aged 40-67 years, including 11 women and 9 men, with alveolar process atrophy of the mandible were registered. 10 patients underwent GBR surgery, with initial average bone width of $\pm 4,14$ mm, and 10 patients - bone grafting with autogenous laminates, with initial average bone width of $\pm 3,20$ mm. In case of GBR “Evolution Ostiobiol” membrane was used with the mix of autogenous and xenogenous bone grafts. In other case autogenous bone laminate was fixed vestibular with “Konmet” screws. The results of the surgeries were evaluated after 6 months based on CT data according to the following criteria: bone tissue growth, bone tissue resorption and complications.

Results. The study of both bone regeneration techniques showed no significant differences in bone gain 6 months after surgery. However, the use of bone rehabilitation with autogenous laminates demonstrated less bone resorption. Measurements made based on the control CT showed average resorption of 1,97 mm in case of GBR and 1,05 mm in case of regeneration with autogenous laminates. Analysis of postoperative pain level showed that a greater number of patients with severe postoperative pain was found in the group where bone regeneration with autogenous laminates was performed. In the case of GBR, 8 patients presented mild pain and only 2 patients – strong pain. In other techniques only 1 patient presented mild pain and 9 patients – severe pain. Postoperative swelling was not significantly different in both study groups with slightly longer duration in case of bone grafting technique with autogenous laminates. The average duration of swelling after the GBR surgery was 4 days, but in the case of bone grafting technique with autogenous laminates it was 6 days. There was only 1 case of temporary neurosensory disturbance out of the total number of patients reported only in case of augmentation with autogenous bone laminates. It's associated with bone laminate harvesting. In this case, sensitivity was fully restored after 4 weeks.

Conclusion. Bone grafting with autogenous bone laminates has a more favorable outcome in the amount of bone obtained and less resorption compared to GBR, both presenting similar postoperative complications.