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#713 - Oral

Remodeling Of The Autologous Bone Grafts From The Iliac Crest In Patients With Defects And Deformities Of The Facial Bones In Early And Long-Term Postoperative Period.

Oral Surgery/Implants

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Objectives

To investigate the changes in volume and density of the autologous bone grafts from the iliac crest, based on the CT data analysis in patients with defects and deformities of the facial bones in early and late postoperative period.

Methods

The study involved 42 patients who had undergone the replacement of postoperative jaw defects with autologous bone grafts. The state of the patients was evaluated clinically and radiologically (CT) immediately after surgery, and in 6 and 12 month terms. After analysis of the CT data, the graft volume, the content of different bone types and the radiographic density of the bone tissue in the recipient area were determined.

Results

It was found out that in postoperative period the autologous bone grafts were subjected to intense resorption and remodeling with a decrease in volume by 65.1±21.8% and an increase in its radiological density. The most intense resorption was noted in the first 6 months after surgery (45.6±21.8%). The statistically significant correlation between the initial graft volume and the degree of its resorption ($r=0.64$, $p<0.05$) was found, furthermore, the larger initial graft volume was associated with more intense resorption. ($r=-0.51$, $p<0.05$) Also, the increase in mineral density during remodeling was more pronounced in smaller grafts ($r=0.76$, $p<0.05$).

Conclusions

Autologous bone grafts in early and long-term postoperative period after transplantation are exposed to significant resorption and remodeling that correlates with initial bone graft volume and architectonics.