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Reconstruction of bone tissue in the experiment and clinical effectiveness of osteoplasty with tricalcium phosphate in patients with generalized periodontitis

The study was performed as a part of research work “Clinical and laboratory basis for the use of modern medical technologies for diagnosis, prophylaxis and treatment of main dental diseases” (state registration number 0104U000711).

ABSTRACT. Background. The theoretical basis of osteoplasty, fully supported by clinical observations, is that violations occur in periodontitis of correlation between tooth and the surrounding tissues, including the microcirculation. **Objective.** The aim was experimental evaluation of tissue alterations in bone implant material tricalcium phosphate®, as well as determining the dynamics of clinical and instrumental parameters after its use in the surgical treatment of patients with generalized periodontitis I-III degree for 1 year. **Methods.** The analysis of quantitative morphological estimation of regenerative processes in osteal tissue in model of osteal defect is carried out at implantation of material amorphous calcium phosphate at this work. It was investigated dynamics of clinical and instrumental parameters after its use in the surgical treatment of patients with generalized periodontitis I-III degree during 1 year. **Results.** We found out that amorphous calcium phosphate undergo resorbtion and thus optimize bone regeneration. Regeneration is accompanied by decreased specific area of the particles implanted and increased integration index and specific density of trabeculae within the reaction zone. Highest intensity of these processes was observed in the period from 15th till the 30th day after implantation. In patients with chronic generalized periodontitis use of tricalcium phosphate improves most periodontal indices, limits the extent of pathological tooth mobility and gingival recession index, increases capillary resistance, prevents the growth of vertical alveolar ridge resorption. **Conclusion.** The most significant clinical efficiency of osteoplasty with tricalcium phosphate observed in patients under 35, regardless of the sex of the patients.

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