



MORPHOLOGICAL EXPERIMENTS TO IMPROVE THE EFFECTIVENESS OF POSTOPERATIVE REHABILITATION OF CYSTS IN MAXILLARY BONES WITH "PRF" OSTEOPLASTIC MATERIAL

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Article history:	Abstract:
Received: December 8 th 2021 Accepted: January 8 th 2021 Published: February 13 th 2022	In recent years, in order to improve the effectiveness of postoperative rehabilitation of cysts in the jawbone, as well as to fill the bone defect cavity, various biological and medical materials have been developed and their application in the field of surgery in clinical medical practice has been proposed, which have an active effect .

Keywords: cyst rehabilitation, "PRF" technology, alloxenotransplants, odontogenic cysts.

INTRODUCTION:

Today, auto- and alloxenotransplants are used, which are prepared in different ways in order to prevent bone regeneration in the area where the surgical procedure is carried out. Synthetic polymeric materials are usually used to fill bone cavities parallel to this area. Each one has indications and contraindications, depending on the specific condition. There are several advantages to PRF technology, made of natural and synthetic osteoplastic materials. If the size of the cavity, after removal of cysts, is large and covers a large area, the filling of the cavity with the removal of biological materials is more effective in repairing defects in bone structures. Currently, it is proposed to use materials that allow to control and manage the regeneration process while creating favourable conditions for osteogenic restoration of bone defects. These materials in the form of resorbable membranes promote the development and formation of osteogenic structures in the bone defect area.

AIM OF THE STUDY:

Morphological experiments to improve the effectiveness of postoperative rehabilitation of cysts in maxillary bones with "PRF" osteoplastic material

MATERIALS AND METHODS OF THE STUDY:

The experimental part of the work was carried out in pedigree laboratory rabbits of 3.5 sexually mature chinchilla breed with an average weight of 24 kg. The animals were divided into 2 groups: the main group and the control group, in which no drugs were used, instead the osteoplastic material "a-Oss" was used.

The duration of feeding the rabbits did not exceed 60 days, taking into account a one-week period of animals' adaptation to the new conditions after their introduction to the vivarium and placement in cages. Animals of different groups were kept in a separate room without food and water for the duration of the experiment.

RESULTS:

The condition of the animals was observed during the experiment, from the day of the experiment to day 14. The clinical results of the experiment were evaluated according to the following criteria: motor activity, food intake, fluid intake, body temperature, suture position, swelling, hyperemia, pain during palpation, and body weight. The experimental part of the work was carried out on a one-month old cast of 24 chinchilla breeds. All rabbits were divided into the following groups: control (n=8) and experimental (n=16) groups. The experimental group was also divided into 2 groups: 2a - applied a-Oss osteoplastic material (n=8) and 2b - applied a-Oss +PRF material (n=8). Groups. Animals in all groups were eliminated from the experiment on days 7, 14, 21, 1 month and 2 months.

Xenogenic osteoplastic material - a-Oss.

According to the structure of A-Oss, the human is an osteoplastic material similar to bone tissue, consisting of cartilage bone. The increased structure and hydrophilicity, surface irregularity, constant volume and consistency accelerate the process of osteogenesis. The material is porous, evenly spaced on the surface, which increases the

permeability of blood and nutrients. The uneven surface ensures adhesion of bone-forming cells.

PRF (platelet-rich fibrin) material is a fibrin enriched with chromatids. The material is rich in blood cells and growth factors that ensure the successful implementation of the restoration of hard and soft tissues, thereby accelerating the postoperative rehabilitation period. The preparation does not cause allergic reactions, because it is autogenous, i.e. it is prepared in laboratory conditions from the blood obtained from the patient himself. The obtained blood is placed in a centrifuge. This produces A-PRF (membrane) and I-PRF (fibrin glue). A (advanced)-PRF is a membrane that is harmless to health, it helps to clear the jargon and reduce sewing and cutting time. I (injectable) -PRF is used in bone grafting to "bond" the bone material and form a single conglomerate. The main effect of these materials is to stimulate the growth of blood vessels. This will accelerate the metabolism in the area of operation.

The operation required preparation. The rabbits were not fed 1 day before the procedure and were given an aqueous solution containing dufalac

(0.3 ml/kg) 12 hours before the procedure. Before the procedure a general examination of the guinea pigs was carried out. Body weight and body weight were measured. This stage was carried out in cooperation with a veterinarian.

Premedication stage. The following preparations were injected into the gluteal muscle 30 minutes prior to the procedure (Figure 1): Atropine sulphate 0.03 ml per 1 kg body weight; Dimedrol 1% - 1 ml

Procedure: The surgical area was cleaned of skin fluff prior to the surgical procedure. The antiseptic solutions were treated with 70% ethyl alcohol, topical preparation Tosaden. Promethar (Celanit) 0.1 ml/kg was sent for general anaesthesia. After pain relief, a typical incision was made, rotating the angular region from the lower edge of the mandible. All experimental animals had the bone defect ligated along the fracture line, in which the bone was cooled with a fracture and a spherical burr with physiological solution using a portable burr (at a speed of 10,000) in the mandibular marginal stone.



Figure 1. Premedication stage



Figure 2. Bone-plastic material of the experimental group -a-Oss and PRF material-was placed on the sternum of the defect, wound layer on the sternum of the defect, hermetically sutured



CONCLUSIONS:

By day 7, under the influence of closing the defect of the jaw formed in experimental rabbits with osteoplastic pouch material, the collagen in the composition changes to an elastic form and fills the entire area of the bone defect, by day 14 the blood vessels become soft and porous as a result of ingrowth into the material, on day 21 between, Development of concentric bone plates from the bone tissue surrounding the blood vessels, which have grown into the bone material in 30 days, led to 60 days development of concentric bone plates, which appeared between the bone material, turning into plastinated bone tissue.

LITERATURE:

1. Abdullayev Sh.Y. Shomurodov K.E. Dynamics of acute phase proteins of inflammation in odontogenic phlegmon of maxillofacial region// Infection, immunity and pharmacology. - Tashkent, 2010. - №3-4. - C.106-109.
2. Belokritskaya G.F., 2010; Bulkina N.V., 2010; Vedyayeva A.P., 2011; Sokhov S.T., 2011; Morgunova V.M., 2013. // Modern problems of science and education : electronic scientific journal. - 2011. - № 6. - URL: www.scienceeducationii.ru/101-5095 (date of reference: 18.01.2012).
3. Lemetskaya T.N., 2010; Barer G.M., Ovchinnikova I.A. et al., 2011; Abolmasov H.H., 2012; Tsepov L.M. et al., 2010; // Bulletin of New Medical Technologies. - 2012. - № 2. - C. 449-451
4. Orekhova L.Y. et al., 2015; Kovalchuk L.V. et al., 2016; Melnichuk G.M., 2016; Vavilova T.P., 2019. // Saratov Scientific Medical Journal. - 2016. - № 2. - C. 388-392.
5. Bezrukova A.P. et al., 2014; Grudyanov A.I., 2010; Dunyazina T.M., 2011; Zuev V.P., 2014; Grigoryan A.S., 2013; Fedorovskaya L.N., Grigoryan A.S. et al., 2013; Iordanishvili A.K., 2014; Orekhova L.Yu. // Journal of theoretical and practical medicine. - 2014. - T. 8. - C. 120-122.
6. K.E. Shomurodov Features of cytokine balance in gingival fluid in odontogenic phlegmon of maxillofacial area. // Doctor-aspirant 2010.-42 Vol.-No.5.1.-P.187-192.
7. Musaev U.Y., Rizaev J.A., Shomurodov K.E. New views on the problem of dysemryogenesis stigmas of dento-mandibular and facial system from the position of their formation in the disability of the population // Central Asian Scientific and Practical Journal "Stomatologiya" 2017.-#3-(68).-P.9-12.
8. Shomurodov, K., Khaidarov, N., & Kamalova, M. (2021). The formation and eruption of baby teeth in children. Збірник наукових праць SCIENTIA. вилучено із <https://ojs.ukrlogos.in.ua/index.php/scientia/article/view/14724>
9. Khaidarov Nodir Kadyrovich, Shomurodov Kahramon Erkinovich, & Kamalova Malika Ilhomovna. (2021). Microscopic Examination Of Postcapillary Cerebral Venues In Hemorrhagic Stroke. The American Journal of Medical Sciences and Pharmaceutical Research, 3(08), 69–73.
10. Shomurodov K.E. Peculiarities of cytokine balance in gingival fluid at odontogenic phlegmon of maxillofacial area // The doctor-aspirant. - 2010. - 42(5.1). - C. 187-192.
11. Isomov M.M., Shomurodov K.E. Peculiarities of rehabilitation of pregnant women with inflammatory diseases of maxillofacial area // International scientific-practical conference "Modern aspects of complex dental rehabilitation of patients with maxillofacial defects" May 21-22, 2020, Krasnodar. - 2020. - C. 72-76.