WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 3, Issue 11, Nov., 2022

EFFECTIVENESS OF THE USE OF OSTEOPLASTIC MATERIAL "STIMUL-OSS" IN SAMARKAND

Otaboyev Ramz Shavkatovich
Uzbekistan, Samarkand
Samarkand State Medical University

Akhmadov Inomjon Nizomitdin
Uzbekistan, Samarkand
Samarkand State Medical University
inomjonakhmadov1994@gmail.com

Annotation
In modern surgical dentistry and maxillofacial surgery, various osteoplastic materials are increasingly used. The scope of application of these materials is from filling in bone defects after tooth extraction to osteosuppressive operations in order to optimize the regeneration of bone tissue of the jaw. The qualitative characteristics of such materials, including osteoinductivity, bioresistance, biocompatibility, as well as the ability to perform and maintain the volume of a bone defect, are due to various properties of the substances included in the compositions. Hydroxyapatite and collagen compositions ("Gapkol", "Kolapol" KP, KP-2, KP-3, "Kollapan", "Ossokol", "Aukepe", "Stimul-OSS"), which promote fibroblast proliferation, vascularization of nearby tissues and the formation of new bone tissue, are of great clinical use.

Keywords: retention, dystopia, plateletautoplasm, "Stimulus-OSS", osteoplastic materials.

Introduction:
The basis for performing the method of tissue engineering is the presence of a carrier substrate and the presence of bioreactors, which include mesenchymal and stromal cells, platelet-rich plasma (OTP), as well as other osteoplastic materials. The use of OTP to accelerate bone and soft tissue growth has now become one of the trends in reconstructive plastic surgery. Currently, this biotechnology is attracting more and more clinicians. OTP is most often used as an additive to osteoplastic material, designed to increase its osteogenic activity and optimize the processes of reparative osteo - and chondrogenesis, which improves the results of surgical treatment of patients with defects in bone and cartilage (articular) tissues, reduces the number of reosteosyntheses and reduces the duration of disability. As can be seen from the

results of clinical and experimental studies published to date, the problem of effective use of osteoplastic materials in dentistry remains relevant.

Research objective

To study the features of the course of inflammatory and regenerative processes in the well of removed retinated and dystopic third molars under the influence of osteoplastic material "Stimul-OSS" in combination with platelet-rich auto plasm.

Material and methods

To achieve this goal, we studied the data of the archival material of the Department of maxillofacial surgery of the Samarkand Regional Dental Polyclinic and the Department of Maxillofacial Surgery for the period from 2019 to 2022. with the study of the features of the course, indicators of clinical, biochemical and special research methods. During the specified period, in-patient maxillofacial surgery with difficult eruption of the lower third molars occur in 91% of cases in the most able-bodied and socially active age - from 16 to 35 years. Surgical removal of retinted dystopian lower third molars was performed in 57 patients aged 16-35 years and without severe somatic pathology. Depending on the chosen treatment strategy, patients were divided into 2 groups (Table 2):

* Main group I (29 patients, 51%): after extraction of the lower third molar, the bone defect was filled with Stimul-OSS osteoplastic material, then we applied OTP in the form of a membrane.
* Comparison group II (28 patients, 49%): treatment was carried out according to the traditional method, i.e., after extraction of the lower third molar, the bone defect was filled with a blood clot.

The Stimul-OSS sponge is a medical device manufactured by: JSC "Luzhsky plant "Belkozin", Russia. Ingredients: hydroxyapatite, chlorhexidine, collagen. Indications for use are:

* Various types of surgical interventions in dentistry and maxillofacial surgery, including filling cavities after tooth extraction in order to reduce bone atrophy of the jaw.
* Operations to remove cysts and benign tumors of the jaw.
* Operations to prepare for the implantation of dental supports.
* Surgical treatment of periodontitis and periodontal disease.
* Contour plastic surgery for maxillofacial deformity.

"Stimul-OSS" has high sorption properties; allows modeling the wound surface; helps to reduce the frequency of infectious and inflammatory complications;
significantly reduces soreness in the surgical area; stimulates the mechanisms of bone tissue restoration; affects the reduction of the intensity of inflammatory contracture

of the masticatory muscles; stimulates the early healing process and reduces the time of tissue recovery in the wound area.

OTP was obtained by the method of F. Adda et al. (2000). A single centrifugation of the patient's blood taken from the cubital vein was performed on an OPN-3 centrifuge (Russia). Rotation speed-2000 revolutions per minute, rotation time-20 minutes. After blood centrifugation, the material was obtained in the form of a gel-like clot consisting of several fractions arranged from top to bottom: a layer of fibrin and plasma proteins, a layer of saturated platelet mass, a layer of white blood cells and a layer of red blood cells. The layer saturated with platelets contains their concentration, five times higher than the usual concentration in the blood, and amounts to 1000000/μl. Sterile scissors were used to separate the part of the clot above the red blood cell layer, which is usually about 10 mm, and a fibrin membrane was prepared by crushing the clot between wet sterile wipes with your fingers.

Specification and clarification of the diagnosis of the disease always took place after X-ray and other radiation research methods (OPTG or CT). They were used to determine the position of the tooth in the jaw and dentition and decide on the choice of surgical treatment tactics. In addition, we studied the duration of hospitalization after the onset of the disease, the severity of the clinical course depending on the duration of hospitalization, complaints of patients at admission and during inpatient treatment, the nature and severity of clinical symptoms – temperature reaction, violation of mouth opening, etc. Among the clinical and biochemical methods, traditional tests were used: a detailed blood test to determine the level of inflammatory response, which was used to calculate the leukocyte intoxication index (LII); acid-base state in the hole of the extracted tooth, etc. The LII was calculated using the following formula:

$$LII = \frac{(4mc+3y+2r+c) \times (pl.\ cl. +1)}{(lim+mon) \times (e+1)}$$

where mc – myelocytes, y-young, r – rod cells, c-segmentonuclear, pl. cl– - plasma cells, lim-lymphocytes, mon-monocytes, e – eosinophils (in % ratio).

Microbiological, cytological, X-ray studies, determination of acid-base balance were performed according to traditional clinical and laboratory methods. Bone wound healing parameters were determined by densitometry (determination of Hounsfieldunits) on a Planmeca device (Finland). The method was performed by determining the degree of attenuation of X-rays when they pass through the thickness of bone tissue. The determined indicator was evaluated using the "Mediadent" software shell, a russified 64-bit program running under Windows 10 operating

systems, which allows you to master the widest set of diagnostic and R-image processing functions.

Statistical processing of the obtained data included calculating the average values (M) and their standard error (m) for absolute values and fractions (%) for qualitative indicators.

Results and Discussion

Analysis of the time of patient visits showed that about 71% of patients applied in the first three days after the onset of the disease.

Analysis of anamnestic data showed that the main complaints at admission were pain in the area of the causal tooth, swelling of soft tissues on the affected side, difficulty opening the mouth, pain when eating, fever up to 38-39 ° C and other symptoms of intoxication – lethargy, a feeling of heaviness in the head, impaired performance, decreased appetite. External examination often revealed facial asymmetry due to soft tissue swelling on the affected side, and in most cases mouth opening was limited to 1.0-1.5 cm and painful. On the part of the oral cavity, hyperemia, bulging of the mucous membrane over the retinted dystopian lower third molar was determined. In most cases, serous-purulent discharge from the "hood" mucosa covering the tooth crown was noted; the retromolar area was sharply painful on palpation.

As a result of clinical examination in the early postoperative period, it was revealed that on day 1 in the compared group, subfebrile body temperature was observed in 3 (11%) patients, while in the main group it was absent.

The lymph node reaction in the comparison group was observed in 6 (21 %) patients on the first, 3rd and 5th days, while in the main group lymphadenitis occurred in 2 patients on the first and third days with its regression on the 5th and 7th days. Edema and hyperemia in the surgical wound area were observed in all 57 (100%) patients both in the comparison group and in the main group on days 1 and 3. In the comparison group, on day 5, edema and hyperemia persisted in 21 (75%) patients; in 5 (20%) patients, on day 7, edema and hyperemia were insignificant. In the main group, edema and hyperemia of the surgical wound were observed on the 5th day – in 15 (51%) patients, on the 7th day these changes in the wound area were not observed.

Violation of the function of opening the mouth persisted in all subjects of the compared group for up to 7 days, in the comparison group, by the 5th day after the removal operation, this symptom persisted in 22 (76%) patients, by the 7th day-in 18 (62%); in the main group, violation of the function of opening the mouth was noted for 5-only 9 (32%) and 7 days-only 1 (3%) patient.

When analyzing the dynamics of peripheral blood LII indicators in patients of the compared and main groups, we found that by the 3rd and 5th days of treatment, inflammatory phenomena were observed , by the 7th day of treatment, the level of leukocytes in the compared group decreased to 6.0±0.3×109/l, ESR was 9.08±4.6 mm / h, while in the main In the group, by day 7, the level of leukocytes and ESR were in the range of 5.60±0.3×109/l and 9.09±2.99 mm/h, respectively, which indicated normalization of the general condition of patients.

Analysis of the indicators of the acid-base state of the extracted tooth hole in patients of the main and compared groups also showed the best dynamics of pH normalization in the main group.

The results of the study of cytograms in dynamics showed that in the compared group on the 3rd day after tooth extraction, shifts in the cytological picture were insignificant: neutrophilic granulocytes with varying degrees of destruction prevailed in the smears, a small number of macrophages (mainly in the form of immature forms) and lymphocytes were noted, fibroblasts were almost completely absent. Gradual improvement of the picture was noted on the 5th day of the wound process: the neutrophil level decreased to 55.35±2.05%, the number of lymphocytes increased, and individual polybasites and macrophages appeared. The dynamics of cytogram parameters in the compared and main groups is presented in Tables 4, 5. Analysis of the results of densitometry showed that the processes of well bone formation were best in patients of the main group, i.e., 12 months after tooth extraction, bone density indicators corresponded to the norm – 1631.8±14.9 cu. Long-term results were observed in 23 patients (37%) of the main and 22 patients (36%) of the compared groups (Fig. 5).

Conclusion

The developed method of bone grafting in the surgical treatment of retinted dystopian lower third molars using a combination of Stimul-OSS osteoplastic material and platelet -rich auto plasm is pathogenetically justified. The method allows to reduce the time of healing and treatment, has medical, social and economic efficiency in the form of reducing the length of hospital stay and improving the quality of life of patients, which allows us to recommend it for wide implementation in the practice of dental surgeons and maxillofacial surgeons.

References

1. КУБАЕВ А.С., КАРШИЕВ Ш.Г., БАЗАРОВ Б. НАШ ОПЫТ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ ПЕРЕЛОМОВ НИЖНЕЙ ЧЕЛЮСТИ //ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ. – 2022. – Т. 7. – №. 1.
2. Норбутаев А. Б., Шамсиев М. К., Назарова Н.С. Клинико–функциональные изменения твердых тканей зубов у пациентов с гемофилией // Американский журнал медицинских наук и фармацевтических исследований. - 2020. – Т. 2. – №. 12. – С. 29-34.
3. Ахмадов И. Н. КЛИНИЧЕСКИЕ ОСОБЕННОСТИ И ПРИНЦИПЫ ЛЕЧЕНИЯ АЛЛЕРГИЧЕСКОГО СТОМАТИТА ПРИ ИСПОЛЬЗОВАНИИ ЧАСТИЧНЫХ И ПОЛНЫХ СЪЕМНЫХ ПЛАСТИНОЧНЫХ ПРОТЕЗОВ. АКРИ-ФРИ //ББК 72 И66. – 2021. – С. 262.
4. Ruziyeva K. A., Burhonova Z. K. K. Complex Application Of Magnetic Laser Therapy And Propolis Tincture For The Prevention And Treatment Of Chronic Recurrent Aphthous Stomatitis //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – Т. 3. – №. 06. – С. 127-130..
5. Ортикова Н., Ризаев Ж., Мелибаев Б. ПСИХОЛОГИЧЕСКИЕ АСПЕКТЫ ПОСТРОЕНИЯ СТОМАТОЛОГИЧЕСКОГО ПРИЕМА ПАЦИЕНТОВ ДЕТСКОГО ВОЗРАСТА //InterConf. – 2021.
6. Ortikova N., Rizaev J. THE PREVALENCE AND REASONS OF STOMATOPHOBIA IN CHILDREN //Euro-Asia Conferences. – 2021. – Т. 5. – №. 1. – С. 182-183.
7. Asrorovna X. N. et al. Methods Of Instrumental Treatment of Root Canals //Texas Journal of Medical Science. – 2021. – Т. 2. – С. 17-19.
8. МЕЛИБАЕВ Б. А., МАХМУДОВА У. Б. ЭФФЕКТИВНОСТЬ ПРИМЕНЕНИЯ ПАРАПУЛЬПАРНЫХ ШТИФТОВ (ППШ) ПРИ ВОССТАНОВЛЕНИИ ДЕФЕКТОВ КОРОНКОВОЙ ЧАСТИ ФРОНТАЛЬНЫХ ЗУБОВ //ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ. – 2022. – Т. 7. – №. 1.
9. Qobilovna B. Z. INTEGRATIVE APPROACH TO THE TREATMENT OF DISEASES OF THE ORAL MUCOSA USING LASER THERAPY //Web of Scientist: International Scientific Research Journal. – 2022. – Т. 3. – №. 11. – С. 408-412.
10. Qobilovna B. Z. INTEGRATIVE APPROACH TO THE TREATMENT OF DISEASES OF THE ORAL MUCOSA USING LASER THERAPY //Web of Scientist: International Scientific Research Journal. – 2022. – Т. 3. – №. 11. – С. 408-412.