



PROSPECTS FOR FURTHER DEVELOPMENT OF THE DEPARTMENT OF MAXILLOFACIAL SURGERY

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Article history:	Abstract:
<p>Received: December 24th 2021 Accepted: January 26th 2022 Published: February 28th 2022</p>	<p>Currently, research is being conducted on the topic: "Development of new surgical methods of treatment and rehabilitation of patients using distraction ontogenesis, bioactive osteoplastic materials of a new generation to eliminate defects, deformations of the facial skull based on computer and laser technologies." The development of methods of endorses implantation in bone reconstructive operations have continued.</p>

Keywords: implantation of the implants, surgical treatment, bone structure

The possibility of dental implantation with insufficient bone volume of the alveolar process of the upper jaw was revealed: 39 patients (14 men and 25 women), in whom the distance from the top of the alveolar process to the bottom of the maxillary sinus did not exceed 4 mm, underwent direct dental implantation operations with gentle sinus lifting and bone grafting. Titanium plate implants developed in the clinic were used. Sinus lifting was also performed according to the technique developed in the clinic.

Several approaches of mandible bone grafting using autogenic material and endorse implants were used. The first is delayed implantation 10-12 months after transplantation of a fragment of the iliac crest with the introduction of dental implants into the formed bone regenerate. Orthopedic treatment was started 6 months after implantation of the implants (5 patients). A type of delayed implantation was the initial introduction of EI into the iliac crest for a period of 6 months, followed by the relocation of the combined auto graft block with implants to the site of the mandible defect (4 patients). Orthopedic treatment was carried out after 10-12 months. The second is that early implantation is ineffective and led to complications in the form of an inflammatory process in the implant area and subsequent rejection of the graft (2 patients). The third — immediate implantation involved simultaneous graft transplantation with the introduction of EI, which allowed orthopedic treatment to be carried out after 10-12 months (17 patients).

In the surgical treatment of the described group of patients, preference is given to the third option - immediate implantation with simultaneous receipt of an auto graft and the introduction of an EI of its own design. Currently, a promising research development is being carried out on the possible use of synthetic allograft from a composite bioactive material based on HAP for these purposes. The blocks of implantable material have the shape of various segments of the mandible and have a number of positive practical

properties, in particular, sufficient strength, which allows them to withstand a natural functional load, and good mach inability, which makes it convenient to individually adapt the blocks to bone defects of the mandible using conventional surgical cutters.

In a number of clinical cases (8 patients), we used blocks of this material with embedded cylindrical implants made of aluminum oxide corundum ceramics (CCOA). The presented combination of materials can be considered the most acceptable from the point of view of biocompatibility and biomechanical properties, however, the clinical results of treatment require further research and justification.

Thus, the issues of the complex application of various biocompositional materials based on HAP in bone reconstructive plastic surgery on the lower jaw in combination with allografts made of porous bio-glass ceramics are extremely promising and require further study in research and practical terms. An alternative and effective method of surgical treatment for mandibular defects was the use of autografts with EI, which allows creating optimal conditions for orthopedic rehabilitation of severe maxillofacial patients.

The evaluation of clinical and radiological results of treatment of patients with endossal implantation with the use of drugs based on hydroxyapatite (HAP), when there is atrophy or defect of the alveolar process of the upper jaw in the anatomical location of the maxillary sinuses. In these cases, correction of the bottom of the maxillary sinus using osteoplastic materials (hydroxyapol, colapol) was performed simultaneously with the introduction of a dental implant.

Sufficiently complete information was obtained after X-ray examination (orthopantomogram), in difficult cases, computed tomography was performed. However, one should take into account the distortion that the radiograph gives. We received additional data when examining the operating area - we paid attention to the color and thickness of the mucous membrane,



the thickness of the bone (palpation, percussion, pressure), the degree of atrophy of the alveolar process.

In our study, the task was set to evaluate the possibility of using plate EI in cases of treatment of this group of patients with sinus lifting. We consider their high biofunctional properties to be positive characteristics of this design of plate EIS.

The sinus-lifting operation developed in our clinic consisted of gentle insertion of the implant into the area of the atrophied alveolar process. At the same time, the upper edge of the bone wound, which is the bottom of the maxillary sinus, was crushed and lifted with a special chisel. Then hydroxyapol or colapol (KP-2) with a titanium implant was injected into this space. In order to prevent complications during these operations, the endoscopy method was additionally used to monitor the condition of the maxillary sinus mucosa and the amount of biocompositional material injected.

Clinical and radiological observation of patients after endossal implantation with the use of GAP preparations in the early and long-term periods of treatment allowed us to note the following features of the course of the rehabilitation period: in the early periods (up to 2 weeks), inflammatory phenomena of the mucous membrane in the area of surgery were not noted, which is why general antibacterial therapy was not performed. Analysis of control orthopantomograms of the jaws showed that in the long term (6 months — 2 years) the wedge-shaped resorption of bone tissue in the neck of the implant was within normal limits, and additional foci of destruction of bone tissue were absent. There were no early complications at the surgical stage of treatment when using these drugs, and in the late period the number of complications after endossal implantation was only 7.2% of cases (11 patients), and in 9 of them the cause was poor oral hygiene and violation of the rehabilitation regime by the patients themselves, in 2 cases — incorrect determination of indications for endossal implantation.

Arthroscopic examination is best carried out with a telescope with a viewing angle of 30 degrees, which allows you to examine most of the articular fossa. The back of the lower floor of the joint can also be examined if you change the direction of the telescope. This direction of the trocar is more difficult and less informative, but it allows you to carefully examine the lower floor of the joint. Then the joint cavity is thoroughly washed to clear it of blood clots. Cannulas are removed, incisions are sutured and an aseptic bandage is applied.

Distraction osteogenesis with combined distraction of the body of the lower jaw and chin - can be carried out to eliminate underdevelopment of the branch and (or) the body of the lower jaw, microretrogenism, deformity of the lower jaw of congenital and acquired etiology. The essence of the method consists in simultaneous distraction of both the body of the lower jaw and the chin with the help of an original compression-distraction apparatus. Using this method, surgical treatment of 15 patients with various defects and deformities of the lower facial area was performed.

All patients were examined before surgery, in the immediate postoperative period and three months after surgery. An ophthalmological examination was also carried out - assessment of the movements of the eyeballs, visual acuity, detection of hemorrhages at different levels in the eye and eye socket. In cases where there were displacements of the bone structures that make up the anterior boundaries of the orbit, the magnitude of the displacement of the eyeball in patients was determined in the anteroposterior, vertical (upper-not-lower) lateral (transverse displacement) direction.

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