

## **SURGICAL ASPECTS OF THE RESTORATION OF THE ZYGOMATIC-ORBITAL COMPLEX AFTER INJURIES**

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### **Annotation**

Modern methods of treating patients with fractures of the bone structures of the orbit provide access to all the walls of the orbit and zygomatic bone, in addition, these surgical methods of treatment allow for the reposition of bone fragments and their reliable fixation. These methods also provide an opportunity for effective bone defect repair using mini-plates and implants.

### **Keywords**

zygomatic-orbital complex, defects, 3D implant, surgical treatment, fracture.

Currently, there is no clear system of therapeutic and diagnostic measures for the medical rehabilitation of patients with post-traumatic stress disorders (A.C. Karayan, 2003). All researchers note the rapid growth of patients diagnosed with this type of pathology. The primary etiological factors that lead to post-traumatic stress disorders include road accidents and domestic injuries. The main factor that is highlighted in the published works is the working age of patients. This was the main reason for that is that among the examined patients was dominated by men 20-40 years (and they accounted for the majority) (Garcia-Perez O. N. Rocco, 2007; Antunes Freitas D., 2009, Rodriguez Perales, M. A., 2014; Shomurodov K. E., 2017; Baimuradov S. A., Yusupov sh. sh., 2019).

We observed 68 patients with PTD during their follow-up in the Department of Maxillofacial Surgery at the Tashkent State Dental Institute Clinic from 2019 to 2022. The patients were divided into 3 groups: at the beginning of the study, there was a group of 21 patients who underwent defect replacement using a traditional cartilage autograft. Then the group was joined by 23 patients who had standard titanium plates implanted and completed the third group of 24 patients who had their shortcomings covered up using individual implants based on bone cement. Among all surveyed men and women, the percentage is 82.2%, respectively (17.7%

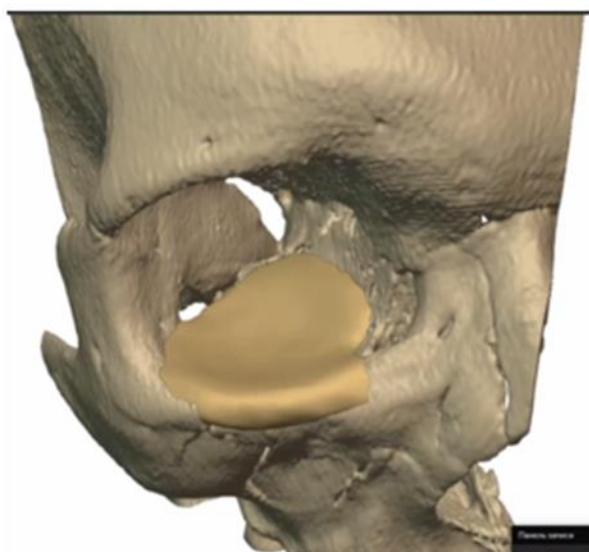
women), the patients were of different ages: from 18 to 60 years old. The average age of the patients was  $36.5 \pm 5.35$  years. (Table 4.1).

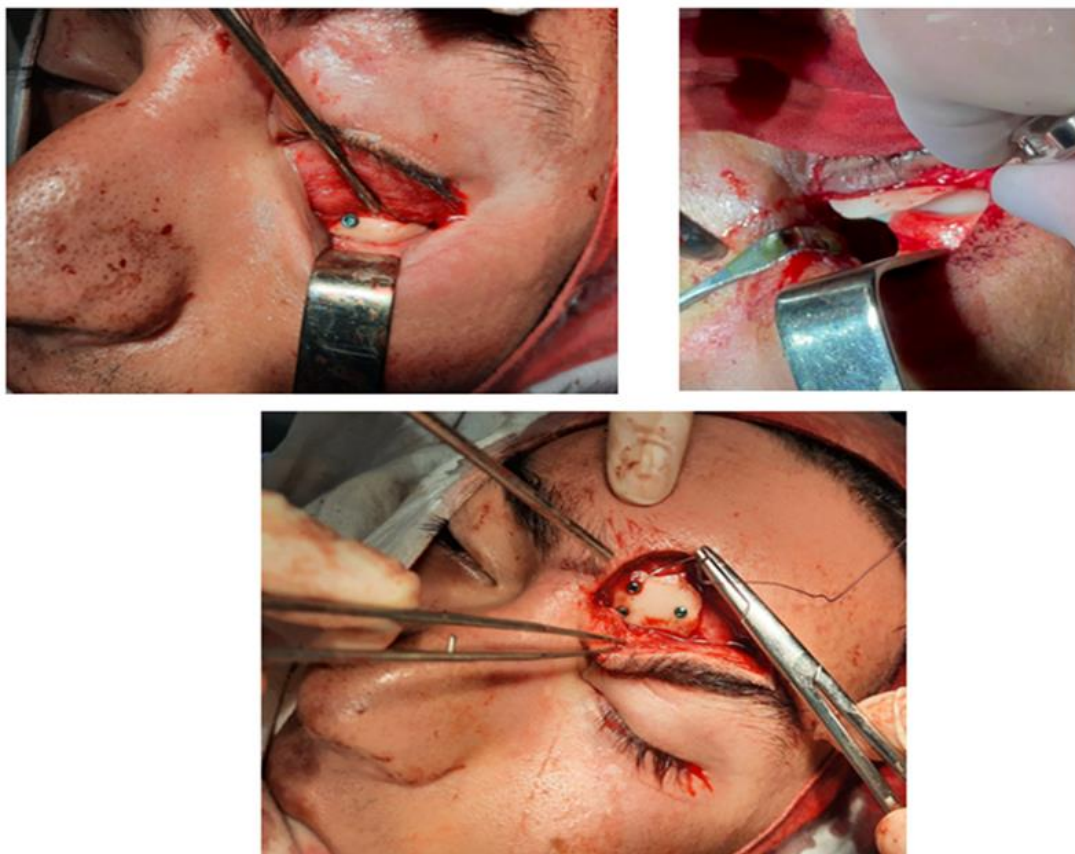
The technique that we used to treat damaged SOC and isolated traumatic injuries of the lower wall of the eye socket in 24 patients consisted of several features. It allowed surgical treatment to be performed at different rates, taking into account the severity of the defect and its location, as well as the time of surgery.

The surgical intervention was performed taking into account the localization of the post-traumatic defect of the joint. The following stages of surgical treatment were performed with PTD SOC:

All operations were performed under general anesthesia. An aseptic treatment with 96% ethyl alcohol was performed in the surgical field. The detachment of the skin, muscles and fascia is carried out in stages: first, the skin with subcutaneous tissue departs, then the muscle with folds of fat to the bone. The muscles of the eye rise cautiously: the periorbital adipose tissue. The upper wall of the eyecup was separated from the fiber. After that, the JUICE defect is fully visualized. The defect is repaired with the help of an individual implant, fixed with special screws in the area of the lower edge of the eye socket. The soft tissues were sutured in layers with vicryl 4-0. The skin was sutured with polypropylene 6-0. Drainage was left in the wound. A rubber drain was left in the wound. Next, the crenellated wound is sutured with synthetic threads "Vikril 5-0". An aseptic agent was applied to the wound.

During the recovery period after surgery, all patients were prescribed standard anti-inflammatory therapy, and the ophthalmologist performed rehabilitation with the patient to restore eye function.





### **1-photo. Installation of an individual implant**

In order to remove the stitches on the 8th day after the operation. During the examination, an examination is carried out near the orbital area, as well as photographing the patient with double projections. After that, a second clinical examination is performed every month, and the patient is also photographed.

The postoperative period includes a follow-up examination: clinical examination, radiography (MSCT), general blood analysis and consultation with an ophthalmologist after 3 months.

After 6 months and a year later (follow-up examination: clinical examination, radiography, MSCT examination to obtain data on the ophthalmologist's health status), repeated monitoring is carried out during which the patient is examined both for 5 months and after six months.

In the case of comparison of computer perimeter data, the visual field values of all groups of subjects were the same as before surgery.

Chemical or surgical treatment of patients with post-traumatic defects and deformity of the eye sockets in all study groups had no effect on improving the results.

Limitation of ocular block mobility on the side of injury occurs in 15 (41.7%) patients in the 1st group of the study and most often when looking up. This



limitation is more often found in the second part of the research – 32 people out of 30 are more or less common. Limitation of upward mobility of the ocular block was detected in 13 (28.9%) patients from the 2nd group of patients. Disorders in the activity of the muscles of the temporomandibular joint on the side of injury were detected almost exclusively here and affected the eye muscles in 16 patients who scored 35%. Most often, upward mobility of the eyeball was limited in patients in group 3. Because of this, about 8 (15%) of the patients in the study group have eye movement disorders and injuries.

As a result of the operation, we eliminated 99.2% of oculomotor disorders in the 1st group of patients; 2.8% had restrictions on outward movement, which we considered a good result. In group 2, violations of eyeball mobility were eliminated in 91.1%, 6.7% remained without restrictions on outward movement and 0.2% had restrictions on upward movement. The cause of the unresolved disorders of eyeball mobility in all clinical observations was the scarring process of paraorbital tissue involving muscles that promote vision.

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