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SURGICAL TREATMENT OF PATIENTS WITH ZYGOMATIC BONE INJURY

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Annotation. The syndrome of mutual aggravation of injuries, which occurs as a result of multiple trauma, leads to a significant increase in the overall severity of the victim's condition. In order to determine the time of each stage of CFT treatment and reduce the number of complications, we have developed and introduced into clinical practice an algorithm for providing care for this injury. The tactics of treatment of patients with CTP, according to the developed algorithm, has an undoubted advantage over the previously used one - the percentage of inflammatory complications were reduced to a minimum: from 18% to 2%. Such an integrated approach increases the importance of triage of victims in order to achieve a therapeutic effect and economic result.

Keywords: midface injuries, surgical tactics, cerebrofacial trauma

Relevance of the topic.

Fractures of the bones of the facial skeleton account for 30 to 40% of the number of dental diseases and up to 21% of all victims with injuries hospitalized in hospitals [1,4,5,6,8,9,10]. Disability due to the consequences of trauma ranks third, people under 40 years of age account for 50% of all victims (Vinogradova N. G., Burdin V. V., Kuznetsova N. L. et al., 2017). Most often, injuries of the CAL are observed in people of working age from 18 to 50 years - 92 % (Vinogradova N. G., Stolbov I. Yu., Burdin V. V. et al., 2018) [2,3, 11,15]. In developed countries, where the care of patients with injuries of the midface is adequately organized, nevertheless, according to the opinion of the famous American surgeons L. A. Whitaker and M. J. Yaremchuk, expressed in 1990: "... sometimes deformities and defects occur even despite qualified surgical treatment" (Karayan A.S., 2008) [7,16,17,18].

The aim of the study was to improve treatment outcomes in patients with midface trauma by optimizing surgical tactics based on clinical and physiological criteria

Materials and methods of research.

The material for this work was the study of 160 case histories of victims with various types of injuries of the middle zone of the maxillofacial skeleton combined with brain injury, who

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were treated in the department of the ChPH of the Samarkand Medical Association in the period from August 2019 to December 2020 inclusive. Depending on the type of injury, it is divided into 2 groups – concussion and midface injury, brain contusion and mid-zone fracture

To objectify the results obtained, modern research methods were used: clinical, physiological, laboratory, radiation and statistical.

To prove the advantage of the developed algorithm, a comparison of the immediate and long-term treatment results was carried out, taking into account the number of complications

Results and discussion. In order to optimize surgical tactics in patients with CFT (choice of time and method of treatment), based on the results obtained (immunological and physiological), we developed an algorithm for the treatment of victims with this type of injury.

In the treatment of cerebrofacial injuries, as well as in general traumatology, there are two positions regarding the timing and scope of surgical treatment. The first of them is "total early care", the essence of which is the earliest and maximum surgical treatment [13,15,116]. The main negative aspect of this tactic in CFT is an increase in cerebral symptoms, an increase in the likelihood of residual neurological symptoms, as well as the possible likelihood of developing complications such as delayed reduction and posttraumatic osteomyelitis.

The second concept is "Damage Control", which is based on the phasing of assistance [12,14,18].

In order to determine the time of each stage of CFT treatment, to reduce the number of complications, we have developed and introduced into clinical practice an algorithm for providing care for this injury.

Upon admission of patients with CFT to the clinic, an examination was carried out by an oral and maxillofacial surgeon, a neurosurgeon, as well as an otorhinolaryngologist and an ophthalmologist if necessary, and the examinations of specialists were also carried out in dynamics. X-rays of the bones of the facial skeleton were performed in direct and lateral projection upon admission and in dynamics without fail. A CT scan was performed in all patients with injuries to the midface, which gave a more complete picture of the lesion, and modern computed tomography scanners made it possible to "build" a 3-D image, which concretized the preoperative picture for the adoption of surgical tactics.

Assessment of the degree of damage and the dynamics of the processes of restoration of autoregulation of cerebral blood flow was carried out in patients of the main group and the comparison group upon admission, on the 5th, 7th and 10th days after the injury by rheoencephalography using the Rean-Poly device. The study was carried out in lead "6 – FM-OM" and the parameters obtained from frontal, mastoidal and occipital electrodes were studied. The functional state of cerebral blood flow was assessed by comparing the obtained average values of rheovasographic parameters with the established ranges of their normal values (Medicom program, 2005).

To confirm the effect of brain injury on the sympathetic innervation of the microvasculature in the area of injury, a comparison of perfusion, saturation, and velocity of erythrocytes in patients with isolated and concomitant injuries was carried out. Laboratory

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testing was carried out using the ELISA methodology. To assess the immunological status, pro- and anti-inflammatory cytokines (IL-6, 8, 10, TNF) were determined in the blood of victims on days 1, 3, 7 and 10 after injury.

All patients in the main and comparison groups were treated, depending on the type of injury, with the necessary methods of conservative and surgical treatment. Statistical analysis of the experimental and clinical data obtained was carried out using the Statistics 7 software.

Comparison of treatment results was carried out according to clinical, radiographic, physiological, signs, duration of the recovery period, complications in the postoperative period of both groups of patients, according to the basic criteria of the scale "Questionnaire of a patient who has suffered a cerebrofacial injury"

In REG monitoring, breakdowns of the mechanisms of autoregulation of cerebral blood flow of varying degrees of severity were revealed in all clinical cases. A tendency to restore blood flow was observed from 4-5 days, but this process was less intense in the groups with concussion.

Neurological examination of patients in both groups revealed a longer persistence of residual neurological symptoms in patients in the comparison group, where surgical treatment was carried out without taking into account the monitoring of REG indicators.

Examination of the microvasculature in the area of injury also revealed more severe and long-lasting abnormalities in patients with concussion in comparison with isolated lesions and in combination with cerebral contusions. Most likely, the revealed facts are due to neurogenic stem influence with a change in the amplitude-frequency characteristics of LDF. The most optimal characteristics were recorded after 4 days. The dynamics of recovery of perfusion and saturation parameters directly correlated with the restoration of autoregulation of cerebral blood flow.

In the preoperative period, in the first three days after the injury, patients of all groups showed the same pattern of changes in IL-6,8,10, TNF, according to the biological law of stress response with a significant increase in the concentration of pro-inflammatory cytokines and a tendency to normalization from the fourth day. There was no correlation between the increase in the titer of IL-6 and IL-8 on the severity of the damage. Monitoring of anti-inflammatory cytokines revealed two fundamentally different behavior profiles: with a peak rise in the concentration of IL-10 and TNF by day 7 and without it. This was an indicator of the preclinical picture of the development of complications, as evidenced by their number in the comparison group.

In the treatment of patients with CFT of the main group, according to the proposed algorithm, surgical treatment was carried out on time, taking into account the monitoring data of cytokine status in combination with the study of the state of cerebral and local blood flow in the area of damage to the bones of the facial skeleton. This made it possible to reduce the total number of complications to 1.5% (there was practically no delayed consolidation of fragments and one case of osteomyelitis in the study group).

In the comparison group, surgical treatment was carried out without taking into account the indicators of cerebral and local blood flow in combination with immunological indicators,

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which was reflected in the number of inflammatory complications and cases of delayed consolidation.

Thus, the tactics of treatment of patients with CTP, according to the developed algorithm, has an undoubted advantage over the previously used one - the percentage of inflammatory complications has been reduced to a minimum: from 18% to 2%. That is why the algorithm we have proposed, Can count most Optimal for the diagnosis and successful treatment of patients with CFT.

Findings:

1. One of the main factors leading to complications (phlegmons, delayed consolidation, osteomyelitis) in the immediate and long-term period in patients with cerebrofacial trauma is the lack of a unified approach to surgical tactics.
2. Clinical and physiological criteria for the restoration of autoregulation of cerebral blood flow (RI – 0.1-0.15 Ohm), correlating with the normalization of microcirculation, oxygenation in the areas of bone injuries of the facial part of the skull (perfusion – 19.2±2.1 Pf.U., saturation 90.1±3.5%, Vr – 14.7±1.8 mm/s) are basic and clinically significant for the adoption of optimal surgical tactics in patients with cerebrofacial trauma.

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