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## **SURGICAL TREATMENT OF TRAUMATIC INTRACEREBRAL HEMATOMAS.**

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*Abstract: This article discusses and assesses modern approaches to the diagnosis, classification and surgical treatment of traumatic intracerebral hematomas. In addition, we highlighted the opinion of some authors on the prevalence of this pathology and results of our own research. The advantages and possible complications of modern methods of treatment of intracerebral hemorrhages, as well as the outcome of the disease in various groups of patients are described.*

*Keywords: traumatic brain injury, intracerebral hematoma, surgical treatment, prognosis, outcome*

### **Relevance problems:**

In recent years, with refinement pathogenetic mechanisms of formation of traumatic intracranial hematomas, studying them clinics and diagnostics, as well as with the development anesthesiology and resuscitation, improving methods therapy significantly improved the results of treatment in this category affected [1, 4]. Meanwhile, among patients with severe TBI, it remains high and, according to many authors, reaches 60-80%, and disability and the decline in working capacity is 60% or more [3, 5]. In this regard, on the basis of the above, new opportunities are opening up to reduce lethality and disability of neurotraumatological patients, which encourage further scientific research in this multifaceted problem [2, 6].

**Purpose of the study.** Analysis of the results of surgical treatment of patients with TBI based on modern methods of neuroimaging and neurosurgical interventions.

**Materials and research methods.** From 2021 to 2022, 25 patients with traumatic intracerebral hematomas of various localization were under our supervision in the neurosurgical department of the Andijan branch of the Republican Scientific Center for Emergency Medical Care. The age of patients is from 20 to 65 years. When distributing by sex, men - 18, women - 7 patients. Of the 25 examined patients, 12 underwent surgical treatment.

All patients underwent clinical and neurological examination. The level of impaired

consciousness was determined by the Glasgow Coma Scale. Cerebral, focal and meningeal symptoms were assessed. The severity of the patients' condition was assessed as a on the ICH scale. Outcome was assessed using the Glasgow Outcome Scale. Of the instrumental methods of research, MRI and MSCT were used to study the brain.

According to the level of impaired consciousness upon admission, the patients were distributed as follows: clear consciousness - 1 (8.3%) patient, moderate stunning - 3 (25.0%), deep stunning - 5 (41.6%), stupor - 2 ( 16.6%), moderate coma - 1 (8.3%). Apoplektiform variant of the course was observed in 7 (58.3%) patients. A progressive course with gradual depression of consciousness and an increase in neurological deficit was observed in 3 (25.0%) patients, in 2 (16.6%) patients the disease proceeded with the progression of neurological deficit without depression of consciousness.

**The indications for surgery were:**

1. Hematoma with a volume of more than 30 ml;
2. Displacement of the median structures of the brain by more than 3 mm.

The development of a coma in patients with intracerebral hematoma is a poor prognostic sign and, if the coma lasts more than 6-12 hours, is an indication for surgery. The operation consists in removing the hematoma and eliminating the effects of compression and dislocation of the brain. Important in the postoperative period is the prevention of repeated hemorrhages in the bed of the removed hematoma. For this purpose, during the operation, we used domestic local hemostatic "Hemoben".

**Results and discussion.**

During the operation, using neuroimaging and microneurosurgical techniques, traumatic intracerebral hematomas were removed. The volume of removed hematomas is from 40 to 80 cm<sup>3</sup>. In the postoperative period, patients received appropriate treatment aimed at combating cerebral edema and restoring lost brain functions. Good results were obtained in 3 patients, satisfactory in 6 patients, and death was observed in 3 patients (patients operated on in a state of coma and with signs of brain dislocation).

When analyzing the long-term results of conservative treatment of patients with traumatic small-volume hematomas (12 observations), it was found that in this group the largest number of practically recovered - 66%. It has been found that the most frequent the disabling syndrome in conservative treatment was cerebrofocal (13%); at surgical treatment of hematomas of small volume - also cerebral-focal (13%).

Surgical treatment in the terminal state of patients, depression of consciousness to deep coma, absence of stem reflexes, flaccid tetraplegia, unstable hemodynamics, the presence of neuroimaging signs of pronounced destruction of the brain stem, regardless of the location and volume of hemorrhage, is not recommended by most researchers. If we take into account the patients operated on in a state of moderate coma, it is possible to achieve a decrease in the number of deaths, but the results in the follow-up remain unsatisfactory.

Surgical treatment is justified in case of lateral and lobar intracerebral hemorrhages with a volume of 30 cm<sup>3</sup>, depression of consciousness from stupor and higher, pyramidal insufficiency, signs of dislocation or occlusive hydrocephalus, the patient's age is not older than 70 years. It should be noted that the results of the operation were often better among those operated on at a later date, since the condition of these patients at the time of the operation was less severe than among those operated on in the acute period. Some authors propose to determine the indications for surgical intervention not so much on the basis of the nature of the hemorrhage, but depending on the safety of the pathway response after anti-edema therapy.

**Conclusions.**

Surgical treatment is indicated for patients with traumatic intracerebral hematomas,

who are in a compensated and subcompensated state, with a level of wakefulness up to stupor, without severe somatic pathology. Surgical treatment of patients in a coma is ineffective, and is accompanied by high mortality - up to 83%.

Clinical long-term period characterized by a combination of various clinical syndromes, of which maladaptive is cerebral-focal, epileptic, psychoorganic, hypertensive-hydrocephalic. Frequency of maladaptive syndromes remote period remains higher in the observation group with clinical phase of gross decompensation in sharp period, intracerebral hematomas and their left-sided location of hematomas. The severity of maladaptive syndromes decreases with increasing duration catamnesis and ongoing differentiated treatment.

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