

## INTRODUCTION

All over the world, mechanical damage is the main cause of death for people aged 15 to 45 years. Polytrauma is the most important medical and social problem. Severe injuries rarely occur without complications. One of the main reasons for their occurrence are defects in the implementation of primary therapeutic and diagnostic measures in the acute period. Polytrauma is characterized by the severity of clinical manifestations, accompanied by significant violations of vital functions of the body, the difficulty of diagnosis, complexity treatment. Damage to the musculoskeletal system is noted in 92% of polytrauma cases and is dominant in 22-43% of patients. It is such an injury that contributes to the development of many life-threatening conditions, complications, and requires prolonged hospitalization and rehabilitation.

Medical assistance to such victims at all stages of treatment should be provided so quickly and, in such volumes, as to overtake the pathological processes developing in organs and tissues due to progressive hypoperfusion and hypoxia. This principle allows to bring the victims out of the state of traumatic shock through both conservative intensive therapy and urgent and urgent surgical interventions.

The success of polytrauma treatment largely depends on how the doctor is able to diagnose, treat and, if possible, prevent complications that occur in almost all victims, starting from the stage of emergency medical care.

The organization of assistance to victims with polytrauma is a complex and far from solved problem: if, when internal organs are damaged, the tactics are sufficient clearly defined, then with multiple skeletal trauma, there are many controversial issues.

## MATERIALS AND METHODS OF RESEARCH

The basis of our research was the development of tactics for the treatment of victims with multiple fractures of long tubular bones, whose condition is characterized by shock, external and internal blood loss, fat embolism, who are in an acute period of traumatic illness.

A total of 156 victims were included in the study between 2018 and 2022. with the diagnosis: "Polytrauma, shock of I–III degree", who received emergency medical care at the scene of the accident by an ambulance team, and in the anesthesiology and intensive care unit Intensive therapy and surgical treatment of fractures, damaged organs of the thoracic and abdominal cavities were carried out at the Andijan Regional Hospital. The criteria for inclusion in the study were the age from 16 to 50 years; the presence of soft tissue injuries, fractures of the upper and lower extremities, pelvis, spine, chest, i.e. injuries of the musculoskeletal system in combination with or without closed abdominal trauma, mild brain damage without loss of consciousness.

Most of the victims are men (62.2%), women – 37.8%, which is due to with social and household attitudes, the nature of work. The average age of men is  $30.82 \pm 8.26$  g, women  $-30.11 \pm 9.75$  g.

According to our study, all the victims were divided into 3 groups. The first group consisted of 60 people surveyed in 2018-2019. The victims of this period underwent antishock therapy according to a routine scheme. In the second group (41 victims in the period from 2020 to 2021) at the prehospital stage, the antishock algorithm was changed, but it still remained unprocessed, this period is considered transitional. The third group (study group) in 2022 included 55 people. The victims in this period, both at the prehospital and hospital stages, received antishock therapy according to a new algorithm, in which the volume and nature of infusion therapy, the principle and methods of anesthesia, immobilization of damaged segments changed.

Measurements were performed in all patients hemodynamics repeatedly: at the prehospital, hospital stage during the first two hours from the moment of admission with an interval of 5 minutes, while the average values for the entire period of observation in the hospital and at the prehospital stages were used for calculation.

Statistical data analysis included methods of descriptive statistics – average ( $\mu$ ) and standard ( $\sigma$ ) deviation. To assess the statistical significance of the differences between the samples, t (Student's test criterion) was used for two independent samples (two data sets), and variance analysis was also used with the introduction of Levin's criteria. Significant differences were considered to be the results in which the value of the criterion corresponded to the condition  $p < 0.05$ .

To characterize the severity of polytrauma in the studied patients, the ISS – Injury Severity Score scale was used (S. P. Baker, 1974). Thus, most of the victims in the period from 2018 to 2019. (75%) had polytrauma of mild and moderate severity, among patients in 2020-2021 severe polytrauma prevailed in 2022 – 63.4 and 52.7%, respectively.

### **RESULTS AND THEIR DISCUSSION**

The average number of injuries per victim in the period from 2018 to 2019 was  $6.38 \pm 2.9$ , in the period from 2020 to 2021 –  $6.38 \pm 3.7$ , and in 2022 –  $7.38 \pm 4.2$ . Polytrauma in the form of multiple and combined injuries of the musculoskeletal system (polysegmental fractures) prevailed in all three groups of victims: 2018-2019 – 50 patients, 2020–2021 – 29, 2022 – 40 patients.

In patients with polysegmental fractures in the first (2018-2019) and second the second (2020-2021) group at the hospital stage, against the background of antishock therapy, did not always manage to achieve early stabilization of the general condition. When stable hemodynamics was achieved, skeletal traction was applied to the victims and they were transferred to the intensive care ward of the traumatology department. Surgical interventions on the damaged segments were performed on the 7th-10th day after injury.

Since 2022, at the prehospital stage, antishock therapy has been carried out according to a new proven algorithm, in which the volume and nature of infusion therapy

have changed therapy, principle and methods of anesthesia, immobilization of damaged segments. This made it possible to receive at the hospital stage a victim with more stable hemodynamics ( $p < 0.05$ ).

If during treatment at the hospital stage in patients with multiple and combined injuries of the musculoskeletal system, the severity of the condition was assessed by ASA as grade I-III, as well as according to the modified classification of H.(C. Pape (2003) and the American Academy of Orthopedic Surgeons with trauma  $< 25$  points on the ISS scale, then primary final osteosynthesis was performed all fractures by rigid fixation by fast non-traumatic non-focal methods against the background of total intravenous anesthesia with the use of muscle relaxants and artificial lung ventilation. Victims who did not undergo osteosynthesis due to lack of indications or with IV–V severity (according to ASA), as well as with ISS  $> 25$  points, skeletal traction or plaster splints were applied.

When the victims were found to have injuries to the chest, abdominal cavity in combination with injuries to the musculoskeletal system, with traumatic separation of limbs, surgical interventions were performed for vital indications.

Thus, the victims with multiple and combined injuries of the musculoskeletal system, who underwent surgical interventions in the acute period of traumatic illness, improved their condition faster than the victims who underwent surgical treatment in the late period of traumatic illness, as evidenced by the main indicators of hemodynamics ( $p < 0.05$ ).

#### **CONCLUSIONS**

Thus, the use of early surgical tactics in victims with polytrauma, taking into account the severity of injuries and the patient's condition, contributes to its stabilization and is an anti-shock measure, prevents secondary damage to soft tissues by fragments, the development of complications such as thromboembolism, multiple organ failure, allows to activate victims before the development of hypostatic complications. A promising direction in the treatment of victims with multiple and combined injuries of the musculoskeletal system will be the further active use of surgical tactics in the acute period of traumatic illness, taking into account the severity of the patient's condition and the severity of the injury, as well as the development and introduction of staged surgical treatment for victims who were admitted in serious and critical condition.

**LITERATURE:**

1. Aghajanyan V. V., Pronskikh A. A., Ustyantseva I. M. Polytrauma. Emergency care and transportation. Novosibirsk: Science 2008; 320.
2. Bondarenko A.V., Gerasimova O. A., Lukyanova V. V., Timofeev V. V., Kruglykhin I. V. Composition, structure of injuries, lethality and features of providing assistance to victims at the stages of treatment of polytrauma. Polytrauma 2014; 1: 15-28.
3. Kotelnikov G. P., Trukhanova I. G. Traumatic disease. M.: GEOTAR(Media 2009; 272.
4. Organization and provision of emergency medical care to victims of road accidents; edited by S. F. Bagnenko, V. V. Stozharov, A. G. Miroschnichenko. SPb. 2011; 400.
5. Sokolov V. A. Road(transport) injuries we: a guide for doctors. M.: GEOTAR(Media 2009; 176.