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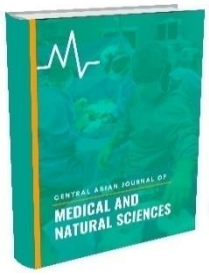

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Surgical Treatment of Long Bone Fractures in Children with Combined Injuries

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Abstract: According to the literature, the most acceptable method of surgical treatment is minimally invasive closed repositioning with stable intra-medullary fixation with elastic rods ^S). Such osteosynthesis promotes early activation of the patient, avoids prolonged forced positioning, significantly reduces the time of the child's stay in hospital, and shortens the period of rehabilitation treatment. Thus, improving the diagnosis and increasing the effectiveness of treatment of fractures of the long bones of the extremities in children with combined trauma currently remains one of the urgent problems of paediatric traumatology.

Key words: fractures, long bones, combined injuries, children

Topicality of the problem. Combined and multiple trauma is one of the most important sections of modern surgery. Despite the modern achievements of medicine, the total lethality in polytrauma reaches 59.2%. In the structure of child mortality the first place among the causes of death in children over one year of age is taken by trauma, and in multiple and combined trauma in children mortality ranges from 7.1 to 22%. The presence of combined injuries introduces peculiarities in the clinical course of trauma - here the syndrome of "mutual aggravation" is manifested. The majority of victims with combined trauma come to hospital in severe and extremely severe condition with traumatic shock in 47,5-96% of cases. Diagnosis is difficult due to the predominance of the "dominant" traumatic focus, which in the acute period of damage to other organ systems. The choice of rational surgical tactics and sequence of therapeutic measures is difficult, the possibility of their complex implementation is complicated, which determines the duration of hospital treatment and the outcome of trauma. The questions concerning the timing and nature of surgical intervention remain relevant In each specific

situation the doctor has to solve a complex problem, which includes, first of all, the assessment of the severity of the victim's condition, the degree and price of risk of the proposed surgical manipulations, the choice of the most effective and least traumatic methods of immobilisation. The solution of these problems should lead to a decrease in lethality and increase the positive results of treatment.

In the general structure of peacetime injuries the share of combined and multiple injuries varies from 5 to 40%. Fractures of long tubular bones, according to different data, make from 48 to 70% of all skeletal bone injuries with combined trauma. Among the various organs and systems in combined trauma, injuries to the musculoskeletal system (MS), especially fractures of the long tubular bones of the lower extremities, predominate. In combined injuries, the limbs are injured in 22.9 per cent of cases, the chest in 31 per cent, and the abdomen in 25-29 per cent. Multiple extracranial injuries combined with traumatic brain injury occur in 15% of cases.

Combined trauma is a complex pathological process caused by damage to several anatomical regions or segments of the limbs with a pronounced manifestation of the syndrome of mutual aggravation, which includes the simultaneous onset and development of several pathological conditions and is characterised by profound disorders of all types of metabolism, changes in the central nervous system (CNS), cardiovascular, respiratory and pituitary-adrenal systems, requiring not only conventional post-syndromic therapy for the development of a syndrome of mutual aggravation, but also the development of a syndrome of mutual aggravation.

The problem of treatment of combined injuries is extremely complex. The timeliness of diagnostic and therapeutic measures is a necessary condition for improving care and treatment outcomes in combined trauma. However, children with combined trauma outside major population centres are initially hospitalised in general surgical departments, where the possibilities of providing specialised care to the injured are limited, which indicates the presence of a number of unresolved organisational and treatment issues. The persisting unsatisfactory functional outcomes of treatment of diaphyseal fractures of the extremities in combined injuries testify to the need to optimise surgical treatment tactics and conduct a comparative analysis of outcomes and quality of life in children with combined injuries.

Despite the constant improvement of fracture treatment methods, the treatment of victims with multiple and combined injuries is characterised by complexity, duration, multistage and individuality. In the discussion about the tactics of treatment of fractures in multiple and combined trauma at the present time, there is a significant preponderance of opinions in favour of a possible earlier operative treatment, which allows better and faster restoration of anatomical relationships, provides early mobilisation of the injured and active rehabilitation. With the introduction of low-traumatic, non-damaging bone growth zones treatment methods into clinical practice, opportunities for early osteosynthesis of fractures in children with multiple and combined injuries of the UDF are opening up. This circumstance determines the expansion of indications for minimally invasive osteosynthesis in combined injuries in children.

Conclusions: Thus, the severe condition of patients with combined injuries of the musculoskeletal system, difficulties in diagnosis, difficulties in choosing the optimal method of treatment, a high percentage of disability and lethal outcomes determine the relevance of the problem, the solution of which is of both medical and social importance

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