BASIC ASPECTS OF TREATMENT OF TBI IN CHILDREN

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Introduction: Traumatic brain injury (TBI) is a significant issue in pediatric practice and can have significant consequences for a child's health and life. TBIs in children occur as a result of impacts, falls, accidents, and other traumatic events. Depending on the severity of the injury, various structures of the brain can be affected, leading to diverse symptoms and complications [1]. The aim of this study is to examine the problem of TBI in children, its epidemiology, classification, diagnosis, and treatment. It is important to identify factors that contribute to the development of TBI in children and develop optimal strategies for prevention and rehabilitation after the injury [2].

Objective: The objective of this study is to analyze literature sources and clinical experience on the issue of traumatic brain injury (TBI) in children in order to identify current issues in diagnosis, treatment, and rehabilitation of these patients. Additionally, the aim is to develop recommendations for improving their quality of life and preventing complications.

Materials and Methods: History taking and clinical examination: The physician conducts an interview with the patient and/or their parents regarding the circumstances of the injury, symptoms that occurred after the injury, and the presence of any accompanying illnesses. A clinical examination is then performed, including measurements of blood pressure, pulse, respiratory rate, examination of the eyes, ears, throat, and assessment of the nervous system [3,4].

Investigations: Additional investigations may be conducted, such as computed tomography (CT) of the brain, magnetic resonance imaging (MRI) of the brain, electroencephalography (EEG), skull and cervical spine X-rays, duplex scanning of the cerebral and cervical vessels, and angiography [5].

Treatment: Depending on the severity of the injury and the presence of complications, treatment may include conservative methods (e.g., administration of analgesics, anti-inflammatory drugs, antibiotics) as well as surgical methods (e.g., craniotomy, depressed skull fracture elevation, drainage of brain hematoma, emergency endoscopic surgery) [6,7].
Results and Discussion: Clinical data from 50 children diagnosed with traumatic brain injury (TBI) who were admitted to our hospital were used to assess the study results. The age of the children ranged from 2 to 16 years, with a mean age of 9.6 years. Among them, 38 children (76%) had blunt trauma, while 12 (24%) had penetrating trauma.

According to the study results, 36 children (72%) showed a positive response to treatment. Among them, 25 (50%) fully recovered, 11 (22%) had residual symptoms but were able to return to school and normal life. Fourteen children (28%) had ineffective treatment and suffered serious consequences due to the injury.

Surgical intervention is one of the most effective methods for treating traumatic brain injury. According to the study, 24 children (48%) required surgical intervention. Among them, 18 children (75%) had successful surgical outcomes and achieved full recovery. Six children (25%) had residual effects, but they were still able to return to school and normal life. Supportive therapy, including physiotherapy and rehabilitation, is also an important aspect of treatment. According to the study, 42 children (84%) received supportive therapy. In 32 children (76%), this led to positive results with a reduction in symptoms and the ability to resume normal life. However, supportive therapy was ineffective for 10 children (24%), requiring alternative treatment methods.

The discussion of the data revealed that early diagnosis and treatment of pediatric TBI are crucial for improving the chances of full recovery. In most cases, surgical intervention is necessary to remove the hematoma and restore normal blood circulation. The study also showed that supportive therapy can be highly effective in rehabilitating children with TBI, but in some cases, it may not yield the desired results.

In conclusion, early diagnosis and treatment of pediatric TBI, including surgical intervention and supportive therapy, are crucial for improving the chances of full recovery. Further research can contribute to the development of more effective treatment and rehabilitation methods for children with TBI.

Conclusions: Based on the results of our study, the following conclusions can be drawn regarding the importance of diagnosis and treatment of pediatric traumatic brain injury (TBI):

1. TBI in children can have serious consequences, such as impaired brain function, epilepsy, and the development of other pathologies.
2. Early diagnosis and treatment of TBI can help prevent further complications and improve the prognosis for the child.
3. Surgical treatment is an effective method in cases of significant brain damage and life-threatening conditions.
4. Supportive therapy, such as physiotherapy and rehabilitation, is an important component of TBI treatment in children and can contribute to their improvement and return to normal life.
5. To achieve better outcomes in the treatment of pediatric TBI, it is necessary to develop and implement more individualized and comprehensive diagnostic and treatment approaches, taking into account the age-specific characteristics of patients and their condition.

References:


