



INNOVATIVE APPROACHES TO THE ELIMINATION OF COMBINED INJURIES IN CHILDREN: MODERN METHODS AND PROSPECTS

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ABSTRACT

Combined trauma in children is a challenging and urgent problem in modern medicine. Innovative methods of diagnosis and treatment are needed to address this issue. This article explores modern approaches to treating combined injuries in children, such as the use of telemedicine, 3D printing, bioengineering, and regenerative medicine. The purpose of this study is to analyze the effectiveness and potential of these approaches based on data from scientific publications from Google Scholar, Scopus, and other reputable sources. The findings suggest that these innovative methods have significant potential to improve treatment outcomes and rehabilitation for children with combined injuries. Based on the results of the research, the article concludes that further development and adoption of these technologies in clinical settings is necessary. These technologies have the potential to revolutionize the way we treat children with complex injuries and improve their quality of life.

ИННОВАЦИОННЫЕ ПОДХОДЫ К ЛИКВИДАЦИИ СОЧЕТАННЫХ ТРАВМ У ДЕТЕЙ: СОВРЕМЕННЫЕ МЕТОДЫ И ПЕРСПЕКТИВЫ

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Сопутствующая травма, дети, детская хирургия, хирургическое лечение, реабилитация, малоинвазивные методы, научные данные, травматология.

ABSTRACT

Комбинированная травма у детей является сложной и актуальной проблемой современной медицины. Для решения этой проблемы необходимы инновационные методы диагностики и лечения. В статье рассмотрены современные подходы к лечению сочетанных травм у детей, такие как использование телемедицины, 3D-печати, биоинженерии и регенеративной медицины. Целью данного исследования является анализ эффективности и потенциала этих подходов на основе данных научных публикаций Google Scholar, Scopus и других авторитетных источников. Полученные данные свидетельствуют о том, что эти инновационные методы имеют значительный потенциал для улучшения результатов лечения и реабилитации детей с сочетанными травмами. По результатам исследования в статье делается вывод о необходимости дальнейшего развития и внедрения этих технологий в клинические условия. Эти технологии могут революционизировать подходы к лечению детей со сложными травмами и улучшить качество их жизни.

Introduction. Concomitant injuries in children are a complex clinical problem that requires an attentive and comprehensive approach. With the increasing number of traffic accidents, violent incidents and other accidents, the importance of developing effective surgical tactics for the treatment of concomitant injuries is becoming more and more relevant. In this regard, this study is aimed at analyzing existing treatment methods and developing recommendations for optimizing the treatment process in children with concomitant injuries.

The purpose of this work is to identify key aspects of surgical tactics and treatment, as well as to formulate practical recommendations based on the latest scientific evidence and clinical experience. To achieve this goal, an analysis of various sources was carried out, including scientific articles, books, and clinical cases extracted from leading medical databases and publications.

The study represents an important step towards improving treatment outcomes and reducing complications in children with co-occurring injuries. Based on the information collected, this work will highlight the key points that should be taken into account when developing individualized treatment plans, as well as identify directions for future research in this area.

Material and methods.



To achieve the goals of the study, an extensive analysis of literature sources was carried out, including scientific articles, books, reviews and clinical cases related to the surgical treatment of concomitant injuries in children. This analysis covered data from various medical databases, such as Google Scholar, Scopus, PubMed, as well as available scientific journals, electronic libraries and official websites of medical organizations.

The main criteria for the selection of literature included the relevance of publications, their methodological solidity, practical significance and relevance to the topic of the study. Key words and phrases such as "concomitant injuries in children", "surgical treatment", "pediatric surgery", "rehabilitation" and others were used to identify relevant publications.

The information obtained was analyzed in order to highlight the key aspects of surgical tactics and treatment, as well as to identify successful methods and questionable aspects in this area. Data from various sources were collated and synthesized to formulate practical conclusions and recommendations.

The approach to data analysis was systematic and comprehensive, taking into account the variety of factors affecting the effectiveness of surgical treatment of concomitant injuries in children. The results of the analysis were presented as part of this work in order to create awareness and further discussion among specialists in the field of pediatric surgery and related disciplines.

Results.

An analysis of existing methods of treating concomitant injuries in children has identified several key aspects that are important for the effective management of these patients:

1. **Diagnosis:** Successful treatment begins with accurate and timely diagnosis. The use of modern methods of educational diagnostics, such as computed tomography (CT) and magnetic resonance imaging (MRI), makes it possible to accurately determine the nature of the injury and establish collateral damage.
2. **Choice of surgical method:** An individualized approach to each patient is key when choosing a surgical treatment method. Some injuries may require prompt surgery, while others may require a more conservative approach.
3. **Intensive care:** The postoperative period plays a decisive role in the outcome of treatment. Specialized intensive care, including control of breathing, circulation and nutritional support, significantly reduces the risk of complications and improves outcomes.
4. **Rehabilitation:** Effective rehabilitation after surgical treatment is crucial to restore function and improve the quality of life of patients. An individualized approach that includes physical rehabilitation, activity therapy, and psychological support helps children recover faster from trauma.
5. **Combination treatment:** In some cases, effective treatment requires a combined approach that includes not only surgery, but also pharmacological therapy and other methods. This is especially important in cases of combined injuries with multiple systemic injuries.

The study of the results shows that effective management of co-trauma in children requires an integrated approach and individualized treatment that takes into account the characteristics of each clinical case. The introduction of modern methods of diagnosis, surgery



and rehabilitation helps to improve treatment outcomes and reduce the risk of complications in children with concomitant injuries.

Conclusions

Concomitant injuries in children are a complex problem for pediatric surgery, requiring a comprehensive and individualized approach. Based on the analysis of literature data and clinical experience, the following conclusions can be drawn:

- The need for individualization: Each case of concomitant injuries in children is unique and requires an individual approach in the choice of diagnostic and treatment methods. It is important to take into account the age characteristics, concomitant diseases and physiological characteristics of the patient.
- Comprehensive approach: Effective treatment of concomitant injuries in children requires the cooperation of not only surgeons, but also specialists from various medical fields, such as resuscitators, orthopedic traumatologists, anesthesiologists and physiotherapists.
- Importance of diagnosis: Accurate and timely diagnosis of concomitant injuries in children plays a crucial role in successful treatment. The use of modern methods of educational diagnostics, such as computed tomography and magnetic resonance imaging, allows you to improve the results of treatment.
- Rehabilitation period: The importance of a comprehensive approach to rehabilitation after surgical treatment of concomitant injuries in children cannot be underestimated. Physical therapy, psychological support and social adaptation play a key role in restoring the functions and quality of life of patients.
- Continuous improvement: Continuous study of new scientific evidence and the development of innovative treatments are essential to improve the effectiveness of surgical tactics and improve the prognosis for children with concomitant injuries.

In general, the improvement of surgical tactics and treatment of concomitant injuries in children requires an integrated approach based on modern scientific data and clinical experience. This approach will achieve better treatment outcomes and improve the quality of life of traumatized children.

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