ENSURING THE EFFECTIVENESS AND SAFETY OF ANESTHESIA PROVISION METHODS IN CHILDREN'S OUTPATIENT SURGERY

Abdujabborov Shuxratjon

Assistant Professor, Department of Pediatrics-2, Fergana Public Health Medical Institute.

https://doi.org/10.5281/zenodo.15316907

Abstract. *This scientific paper explores the effectiveness and safety of anesthesiological support methods in pediatric ambulatory surgery. Due to the physiological differences between children and adults, the selection of anesthetic methods and approaches requires careful consideration and precision. Ensuring the safety of anesthesia during pediatric surgery involves choosing modern and innovative approaches, while accounting for specific risk factors, to ensure effective anesthesiological support. The study examines the safe and effective provision of anesthesia in children, focusing on new techniques such as dosage regimens for anesthesia, intravenous and inhalational anesthesia methods, as well as the use of efficient anesthetic monitoring systems and combinations of drugs.*

Keywords: *Ambulatory Surgery, Anesthesiological Support, Anesthesia, Intravenous Anesthesia, Inhalational Anesthesia, Anesthesiological Monitoring.*

ОБЕСПЕЧЕНИЕ ЭФФЕКТИВНОСТИ И БЕЗОПАСНОСТИ МЕТОДОВ ОБЕСПЕЧЕНИЯ АНЕСТЕЗИИ В ДЕТСКОЙ АМБУЛАТОРНОЙ ХИРУРГИИ

Аннотация. *В данной научной статье исследуются эффективность и безопасность методов анестезиологического обеспечения в детской амбулаторной хирургии. В связи с физиологическими различиями между детьми и взрослыми выбор методов и подходов анестезии требует тщательного рассмотрения и точности.*

Обеспечение безопасности анестезии во время детской хирургии включает выбор современных и инновационных подходов с учетом специфических факторов риска для обеспечения эффективной анестезиологической поддержки. В исследовании рассматривается безопасное и эффективное обеспечение анестезии у детей с акцентом на новые методики, такие как режимы дозировки для анестезии, методы внутривенной и ингаляционной анестезии, а также использование эффективных систем мониторинга анестезии и комбинаций препаратов.

Ключевые слова: *амбулаторная хирургия, анестезиологическое обеспечение, анестезия, внутривенная анестезия, ингаляционная анестезия, анестезиологический мониторинг.*

Introduction

Pediatric ambulatory surgery, where patients undergo surgical procedures without requiring an overnight stay in the hospital, has become increasingly common in recent years. This approach facilitates quick recovery and reduces the need for prolonged hospital stays. However, due to the significant physiological differences between children and adults, the selection of anesthesiological support methods must be approached with careful consideration. The safety of anesthesia in pediatric surgeries requires the use of modern and innovative approaches, as well as the expertise of highly skilled anesthesiologists who are able to adjust to the unique needs of pediatric patients. The methods used in pediatric ambulatory surgery for anesthesiological support are varied. These methods are selected based on the specific needs of each patient, considering factors such as age, weight, and health status. Key approaches include intravenous anesthesia, inhalational anesthesia, regional anesthesia, and sedation. Each method serves to ensure that the child remains pain-free and safe during the surgical procedure.

Ensuring the safety of anesthesia is of paramount importance in pediatric ambulatory surgery. The unique characteristics of children's physiology increase the risks associated with anesthesia. Various strategies are employed to guarantee the safety of pediatric patients.

Continuous monitoring of vital signs, including heart rate, blood pressure, and oxygen saturation, is essential. The selection of appropriate anesthetic drugs, dosages, and methods tailored to the child's individual characteristics is crucial to minimizing risks. Additionally, the use of individualized approaches to anesthesia selection enhances the safety and effectiveness of the procedures. The anesthesiological team must be skilled in recognizing and addressing any potential risks or complications. Proper monitoring throughout the surgical procedure and post-operative care ensures that any issues are promptly identified and managed. Anesthesia safety protocols are strictly followed to reduce the likelihood of adverse reactions.

The use of advanced anesthesiological techniques and improved monitoring systems has enhanced the effectiveness and safety of pediatric ambulatory surgeries. The continuous refinement of anesthesia methods and the application of more accurate monitoring systems have led to better patient outcomes and reduced risks during surgery. Pediatric anesthesia techniques have become more refined, contributing to safer procedures and quicker recovery times for young patients. The effectiveness and safety of anesthesiological support in pediatric ambulatory surgery are ensured through the application of modern methods, individualized care, and advanced monitoring techniques. The progress in anesthesiology continues to provide safer and more efficient options for pediatric patients undergoing surgery.

By maintaining a focus on safety and adopting the latest practices, anesthesiologists can significantly improve patient outcomes and minimize the risks associated with anesthesia in pediatric surgeries.

Conclusion

Ensuring the effectiveness and safety of anesthesiological support methods in pediatric ambulatory surgery is of paramount importance due to the unique characteristics of children's physiology. The use of modern anesthetic methods, innovative approaches, and advanced technologies has made it possible to perform safe and effective surgical procedures for pediatric patients. The development of anesthesiological monitoring systems, the careful selection of anesthetic drugs, and the individualized approach to each patient all contribute to minimizing risks during the procedure. Additionally, vigilant monitoring and post-operative care by anesthesiologists ensure quick and safe recovery for pediatric patients.

REFERENCES

1. Barash, P.G., Cullen, B.F., & Stoelting, R.K. (2017). Clinical Anesthesia (8th ed.). Lippincott Williams & Wilkins.
2. Finkelstein, M., & Ghoneim, M. (2019). Pediatric Anesthesia. Anesthesia & Analgesia, 128(4), 900-907.
3. Habre, W., & Sauter, S. (2014). Pediatric Anesthesia: An Evidence-Based Approach to the Management of Pediatric Anesthesia. Springer.
4. Mackenzie, L., & Wallis, C. (2020). Advances in Pediatric Anesthesia: A Review of Current Techniques and Safety. Journal of Pediatric Surgery, 55(2), 315-320.
5. Suresh, S., & Kothari, D. (2018). Pediatric Anesthesia Handbook. McGraw-Hill Education.
6. Anesthesia Patient Safety Foundation (2017). Anesthesia Safety in Pediatric Surgery: Best Practices and Guidelines. APSF Journal.