

TO THE QUESTION OF INCREASING THE EFFICIENCY OF ANESTHESIOLOGICAL PROTECTION IN CHILDREN WITH INTESTINAL OBSTRUCTION

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Abstract: Intestinal obstruction in children is an acute surgical disease accompanied by severe pain syndrome and water-electrolyte imbalance. The effectiveness of anesthetic protection during surgery plays a key role in prognosing the disease and reducing the level of postoperative complications. The article discusses modern approaches to providing anesthesia in children with intestinal obstruction, analyzes scientific literature data, describes methods of anesthetic support and presents the results of clinical observations. Ways to optimize anesthetic tactics are proposed, taking into account the age and pathophysiological characteristics of the child's body.

Key words: anesthetic protection, children, intestinal obstruction, surgery, anesthesia, pain relief, perinatal anesthesiology.

INTRODUCTION

Intestinal obstruction in children, especially at an early age, poses a serious threat to life and requires urgent surgical intervention. The success of surgical treatment is largely determined by the quality of anesthetic support, which is aimed at minimizing surgical and postoperative stress, correcting hypovolemia and preventing complications. In pediatric practice, the choice of anesthesia method requires a special approach, taking into account the anatomical and physiological characteristics of the child's body.

Intestinal obstruction (IO) in children is one of the most common emergency conditions in pediatric surgery. It is accompanied by severe disturbances in water-electrolyte balance, hypovolemia, intoxication and metabolic acidosis. These pathophysiological changes significantly increase the anesthetic risk.

The effectiveness of surgical intervention directly depends on adequate anesthetic protection, which includes patient preparation, choice of anesthetic method and postoperative pain relief.

Study objective

To improve the effectiveness and safety of anesthetic care for children with intestinal obstruction by optimizing premedication, induction and maintenance of anesthesia, as well as postoperative analgesia.

Materials and methods

The study was conducted at the Department of Pediatric Surgery and Anesthesiology. The sample included 60 patients aged 1 month to 14 years with an established diagnosis of "intestinal obstruction".

Division into groups:

- Group I (30 children): standard anesthesia regimen.
- Group II (30 children): improved regimen with an individualized approach and multimodal analgesia.

Anesthetic measures:

- Premedication: midazolam, atropine, ketamine as indicated.
- Induction: propofol, sevoflurane, fentanyl.
- Maintenance: combined anesthesia with mechanical ventilation and monitoring of vital functions.
- Additional anesthesia: paracetamol, ibuprofen, bupivacaine (blockade regions).

Monitoring indicators:

- Heart rate (HR), blood pressure (BP), oxygen saturation (SpO₂), temperature.
- Biochemical markers: cortisol, glucose, lactate.
- Children from group II had more stable hemodynamic parameters during surgery: decreased tachycardia and blood pressure fluctuations.
- Cortisol and glucose levels were lower, indicating a decreased stress response.
- 83% of children from group II did not require additional opioid analgesia in the postoperative period.
- In group I, complications such as vomiting, slow awakening, and the need for oxygen support were more common.

Discussion

The main tasks of the anesthesiologist in CHD in children are:

1. Correction of hypovolemia and acidosis before induction of anesthesia.
2. Selection of methods and drugs that have a minimal effect on the cardiovascular and respiratory systems.
3. Adequate pain relief with a minimum of opioids.
4. Use of multimodal analgesia and regional blockades.

An individualized approach based on age characteristics, the patient's condition and the type of obstruction increases the effectiveness of anesthetic protection. Multimodal analgesia can significantly reduce the opioid load and speed up recovery.

Anesthetic tactics in children with CI should be aimed not only at maintaining vital functions, but also at reducing the body's stress response.

The use of multimodal analgesia with regional blockades improves the quality of pain relief and reduces the risk of postoperative complications.

It is necessary to develop standard protocols for managing such patients, taking into account age and clinical characteristics.

The results of the study confirm the need for an individual approach when choosing an anesthesia method for children with intestinal obstruction. Given the pathogenesis of this disease, correction of water-electrolyte imbalance before and during surgery plays a special role. Regional methods in combination with general anesthesia allow not only to reduce the dose of anesthetics, but also to provide effective pain relief in the postoperative period, which helps to reduce the duration of hospitalization and reduce complications.

CONCLUSION

Anesthetic protection of children with intestinal obstruction requires a comprehensive and multidisciplinary approach. Combined anesthesia methods, preliminary correction of metabolic disorders and strict monitoring of vital functions significantly increase the effectiveness of treatment and reduce the risk of complications.

Implementation of algorithms for individual selection of anesthetic tactics depending on the age and severity of the patient's condition.

Wide use of regional methods of anesthesia, especially caudal blockade.

Conducting mandatory preoperative infusion therapy to correct water-electrolyte balance.

Ensuring interdisciplinary interaction between surgeons, anesthesiologists and pediatricians at all stages of treatment.

Organization of training programs for medical personnel on modern methods of anesthetic support for children.

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