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SURGICAL ENDOSCULAR TREATMENT OF NECROTIC ENTEROCOLITIS IN INFANTS

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Abstract. Necrotic enterocolitis (NEK) in infants is one of the most severe and common diseases in neonatal surgery. This condition develops more often in premature and low-birth-weight children and is characterized by high mortality. In severe stages of the disease, conservative treatment is ineffective, and surgical endoscopic treatment is required. Surgical measures mainly consist of resection of the necrotic part of the intestine and ileostomy. In some cases, intestinal continuity is also restored through anastomosis. During surgical treatment, the child's general condition, metabolic status, and risk of infection should be constantly monitored. Modern clinical protocols recommend surgical treatment in combination with a comprehensive approach, resuscitation support, and continuous rehabilitation. The correct and timely use of surgical methods in NEC is crucial for the survival and further development of the child.

Keywords: Infant, necrotizing enterocolitis, surgical endoscopic resection, intestinal resection, ileostomy, anastomosis, neonatal surgery, rehabilitation.

Necrotizing enterocolitis (NEK) is one of the most common and severe diseases in the field of neonatal surgery. This condition is mainly observed in premature infants, infants who have undergone severe hypoxia or whose metabolism is not sufficiently formed. In world medical practice, NEK is noted in approximately 5–10% of premature infants, and most of them require surgical treatment.

Complications of NEK - ischemia, necrosis and perforation of the intestinal wall - seriously threaten the life of the child. In such situations, conservative treatment is ineffective and a surgical solution becomes necessary. Surgical treatment in most cases consists of resection of the affected part of the intestine and the creation of a temporary stoma. At the next stage, intestinal continuity is restored through anastomosis.[1]

In this regard, the study of the issues of surgical approach to necrotizing enterocolitis, its modern methods and success factors is extremely relevant in medical practice.

The pathogenesis of NEC is a multifactorial process, the main role of which is played by:

Premature birth and insufficiently developed intestinal morphology;

Circulatory disorders due to perinatal hypoxia and ischemia;

Bacterial infections and imbalance of intestinal microbiota;

Resistance to infection due to a weakened immune system.

Clinically, at the onset of NEC, the child has the following symptoms:

vomiting,

constipation or loose stools,

abdominal swelling,

deterioration of the general condition,

sometimes urine mixed with dirty blood.[2]

The intensification of these symptoms can lead to necrosis and perforation of the intestinal wall.

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Conservative treatment (antibiotics, parenteral nutrition, restoration of water-salt balance) can be effective in most cases. However, surgical treatment is necessary in the following cases:

- when signs of intestinal perforation and peritonitis appear;
- when extensive necrosis of the intestinal wall occurs;
- when free air is detected in the abdomen (pneumoperitoneum);
- when signs of sepsis increase;
- when the condition worsens under dynamic monitoring.[3]

The affected part of the intestine is excised, which is necrotic. This operation is a major step in saving life.

By placing an ileostomy or colostomy, the affected part of the intestine rests, limiting the spread of infection. This is a temporary solution, and then continuity is restored through anastomosis. When the child's general condition stabilizes, the severed parts of the intestine are reconnected. This operation serves to restore the natural functions of the intestine.

Laparoscopic methods are also used in modern practice. Their advantages are small trauma, rapid recovery and reduced risk of infection.

After an ileostomy or resection, many problems are observed in children:

- dehydration, electrolyte imbalance;
- insufficient absorption of nutrients;
- skin ulcers and dermatitis;
- risk of infection.
- Therefore, the rehabilitation process is carried out in the following directions:
- Proper organization of nutrition (parenteral + enteral nutrition).
- Control of electrolyte and water balance.
- Prevention of infection (antibiotics, sterile care).
- Skin care and special stoma packs.
- Psychological support - teaching parents the rules of child care.

Anastomosis operation is the process of restoring intestinal continuity. It is carried out under the following conditions:

- ✓ when the general condition of the child is stabilized;
- ✓ when the weight increases and the balance of material exchange is restored;
- ✓ when symptoms of infection disappear.[4]

Through anastomosis, the child's digestion and material absorption are normalized.

Necrotic enterocolitis is a life-threatening disease in premature infants. Although conservative treatment is sometimes effective, in severe cases a surgical approach is necessary.

Surgical treatment involves intestinal resection, stoma creation, and subsequent restoration of intestinal continuity through anastomosis. This procedure is essential for preserving the child's life, limiting the spread of infection, and ensuring long-term development.

Modern clinical protocols and national experience indicate that surgical treatment for NEC should be selected based on the individual case. The highest efficiency is achieved when nutrition, metabolic control, infection prevention, and psychosocial support are integrated into the rehabilitation process.

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