

**THE ROLE OF ENDOVIDEOSURGERY IN THE DIAGNOSIS AND  
TREATMENT OF ACUTE PROCESSES AND ABDOMINAL INJURIES IN  
CHILDREN**

**Akilov Kh.A., Primov F.Sh.**

*Center for the Development of Professional Qualifications of Medical Workers  
(Tashkent city)*

*Republican Research Centre of Emergency Medicine (Tashkent city)*

**Abstract.** Laparoscopy over the past few years has become one of the main methods of diagnosis and treatment in children with acute abdominal processes and internal organ injuries. In total, 115 diagnostic laparoscopies were performed in the Department of Pediatric Surgery of the Republican Research Centre of Emergency Medicine in 2019 to 2022 for children from 1 to 18 years with a diagnosis of "acute abdomen" and 94 children with abdominal injuries. Among 115 laparoscopies performed for abdominal pain, the diagnosis of acute appendicitis was confirmed in 70 children, laparoscopic appendectomy was performed in all cases, another pathology was detected in 45. In the last observations, conversion was required only in 18 patients, that is, in 97 cases it was possible to limit diagnostic or therapeutic laparoscopy. Conclusion. Laparoscopic methods are safe, highly informative and necessary in children's specialized surgical hospitals. At the present stage, it is impossible to imagine full-fledged assistance to children with urgent surgical pathology without the use of these methods.

**Keywords:** abdominal injuries; acute process; laparoscopic interventions; hemostatic sponge.

Laparoscopy over the past few years has become one of the main methods of diagnosis and treatment in children with acute abdominal processes and internal organ injuries. Moreover, the volume of operations performed from laparoscopic access is expanding every year, and even adhesive intestinal obstruction, previously considered a contraindication to laparoscopic manipulations, can increasingly be resolved without open surgery.

In total, 115 diagnostic laparoscopies were performed in the Department of Pediatric Surgery of the Republican Research Centre of Emergency Medicine in 2019 to 2022 for children from 1 to 18 years with a diagnosis of "acute abdomen" and 94 children with abdominal injuries. Abdominal pain is one of the most common reasons for contacting a pediatric surgeon. In many cases, differential diagnosis is complicated by the small age of the child, the inability to collect anamnesis, the negative attitude of young children to examination, the erasure of clinical symptoms, the presence of concomitant pathology. The main tactical principles for the differential diagnosis of abdominal pain in childhood remain a comprehensive assessment of clinical and laboratory data and dynamic observation. Additional methods of examination, including endoscopic, sonographic and radiological, also make it possible to identify many diseases accompanied by abdominalgia. Nevertheless, there are still a number of patients who cannot verify the diagnosis without laparoscopic intervention. Among 115 laparoscopies performed for abdominal pain, the diagnosis of acute appendicitis was confirmed in 70 children, laparoscopic appendectomy was performed in all cases, and another pathology was detected in 45. In the last observations, conversion was required only in 18 patients, that is, in 97 cases it was possible to limit diagnostic or therapeutic laparoscopy. The greatest difficulties arose in the differential diagnosis of primary peritonitis (8 children) and gynecological pathology (11 children). Various types of obstruction have become the next most common cause of diagnostic difficulties. Laparoscopic diverticulectomy was performed in 8 cases. Laparoscopic suturing of duodenal ulcer perforation was performed in 18 patients. Open surgery was performed on 18 children: in 8 cases – for the destruction of the Meckel diverticulum with a wide base, the

operation was completed with video orientation, in 15 cases – for acute intestinal obstruction. In 1 case, a 4-month-old child was hospitalized with an intestinal obstruction clinic, during the study of the contrast passage in the gastrointestinal tract, his delay took place, the child was taken for laparoscopy, destructive appendicitis and diffuse peritonitis were detected.

The possibilities of clinical diagnosis in children with injuries are always limited, especially in the presence of shock. Due to the small age, contact is difficult, the child is always negatively disposed after stress, there are often difficulties in locating pain, collecting anamnesis. The basis of the tactical actions of a pediatric surgeon is a certain sequence of actions based on information obtained mainly after an objective examination, as well as laboratory and instrumental data. Monitoring of hemodynamic parameters is fundamental in providing assistance to traumatized children. If their indicators are stable, an overview radiography should be included in the complex of laboratory and instrumental studies, and in the absence of signs of damage to the hollow organ, an ultrasound examination. The indication for laparoscopy is the presence of free blood in the abdominal cavity, uncertainty in stopping bleeding with stable hemodynamics of the patient. During 94 laparoscopies performed for injuries, damage to the spleen (41), liver (18) and small intestine (12) were diagnosed, damage to the omentum and mesentery of the small intestine in 11 cases, damage to the pancreas was detected in 12 patients. Of these, laparoscopic coagulation of the spleen was performed in 21 cases, of which 14 cases were performed using hemostatic sponges. In 8 cases, coagulation of liver damage was performed, in 2 cases, laparoscopic suturing of the liver. Due to damage to the pancreas in 8 cases, the operation was completed laparoscopically.

Thus, laparoscopic methods are safe, highly informative and necessary in children's specialized surgical hospitals. At the present stage, it is impossible to imagine full-fledged assistance to children with urgent surgical pathology without the use of these methods. The use of endosurgical techniques can significantly reduce the number of exploratory laparotomies in complex cases. Videolaparoscopy allows not only to clarify the diagnosis, but also to perform a number of therapeutic measures, including stopping bleeding in patients with injuries. In the case of open abdominal wounds, laparoscopy is indicated if it is impossible to revise the wound canal throughout to determine the nature of the damage. Less traumatic laparoscopy compared to traditional operations allows you to reduce the number of analgesics, the duration of hospitalization, including stay in the intensive care unit, promotes early activation of patients and reduces the number of complications.

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