

The role of endovideolaparoscopic technologies in the diagnosis and treatment of acute abdominal diseases in young infants

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Resume:The article demonstrates the results of emergency treatment of abdominal diseases in 174 young children. Diagnostic criteria and also therapeutic tactics of various acute surgical diseases occurring in the abdominal cavity are given. Surgical intervention was performed on 97 patients. Most operations are performed by video laparoscopic method. There were no complications during and after surgery.

Keywords: laparoscopy; emergency abdominal pathology; young children

Relevance: Abdominal emergency surgical diseases account for an average of 30-40% among young infants [1-4]. Diseases in this category of ill children are one the most difficult in terms of diagnosis and treatment. This is because the similarity of the clinical picture of the disease in children of this age is associated with a negative reaction of children to the examination, the difficulty of using instrumental examination methods [5-8].

Nowadays, diagnostic and therapeutic methods using pediatric surgical pathology, minimally invasive and endo video laparoscopic technologies are preferred the whole world.

The aim of the work : is to improve the outcomes of diagnosis and treatment of emergency surgical diseases of the abdominal cavity in young children using modern minimally invasive endo video laparoscopic technologies.

Methods and results: From 2012 to 2020, 174 children from 1 month to 7 years of age with acute abdominal surgical diseases were treated at the Republican Children's Invasive and Endovisual Research and Practice Center.

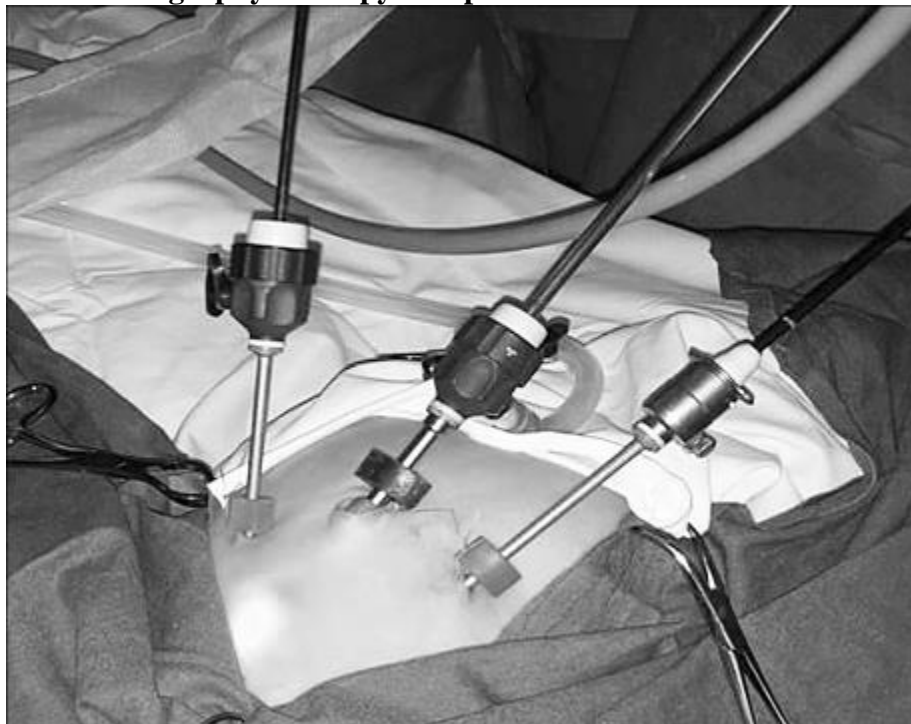
Nasology	Age of patients				All
	1-6 month	6-12 month	1-3 year	3- year	
Congenital hypertrophic pylorostenosis	12				12
Intestinal intussusception	11	18	9	6	44
Phlegmon appendicits			13	21	34
Gangrenous perforations in appendicits		2	9	13	24
Local peritonitis			3	5	8
Diffuse peritonitis			2	3	5
Appendicular abscess			1	2	3
Meckel's diverticulum			1	2	3
Compressed hernia	23	11	7		41
All	46	31	45	52	174

Congenital hypertrophic pylorostenosis

Twelve children were treated for congenital hypertrophic pylorostenosis, including 8 boys and 4 girls (aged 3 weeks to 5 weeks). The operated children weighed 3600-5200 g. Diagnosis and clinical The symptoms were performed on the basis of ultrasound examination data



Picture. 1. Echocardiography of the pyloric portion of the stomach on UTT examination



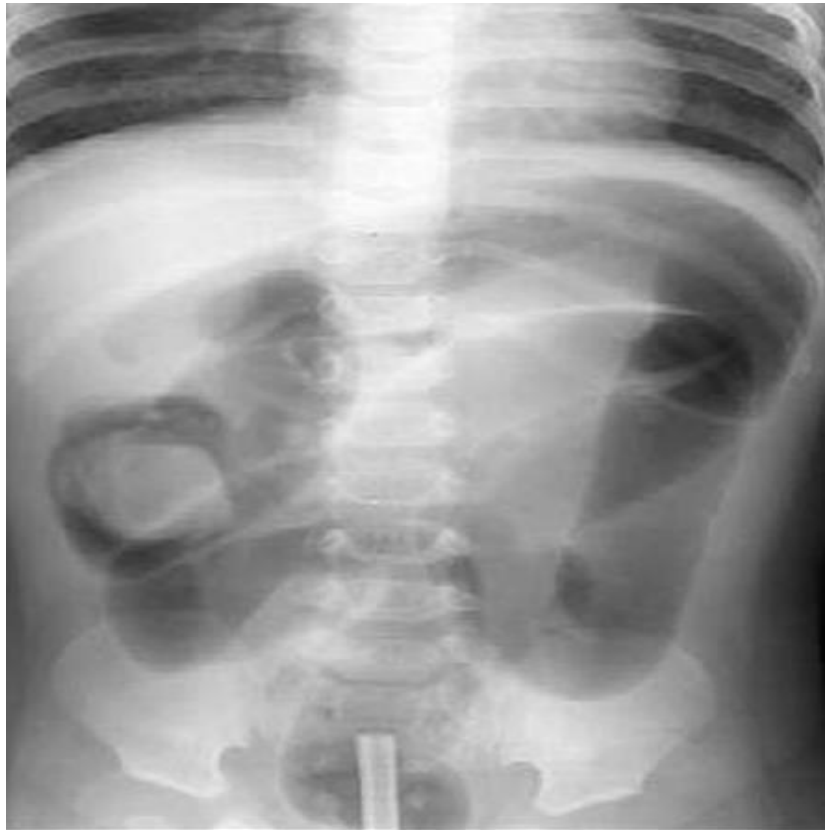
Picture. 2. Laparoscopic pyloromyotomy (intraoperative and appearance of the child).

Surgery was performed on all children admitted with a diagnosis of congenital hypertrophic pylorostenosis. Video laparoscopic pyloromyotomy surgery was performed under endotracheal anesthesia. In all cases, 3-millimeter trocars and instruments from KARL STORZ were used, and a pilorotom was used to separate the serous membrane. Then, using endoscopic instruments, the pylorus muscle layer was separated to the mucous layer. The integrity of the mucous membrane was monitored by sending air through the nasogastric tube to the stomach and duodenum. The duration of the surgical intervention was 15–25 min. In 1 (1.6%) cases, intraoperative perforation of the pylorus mucosa was observed, which was reconstructed by

video laparoscopic methods. In the postoperative period, sick children were treated in the intensive care unit for 2 days. With complete recovery of the gastrointestinal tract, the postoperative period ranged from the 2nd to the 6th day and from the 6th to the 10th day of hospitalization. No complications were observed in the postoperative period in all patients who underwent video laparoscopic pylorotomy.

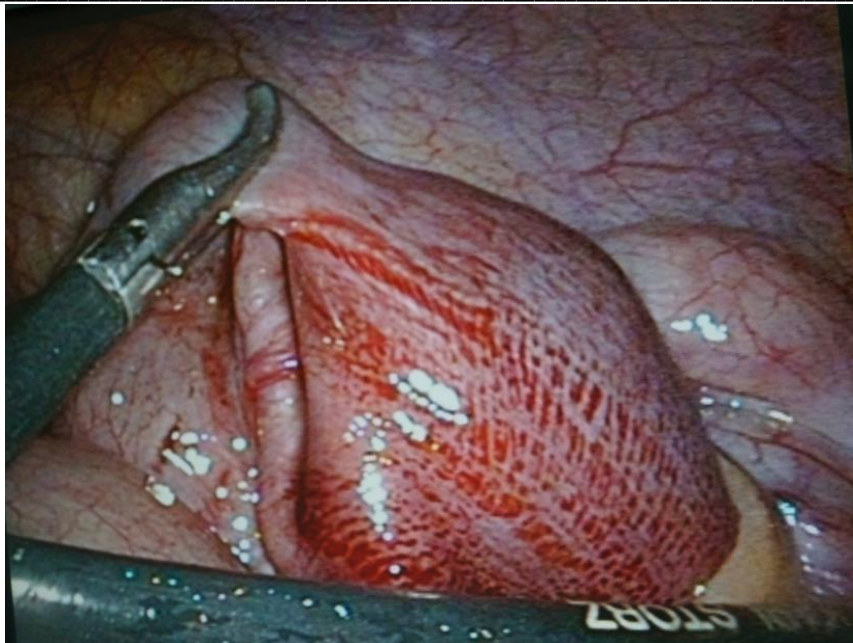
Intestinal intussusception

At the center, 44 of the children aged 3 months to 7 years with a diagnosis of intestinal intussusception were treated. The duration of the disease ranged from 2 hours to 48 hours from the time of admission of patients to the hospital, of which 29 (86%) were admitted to the hospital within 12 hours. The diagnosis of the disease was made on the basis of ultrasound data depending on its clinical symptoms. Of these, 29 (86%) patients underwent conservative treatment, disinvagination (pneumo-irrigoscopy).



Picture. 3. Pneumography in intestinal intussusception

Pneumo-irrigoscopy was unsuccessful in 8 (10%) children. These patients underwent diagnostic laparoscopy and laparoscopic disinfestation after pneumo-irrigoscopy. In only 1 (1.2%) of children with intestinal intussusception, lateral necrosis occurred against the background of Meckel's diverticulum with altered gangrenous gangrene, in which diagnostic laparoscopy was performed, the altered part of the ileum was resected with a minilaparotomy incision, and finally an anastomosis was placed. No complications were observed in the postoperative period in the operated patients.



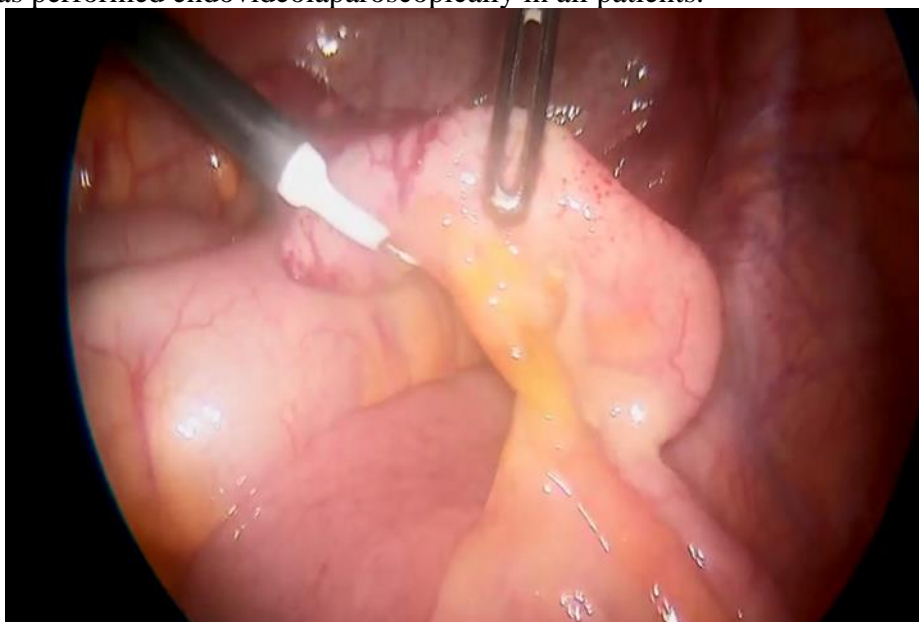
Picture 4. The procedure for carrying out laparoscopic dezinvasion.

Acute appendicitis in children

The center has 34 patients aged 1-7 years with acute appendicitis. Ultrasound examination of the abdominal organs has become of great importance due to the difficulty of diagnosing acute appendicitis in young children. Attention was paid to the volume of the abdomen, the presence of free fluid, the condition of the mesenteric lymph nodes, and the diameter of the worm-like tumor.

After preoperative examination and preparation, all children underwent procedures, including general clinical examination (general blood test, blood group and Rh factor, biochemical blood test, assessment of blood acid-base status), correction of metabolic changes.

Among children who underwent surgery for acute appendicitis, destructive forms of appendicitis were predominant. Including phlegmonous changes of the worm tumor were detected in 34 (19.5%) children. Appendectomy was performed endovideolaparoscopically in all patients.



Picture. 5. The process of performing laparoscopic appendectomy

Of the 34 (19.5%) children, 24 (70.5%) were diagnosed with gangrenous-perforated appendicitis, local purulent peritonitis, and 5 (14.7%) children were diagnosed with disseminated purulent peritonitis. 3 (8.8%) children underwent surgery with a diagnosis of appendicular abscess. In all patients, appendectomy, abdominal rehabilitation, and drainage were performed endovideolaparoscopically. For 3-5 days after surgery,

the children received treatment in the intensive care unit. The length of hospital stay is 5 to 15 days. No complications or deaths were observed in this group of patients

Compressed hernia

At the center, 41 sick children were treated with herniated discs, which ranged in age from 1 month to 3 years. Hernias last between 1-5 hours during compression time, and safety is 2-3 hours in children. All patients underwent emergency surgery. Of these, 34 (83%) had compressed hernia in children and 7 (17%) were 1-3 years old, in whom endovideolaparoscopic hernia correction was performed.

Necrobiotic irreversible changes in the constricted areas of the intestine and mesentery were not detected in any of the cases. Endovideolaparoscopic hernia removal surgeries took an average of 20 to 60 minutes. Indications for antibacterial therapy We recommend in the postoperative period if the duration of the disease is more than 3 hours and there is a small deseration of the intestinal wall No complications were observed after surgery. After the children underwent surgery, the patient's general condition, general blood tests were assessed, and he was discharged from the hospital on days 3-5 for outpatient treatment.

Meckel's diverticulum

Two of the patients treated at the center were 2-year-olds, and 1 was a 7-year-old patient with abdominal pain. According to the emergency instructions, after ultrasound examination, the patients underwent diagnostic video laparoscopy, in 2 children revealed phlegmonous altered Meckel diverticulum located in the mesenteric part of the ileum.

Meckel's diverticulum was detected in the ileum at a distance of 25 to 30 cm from the ileocecal angle. In these patients, secondary altered catarrhal appendicitis symptoms were identified and diverticulectomy and appendectomy were performed. The remaining patients were hospitalized with acute intestinal obstruction, diagnostic video laparoscopy was performed, symptoms of strangulation obstruction were identified and intestinal obstruction was eliminated. At the same time, Meckel's diverticulum was performed on the basis of diverticulectomy. There were no complications at the time of the surgery

Conclusion

Experience gained by clinics and foreign clinics in the country today shows that endovideolaparoscopic surgery in young children in emergencies is an effective method, and one of the most serious pathologies in the postoperative period is the prevention of peritoneal adhesions. . After low-traumatic surgery, the function of the gastrointestinal tract system is restored early and the rehabilitation time of patients is reduced. Complications following videolaparoscopic surgical interventions are almost non-existent

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