



Complex Diagnosis and Treatment of Patients with Acute Adhesive Intestinal Obstruction

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Abstract: Adhesive intestinal obstruction is one of the most difficult diseases of the abdominal cavity in terms of treatment and diagnosis. Along with high morbidity rates, acute intestinal obstruction is also distinguished by alarming mortality rates of about 9–13%, and in severe advanced cases it can reach 50–70%. An analysis was made of the results of surgical treatment of 762 patients with acute intestinal obstruction operated on in the Samarkand branch of the RRCEM for the period from 2010 to 2020. Laparoscopic adhesiolysis and laparoscopic-assisted adhesiolysis is a safe method of surgical treatment of adhesive intestinal obstruction.

Key words: acute intestinal obstruction, diagnosis, conservative treatment, surgical treatment, bowel detorsion, bowel stenting, laparoscopic adgeolysis.

Introduction. Adhesive intestinal obstruction is one of the most difficult diseases of the abdominal cavity in terms of treatment and diagnosis. Acute intestinal obstruction (AIO) is rightfully considered one of the most important problems of emergency surgery with an incidence rate of approximately 5 cases per 100,000 population [12, 16]. In the United States alone, AIO accounts for more than 30,000 deaths and more than \$3 billion in direct medical expenses per year [10,14]. In 15% of patients hospitalized for acute emergency surgical interventions, these patients occupy approximately 20% [2,7,9].

Along with high morbidity rates, AIO is also distinguished by alarming mortality rates of about 9–13%, and in severe advanced cases it can reach 50–70%. Although in recent years there has been a decrease in the level of mortality, nevertheless, according to this indicator, AIO still occupies a leading place among all acute urgent conditions in abdominal surgery [3,5].

Adhesions, ventral hernias, and neoplasms are the cause of AIO in 90% of cases [4,6]. In particular, 55-75% of all cases of small bowel obstruction are caused by adhesions [7,13], while the remaining cases of small bowel obstruction develop on the basis of hernias and tumors. The cause of colonic obstruction in 60% of cases is bowel obstruction by a neoplasm [8,11], in 30% of cases - intestinal volvulus and diverticulosis [1,15,16]; in the remaining 10-15% of cases, other pathological conditions are diagnosed (carcinomatosis, endometriosis, cicatricial stenosis of the intestinal segment, etc.).

The aim of this work. To improve the results of diagnostics and surgical treatment of patients with acute adhesive intestinal obstruction by introducing modern endovideosurgical technologies into clinical practice.

Materials and methods. An analysis was made of the results of surgical treatment of 762 patients with acute intestinal obstruction operated on in the Samarkand branch of the RRCEM for the period from 2010 to 2020. The ratio of men and women was approximately 1 to 1 - 399 (52.4%) versus 363 (47.6%), respectively. The mean age of the patients was 45.8 ± 18.1 years with a range of 16 to 91 years. In the structure of AIO, adhesive intestinal obstruction absolutely prevailed, which was diagnosed in 640 (84.0%) patients. Obstructive AIO occurred much less frequently, which occurred in 93 (12.2%) patients, as well as dolichosigmoid torsion and various forms of intussusception (in 29 (3.8%) cases). Of the total number of operated patients ($n = 762$), 529 (69.4%) patients underwent primary open interventions. In 233 (30.6%) cases, surgery was started with the use of laparoscopic technique, including 192 (25.2) patients with adhesive intestinal obstruction, 31 (4.1%) with obstructive AIO and 10 (1.3%) - with volvulus and invagination.

The most common causes of adhesive intestinal obstruction are shown in Table 1.

Table. 1. Causes of acute adhesive intestinal obstruction

Causes	Number of patients	
	Abs	%
Appendectomy	232	30.43
Operated for AIO	223	29.12
Operated for abdominal trauma	113	14.88
Gynecological operations	81	10.66
Cholecystectomy	45	5.88
Resection of the stomach	20	2.66
And other operations	48	6.33
Total	762	100

Results and discussion. The analysis of clinical observations of patients with AIO was carried out based on the study of the anamnesis, patient complaints, data from an objective and instrumental examination. Upon admission to the hospital, all patients underwent clinical and biochemical blood tests, X-ray examinations, ECG, ultrasound of the abdominal organs and diagnostic laparoscopy, and, if necessary, multislice computed tomography. The nature of surgical interventions: laparotomy adhesiolysis - 529, laparoscopy adhesiolysis - 233 (Fig. 1), which accounted for 11.5% of operations for acute adhesive intestinal obstruction in 2010-2020.

Access is carried out after the imposition of carboxyperitoneum through a Veress needle inserted at a distance of 5-7 cm from the postoperative scar along the midclavicular line below the costal arch by 4 cm to avoid damage to the intestine. Then, at the same point, a viewing trocar is inserted in places convenient for manipulation. Examination of the intestine begins with collapsed loops, which reduces the possibility of damage to its wall. In most patients, single cord-like adhesions were the cause of obstruction. Dissection of adhesions is carried out with their good visualization at a distance of at least 1 cm from the intestinal wall. Short (less than 2 cm) cord-like isolated adhesions (strands) containing vessels are crossed with scissors between superimposed clips, without the use of coagulation in order to avoid thermal damage to the nearby organ. Planar adhesions limited in area are anatomically precisely divided with scissors with their full visualization and careful traction of the intestine, at least 0.5 cm from its wall, without the use of electro coagulation. If there are extensive (III - IV degree) rough adhesions in the abdominal cavity, occupying more than 1-2 anatomical regions, or if conglomerates of soldered intestinal loops are found, as well as hard-to-reach adhesions due to the

presence of significantly swollen intestinal loops, we proceed to laparotomy. During the operation, we encountered various types of adhesions and divided them into the following groups: single coarse cord-like adhesions, multiple flat visceroparietal and mixed armored abdomen. The conversion rate is 18%. The main reasons for the conversion were technical difficulties in the separation of adhesions and conglomerates of soldered loops of the small intestine, intestinal necrosis or traumatic damage to the intestinal wall. Patients, if necessary, installed an epidural block, which made it possible to restore the motility of the intestinal tract within the next 2 days.

Almost all patients were activated for 1-2 days. The frequency of relapses after laparotomy with adhesiolysis was observed in 129 (23.9%) patients, after laparoscopy with adhesiolysis in 3 (2.6%) patients. Deaths after laparoscopic there was no adhesiolysis. One patient had bleeding from a crossed commissure, which was stopped during repeated laparoscopy. The postoperative period ranged from 3 to 12 days (average 6.8 days).

Conclusions: 1. Laparoscopic adhesiolysis and laparoscopic-assisted adhesiolysis is a safe method of surgical treatment of adhesive intestinal obstruction.

2. The advantages of this type of intervention are low trauma, early recovery of intestinal motility, early activation of patients with a decrease in the risk of developing adhesive disease of the abdominal cavity, and reduced hospitalization time.

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