

METHODS FOR DETECTION AND CONSERVATIVE RESOLUTION OF ADHESION DISEASE IN CHILDREN

¹Khaydarov N.S., ²Sattarov J.B., ³Kobilov E.E.

¹Fergana Medical Institute of Public Health

²Tashkent Pediatric Medical Institute

³Samarkand State University named after Sh. Rashidov

<https://doi.org/10.5281/zenodo.11079323>

Abstract. *Adhesive disease (AD) in children is one of the most difficult problems in pediatric surgery [3]. The disease occurs in 5-12% of children [4,12]. The cause of adhesive intestinal obstruction (AIO) is an adhesive process in the abdominal cavity due to previous surgery [1].*

AD is characterized by high prevalence and difficulties in diagnosis, which influence the choice of treatment method. Long-term treatment results cannot be considered satisfactory due to the high frequency of re-development of AD. In 64-93% of patients after surgical interventions, adhesions form on the abdominal organs [6,11,14]. The rate of disease recurrence after open surgical interventions reaches 30% [2-4,8], and after repeated operations - 78% [7,10].

In recent decades, indications for laparoscopic interventions in abdominal surgery have been significantly expanded to reduce their invasiveness. This reduces the risk of developing adhesions [3,5,13]. However, the conversion rate to open surgery is about 63%. This leads to an increase in the duration of the operation, the number of postoperative complications, and the financial costs of treatment [6-8,11]. Most often, the need to switch to an open approach is due to the impossibility of safe laparoscopic adhesiolysis in patients with extensive adhesions in the abdominal cavity and overly stretched intestinal loops [4,6,8,14].

Keywords: *AIO, cavity, endometriosis, radiotherapy, gastrografin, R-graphy.*

It is known that the development of adhesions in the abdominal cavity can be of congenital origin or acquired. The frequency of congenital adhesions is less than 4%. They are formed during the formation and development of organs; as a rule, they do not manifest themselves in any way and are discovered accidentally [9,10]. Acquired adhesions often form in the abdominal cavity with the development of the inflammatory process after various operations on the abdominal organs; endometriosis, as a result of radiotherapy sessions.

It is advisable to take into account that when choosing a non-surgical treatment strategy for patients with AD, there is a risk of surgical intervention if the patient's condition worsens [5,8].

According to various authors, the effectiveness of planned conservative treatment of patients with AD reaches 85% and higher [7,13]. Surgical interventions are indicated for signs of intestinal dysfunction, persistence of clinical manifestations of the disease, or their aggravation [8]. Many researchers believe that the use of hypertensive water-soluble radiocontrast agents such as Gastrografin in the non-surgical treatment of patients with AD is justified [12]. This remedy also has some laxative properties due to its high osmolarity and the ability to attract fluid into the intestinal lumen, which provides a kind of lubrication. Other authors claim that gastrografin in the treatment of patients with AD does not affect the incidence of disease relapse [9-10]. According to other authors, conservative treatment is associated with more frequent re-hospitalizations and a short disease-free period compared to surgical intervention [3,12,14]. Thus, questions remain open

about the possibility and timing of conservative therapy, taking into account various data on its effectiveness, associated complications, and indications for surgical intervention.

The purpose of the study is to unify the approach to children with suspected AD and to develop a method for its conservative resolution.

Materials and methods

The study was carried out in the clinic of the Fergana branch of the Scientific Center for Emergency Medical Care of the Ministry of Health of the Republic of Uzbekistan and a multidisciplinary clinic, where 231 patients with AD aged over 7 months were treated. up to 18 years old. There were 93 girls (40.7%), 138 boys (59.3%). 174 (75.3%) patients were hospitalized once, 36 (15.6%) - twice or more. 21 (9.1%) patients received inpatient treatment from 3 to 11 times. For a detailed study of the results of treatment of children, we divided them by age (Table 1). All children with AD of the abdominal organs had previously been operated on for diseases of the abdominal organs (acute appendicitis, intussusception, peritonitis, damage to the abdominal organs). On admission, most patients complained of paroxysmal abdominal pain, repeated vomiting, and difficulty passing stool and gases.

The diagnostic algorithm included a clinical examination, survey R-graphy of the abdominal organs, ultrasound, X-ray control with barium passage and CT.

Table 1

Distribution of patients by age and gender n=231

Age	Number of patient	%	Boys	%	Girls	%
From 3 months up to 1 year	21	9,1	16	6,9	5	2,2
From 1 year to 3 years	23	10,0	14	6,1	9	3,8
From 3 to 7 years	40	17,3	28	12,2	12	5,2
From 7 to 12 years	61	26,4	40	17,3	21	9,1
From 12 to 15 years	42	18,2	21	9,1	21	9,1
From 15 to 18 years	44	19,0	19	8,2	25	10,8
Total	231	100	138	59,8	93	40,2

The smallest group is children under 4 years old - 44 people (19.0%). The bulk of those admitted are children from 7 to 18 years old - 187 people (81%). There were 138 boys, 93 girls. The children were distributed taking into account the reasons for which they were initially operated on. First of all, this is destructive appendicitis (a history of more than 49.3% of patients).

Based on the effectiveness of conservative therapy and type of surgical intervention, patients were divided into 2 groups. The first group included 97 (42.0%) children who underwent conservative and surgical therapy. The second group consisted of 134 (58.0%) children undergoing complex conservative and surgical therapy, previously operated on for various reasons in the traditional (“open”) way. Their AD was confirmed clinically and by instrumental diagnostic methods. In 82 (61.2%) children, conservative therapy completely eliminated the manifestations of SCI. The children were discharged without surgical intervention. 52 (38.8%) children underwent surgery; conservative measures were included in the complex of preoperative preparation. 29 (55.8%) children underwent endovideolaparoscopic intervention.

Results and discussion

All patients in the emergency department were prescribed a complex of conservative therapy. Based on the idea that adhesive disease is an independent polycyclic, progressive disease, which is based on a generalized, hyperergic reaction of connective tissue to external stimuli (dieting disorders, inflammatory processes, colds, exacerbation of chronic diseases), a scheme of conservative therapy at the initial stage of adhesive disease consisted of the following principles.

1. To carry out decompression of the upper gastrointestinal tract (GIT), gastric intubation was performed (increased pressure in the lumen of the intestinal tube with subsequent disruption of the blood supply to the intestinal wall plays an important role in the pathogenesis of intestinal obstruction of any etiology).

2. To reduce swelling and inflammation of the connective tissue of the intestine and planar adhesive inflammatory formations of the abdominal cavity, hormonal therapy was carried out, consisting of intravenous drip administration of hydrocortisone at the rate of 4-6 mg/kg body weight or prednisolone 3 mg/kg body weight at 5% or 10 % glucose solution.

3. Because any disturbance of intestinal motility directly depends on the tone of smooth muscle muscles and the content of K⁺ ions in the circulating fluid, adequate blood supply to the intestinal tube; we consider it fundamentally important to restore the volume of circulating blood with the inclusion in the volume of infusion therapy of a 7.5% solution of potassium chloride at the rate of 1 mEq/ kg body weight.

After correcting the hydroionic balance (KCl solution), introducing prednisolone or hydrocortisone into the vascular bed, the rest of the therapy was carried out according to the traditional regimen (administration of glucose-saline solutions, stimulation of peristalsis with anticholinesterase drugs - proserin; use of drugs that improve blood supply - trental, pentoxifylline, etc.).

The effectiveness of conservative therapy was assessed by relieving or reducing the intensity of pain, abdominal bloating, reducing vomiting, disappearance of discharge through a nasogastric tube, the presence of stool after enemas and the passage of gases, normalization of gastrointestinal motility, reduction in the level of intoxication: a decrease in the leukocyte intoxication index (LII), tachycardia, low-grade fever, weakness, malaise, dry mucous membranes.

We consider the radiological characteristics of gastrointestinal function to be an effective criterion for conservative therapy (including preoperative therapy). All children underwent a plain radiography of the abdominal organs in a vertical position. It should be noted that today, an X-ray examination in cases of severe clinical signs of acute neurosis is no longer mandatory due to the introduction of more advanced diagnostic and treatment techniques (diagnostic laparoscopy).

A contrast study of the gastrointestinal tract with 10% barium sulfate allows you to monitor the progress of barium, which is concentrated in the form of a “depot” in any part of the gastrointestinal tract. We consider it decisive in determining treatment tactics. The method is possible only in the absence of vomiting or copious discharge through the nasogastric tube; it cannot be applied to all patients. This reduces its significance.

Both in the preoperative and postoperative periods, all children, along with the traditional assessment of status and laboratory monitoring, had their LII calculated according to the generally accepted method. A mild degree of the bacterial component was considered to be up to 2.3; moderate severity - up to 3.5. A value above 3.5 was considered to be a severe degree of bacterial strain.

If after the first regimen of conservative therapy the patient's condition did not worsen (LII, tachycardia, pain, etc.), then we considered it possible to carry out repeated (up to 3) courses of conservative therapy.

After a single course of therapy in 99 (74.4%); double in 23 (17.3%); 11 (8.3%) patients received inpatient treatment from 3 to 11 times. The patients' condition significantly improved, abdominal pain disappeared, vomiting and bloating stopped, peripheral blood counts improved, and intoxication decreased.

A retrospective analysis revealed that these patients did not have cyclicity or seasonality of the disease, and the pain syndrome, as a rule, occurred after a severe diet violation. Further examination of these children revealed the causes of abdominal pain. The most common causes simulating ASCI in operated children were reactive pancreatitis - in 3 (1.3%) children, acute mesadenitis - in 33 (14.3%), exacerbation of chronic gastroduodenitis - in 7 (3.0%), dyskinesia intestines and biliary tract - 11 cases each (4.8%); intestinal colic - in 19 children (8.2%), urinary tract infection and coprostasis - in 17 patients (7.4%) each; neuralgia, sigmoiditis, acute pyelonephritis, helminthic infestation, ovulation, irritable bowel syndrome, abdominal infiltrate - 1 case each (0.4% each).

We believe that our proposed treatment regimen can become not only an integral part of conservative therapy and preoperative preparation of the patient, but also be included in the algorithm for the differential diagnosis of organic and functional gastrointestinal diseases.

Conclusions

There are still no specific methods for the prevention and treatment of children with adhesions. It is necessary to continue research to comprehensively solve this difficult problem.

Adhesive intestinal obstruction remains a serious problem in pediatric surgery. The results of treatment for adhesive bowel disease depend on timely hospitalization. The average age of patients in the study groups was 12 years with PSN and 7 years with RSN.

The proposed scheme of conservative therapy allows us to exclude the diagnosis of acute adhesive intestinal obstruction and contributes to the conservative resolution of AD in 57.6% of cases.

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