

Some Aspects of the Results of Surgical Treatment of Abdominal Pathology in Newborns

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Abstract: This article presents the results of the treatment of surgical pathologies of the abdominal cavity in newborns in 2021-2024 in the department of neonatal surgery of the Bukhara Regional Multidisciplinary Children's Medical Center. In recent years, there have been frequent postoperative complications and high mortality in intestinal obstruction in newborns, sometimes reaching up to 50%. A partial analysis of the causes of complications was performed, it was associated not only with late treatment of patients, severe complications, but also the lack of a unified program of preoperative management and reasonable surgical tactics in each specific clinical case.

Keywords: newborns; congenital intestinal obstruction; complications.

Relevance. Despite the achievements of modern science in the field of medicine, surgical correction of congenital pathologies in newborns remains a serious problem of modern neonatal surgery.

Currently, in 60% of cases, malformations of an unborn child are diagnosed antenatally, which makes it possible to build an adequate algorithm for managing pregnancy, childbirth and subsequent surgical care. The causes of such anomalies can obviously be hereditary factors and environmental influences on the development of the embryo

Congenital malformations occur in 5% of infants, but their contribution to the structure of infant mortality reaches 20% or higher, while about 30% of patients have multiple abnormalities [I.Y. Karpova et al., 2010].

In the structure of infant mortality for a number of years, congenital malformations have been in second place after diseases of the perinatal period, amounting to 31.1%. The main contingent in this group of causes of infant mortality are newborns with surgical pathology (Bayazitov R.R., Dyakonova E.Yu., Mokrushina O.G. et al., 2020).

Improving the quality of care for severe surgical patients with gastrointestinal malformations and postoperative complications can reduce postoperative mortality (Pogosova D. R., Rostovtsev N. M., Baboshko P. G., Bazaliy V. N. 2018). Postoperative complications are a pathological condition that is not typical for the normal course of the postoperative period, which dramatically reduce the quality of treatment, delaying recovery, and endanger the life of a newborn [3,8,17]. Complications from the abdominal cavity in the postoperative period are quite severe and diverse. Among them, peritonitis, adhesive intestinal obstruction, and paresis of the gastrointestinal tract occupy a special place [2,8,12].

According to the literature, venous veins are diagnosed with a frequency from 1:1500 to 1:2700 among live-born newborns with the same frequency in boys and girls. At the same time, the

success of surgical treatment largely depends on timely diagnosis, as well as early transfer of the child to a surgical hospital and adequate preoperative preparation [1,4,9]. In addition, proper intraoperative assessment of the pathophysiological condition of the abdominal cavity organs, correct tactics of surgical treatment, proper management of patients in the postoperative period with adequate infusion –transfusion therapy is of great importance in the postoperative period [5,11,13,16]. The relevance of the disease is due to severe disorders of the gastrointestinal tract, a high risk of complications and the likelihood of long-term negative consequences of surgical treatment. To date, there is no single point of view regarding the choice of surgical tactics in this category of patients [6,15].

Indications for surgery, their timing, the volume of surgical interventions, access and evaluation of the effectiveness of repeated surgical aids remain the subject of discussion by both domestic and foreign specialists [3,7,10,14]. Goal. Analysis of the results of surgical treatment of congenital abdominal pathologies in newborns.

Material and methods. This work is based on the data of examination and treatment of 46 patients with congenital abdominal pathology in newborns who received surgical treatment in the Department of neonatal Surgery of the Bukhara Children's Medical Multidisciplinary Center, which is the clinical base of the Department of Pediatric Surgery of the Bukhara State Medical Institute for the period 2021-2023. A complex of therapeutic and diagnostic procedures used in neonatal surgery was used for the examination and treatment of this category of patients.

When analyzing the distribution of patients by gender, the majority of patients were boys - 67 (56.8%), there were 51 girls (43.2%). The study of obstetric history showed 34 (28.8%) newborns had a burdened obstetric history, 37 (31.4%) newborns were premature, multiple malformations were detected in 27 (22.9%) patients. Timely delivery of newborns with surgical pathologies to specialized centers has an important role in the organization and provision of targeted, specialized medical care. The study of data on the timing of hospitalization in a specialized hospital showed that in the first 2 days of life, newborns from remote areas were admitted in 74 (62.7%) cases, the remaining 44 (37.3%) newborns were admitted on the 3rd day and later from the moment of birth. At the same time, earlier hospitalization was revealed in the group of patients with high intestinal obstruction due to the presence of a brighter clinical picture and rapid deterioration of the newborn's condition, whereas with low obstruction, the patient's condition remains relatively stable for a long time. In both the group of patients with high and low congenital intestinal obstruction, in half of the cases there was a clinic of partial intestinal obstruction, and the lack of severity of clinical symptoms led to later diagnosis and hospitalization in a surgical hospital. As is known, congenital intestinal obstruction is characterized by the absence of meconium, vomiting and visible changes in the condition in the abdomen, information obtained during X-ray examinations is very valuable to clarify the diagnosis.

The result and discussions. Based on clinical, laboratory, and X-ray studies, a high form of intestinal obstruction was found in 26 (22.0%) newborns, while in 4 (8.7%) cases, a fatal outcome was recorded. Low intestinal obstruction was diagnosed in 33 (28.0%) patients and mortality was noted in 17 (14.5%) cases (see Table 1).

Distribution of operated patients by nosology

Table 1.

№	Nosology	Number of operations		Number of exitus letalis	
		n	%	n	%
1	High intestinal obstruction	26	22,0	4	3,4
2	Low intestinal obstruction	33	28,0	13	11,1
3	Pyloric stenosis	29	24,7	-	-
4	Diaphragmatic hernia	6	5,1	2	1,7

5	YANEK, complicated by peritonitis	6	5,1	3	2,5
6	Omphalocele	5	4,2	1	0,8
7	Adhesive intestinal obstruction	4	3,4	-	-
8	Cyst of the abdominal cavity	3	2,5	-	-
9	Gastroschisis	3	2,5	-	-
10	Ovarian cyst	2	1,7	-	-
11	Appendicitis	1	0,8	-	-
Total:		118	100%	23	17,8%

Congenital pylorostenosis, exhibiting a bright vomiting syndrome, was diagnosed in 29 (24.7%) operated newborns, diaphragmatic hernia was found in 6 (5.1%) cases, of which exitus letalis occurred in two (1.7%) cases. Ulcerative necrotizing enterocolitis (NEC) complicated by peritonitis was diagnosed in 6 (5.1%) newborns, while in 3 (2.5%) cases it was not possible to save the life of this category of newborn patients. Small and medium-sized omphalocele was operated on in 5 (4.2%) cases, and in one (0.8%) case the outcome of the operation was unsuccessful. Adhesive intestinal obstruction as a postoperative complication was diagnosed in 4 (3.4%) operated newborns. Abdominal cyst and gastroschisis were detected in 3 (2.5%) cases, respectively, ovarian cyst was diagnosed in 2 (1.7%) cases. The variety of pathomorphological variants of malformations of the intestinal tube causes difficulties in choosing not only surgical tactics for the treatment of a particular type of congenital pathology, but also the technique of surgical intervention itself. All patients underwent surgery after preoperative preparation, the duration and nature of which were determined depending on the type of defect, the time of admission, the presence of complications, the severity of the child's condition and body weight deficiency.

Surgical tactics for high intestinal obstruction (HCN) were determined depending on the detected pathology. Ledd syndrome was diagnosed in 12 (10.2%) cases that were operated on with a successful outcome. The membranous form of duodenal atresia was found in 3 (2.5%) patients who underwent duodenotomy with circular membranotomy. The annular pancreas was detected in 4 (3.4%) cases, since the operation of choice in these cases is the imposition of physiological duodenoanastomosis, which was carried out in 2 (1.7%) cases with a successful outcome. In the remaining 2 (4.3%) cases, the diastasis between the segments was significant and did not allow to compare the adducting and diverting loops, and in these patients, a bypass duodenoanastomosis was performed. Unfortunately, both cases turned out to be unsuccessful. An interesting fact was the establishment of a membranous form of gastric doubling in 2 (1.7%) cases, which gave the clinic a high intestinal obstruction, to eliminate which it was necessary to perform an operation - gastrotomy, circular membranotomy followed by gastropasty. Hyperfixation and inflexion of the initial jejunum in the area of the "Tracer" ligament were eliminated by disconnecting congenital adhesions. In 5 (4.2%) cases, an acute form of congenital pylorostenosis was found intraoperatively in newborns with the HCN clinic, who had to undergo a supramuscular pyloromyotomy according to Fred-Ramstedda with a favorable outcome. In addition, congenital pilerostenosis was diagnosed as planned in 29 (24.5%) newborns with a satisfactory result. 33 (28.0%) cases were diagnosed with the clinic of low intestinal obstruction (ICH), in 13 (11.1%) cases the outcome of their treatment was unsuccessful. In 4 (3.4%) patients with ICH, the cause of obstruction was adhesions on the background of ulcerative necrotic enterocolitis, and one patient underwent surgery with an acute form of Hirschsprung's disease, the cause of which was total colon agangliosis (Sulzer - Wilson disease), after colon resection, terminal ileostomy had to be applied, due to the presence of peritonitis. In the postoperative period on day 3, a fatal outcome was observed. The clinic of meconium ileus was found in one patient, due to the presence of signs of meconial peritonitis due to perforation of the adductor loop, the patient had to have an ileostomy. The absolute indications for stoma removal were cases of colon atresia and ileum atresia on the background of perforation and peritonitis. The volume of resection depended on the level of atresia and the severity of secondary changes in the atresized segment.

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