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COMPARATIVE CHARACTERISTICS OF TRADITIONAL AND VIDEO ASSOCIATED OPERATIONS FOR ATRESIA OF SMALL INTESTINE IN NEWBORNS

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Abstract: Small bowel atresia, also known as intestinal atresia, is a congenital disability that affects a part of the small intestine, the tube that connects the stomach to the large intestine and helps digest food. Depending on the extent of the blockage, the defect is classified as either atresia or stenosis. Atresia: A complete blockage (obstruction) or lack of bowel continuity. Stenosis: A partial obstruction that results in a narrowing or stricture of the bowel.

Keywords: Small bowel atresia, laparoscopic, small-intestinal end-side anastomosis, anastomosis end-to-end, mini-laparotomy, antenatally diagnosed, resorption, traditional, intestinal obstruction, adhesive obstruction.

Introduction: Atresia of the small intestine is the most common anomaly and occurs in 1: 1000 newborns, with 1/3 of these children being born prematurely or with a bodyweight less than it should be at a given gestational age. (5). Most cases of small intestine atresias are the result of a local antenatal circulatory disturbance of the developing intestine with ischemic necrosis and subsequent reabsorption ("resorption") of the affected segment (s). Treatment of this malformation is only surgical. The need to perform traumatic laparotomy leads to prolonged stay of children in reanimation and intensive care units, which increases the risk of infection and the degree of surgical stress (4).

Objective: Comparative characteristics of the recent results of traditional and video-associated surgery for congenital atresia of the small intestine in newborns.

Materials and methods: 87 newborns with congenital atresia of the small intestine were treated at the Republican Training, medical and methodical center of neonatal surgery in the Republican Perinatal Center during the period 2014-2019. There were 41 boys (47%) 46 girls (53%). There were 53 full-term newborns (61%) 34 premature babies (39%). Of all patients with atresia of the small intestine on 1st

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day, arrived 65 (75%); on the second day-12 (14%); on the third day –3 (3%); on the fourth and more days –8 (10%) patients.

Upon arrival to our center, all children underwent radiography of the chest and abdominal organs, a comprehensive ultrasound scan (ultrasound) of the abdominal cavity and retroperitoneal space, neurosonography (NSG), echocardiography (Echocardiography). In most cases, these research methods were sufficient for diagnosis. However, in doubtful cases (28 cases), as an additional research method, we performed gastrointestinal passage and gigography.

The picture of low intestinal obstruction was antenatally diagnosed in 52 (60%) cases. In most cases, small intestine obstruction was diagnosed at the end of the II trimester beginning of the III trimester of pregnancy. The fetus's average diagnostic period for low intestinal obstruction was at the 29-30th week of gestation. A comparison of our ante- and postnatal diagnostic methods in 52 pregnant women showed that the accuracy of antenatal ultrasound diagnostics with low intestinal obstruction in the fetus due to atresia of the small intestine was almost 100%.

Results and discussion: According to the classification proposed by J.L. Grosfeld (1979), our patients were divided as follows: Type I was detected in 11 (13%) patients, type II - 27 (31%), type III a -24 (26.5%), type III B 10 (12.5%), and Type IV 14 (16%) and 1 (1%) patient were taken away without surgery under release note.

Surgery was performed on almost all 86 (99%) patients because 1 (1%) of all patients was taken away without surgery under release note. All these patients, depending on the method of operation, were divided into two groups: the first group (comparison group) consisted of 70 (80%) infants in whom the correction of the small intestine atresia was performed by traditional open laparotomy. The second group (leading group) consisted of 17 (20%) newborns, in whom laparoscopy and mini-laparotomy were used in order to correct the small intestine atresia with the removal of only an imperforate area of the small intestine to the wound.

Video-associated surgery for congenital low intestinal obstruction in newborns due to atresia of the small intestine was put on practice in our center since the end of 2017/ the infant's early arrival (during the first 24 hours of life). The absence of intrauterine peritonitis, intestinal perforation, adhesions in the abdominal cavity, major heart and respiratory tract malformations were the indications for the operation.

Video-associated operations were performed in 17 (20%) of 87 patients with atresia of the small intestine. Among them, there were seven boys (41%) 10 girls (59%). There were ten full-term newborns (59%) seven premature newborns (41%). The contraindications to laparoscopy were a state of extreme severity due to multiple organ failure and deep prematurity, pronounced intestinal paresis against the background of diffuse peritonitis, and the late arrival of patients.

Video-associated surgery in newborns was performed as follows: 2.2 mm and 3.3 mm trocars were used. The first trocar was injected inflammably into the abdominal cavity, pneumoperitoneum (flow rate 1.0-1.5 ml / h and intra-abdominal gas pressure were 5-6 mm Hg, respectively), then optics with a diameter of 2.0 mm

was introduced and revised abdominal cavity. At the same time, if it was possible to identify the imperforate area of the small intestine immediately, then a second 3.3 mm trocar was introduced into the abdominal cavity from the opposite side of the abdominal wall (right or left iliac region). Then the imperforate area of the small intestine was grabbed a soft Kelly clamp, and this part of the intestine was brought to the anterior abdominal wall. If the imperforate area could not be immediately detected, then in such cases, two trocars were introduced into the abdominal cavity, usually in the right and left iliac regions. This made it possible to conduct a thorough revision to find the imperforate area of the small intestine. Then exteriorization was created through a mini-laparotomy incision; this section was brought out. Further tactics of surgical correction were selected, taking into account the anatomical types of the small intestine atresia and degree of complications. In 10 (59%) cases, of 17, the resection of the imperforate area of the intestine and insertion of the small-intestinal anastomosis end-to-end were performed (of which in 5 cases, with narrowing of the adducting small intestine to eliminate the discrepancy between the adducting and abducting part of small intestines), 2 (12%) cases of application of small-intestinal end-side anastomosis. In 5 (29%) cases, taking into account prematurity an unfavorable somatic background, an enterostomy was introduced through a mini-laparotomy incision.

Analyzing the immediate postoperative period, it was revealed that the use of video-associated operations contributed to a smoother course of the postoperative period decrease in pain, which allowed the patient to be extubated quickly within 1 and 2 days after the procedure. In addition, in all 17 patients who underwent video-associated radical surgery, postoperative intestinal paresis resolved within three days, which helped start enteral feeding in 4-5 days after surgery. There was not observed the failure of anastomosis and early adhesive obstruction of the intestine of patients. In addition, for infants who underwent enterostomy laparoscopically, during radical surgery after four weeks, difficulties associated with the isolation of the stoma did not arise, and the development of adhesions was not noted. Mortality in the leading group was noted in 5 (29%) patients. Three of 5 infants were premature, and two full-term newborns had an unfavorable somatic background, which subsequently contributed to the addition of sepsis and enterocolitis.

The duration of a patient's stay in a hospital with atresia of the small intestine after the traditional method was on average 28 ± four days, and after the laparoscopic approach, on average 18 ± two days. In addition, the type of small intestine atresia influenced the mortality in both groups (21 (24%) children). The greatest number of cases was noted in children with III b and IV types of small intestine atresia. So, 12 of 21 dead infants, 12 (57%) were with III b and IV types of the small intestine atresia. So, with the I, II, and III types of atresia, the results of surgical treatment were mainly positive.

Consequently, a comparative analysis of laparoscopic and traditional surgical interventions showed that laparoscopy is a less traumatic surgical treatment method for emergency abdominal surgical diseases and has no age restrictions. Video-associated correction of small intestine atresia in newborns is an advanced, less

10.5281/zenodo.5978986
traumatic, and effective intervention, leading to a smooth course of the postoperative period decrease in pain. This operation helps to reduce the number of complications in the form of adhesive intestinal obstruction and shorten the number of days in bed. Complications of the intraoperative and postoperative periods after laparoscopic interventions are less specific and less common than traditional "open" operations.

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