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LAPAROSCOPIC CORRECTION OF THE COLEDOCHAL CYST IN CHILDREN

ABSTRACT

The article reflects the experience of treatment of children with congenital choledochal cyst from 2011 to 2016. The comparative analysis of surgical treatment by traditional and laparoscopic methods is presented. The comparative analysis of outcomes of operations showed advantages of the endosurgical method of treatment: minimal traumatism, smooth postoperative period, reduction of patient's days in hospital, saving dressing and medicines. In this regard the endosurgical method of treatment can be offered as operation of the choice in the surgical treatment of choledochal cysts.

Keywords: children, choledochal cyst, laparoscopic operations, complications.

INTRODUCTION

According to various authors, among all congenital malformations in children, the malformations of the bile-excreting ducts range from 6 to 8% [1-3]. The common bile duct cyst is a congenital dilatation, accompanied by signs of obstruction of the bile ducts. Treatment of this defect is exclusively surgical [2]. At present, total excision of the cyst with the formation of hepaticojejunostomy on the isolated Y-shaped bowel of the jejunum by Roux is the method of choice in the treatment of choledochal cysts. Excision of the cyst should be complete, as leaving the part of the cyst leads to complications (cholangitis, formation of stones, malignancy). Traditional access for this intervention remains a wide transverse laparotomy in the right hypochondrium. In 1995 for the first time G.A. Farello proposed a laparoscopic version of the operation [2]. The leading world clinics have accumulated a certain experience of minimally invasive interventions, which indicate that the number of postoperative complications is comparable to open operations [3].

MATERIALS AND METHODS OF RESEARCH

For the period from January 2011 to December 2016, 13 patients with cystic choledochal transformation were treated in the surgical department of the Pediatric Center. Laparoscopic correction was performed for 5of them. The age of the patients at the time of surgery was 1.5 to 15 years. Seven patients were admitted urgently, five of them had cholangitis with an increase in bilirubin and abdominal pain, two patients with mechanical obstruction of the bile duct, intense icteritiousness of the skin and sclera, acholic stool and darkening of the urine. The remaining patients had no complaints.

The complex of preoperative examination included general clinical analyzes, abdominal echography, fibrogastroduodenoscopy, radiopaque computer tomography of the abdominal cavity organs, according to indications magnetic resonance cholangiography, examination of specialists.

The complex of preoperative preparation included the following therapy: children with cholangitis, pancreatitis, increased bilirubin levels were prescribed antibacterial therapy, antiferment preparations, detoxification therapy, hepatoprotectors, diet therapy, until normalization of the analysis, parenteral nutrition for 1-2 days before the operation, cleansing enemas. The external puncture drainageof the bile ducts as the first stage was performed for 2 patients with phenomena of severe biliary hypertension.

The operative intervention in traditional operation was performed from a wide transverse laparotomy in the right hypochondrium. In the endosurgical method, all stages of the operation were performed with the help of 4laparoports arranged «rhomboid». The initial stage was the opening of the lumen of the cyst and the evacuation of the contents, after which the mobilization of its walls was performed. The cyst was carefully mobilized from the surrounding tissues by a blunt and acute route (duodenum, pancreas, portal vein, hepatic artery). The distal end of the choledoch after excision of the cyst was sutured with nodal sutures. The technique of forming an isolated loop of the jejunum was performed according to the method of Roux. Formation of intercusive anastomosis was carried out by manual continuous suture through a mini-laparotomic paraumbilic incision. We did not use the antireflux mechanism on the hinge loop, there is no need for the formation of an antirefilus valve with a sufficiently long Roux loop (at least 40 cm) [2, 3]. After creating an isolated loop, its free blind end was held behind the transverse colon through the «hole» in the mesentery to the gates of the liver. At 1-1.5 cm from the blind end of the anti-brazed edge of the loop, an enterotomy up to 10 mm was carried out, and hepatoconteroanastomosis was applied. The surgery was finished by draining the subhepatic space.

RESULTS AND DISCUSSION

Mortality and intraoperative complications were not noted. In the traditional method of treatment during surgery as a rule compensation of clotting factors was required. The average duration of the operation in the endosurgical method was 150-180 minutes, in open operation was 90-120 minutes. In the early postoperative period, children were in the department of anaesthesiology, reanimation and intensive care on average for 4-5 days. Children who underwent laparotomy needed prolonged epidural anesthesia for 48-72 hours and additional use of narcotic analgesics. Motor activity was restored faster in children who underwent endosurgical surgery (on average, 48-60 hours after surgery). Enteral load for them was possible in3 postoperative days. 2 patients after traditional intervention in the early postoperative period had the inconsistency of hepatocoenteroanastomosis, which required re-operation. One patient had pancreatitis, which was docked conservatively. 1 patient had early adhesion of the intestinal obstruction in postoperative period, which required a second operation (laparotomy, viscerolysis). After laparoscopic intervention, 1 patient had a leakage of bile through the drain, which required relaparoscopy and the application of additional sealing seams to the anastomosis zone. The duration of hospitalization averaged 10-12 days after laparoscopic intervention versus 18-20 days after traditional open interventions.

The evaluation of the results of treatment in patients after laparoscopic hepaticoenteroanastomosis showed

faster postoperative recovery, less severe pain syndrome, a good aesthetic result, significant savings in dressings and medicines.

CONCLUSION

Analyzing the work done, it should be said that the laparoscopic method of treatment is feasible and can be an operation of choice. The advantages of laparoscopy include a good visualization of the operating field, surgical accuracy, less severe pain syndrome in the postoperative period, rapid recovery of peristalsis, a good aesthetic result, a rapid recovery of patient activity, a reduction of hospital bed-days, a reduction of risk of adhesion in the abdominal cavity. It should be noted that this method requires the surgeon a lot of experience in performing endoscopic operations.

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THE EXPERIENCE OF LAPAROSCOPIC PYELOPLASTIES IN CHILDREN AND THE CHOICE OF THE METHOD OF DRAINAGE

ABSTRACT

The method of an open pyeloplasty until the end of the 20th century was considered as the «gold standard» of treatment of patients with hydronephrosis. However, rapid development of minimally invasive technologies hasn't avoided pediatric urology. Now the laparoscopy pyeloplasty is a widespread method of treatment. We have presented the experience of 22 laparoscopic pyeloplasties in children. The evaluation of the duration of operations, postoperative bed-days and complications were carried out. The analysis of methods of drainage was also carried out.

Keywords: laparoscopy, pyeloplasty, stent, pediatrics.

INTRODUCTION

Among obstructive uropathies, hydronephrosis is the most common pathology. In pediatric urological practice, the frequency of occurrence is 1:800 or 2.8 cases per 1000 newborns [1]. Stenosis of the pyeloureteral segment in hydronephrosis is one of the frequent indications for instrumental or surgical correction [3,4]. Nowadays the «gold standard» for correcting the patency of the ureteropelvic segment in children remains the dismembered plasty of the ureteropelvic segment (UPS), proposed by J. Anderson and W. Hynes in 1949 [2], which proved its reliability and a high percentage of good results (more than 90%) [5-10]. For a long time this operation was performed from open access. Currently liuobotomous pyeloplasty fades into the background, both in adult and in pediatric urological practice. Since 1993, clinical cases of laparoscopic operations in adult patients have been described. In 1995, S. Peters and coauthors reported the first performed laparoscopic pyeloplasty (LP) in a child [11]. But pyeloplasty in children with laparoscopy remains a controversial issue because of the longer duration of the operation than with open pyeloplasty, the difficulty of imposing an intraocorporal suture, and the inexperience of the surgeons in the access performed [12]. Recent research has shown that this method can be an excellent alternative to open surgery, with a total success rate of more than 95%. Also, laparoscopic pyeloplasty has a number of advantages, such as: short hospital stay, minimal blood loss, less severe pain syndrome in the postoperative period, early recovery after surgery, better cosmetic effect. Improved visualization, the accumulation of experience and the improvement of surgical skills have made it possible to use widely laparoscopic access [13,14,15,16]. The method of postoperative drainage of the collective system of the kidney is also not fully defined: to apply antegrade or retrograde stenting, to use pyelostoma or nephrostomy, or to use their combination. There are works devoted to the study and comparison of these methods [17,18,19]. Thus, nowadays the optimal variant of removing urine from the kidney after such operations has not been finally