MANAGEMENT OF THE MIRIZZI SYNDROME AND THE SURGICAL IMPLICATIONS OF CHOLECYSTCHOLEDOCHAL FISTULA

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Abstract: *we have treated 3047 patients with various forms of cholelithiasis. Mirizzi syndrome was diagnosed in 62 patients, accounting for 1.38%. Patients with Mirizzi's syndrome were divided into 2 groups. The control group includes 25 patients after of laparotomy cholecystectomy. The main group consists of 37 patients after cholecystectomy through the minimally invasive approach. Evaluation of ultrasound results before the surgery, allowed diagnosing Mirizzi's syndrome in 37 (67.4%) patients. Assessment of the echogram showed signs that allowed us to suspect Mirizzi's syndrome before the surgery. In assessment of the ERCP results the pathognomonic signs for Mirizzi's syndrome were considered typical compression of the common bile duct from outside, or the presence of cholecystcholedochal fistula that was found in 32 (58.3%) patients.*

Keywords: *Mirizzi's syndrome, choledocholithiasis, cholecystcholedochal fistula.*

ВЕДЕНИЕ БОЛЬНЫХ С СИНДРОМОМ МИРИЗЗИ И ХОЛЕЦИСТОХОЛЕДОХАЛЬНЫМИ СВИЩАМИ

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Аннотация: *нами было пролечено 3047 пациентов с различными формами желчнокаменной болезни. Синдром Мириззи диагностировали у 62 больных. Больные с синдромом Мириззи разделены на 2 группы. В контрольную группу вошли 25 больных, которым произведена лапаротомная холецистэктомия. Основную группу составили 37 пациентов, у которых холецистэктомия произведена миниинвазивным способом. Оценка результатов УЗИ, которое было выполнено до операции, позволила установить диагноз синдрома Мириззи у 37 (67,4%) пациентов. При оценке эхограмм нами выявлены признаки, позволившие заподозрить синдром Мириззи до операции. При оценке результатов ЭРХПГ патогномоничным для синдрома Мириззи считали характерное сдавление извне общего желчного протока, либо наличие холецистохоледохеального свища, что было установлено у 32 (58,3%) больных.*

Ключевые слова: *синдром Мириззи, холедохолитиаз, холецистохоледохеальный свищ.*

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Introduction. With the steady development of the technique of minimally invasive surgery and the acquisition of collective experience, there is an irreversible process of narrowing contraindications and expanding the possibilities of minimally invasive surgical interventions [2, 26]. Until recently, Mirizzi's syndrome was considered one of the contraindications for performing laparoscopic cholecystectomy [6-11; 19-21]. According to the literature, Mirizzi syndrome is diagnosed in 2.7-5% of patients with various forms of cholelithiasis [2-4]. Recently, much attention is paid to the classification of Mirizzi syndrome, methods of preoperative diagnosis, as well as various methods of surgical correction, including with the use of minimally invasive technologies [3-5; 10-14; 24]. Several classifications of Mirizzi syndrome have been suggested, but there are significant differences in the effectiveness of various survey methods for identifying Mirizzi syndrome. The main factor underlying them is the presence or absence of a fistula between the gallbladder and the bile ducts. Therefore, in the creation of the first and most common classification of McSherry (1982): Type I - compression of hepaticocholedochus by a stone

located in the bladder, its neck or bladder duct; II type - the formation of a fistula between the gallbladder and hepaticocholedoch with its obstruction by calculus [5, 25]. This classification is very important for surgeons, especially in the modern era of laparoscopic cholecystectomy. Most surgeons prefer open cholecystectomy in patients with confirmed diagnosis of Mirizzi syndrome [1]. Surgical treatment involves the elimination of the cause of obstruction of hepatitis choledoch - cholecystectomy in type I and choledocholithotomy in type II. With a significant defect of hepatitis choledoch, a number of authors suggest external drainage according by Ker [6]. Others perform the formation of biliodigestive anastomosis, which significantly complicates the intervention and increases the risk of purulent cholangitis and strictures, which are the reason for repeated interventions in 11.1-20.8% of patients with Mirizzi syndrome [4].

Thus, Mirizzi syndrome is not a frequent but serious complication of the cholelithiasis, requiring comprehensive diagnosis and surgical treatment, which can range from standard cholecystectomy to extensive reconstructive surgeries.

Purpose of the study. Development of an effective complex of pre- and intraoperative examination of patients with cholelithiasis for the diagnosis of Mirizzi syndrome, indicating its type and on the basis of the information received, to offer optimal surgical interventions depending on the type of Mirizzi syndrome detected, and also to evaluate their effectiveness.

Methodology. We treated 3047 patients with various forms of cholelithiasis. Mirizzi syndrome was diagnosed in 62 patients, which was 1.38%. Women were 50 (84%), men - 12 (16%). The age of the patients was from 27 to 80 years. The distribution of patients depending on the form of inflammation of the gallbladder was as follows: chronic cholecystitis - 32 patients, acute cholecystitis - 24. Patients with Mirizzi syndrome divided into 2 groups. The control group included 25 patients who underwent of laparotomy cholecystectomy. The main group consisted of 37 patients whose cholecystectomy was performed in a minimally invasive manner. All patients underwent general clinical examination, endoscopic examination of the upper sections of the gastrointestinal tract was carried out. Ultrasound of the abdominal cavity at which the state of the gallbladder was evaluated (volume, thickness and clarity of the wall contour), intra- and extrahepatic bile ducts, liver and its gates, pancreas. In anamnesis, 28 patients with Mirizzi syndrome had episodes of mechanical jaundice. It should be noted that as a result of the inflammation in the gallbladder, compression and disturbance of the patency of the common hepatic or common bile ducts occurs. All the patients with mechanical jaundice had an endoscopic retrograde cholangiopancreatography (ERCP) in the anamnesis. In 7 patients ERCP was not informative to establish a definitive diagnosis. Therefore, the clinic adopted a tactic with obligatory performance of intraoperative cholangiography (IOC) in patients with mechanical jaundice on admission or in anamnesis, expansion of the common bile duct according to ultrasound data over 10 mm, an increase in the level of

total bilirubin and its fractions, increased rates of AST, ALT and AP. Laparoscopic cholecystectomy was performed according to the standard procedure in conditions of pneumoperitoneum from 4 trocar points. The diagnosis of Mirizzi's syndrome was established intraoperative with revision of the cervix of the gallbladder, elements of the Kalo triangle, hepatoduodenal ligament and its elements. Also, the diagnosis was verified by the results of IOC, which was performed through an incised vesicular duct prior to cholecystectomy. Based on the data of ultrasound and ERCP obtained before the operation, as well as intraoperative data, determined the further treatment tactics.

Results and its discussion. Evaluation of ultrasound results, which was performed before the operation, allowed the diagnosis of Mirizzi syndrome in 37 (67.4%) patients. When evaluating the echogram, we detected signs that allowed us to suspect the Mirizzi syndrome before the operation. These include the stone of the bladder duct with a slight enlargement of the Common hepatic duct (CHD); An enlarged bladder duct with concrement; An enlarged bladder duct with low confluence; Contraction of the gallbladder + widening of the hepatic ducts + the unexpanded common bile duct (CBD); Wedged stone of the cervix of the gallbladder + dilatation of the bile ducts + choledocholithiasis; Contracted gallbladder + dilated bile ducts + choledocholithiasis; Wrinkled gallbladder + enlargement of bile ducts + choledocholithiasis + narrowing in the area of CHD. When evaluating the results of ERCP, the characteristic compression of the external bile duct from the outside, or the presence of a cholecystcholedochal fistula, was found pathognomonic for the Mirizzi syndrome, which was found in 32 (58.3%) patients. We identified two types of Mirizzi syndrome. Mirizzi type I syndrome - a stone wedged into the cystic duct and into the cervix of the gallbladder causes compression of the common hepatic or common bile ducts was diagnosed in 42 (75%) patients. Mirizzi type II syndrome was represented by a formed cholecystcholedochal fistula in 14 (25%) patients. The final diagnosis was confirmed intraoperative, with the final diagnostic method being the IOC, the efficacy of which in our study was 100%. In Mirizzi type I syndrome, we performed laparoscopic cholecystectomy. At the same time, there were significant morphological changes in the tissues in the surgical intervention zone, but with good knowledge of the topographic and anatomical variants of the structure of the formations in the hepatoduodenal ligament zone and careful manipulation, laparoscopic cholecystectomy was successful in 25 (67.5%) patients with Mirizzi syndrome. In 3 (8.1%) patients after laparoscopic revision of the subhepatic space, the performance of laparoscopic cholecystectomy was considered risky without attempts to isolate the bladder duct and the vesicle artery (dense infiltrate, extensive adhesive process in the area of the Kalo triangle). These patients underwent a conversion to minilaparotomic cholecystectomy. In 9 (24.3%) cases of the formed cholecystcholedochal fistula (type II Mirizzi syndrome), minilaparotomic cholecystectomy with

intraoperative cholangiography and sanitation of choledoch with antiseptic solutions was performed.

Surgery was completed by the plasticity of choledochus on T-shaped drainage in the presence of a defect of not more than 1/3 of the circumference of the common bile duct (4 cases). In 5 cases of detection of a defect of choledoch more than on 1/3 of a circle, conversion on a laparotomy by expansion minilaparotomic wounds was made. In 2 cases, the choledochoduodenoanastomosis was applied by Yurash-Vinogradov and 3 patients made hepaticojejunostomy on the switched off loop of the small intestine according by Roux. It should be noted that when evaluating the long-term results of the performed surgical interventions, the best results were obtained in patients who underwent hepatitis intolerance with an anastomosis according by Roux.

In patients who underwent laparoscopic and minilaparotomic cholecystectomy, there were no postoperative complications. In case of performing an operative intervention from laparotomy access, 2 patients had suppuration of the operative wound and in 3 patients had postoperative pneumonia. There were no lethal outcomes. Further development of algorithms of diagnostic and therapeutic measures in the detection of Mirizzi syndrome will avoid a large number of injuries of the biliary tract and other vital anatomical structures, reduce the frequency of conversions with complicated forms of cholecystitis, and eliminate complications associated with disorders of the choleretic. A promising area of further research is the widespread introduction of fully laparoscopic techniques for the treatment of this pathology.

Conclusions. In the presence of an inflammatory infiltrate and the impossibility of laparoscopic surgery, a conversion to minilaparotomic cholecystectomy is necessary. If suspicion of Mirizzi syndrome II type cholecystectomy is recommended to start from minilaparotomic access. In the case of a defect of choledoch more than 1/3 of the circumference, it is recommended to switch to laparotomy by dilating the minilaparotomic wound and preference should be given to cholecystectomy with drainage of choledochus or hepatitis-like anastomosis according by Roux.

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