

INFLUENCE OF TOPOGRAPHIC ANATOMICAL FEATURES OF THE HEPATOPANCREATOBILIARY ZONE ORGANS ON OPERATIONS FROM THE MINIDO ACCESS, WITH COMPLICATIONS OF CLOSE

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Abstract: The hepatopancreatobiliary (HPB) zone's intricate anatomical features pose challenges during minimally invasive surgeries performed through the mini-laparotomy (minido) access technique. This abstract explores the influence of topographic anatomical features of HPB organs on such procedures and the associated complications. Emphasizing the liver, pancreas, and biliary tract, this discussion delineates anatomical variations impacting surgical accessibility and maneuverability. Additionally, it examines how these nuances contribute to procedural complications, including inadvertent organ injury, bile duct trauma, or pancreatic leakage. Understanding these anatomical intricacies is pivotal for surgeons employing the minido access approach, enabling them to navigate procedures more safely and effectively.

Keyword: Hepatopancreatobiliary (HPB) zone, minido access, minimally invasive surgery, anatomical variations, complications, liver, pancreas, biliary tract, surgical accessibility, organ injury

ВЛИЯНИЕ ТОПОГРАФОАНАТОМИЧЕСКИХ ОСОБЕННОСТЕЙ ОРГАНОВ ГЕПАТОПАНКРЕАТОБИЛИАРНОЙ ЗОНЫ НА ОПЕРАЦИИ ИЗ МИНИДО- ДОСТУПА, С ОСЛОЖНЕНИЯМИ БЛИЗКОГО

Аннотация: Сложные анатомические особенности гепатопанкреатобилиарной (ГПБ) зоны создают трудности при проведении малоинвазивных операций, выполняемых методом минилапаротомного (минидо) доступа. В данной статье исследуется влияние топографо-анатомических особенностей органов HPB на проведение подобных процедур и связанные с ними осложнения. В этом обсуждении, уделяя особое внимание печени, поджелудочной железе и желчевыводящим путям, очерчиваются анатомические различия, влияющие на хирургическую доступность и маневренность. Кроме того, в нем рассматривается, как эти нюансы способствуют осложнениям процедур, включая непреднамеренное повреждение органов, травму желчных протоков или утечку поджелудочной железы. Понимание этих анатомических тонкостей имеет решающее значение для хирургов, использующих подход минидо, что позволяет им проводить процедуры более безопасно и эффективно.

Ключевые слова: гепатопанкреатобилиарная (ГПБ) зона, минидо-доступ, малоинвазивная хирургия, анатомические варианты, осложнения, печень, поджелудочная железа, желчевыводящие пути, хирургическая доступность, органная травма.

INTRODUCTION

Wide laparotomy for complications of gallstone disease was almost replaced by laparoscopic cholecystectomy and operations from small approaches. Methods cannot be opposed. The surgeon himself must decide which one to apply to a particular patient. In this he should be

helped by clearly defined indications and contraindications for each of these methods, based on the totality of all the data that affect the outcome of the operation.

Purpose of the study. Improving the efficiency and safety of operations on the bile ducts from a mini-laparotomic access, with complications of gallstone disease.

Research objectives. 1. To determine the topographic and anatomical variants of the liver, gallbladder and bile ducts holotomy, syntotomy and skeletotomy using ultrasound and intraoperative studies. 2. Determine the indications and technical possibilities of performing operations on the bile ducts, depending on the options for the location and relationship of the organs of the HDFD. 3. To improve the mini-laparotomic approach to increase the efficiency and safety of operations on the bile ducts. 4. To improve the instrument facilitating the performance of operations on the bile ducts from the mini-laparotomic access.

MATERIAL AND METHODS

The work is based on the analysis of the results of surgical treatment of 176 patients with cholelithiasis, operated from a mini-access. In all patients, the following was determined: holotomy, syntopy and skeletotomy of the liver, gallbladder, type of liver gates, depth of the common bile duct. Depending on the combination of these indicators, the parameters of the surgical wound were established according to the criteria of A.Yu. Sazon - Yaroshevich. Minilaparotomy was performed according to the method developed by us, with an improved retractor design. Patient age: 19-85 years old. Acute cholecystitis was in 52 patients, chronic - in 97. Choledocholithiasis and papillostenosis complicated the course of the disease in 42 patients. And 27 residents with choledocholithiasis, after ChE. Obstructive jaundice was observed in 45. All patients were operated on using a mini-laparotomic approach. Cholecystectomy was performed in 149 patients, including choledocholithotomy and transcholedochus papillotomy in 42 patients. Residual choledocholithiasis, after cholecystectomy, was also eliminated from the mini-laparotomic approach. There were no lethal outcomes.

RESULTS

To plan the operation through a mini-laparotomic approach, we used ultrasound scan data not only on the nature of the underlying disease, but also on the topographic anatomical position of the liver, gallbladder and common bile duct. It was found that most often, in 82% (144 patients), the location of the liver was extrahepatic dorsopetal. With this option, the most favorable conditions for the operation were created. The operating angle was approaching 90 degrees. In 23 (13%) patients, a retrohepatic dorsopetal position was observed, which reduced the angle of the surgical action and increased the depth at the wound. Ventropetal location of the liver was observed in 9 patients. Of these, 4 were in extrahepatic position, in 5 with retrohepatic, which also worsened the parameters of the surgical wound. When determining the distance from the bottom of the gallbladder to the middle line and the position of its axis was established. The more horizontal the axis of the gallbladder is, the further its bottom is removed from the midline. In 71 (47.6%) patients, the vertical position of the axis of the gallbladder and the distance of its bottom from the midline and within 14 cm were observed; in 52 (34.8%) patients, an oblique position of the bladder axis with a distance of its bottom to the midline of 48 cm was revealed; in 26 (17.4%), the axis was horizontal, and the bottom was located within 8-12 cm from the midline. In the first variant, the parameters of the operating wound were better, the angle of the operating action approached 90 degrees. One of the most important parameters for determining the indications for mini-access is the depth of the common bile duct. During ultrasound and intraoperative studies, it was found that the common bile duct is within 6-14 cm of the body surface. The most favorable conditions

for surgery were created at a depth of 68 cm. This depth was found in 85 (48.2%) patients. The deeper the common bile duct was located, the worse the parameters of the surgical wound were. So, in 62 (35.2%) patients, the common bile duct was at a depth of 810 cm, while the angle of the operation was within 5065 degrees; and in 29 (16.5%) patients the depth was more than 10 cm, which reduced the operating angle to 4530 degrees. and significantly complicated the operation. On the basis of the data obtained, the conditions for operating the patients were determined. The good, the good and the bad. 2%) of patients. The deeper the common bile duct was located, the worse the parameters of the surgical wound were. So, in 62 (35.2%) patients, the common bile duct was at a depth of 810 cm, while the angle of the operation was within 5065 degrees; and in 29 (16.5%) patients the depth was more than 10 cm, which reduced the operating angle to 4530 degrees. and significantly complicated the operation. On the basis of the data obtained, the conditions for operating the patients were determined. The good, the good and the bad. 2%) of patients. The deeper the common bile duct was located, the worse the parameters of the surgical wound were. So, in 62 (35.2%) patients, the common bile duct was at a depth of 810 cm, while the angle of the operation was within 5065 degrees; and in 29 (16.5%) patients the depth was more than 10 cm, which reduced the operating angle to 4530 degrees. and significantly complicated the operation. On the basis of the data obtained, the conditions for operating the patients were determined. The good, the good and the bad. and significantly complicated the operation. On the basis of the data obtained, the conditions for operating the patients were determined. The good, the good and the bad. and significantly complicated the operation. On the basis of the data obtained, the conditions for operating the patients were determined. The good, the good and the bad.

Findings. 1. When planning operations from a mini-laparotomic approach in patients with cholelithiasis, it is advisable to determine the options for the topographic anatomical position of the liver, gallbladder and common bile duct. 2. The most optimal operating conditions are observed with extraostal position of the liver, open type of its gate, medial position of the gallbladder and the depth of the common bile duct within 68cm from the surface in the right hypochondrium. 3. The operation from the mini-laparotomic access is significantly complicated by: retrocostal position of the liver, closed type of its gate, lateral position of the gallbladder and the depth of the common bile duct more than 12 cm.

CONCLUSION

The topographic anatomical features of hepatopancreatobiliary (HPB) zone organs significantly impact operations performed through the minido access approach, often leading to complications if not carefully considered. As demonstrated, variations in liver, pancreas, and biliary tract anatomy can pose challenges in terms of surgical accessibility, visualization, and maneuverability during minimally invasive procedures.

Awareness of these anatomical nuances is crucial for surgeons utilizing the minido access technique to mitigate the risk of complications such as inadvertent organ injury, bile duct trauma, or pancreatic leakage. Moreover, a thorough understanding of individual patient anatomy allows for tailored surgical planning and precise intraoperative navigation, enhancing procedural safety and efficacy.

In conclusion, the influence of topographic anatomical features of HPB zone organs on minido access operations underscores the importance of meticulous preoperative assessment and surgical skill. By incorporating anatomical considerations into surgical planning and execution,

clinicians can optimize outcomes and minimize the incidence of complications, ultimately improving patient care in the context of minimally invasive HPB surgery.

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