SCHOLASTIC:
Journal of Natural and Medical Education
Volume 2 Issue 3, Year 2023 ISSN: 2835-303X
https://univerpubl.com/index.php/scholastic

Ltrasound Comparative Morphometry of Intra- And Extrahepatic Bile Ducts after Laparoscopic Cholecystectomy

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Article Information

Received: January 29, 2022
Accepted: February 30, 2023
Published: March 31, 2023

Keywords: *Ultrasound, cholecystitis, gallbladder, biliary tract, cholelithiasis.*

ABSTRACT

The use of ultrasound examination of cholelithiasis allows you to make the correct diagnosis as soon as possible, determine the subsequent treatment tactics, morphological changes inside and extrahepatic ducts, and start conservative or surgical treatment in a timely manner. Timely diagnosis of lesions of the bile ducts, stagnation of the extrahepatic and intrahepatic bile ducts.

Relevance. Among diseases of the gallbladder and extrahepatic bile ducts, the most common reason for cholecystectomy is inflammatory processes (cholecystitis, cholangitis, cholelithiasis). Currently, in urgent surgery, cholecystectomy, the number of patients with cholelithiasis worldwide is growing, mainly among people of working age. According to WHO, cholelithiasis (GSD) affects 12 to 15% of the population. Among the elderly and senile age, gallbladder stones are detected in every third patient. The most radical method of treatment to date remains the operation of cholecystectomy, and in recent years.

Acute calculous cholecystitis (ACC) today ranks third after acute appendicitis, acute pancreatitis in the structure of urgent surgical diseases of the abdominal organs. Patients with acute calculous cholecystitis make up from 10 to 50% of the total number of patients with surgical diseases, and there is a certain tendency towards the "aging" of this disease.

Despite the development and implementation of more gentle methods of surgical intervention and fewer surgical complications, from 5% to 40% of operated patients continue to present various complaints from the gastrointestinal tract at various periods after removal of the gallbladder.

Gallstone disease (GSD) is considered one of the most common diseases of the gastrointestinal tract, which is detected in 10-30% of the population of predominantly working age, has a clear tendency to increase and expand the age range towards "rejuvenation". Laparoscopic cholecystectomy (LCE) has received the "gold standard" of surgical treatment of cholelithiasis.

Therefore, a serious problem is the timely diagnosis and treatment of that complex symptom complex of biliary tract lesions, which is noted in patients with pathology of the biliary system. The problem of diagnosis and treatment of stagnation of extrahepatic and intrahepatic bile ducts

in patients at different times after cholecystectomy is topical. The major duodenal papilla, according to modern concepts, is a complex anatomical formation in the valvular - sphincter and secretory functions that performs an integrating regulatory role of the system of outflow of bile and pancreatic secretions, which causes its pathological change in almost all major diseases of the biliary tract and pancreas. According to the frequency of various lesions of BSDK in acute and chronic pancreatitis is 86%;

Purpose of the study. The study of morphological and functional changes inside and extrahepatic bile ducts in cholelithiasis, comparative morphometry of the ducts

Materials and research methods. Materials of the collection from the medical history of patients of the surgical department of the Republican Research Center for Medical Employment and Health of the BF with a diagnosis of acute cholelithiasis, static processing and the criterion of significance for the difference in indicators. Ultrasound devices Mindray 6600, Esaote My lab X6, Esaote My lab 40

Research results. Ultrasound examination (ultrasound) plays an important role in the diagnosisCommon bile duct diameter greater than 7 mm is usually considered pathological dilatation, although bile duct diameter increases in older patients and after cholecystectomy. A normal bile duct up to 4 mm in diameter is found in 95% of the adult population. 98% have a common hepatic duct has a diameter of 5 mm or less at the hilum of the liver, while near the head of the pancreas, the common bile duct normally looks slightly narrowed. The intrahepatic duct of the common hepatic duct has a diameter of 2-3 mm. The cystic duct lies behind the common duct in 95% of cases and in front of the common bile duct in 5% of cases. With ultrasound, stones in the common bile duct can be detected in 75% of cases. False-negative diagnoses may be due to intestinal gas obstructing the distal common bile duct or strangulation of a stone in an undilated duct. Soft pigment stones can also be skipped. The acoustic shadow in the presence of stones in the common duct is less visible than in the presence of stones in the gallbladder, especially when they appear aftercholecystectomy, because in these cases, soft pigment stones appear without noticeable calcification.

Distributed patients undergoing laparoscopic cholecystectomy by sex and age, table - 1

Age, years	**Floor**		**Total**	
	husband	**wives**	**Abs.**	**%**
18-30	**1**	**9**	**10**	**8.15**
31-40	**3**	**21**	**24**	**19.5**
41-50	**2**	**24**	**26**	**21.14**
51-60	**5**	**25**	**thirty**	**24.4**
61-70	**8**	**20**	**28**	**22.76**
71-80	**1**	**3**	**4**	**3.25**
81 and older	**1**		**1**	**0.8**
Total	**21**	**102**	**123**	**100**

In a study of 123 patients with acute cholelithiasis during an ultrasound study, a change in the common bile duct and intrahepatic duct was determined, a change in the conduction in the table by age, by half before LCE surgery.

Table 2

Age, years	FLOOR		LHE			
			CBP extension		Intrahepatic ducts expansion	
	m	and	m	and	m	and
18-30	**1**	**9**		**1**	**2**	**1**
31-40	**3**	**21**		**8**	**1**	**16**
41-50	**2**	**24**	**2**	**3**	**2**	**19**
51-60	**5**	**25**		**6**	**5**	**16**
61-70	**8**	**20**	**3**	**3**	**9**	**18**
71-80	**1**	**3**		**1**		**4**
81 and older	**1**				**1**	
Total	**21**	**102**	**5**	**22**	**20**	**74**

A fistula change of 7 mm is usually considered pathological dilatation, although bile duct diameter increases in older patients and after cholecystectomy. In 98% of the adult population, the common bile duct has a diameter of 5 mm or less at the hilum of the liver, while near the head of the pancreas, the common bile duct normally appears slightly narrowed. The intrahepatic duct is proximal to the common hepatic duct with a diameter of 2-3 mm. The cystic duct goes along with the common bile duct until their lumens merge, thus, with cholecystectomy, a different length of the cystic duct in situ is obtained. In the stump of the cystic duct, stones can form that compress the common bile duct and cause jaundice (Mirizzi's syndrome).

Table-3, Changes in CBD and intrahepatic ducts after LCE.

Age, years	FLOOR		LHE			
			CBP extension		Intrahepatic ducts expansion	
	m	and	m	and	m	and
18-30	**1**	**9**				
31-40	**3**	**21**				
41-50	**2**	**24**				
51-60	**5**	**25**	**2**	**2**	**2**	**2**
61-70	**8**	**20**	**2**	**5**	**2**	**5**
71-80	**1**	**3**		**1**		**1**
81 and older	**1**					
Total	**21**	**102**	**4**	**8**	**4**	**8**

According to the 3rd table, it is determined that in patients over 50 years old, in some cases after surgery, the CBD and intrahepatic ducts do not change, they remain dilated mainly at the age of 51-60, 61-70 years and above, by percentage after laparotomy, most cases of ducts remain expanded.

Conclusions. The studied ultrasound signs of the gallbladder and in its wall, such as the length of the gallbladder, its area and volume, indicate the possibility of their use in the differential diagnosis of chronic and acute calculous cholecystitis, as well as obstruction of the biliary tract. In patients with acute calculous cholecystitis and with obstruction of the biliary tract, the wall of the gallbladder thickens with an increase in size (length, area, volume) and has a high level of correlation with the degree of increase in intravesical pressure. The control of the functioning of the biliary tract, as well as other body systems, is based on different levels of regulation. Obviously, operational interventions lead to significant changes in the mechanisms of

functioning of this system. Experimental and clinical observations indicate that

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