



THE ROLE OF ULTRASOUND DIAGNOSTICS AND MORPHOLOGICAL EXAMINATION OF THE GALLBLADDER WALL IN CHOLECYSTITIS

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ABSTRACT

The use of ultrasound for cholecystitis makes it possible to make a correct diagnosis in a shorter time, determine subsequent treatment tactics, and promptly begin conservative or surgical treatment. Timely damage to the gallbladder and bile ducts, congestion of the extrahepatic and intrahepatic bile ducts. It is important to create laboratory panels that assess the severity and severity of the pathological process during exacerbation of chronic or latent forms of this disease. Acute cholecystitis is one of the most significant complications of diseases of the abdominal organs.

Relevance. Currently, acute cholecystitis is one of the most common acute surgical diseases of the abdominal organs [1-3]. Gallbladder diseases are a leading cause of morbidity and mortality worldwide. Many risk factors for gallbladder disease have been identified, namely: ethnicity, genetics, age, gender, female sex hormones, oral contraceptives, obesity, rapid weight loss, diets high in cholesterol, fatty acids and carbohydrates, diabetes mellitus, hyperinsulinemia, sickle failure. cellular anemia, metabolic syndrome and others. Gallbladder disease usually manifests itself as gallstones, cholecystitis, or cancer. It is important to create laboratory panels to assess the severity and severity of the pathological process during exacerbation of the chronic or latent form of this disease. One of the most common reasons patients present to the emergency department complaining of abdominal pain is acute cholecystitis. Acute cholecystitis, which is an inflammatory disease of the gallbladder, is most often caused by the presence of a stone, ischemia, motor disturbances in the gallbladder and biliary tract, as well as blockage of the tract by a tumor. Statistics show that 3% to 10% of patients presenting to the emergency department with abdominal pain suffer from acute cholecystitis. Along with physical examination and laboratory evaluation, ultrasound is usually considered the first diagnostic step for patients with suspected acute cholecystitis in the emergency department. Acute cholecystitis is one of the most significant acute diseases of the abdominal organs. Over the past decades, many countries around the world have seen a significant increase in the incidence of both acute and chronic forms of cholelithiasis (GSD). There is a tendency towards an increase in the

development of latent purulent-destructive forms of acute cholecystitis with scanty symptoms, which may be due to powerful antibacterial and multi-purpose infusion therapy, which significantly changes the clinical picture of the disease, neutralizing the acute manifestations of destructive cholecystitis, including clinical and laboratory signs of endogenous intoxication, creating false impression about the regressive course of the disease [5-6]. This leads to a lengthening of the preoperative period, complicates the consequences of the operation, and increases the likelihood of both intraoperative and postoperative complications. Studying the clinical and morphological features of oligosymptomatic forms of cholecystitis can help in understanding the mechanisms of their development, which will be useful for identifying groups at risk of developing oligosymptomatic forms of acute destructive cholecystitis and optimizing the management tactics of such patients.

Purpose of the study. Study of morphological changes gallbladder wall for various forms of cholecystitis using ultrasound and histochemical analyses.

Materials and methods of research. The materials were collected from the medical history of patients in the surgical department of the Republican Scientific Center for Emergency Medical Care of the BF with a diagnosis of "acute cholelithiasis", static treatment and a criterion for the reliability of the difference in indicators. Ultrasound machines Mindray 6600, Esaote My lab X6, Esaote My lab 40

Research results. In the gallbladder (GB) and ductal system, anomalies are observed quite often. A rare anomaly is the presence of two gallbladders, developing the same or differently and located very differently [5]. Abdominal pain is one of the most common symptoms that prompts patients to visit hospitals. Among these individuals, a number of patients develop serious illnesses requiring subsequent hospitalization or surgery. Diagnosis may include acute appendicitis, intestinal obstruction, and other serious conditions such as intestinal necrosis and volvulus. Correct and prompt diagnosis is essential for proper patient management. This anomaly may not be accompanied by disturbances or may be combined with various forms of disturbances. Both gallbladders can have the usual shape with their own ducts, which flow separately into the hepaticocholedochus, and their own cystic arteries. Less commonly, the cystic ducts merge and flow into one trunk. The gallbladder can also have different shapes and sizes. For example, it may be a diverticulum-like sac located on the cystic duct of a normal-appearing bladder. Moreover, in the case of the development of cholelithiasis, one bladder may contain stones, echo suspension, its wall may be changed, thickened, and the other may be normal. In other cases, as a rule, pathological changes affect both gallbladders.

Abdominal ultrasound is indispensable for diagnosing diseases of the abdominal organs in patients with abdominal symptoms. In addition, abdominal ultrasound is also useful in diagnosing solid organ diseases, including acute cholangitis, acute cholecystitis, and acute pancreatitis. Abdominal ultrasound is also useful in diagnosing bowel disease based on pathological findings. Diagnostic criteria using abdominal ultrasound have been established for acute appendicitis and colonic diverticulitis, and colorectal cancer can be diagnosed using abdominal ultrasound. In many cases, patients are diagnosed based on a combination of laboratory data and diagnostic imaging results based on symptoms and physical examination. Consequently, the function of the organs of the biliary system of dogs is provided by both humoral and neural pathways. The reflex that occurs when external analyzers are irritated, as

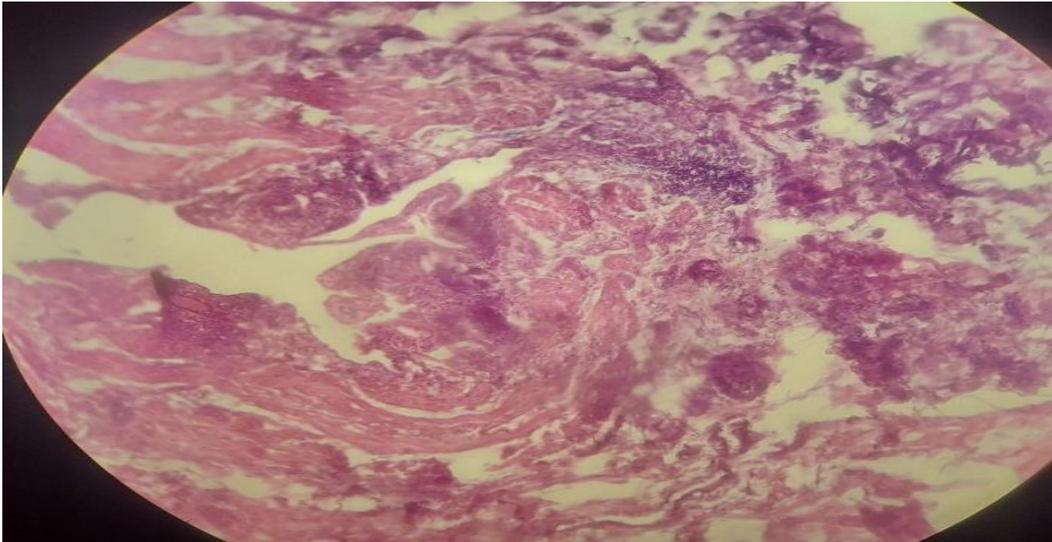
well as internal receptors of the digestive tract, underlies the activity of innervation mechanisms that affect the function of the liver, gallbladder and main bile ducts.



As for the peripheral reflex, it joins the nervous regulation system headed by the central nervous system. Violation of cortical regulatory mechanisms causes an increase or decrease in efferent impulses, which generally causes an increase or decrease in the function of the organs of the hepatic ductal system, with a partial disorder of motility and activity of the sphincters of the gallbladder and ducts. , as well as a disorder of bile secretion, which is constantly observed with cholecystitis. Due to these changes, feedback also changes. An increase or suppression of afferent impulses, which often have a distorted nature of information, supports the centers of the brain, deepens, in turn, and maintains the pathological state of organs, including organs of the hepatic ductal system.



On ultrasound, gallstones are visualized as echogenic areas with an acoustic shadow: echogenic line of the anterior wall of the gallbladder; anechoic band representing bile; hyperechoic line formed by the anterior wall of the stones; rear acoustic curtain; rear acoustic curtain. Acoustic shadowing may be absent if stones are not of diagnosable size. There are many common imaging options for the gallbladder and the abnormalities that may show up on the scan.



Among the pathologies worth mentioning is bile sediment. The sediment is detected as a layer on the lower wall of the gallbladder with varying echogenicity and the absence of an acoustic shadow. Often occurs in conditions associated with stagnation of bile, for example during fasting. It is also known to cause bile duct obstruction and cholecystitis. The results of radiation diagnostic observations convince us of the need to further search for new non- or minimally invasive methods of using ultrasound in the prevention and correction of emerging gallstone pathologies with damage to the biliary tract.

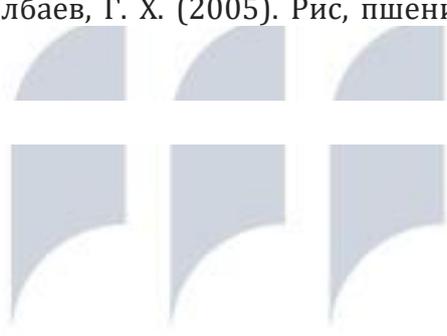
CONCLUSIONS. The cause of latent forms of acute destructive cholecystitis is previous chronic inflammation. gallbladder, which leads to sclerosis and restructuring of its wall, atrophy of the epithelium, a decrease in the number of nerve fibers and their removal from the inflammatory infiltrate. The development of purulent-destructive forms of acute cholecystitis with a pronounced inflammatory peri-process and scanty clinical and laboratory symptoms is due to the extension of the terms of conservative treatment of patients with this pathology. The main criteria for differentiating a latent destructive process in the gallbladder from chronic inflammation are anamnesis, increased levels of transaminases and urea, and dynamic sonography data. 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 biliary tract obstruction. With the development of a pathological process in the gallbladder (cholecystitis), corresponding morphofunctional changes occur in the liver and main bile ducts. The insufficient number of patients previously treated surgically did not allow us to evaluate the relationship between peritoneal adhesions and the risk of conversion to cholecystectomy, as reported by some authors. Knowledge of the capabilities of radiation diagnostic methods and their rational use make it possible to minimize patient treatment time. examination, choose the optimal treatment method and determine the outcome of the disease. In modern conditions of a multidisciplinary clinic, optimizing the choice of diagnostic methods in favor of more accessible ones (both technically and financially) also has economic feasibility. Ultrasound can be used in the diagnosis of cholecystitis as a first-line method; the next diagnostic stage depends on its results.

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