
ECHINOCOCCAL CYST OF THE LIVER WITH INTRABILIARY RUPTURE: REVIEW AND CLINICAL CASE.

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Teshaev O.R., Ismailov M.U., Khayitov I.B., Babazhanov A.B.

Tashkent Medical Academy

Relevance.

Echinococcosis of the liver is a severe parasitic disease caused by the larval stage of the echinococcus chain - *Echinococcus granulosus*, which occurs in residents of the whole globe and remains among the severe parasitic diseases that pose a serious medical, social and even economic problem for many, including highly developed, countries of the world [1,2,3]. According to the World Health Organization (WHO) *E. granulosus* is endemic in areas of South America, Eastern Europe, Russia, the Middle East and China, where the incidence rate among humans reaches 50 per 100,000 person-years. In some areas, such as slaughterhouses in South America, the prevalence ranges from 20% to 95%. [4] Echinococcal disease, although endemic mainly in sheep-breeding countries, remains a public health problem worldwide, affecting mainly the hepatic intrabiliary rupture mainly occurs with centrally localized cysts, while intracystic pressure H₂O up to 80 cm is also a predisposing factor [5]. Intrabiliary ruptures occur either as hidden ruptures, in which only cystic fluid drains into the bile ducts, or as obvious ruptures with an obvious ingress of intracystic material into the bile ducts [6]. The registered frequency of latent rupture ranges from 10% to 37% and from 3% to 17% for an explicit rupture [7,8,9,10,11]. With an obvious rupture, cystic material, even daughter cysts, can pass into the biliary tree, causing septic contamination of the maternal cyst, mechanical jaundice or cholangitis [9]. On the other hand, hidden ruptures have rather insignificant consequences, because obstruction occurs only in 5-10% of cases, since only liquid, scoliae, hooks, small brood capsules and fragments of the cystic wall can pass small bile roots reaching the bile tree[12]. An intrabiliary rupture occurs in 55-60% of cases in the right hepatic duct, in 25-30% – in the left hepatic duct, in 8-11% – at the junction of the hepatic duct, cystic duct or cystic duct, and in 5-6% of cases it penetrates into the gallbladder [13,14,15]. It is reported that the rate of spontaneous recovery after rupture is approximately 25%; in other cases, persistent mechanical jaundice,

cholangitis or septicemia may develop with a mortality rate of 30 to 50% [14,16]. Mechanical jaundice caused by the ingress of intracystic contents into the bile ducts and cholangitis are the most frequent clinical consequences of an apparent intrabiliary rupture [16]. Acute or chronic pancreatitis has also been reported [17, 18], acute cholecystitis, or even biliary cirrhosis of the liver [6, 24]. The symptoms are mostly nonspecific, while in 5% of patients intrabiliary ruptures are asymptomatic [9, 19,20,21,22,23]. The case of a woman with an obvious rupture is presented, where the rupture was finally treated endoscopically in combination with a sphincterotomy to remove intrabiliary obstructive daughter cysts and achieve deactivation of the biliary tree.

Clinical case: Pain in the upper abdomen, jaundice and fever were symptoms in our patient, and moderate soreness in the upper right quadrant of the abdomen was detected, despite her advanced age. A 49-year-old woman was hospitalized in the 1st city Clinical Hospital of Tashkent city, which is the base of the Department of Surgical Diseases of the Tashkent Medical Academy on 5.06.2022 with complaints, with high fever, chills and jaundice. Physical examination revealed tachycardia and moderate soreness in the upper right quadrant of the abdomen. Her initial examination showed a leukocyte count of $12 \times 10^9/l$ (where 90% of the cells were polymorphonuclear), hemoglobin level of 98 g/l, platelet count of $240 \times 10^9/L$, creatinine level of 115.6 mmol/L, urea nitrogen level of 5.2 mmol/L, aspartate aminotransferase level of 78 units/L, alanine aminotransferase 56 units/L, gamma-glutamyltranspeptidase level 312 units/L, alkaline phosphatase levels 250 units/L, total bilirubin 110 mmol/L and direct bilirubin levels 78.5 mmol/L. Bilirubin causes systemic inflammatory response syndrome, which can lead to multiple organ dysfunction syndrome. The main clinical manifestations include hemodynamic instability and acute renal failure, depression of the cardiovascular system, impaired immunity, blood clotting disorders, nutritional disorders and impaired wound healing. Proper treatment includes full compensation of water-electrolyte deficiency, preventive antibiotics, lactulose, vitamin K and freshly frozen plasma, albumin and dopamine. Mechanical jaundice is a common clinical disease of great importance; however, its diagnosis in accordance with etiology, especially in patients with distal mechanical jaundice, is difficult. The development of endoscopic ultrasonography has improved diagnostic methods. Endoscopic ultrasonography not only improves the accuracy of traditional endoscopic ultrasound technology in etiological diagnosis, but also offers several special endoscopic ultrasound technologies for the diagnosis of distal mechanical jaundice

of the common bile duct. Moreover, endoscopic ultrasonography can be used to treat distal mechanical jaundice of the common bile duct[25].Ultrasound of the upper abdominal cavity revealed a multicameral cyst CE3 in the left lobe of the liver and the expansion of extrahepatic bile ducts with hyperechoic material in the common bile duct. Computed tomography (CT) of the abdominal cavity revealed an irregular cystic formation with a diameter of 7x8 cm in the III-IV segment and a noticeable expansion of the choledochus to 11 mm. Thus, acute cholangitis was diagnosed, and its cause was most likely an intrabiliary rupture of an echinococcal cyst. Proper antibiotic treatment was performed intravenously. Intrabiliary rupture is the most common complication of an echinococcal cyst of the liver. Endoscopy is recommended before surgery to relieve mechanical jaundice caused by intracystic contents after an apparent rupture, and is also a useful and well-proven supplement for the detection of postoperative biliary fistulas. Endoscopic retrograde cholangiography with sphincterotomy proved to be successful as the only and final method of treatment of intrabiliary ruptured echinococcal cysts. The general condition of the patient, as well as physical signs and laboratory parameters improved rapidly within 36 hours. Symptoms may be associated with cyst pressure on the liver parenchyma or rupture into surrounding tissues [10, 24]. Intrabiliary rupture is the most common complication, accounting for approximately 50% of cases upon admission. However, the percentage increases to 80-90% if cases of small subclinical cystobiliary messages are included. These cases, which are often overlooked before and during surgery, can cause postoperative external cystobiliary fistulas [8,24].

Conclusions

The mechanism of intrabiliary rupture, apparently, consists in the seizure of the roots of small bile ducts in the hands, which, due to increased intracystic pressure, undergo atrophy, which leads to rupture [5,11, 25]. After the cyst is enlarged, a message with larger ducts is established [12]. Most echinococcal liver cysts that remain asymptomatic for a long period of time are mistakenly considered to have a low risk of rupture [13, 24].

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