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Case Report

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Surgical Management of Cholecystitis with Chronic Perforation and Liver Abscess Associated with Choledocholithiasis

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ABSTRACT

Calculous cholelithiasis represents about 90% of acute cholecystitis. The high incidence of the disease demonstrates the importance of knowing its clinical manifestations such as pain in the right hypochondrium, anorexia, nausea, vomiting and jaundice, in addition to its serious complications such as liver abscess and intrahepatic perforation. In the case described, we report a 72-year-old male patient who had asthenia about two months ago in association with anorexia and weight loss, with choledocholithiasis as a complication with gallbladder perforation and liver abscess. The study will present the pathogenesis of these complications and will correlate to the importance of a fast and effective care.

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Introduction

Calculous cholelithiasis is responsible for about 90% of acute cholecystitis, which is characterized by inflammation of the gallbladder due to obstruction of the infundibulum or cystic duct by stones, followed by distension and subsequent chemical or bacterial inflammation of the gallbladder [1]. The classic clinical manifestation of acute cholecystitis consists of pain in the right hypochondrium with progressive intensification and continuous character, and may present irradiation to the epigastrium, right shoulder, associated with anorexia, nausea, vomiting and jaundice, which is present in about 20% of charts [2]. The risk factors for the appearance of stones are obesity, diabetes mellitus, estrogen, pregnancy, hemolytic disease and cirrhosis [3]. Acute cholecystitis can lead to complications that if devalued can progress to a poor prognosis.

Gallbladder perforation in gallbladder diseases is a rare and potentially fatal complication, with a mortality rate of 12-16%. Its clinical presentation can range from acute cholecystitis to peritonitis [4]. Although infrequent, the development of liver abscess and intrahepatic perforation as complications of acute and chronic gallbladder disease may occur, deserving attention because it reflects on a less favorable prognosis [5]. The present report aims to present the case of a patient diagnosed with acute cholecystitis complicated by choledocholithiasis with gallbladder perforation, hepatic and subphrenic abscess, and thus increase scientific knowledge on the subject for better conduct.

A Case Report

Male, 72 years old, was referred to the general surgery service of HSPE for the investigation of cholecystitis and liver abscesses. Patient reported asthenia about two months ago in association with anorexia with partial acceptance of the diet and weight loss of 13kg. He was jaundice, denying abdominal pain, fever, hematochezia, choluria or fecal colia.

Laboratory tests showed an important inflammatory process with mild cholestasis, presenting leukocytosis of 34,910 cell/mm3, C-reactive protein of 28.8 mg/dL and hyperbilirubinemia at the expense of direct bilirubin of 1.6 mg/dL. On abdominal computed tomography we found signs of acute cholecystitis complicated with perforation and subphrenic abscesses of up to 10.6 cm per contiguity, in addition to choledocholithiasis (Figure 1).

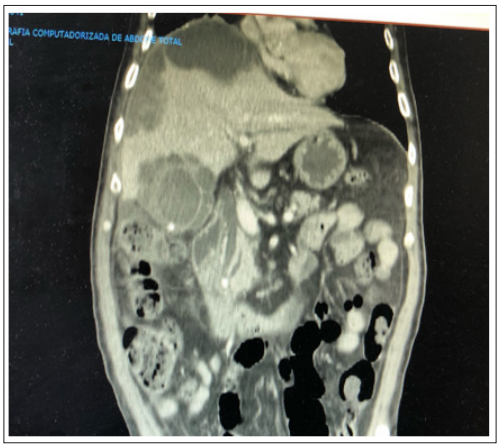

Figure 1: Sagittal Abdominal Tomography Showing Cholecystitis Complicated with Perforation, Subphrenic Abscess and Choledocholithiasis

Due to the change in neurological status (Glasgow coma scale of 13) and maintenance of laboratory inflammatory parameters even after 24 hours of clinical treatment with Ceftriaxone and Metronidazole, percutaneous drainage of abscesses and cholecystosis was chosen, draining about 300 ml of hematopurulent content and 200 ml of biliopurulent content, respectively.

After clinical stabilization and laboratory improvement, he underwent retrograde endoscopic cholangiopancreatography (ERCP), with calculus extraction in a distal common bile duct of 6 mm, without complications after the procedure. Five days after admission, he underwent laparoscopic cholecystectomy, which showed an intense inflammatory process, with a thickened and friable gallbladder wall, with difficulty identifying the critical safety view. It was decided to clip the cystic duct and cystic artery with Hemolock®, followed by revision of hemostasis and extraction of the gallbladder with stones inside through the Endobag® and then sending of the material for anatomopathological analysis.

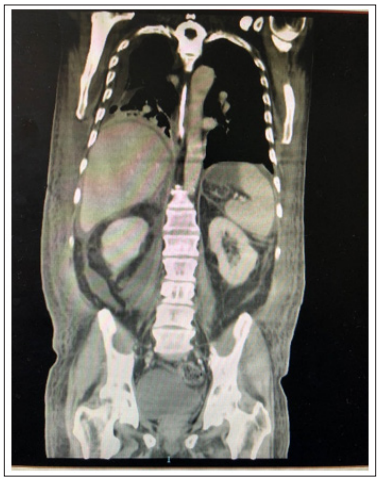

Figure 2: Coronal Abdominal Tomography Showing Retroperitoneal Collection in the Right Hypochondrium

Discussion

Gallbladder perforation during acute calculous cholecystitis is an uncommon complication with a prevalence of 0.8-3.8%. Perforation is more common in men and the mortality rate is 12-16% [5]. The consequent formation of liver abscesses is an even rarer condition [6].

Clinical manifestations may include fever, jaundice, pain and/or the presence of a palpable mass in the upper right quadrant, including elevation of canalicular enzymes especially alkaline phosphatase5. Elderly patients, as in this case described, require greater attention, since 5-25% may not have pain and 30-50% may not have fever [7].

In 1934, Niemeier proposed a classification for perforations in which he relates temporality with the presentation of the clinical picture, dividing into three groups, being type I (acute associated with generalized peritonitis), type II (subacute associated with abscess formation/fluids/localized peritonitis) and type III (chronic with fistula formation) [8].

The presence of cholelithiasis is a risk factor for perforation because it is related to the pathophysiological mechanism of the disease. The calcile impacted on the cystic duct prevents the exit of bile, increasing the pressure inside the gallbladder, decreasing venous return and progressing to ischemia, necrosis and perforation [9].

Normally, perforation occurs at the bottom of the gallbladder due to low vascular supply, resulting in generalized peritonitis of biliary origin [10]. Perforations that do not occur in the background tend to be restricted in the right hypochondrium due to blockage by the omentum or intestines thus facilitating the formation of perivesicular abscesses such as liver ones [4,5].

For the diagnosis, the first imaging test to be performed is abdominal ultrasound, in which the criteria for acute cholecystitis can be observed (wall thickening, gallbladder distension, pericholecystic free fluid and positive ultrasound Murphy's sign). Ultrasound visualization of the defect in the gallbladder wall through which the perforation occurred is a reliable sign. Computed tomography can be useful in the visualization of abscesses and perivesicular fluid [11]. The treatment of type II perforation consists of performing ultrasound-guided percutaneous drainage of abscesses and subsequently proceeding with laparoscopic cholecystectomy [5].

Conclusion

This case illustrates a harmful relationship between associations of complications of the underlying disease such as acute cholecystitis with evolution to gallbladder perforation and liver abscess. However, such an association is an uncommon complication given its low prevalence (0.8-3.8%). In addition, its clinical manifestations are uncharacteristic with signs of fever, jaundice, pain and/or the presence of a palpable mass in the upper quadrant, providing an unfavorable outcome. The calculus impacted on the cystic duct prevents the exit of bile, increasing the pressure inside the gallbladder, decreasing venous return and progressing to ischemia, necrosis and perforation [9]. When the perforation is caused by the gallbladder fundus, it results in generalized peritonitis of biliary origin (due to low vascular supply) and when it doesn't happen, it tends to be restricted in the right hypochondrium (due to blockage by the omentum or intestines), thus facilitating the formation of perivesicular abscesses. Therefore, it can be said that the importance of early diagnosis and appropriate treatment is important in cases like this one described.

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