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Case Report

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Hepatic abscess, an unusual complication in a post-operative cholecystectomy patient: Case report

Abstract

The hepatic abscess is a rare complication related to multiple causes, mostly of biliary origin. Its etiology can be classified on amoebic or pyogenic origin, being more frequent with the bacterial etiology. The development of a hepatic abscess is related in 4.8% to 15% of patients with acute cholecystitis and 21.9% of patients having a biliary disease. The clinical presentation is usually non-specific; it needs to be complemented with an imaging study to make the timely diagnosis. Its management varies according to its evolution and size; both percutaneous drainage and surgical drainage provide adequate management for medium and large abscess with a favorable prognosis. We presented the case of a patient with hepatic abscess formation after a laparoscopic cholecystectomy for acute Lithia sic cholecystitis.

Keywords: hepatic abscess, laparoscopic cholecystectomy, complication, surgical drainage

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Abbreviations: DM, diabetes mellitus; HPA, hepatic pyogenic abscess

Introduction

Hepatic abscess today is considered an uncommon complication of acute Lithia sic cholecystitis, according to literature, these are divided into amoebic and pyogenic, the last one being more frequent.[1] One of the things that must be taken into consideration for this complication are the risk factors of the patient such as cirrhosis, diabetes mellitus (DM), liver transplantation and malignancy.[1,2] Early diagnosis and treatment are a crucial steps in the management of these patients as presentation can be subtle and nonspecific (abdominal pain, fever, nausea and vomiting).[1,2] In recent decades, antibiotic therapy combined with percutaneous drainage has become the first-line treatment in most cases, and has greatly improved the prognosis of patients. The mortality rate has dropped from 70% to 6.31%.[2] There is scarce literature that describes this complication, and the objective of this work is to communicate the results obtained from our experience.

Case history

A 44-year-old female patient, without significant medical history, who arrived to the Emergency Department presenting a five days with right upper quadrant pain colic abdominal pain, aggravated to the intake of fat meals, accompanied by nausea and two 2 episodes of vomiting of gastric-food content, unchanged liver function tests. On physical examination there was no fever, normal vital signs but a positive Murphy's sign. Blood exams showed leukocytosis of 12,120 (4-10,000) with left shift, neutrophils of 42% (50-70%) and normal liver function tests. An upper abdomen ultrasound was performed, reporting a gallbladder of 5 x 10 cm, with a thin wall (2.13 mm) but the presence of a 15 mm gallstone impacted in the neck of the gallbladder (Figure 1). Presenting positive ultrasound Murphy's sign, with these findings, it was classified according to the Tokyo criteria as suspected/probable acute Lithia sic cholecystitis. It was decided to perform a laparoscopic cholecystectomy; an approach of 4 ports was carried out. Intraoperative findings demonstrated a gallbladder with edema and the presence of local adhesions, the dissection of Calot's triangle was performed correctly, achieving the critical vision of Strasberg, then we placed two proximal and one distal clip in the cystic artery and the same for the cystic conduct, sectioned them individually, after this, the liver bed was dissected with monopolar energy until its total resection, without any sings of hepatic abscess during the procedure. Then the surgical piece was extracted by sterile bag, and sent to pathology, reporting (acute Lithia sic cholecystitis (Figure 2). The patient had an adequate postoperative evolution and was discharged on the second postoperative day. A week later, she came back to the hospital referring a 12 hours acute onset of stabbing right upper quadrant abdominal pain, fever of 38.5º and oral intake intolerance. Blood test demonstrated a normal leukocyte value of 8,640 (4-10,000) with neutrophils of 58% (50-70%), unaltered liver function tests and C - reactive protein of 145.6 (0-30) are shown. Abdominal CT scan showed a hyper-dense lesion (4.8 x 4.2 cm) delimited in the right hepatic lobe is visualized on segments IVb and V, with characteristics of liver abscess in the right lobe and right sub diaphragmatic collection (Figure 3). Infectiology department recommended to start antibiotherapy with IV Piperacillin-Tazobactam and a laparoscopic hepatic abscess drainage was performed, during OR multiple adhesions were visualized on the surgical bed and were released, the hepatic abscess was located at the right lobe, a sample is taken for culture and the drainage of 65 ml purulent collection was completed and closed type drainage was placed (Figure 4). A positive culture report for Enterococcus faecium was obtained, the postoperative evolution of was favorable with a 3rd postoperative day discharge. At review two months after surgery she had recovered well.

Figure 1 Vesicular ultrasound with presence of hyper echogenic image, with acoustic shadow, non-mobile, in the neck of the gallbladder, with a diameter of 1.51 cm, with a wall of 2.13 mm.

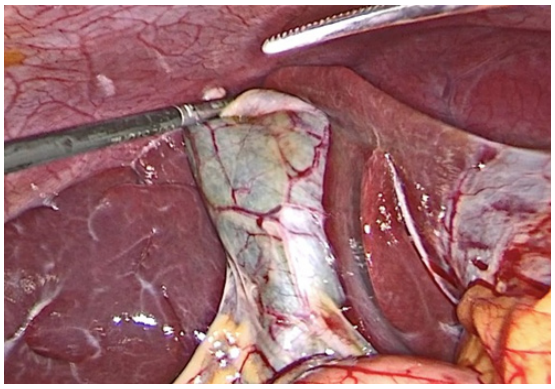

Figure 2 Gallbladder with multiple adhesions is pulled to perform critical vision of Strasberg and subsequent dissection of the liver bed.

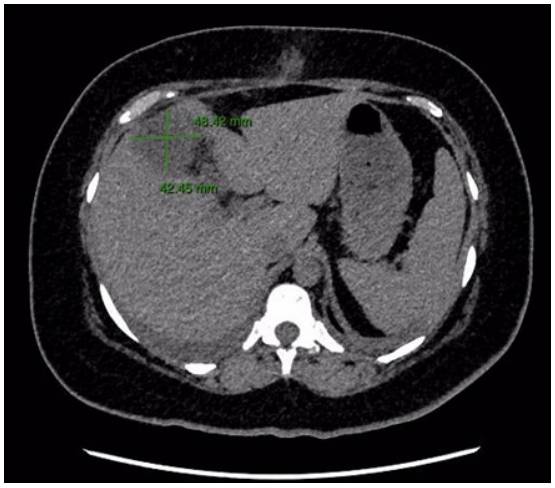

Figure 3 Abdominal CT with presence of liver abscess in right lobe and right sub diaphragmatic collection.

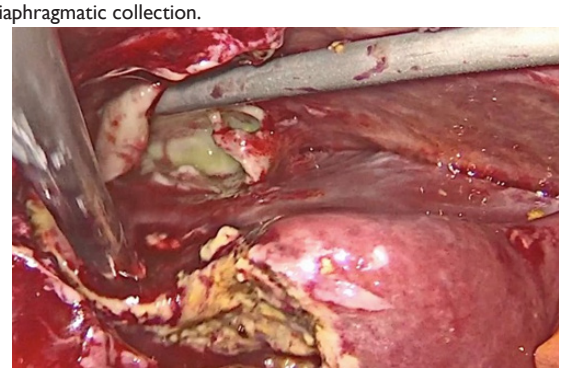

Figure 4 Liver abscess in the right lobe and right sub diaphragmatic collection, a sample is taken for culture and drained with suction.

Discussion

Cholecystectomy is the main treatment for acute cholecystitis.[3–5] Post-cholecystectomy syndrome includes symptoms such as abdominal pain, fever and jaundice after surgery, which may have a biliary origin (e.g. recurrent retained calculus, injury and/or scarring of the biliary tree) and non-biliary (e.g. psychosomatic or gastrointestinal).[6] This syndrome has an incidence as high as 40% of patients undergoing cholecystectomy, with an onset range from 2 days to 25 years.[7]

Intra-abdominal abscess is the most common complication following cholecystectomy.[8] However, hepatic pyogenic abscess (HPA) is a rare entity, with a mortality rate of 5.6% to 10% and a concurrence ranging from 1.1/100,000 to 3.6/100,000 in the population, even mortality can rise to 22% in patients with multiple HPAs.[1,9] Very few cases have been reported in the literature that speaks of HPA associated with cholecystitis.[10–17] These cases are usually polymicrobial infections, usually with pathogens such as E. coli and Klebsiella.[18,19] Most patients present with the Charcot triad: fever, jaundice and pain in the right upper quadrant, making the diagnosis with the support of ultrasound and/ or CT, with sensitivities of 85% and 97%, respectively.[20] In ultrasound, recent HPAs have poor demarcation and variable echogenicity, and can be confused by neoplasms.[21] The CT scan, on the other hand, demonstrates a density related to maturity in the contrasted modality, although in general, they appear as hypo-attenuated lesions with peripheral intensity, occasionally containing gas in the form of bubbles or hydro-aerial levels, as well as the sign of the double white (hypo-attenuated lesions filled with fluid surrounded by an inner ring that represents the membrane of the abscess and an outer ring consisting of parenchymal edema) and the sign of the cluster (multiple separate lobes forming a larger cavity).[22]

The recommended approach for HPA is mostly non-surgical (e.g., antibiotics for small and multiple HPAs; needle aspiration or intrahepatic catheter placement for larger HPAs; and surgery for abscesses >5 cm or unstable patients, or in case of conservative treatment failure).[1] With very few reports of HPA complicating cholecystectomy, there is no consensus regarding the standard treatment of such conditions. Some authors manage such conditions with an open approach with a block resection of the abscess, gallbladder, and vesicular bed, such as an atypical resection of the hepatic V segment.[23] Others used an open or laparoscopic approach, depending on local conditions (intrahepatic gallbladder, ill-defined anatomy, high risk of damage to hilar structures), with cholecystectomy and deroofing of the abscess cavity.[23,24]

Conclusion

The present case demonstrates a hepatic abscess as a complication after a laparoscopic cholecystectomy, emphasizing the importance of including this entity in our differential diagnoses, to subsequently perform a correct therapeutic method depending on the clinical and economic condition of the patient, the expertise of the surgeon and the site where the operation will be performed.

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Conflicts of interest

The authors declare that they have no conflict of interest in the writing of this manuscript.

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