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Case Report

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Gallbladder perforation presenting as a hepatic neoplasm

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ABSTRACT

Perforation of the gallbladder is a rare, but potentially fatal complication of acute cholecystitis. Gallbladder perforations presenting electively as a space-occupying lesion of the liver are its rarest presentation. We report one such case, which was a diagnostic conundrum. A 50-year-old female presented with upper abdominal pain of 6 months duration. On examination, she was afebrile and had minimal tenderness in the right upper quadrant. All of her blood investigations were unremarkable, and her imaging showed features suggestive of a biliary cystadenoma. Intra-operatively, she was found to have a perforated gallbladder with intrahepatic extension. Cholecystectomy with abscess drainage was done, and her post-operative period was uneventful. Gallbladder perforations can have a myriad of presentations. We report a rare case of a perforated gallbladder mimicking a biliary cystadenoma. A high index of suspicion along with prudent decision-making can help in accurate pre-operative diagnosis, thereby avoiding intraoperative surprises and unnecessary morbidity, especially in cases where a benign pathology mimics malignancy.

Key words: Biliary cystadenoma, gallbladder perforation, radiology

Introduction

Gallbladder perforation is a rare, but potentially fatal disease; its presentation can be varied and therefore, is a dilemma for early diagnosis [1]. It is usually a complication of acute cholecystitis with or without gallstones [1]. Gallbladder perforation with cholecystohepatic communication is a rare cause of liver abscess.Gallbladder perforations presenting electively as a space-occupying lesion of the liver are its rarest presentation[2-4]. We report one such case where the preoperative diagnosis was that of a biliary cystadenoma, leading to intraoperative extemporaneous decision-making.

Case Report

A 50-year-old female presented with upper abdominal pain of 6 months duration, which was not associated with any aggravating or relieving factors. She gave no history of vomiting, fever, jaundice, or any previous abdominal surgery. Her general and abdominal examinations were unremarkable except for a minimal tenderness in the right upper quadrant. All of her blood investigations, including serum alpha-fetoprotein, carcinoembryonic antigen and carbohydrate antigen 19-9, were within normal limits. Abdominal sonography showed a hypodense mass in gallbladder fossa with in-

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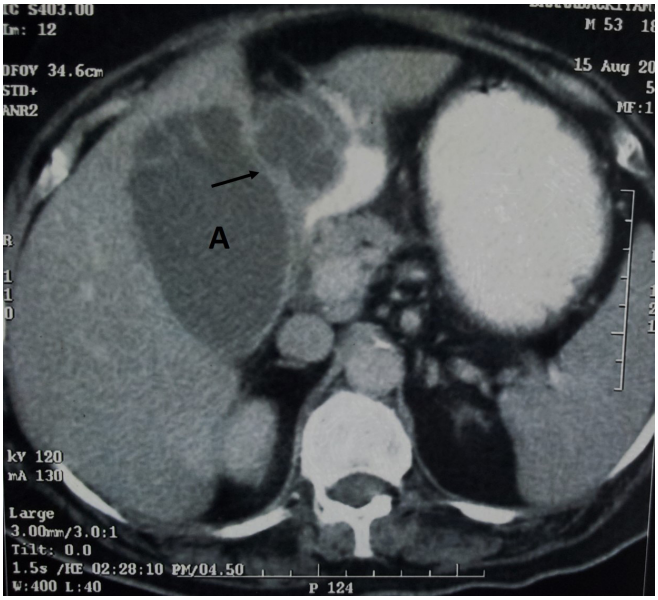

Figure 1. Contrast-enhanced computed tomography showing cystic space occupying lesion (A) with septations (arrow) in liver.

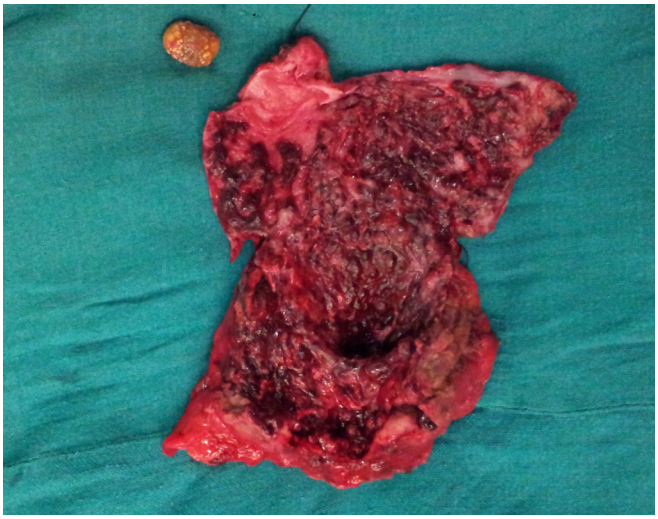

Figure 2. GallBladder specimen with inflammatory changes.

distinct margins between the mass and adjacent liver. A contrast-enhanced computed tomography (CECT) multidetector revealed a well-defined multilobulated thin-walled cystic mass lesion with solid components and enhancing septae arising from segments 5 and 6 of the liver, which were suggestive of a biliary cystadenoma (Figure 1). With this clinical and radiologic presentation, the patient was optimized and offered open surgery in the form of excision. The intra-operative findings were those of a perforated gallbladder with intrahepatic extension. A cholecystectomy with abscess drainage was performed. Pathological examination of the cut specimen showed a highly inflamed turgid wall with inflammatory cell infiltrates suggestive of chronic cholecystitis (Figure 2). Her post-operative period was uneventful, and she was discharged home on the 10th post-operative day.

Discussion

Asymptomatic gallbladder calculi are a frequently encountered condition, affecting up to 10% of the adult population [5]. Acute cholecystitis develops in approximately 2% of these patients, with gallbladder perforations occurring in 2-11% of those suffering from acute cholecystitis [5]. Gallbladder perforations result due to a persistent occlusion of the cystic duct by an impacted calculus, causing a rise in intracholecystic pressure, epithelial injury, release of phospholipases, degradation of cell membranes, and an intense inflammatory reaction [6].

In 1934, gallbladder perforations were classified into three types by Niemier (Type 1: Acute free perforation, Type 2: Subacute pericholecystic abscess, and Type 3: Chronic cholecystoenteric fistula) [7]. Intrahepatic extension of a perforated gallbladder is one of the rarest complications of acute cholecystitis or empyema gallbladder. Ultrasonography (USG) and CECT are the most important tools in diagnosing this rare complication. USG is the initial investigation of choice in evaluating acute gallbladder pathology and is often sufficient for a correct diagnosis. CECT is particularly useful in situations where ultrasound findings are not confirmatory. CECT is also valuable in the assessment of emphysematous cholecystitis, and gallbladder perforation [8].

Biliary cystadenoma, a rare benign cystic hepatic neoplasm with premalignant potential, occurs predominantly in middle-aged women [9]. These tumors originate in the bile ducts and appear as uni- or multilocular cystic intrahepatic masses [9-11]. Based on the clinical presentation and radiographic appearances, it may be difficult to differentiate a biliary cystadenoma from other cystic lesions of the liver [9,10]. This was the case in our patient. The presence of invasion warrants the diagnosis of a cystadenocarcinoma [11]. Although biliary cystadenomas are benign tumors, they may recur after enucleation. These lesions also have the potential to develop into biliary cystadenocarcinomas; thus, recommended treatment options include standard hepatic resection or cyst excision [11]. This was planned in our patient based on the pre-operative in-

vestigations. If the pre-operative diagnosis had pointed in the right direction, a less morbid laparoscopic approach could have been attempted.

Conclusion

Gallbladder perforations can have a myriad of presentations. We report a rare case of a perforated gallbladder mimicking a biliary cystadenoma. A high-index of suspicion along with prudent decision-making can help in accurate pre-operative diagnosis, thereby avoiding intraoperative surprises and unnecessary morbidity, especially in cases where a benign pathology mimics a malignancy.

Conflict of interest statement

The authors have no conflicts of interest to declare.

References

1. Khan SA, Gulfam, Anwer AW, Arshad Z, Hameed K, Shoaib M. Gallbladder perforation: A rare complication of acute cholecystitis. J Pak Med Assoc 2010;60:228-9.
2. Bakalakos EA, Melvin WS, Kirkpatrick R. Liver abscess secondary to intrahepatic perforation of the gallbladder, presenting as a liver mass. Am J Gastroenterol 1996;91:1644-6.
3. Peer A, Witz E, Manor H, Strauss S. Intrahepatic abscess due to gallbladder perforation. Abdom Imaging 1995;20:452-5.
4. Chen JJ, Lin HH, Chiu CT, Lin DY. Gallbladder perforation with intrahepatic abscess formation. J Clin Ultrasound 1990;18:43-5.
5. Chiapponi C, Wirth S, Siebeck M. Acute gallbladder perforation with gallstones spillage in a cirrhotic patient. World J Emerg Surg 2010;5:11.
6. Aljiffry M, Walsh M, Peltekian K, Molinari M. Type II gall bladder perforation with abdominal wall abscess in a cirrhotic patient: Case report and review of the literature. J Surg Educ 2008;65:367-71.
7. Niemeier OW. Acute Free Perforation of the Gall-Bladder. Ann Surg 1934;99:922-4.
8. Bennett GL, Balthazar EJ. Ultrasound and CT evaluation of emergent gallbladder pathology. Radiol Clin North Am 2003;41:1203-16.
9. Levy AD, Murakata LA, Abbott RM, Rohrmann CA Jr. From the archives of the AFIP. Benign tumors and tumorlike lesions of the gallbladder and extrahepatic bile ducts: Radiologic-pathologic correlation. Armed Forces Institute of Pathology. Radiographics 2002;22:387-413.
10. Koroglu M, Akhan O, Akpinar E, Oto A, Gumus B. Biliary cystadenoma and cystadenocarcinoma: Two rare cystic liver lesions. JBR-BTR 2006;89:261-3.
11. Thomas KT, Welch D, Trueblood A, Sulur P, Wise P, Gorden DL, et al. Effective treatment of biliary cystadenoma. Ann Surg 2005;241:769-73.