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Case Report

Gallbladder perforation with liver abscess; laparoscopic cholecystectomy converted to open: a case report

Edgar Salvador Salas Ochoa*, Maria Eugenia Dominguez Gutierrez, Alfredo Lopez Rocha, Edilia Naraleth Arce Sanchez, Karla Itzel Altamirano Moreno, Edna Arantxa Segura Garcia

Department of General Surgical of Hospital General Regional 196, Estado De México, México

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***Correspondence:**
Dr. Edgar Salvador Salas Ochoa,
E-mail: s.edgarochoa@gmail.com

ABSTRACT

Gallbladder disease affects more than 20 million people in the United States. Acute cholecystitis is a clinic entity characterized by the inflammation of the vesicular wall that is usually manipulated by abdominal pain, right hypochondrial sensitivity and fever. The technique of choice for the diagnosis of cholecystitis is abdominal ultrasound; gallbladder perforation is a rare complication of acute cholecystitis (2%-11%). The presence of perivesicular abscesses is infrequent, its prevalence varies between 2.1% and 19.5%. Clinical record was reviewed of a 73 years old woman who attended a second level public care unit, with a clinical picture of acute chronic lithiasis cholecystitis, who underwent surgery consisting of open converted laparoscopic cholecystectomy with a finding of vesicular perforation with liver abscess, it was initiated with laparoscopic approach, it was not possible to identify anatomical structures, so it was decided to convert to open surgery. Cholecystectomy and abdominal lavage are usually sufficient in the treatment of gallbladder perforation.

Keywords: Gallblader disease, Gallblader perforation, Perivesicular abscesses, Cholecystectomy

INTRODUCTION

Gallbladder disease affects more than 20 million people in the United States, the treatment of choice is laparoscopic cholecystectomy.[1]

Acute cholecystitis is a clinic entity characterized by the inflammation of the vesicular wall that is usually manipulated by abdominal pain, right hypochondrial sensitivity and fever.[2]

Biliary lithiasis is the most common cause. There are two factors that determine progression to: the degree and duration of obstruction. If the obstruction is partial and short lived, the patient suffers from biliary colic. If the cystic duct obstruction is complete and long lasting the increase in vesicular pressure associated with mucous irritation, the acute inlamatory response is activated.[3,4] This fact, together with the decrease in the vascular luxury of the wall secondary to the distension itself, causes the patient to suffer a cholecystitis. The bile infection probably has an additive role, but secondary.[2] The most commonly found microorganisms are: Escherichia coli, Klebsiella pneumoniae, Enterococcus faecalis, Enterobacter spp and Streptococcus faecalis in the most serious cases can also be found anaerobic as Bacteroides fragilis or Clostridium perfringens.[5]

The main symptom of cholecystitis is acute abdominal pain. It is a pain located in the right hypochondrium, constant, usually lasting more than 5 hours, radiated to the back, and frequently accompanied by nausea, vomiting and fever that oscillates. Physical examination usually shows an area of hypersensitivity and palpation during deep inspiration, pain at that level and inspiratory

cessation (Murphy's sign). In elderly patients, especially if they are diabetic, the clinical picture may not be as typical and not even present with abdominal pain.[2,4] Leukocytosis with neutroilia and an increase in C-reactive protein (PCr) are common in the analyses. There is often a slight increase in aminotransferasa and amylase activity, usually <3 times the upper limit of normality. In up to 20% of cases, especially in patients with severe cholecystitis, jaundice can be seen, with bilirubin <4 mg/dl.[2]

The technique of choice for the diagnosis of cholecystitis is abdominal ultrasound. Its sensitivity and specicity are 88% and 80% respectively, has a positive predictive value of 92%.[1-3]

Abdominal computed tomography is only necessary when the clinical picture allows to suspect certain local complications associated with cholecystitis. Such was the case of perivesicular abscesses, vesicular perforation or gangrenous cholecystitis.[6]

CASE REPORT

A clinical record was reviewed of a 73 years old woman who attended a second level public care unit, with a clinical picture of acute chronic lithiasis cholecystitis, who underwent surgery consisting of open converted laparoscopic cholecystectomy with a finding of vesicular perforation with liver abscess.

A 73 years old woman with a pathological personal history of type 2 diabetes mellitus, systemic hypertension. Comes with an evolution of 96 hours, characterized with colic type epigastric pain, associated with food intake, intensity 9/10, irradiated to the right hypochondrium, without attenuating or exacerbating, accompanied by nausea and vomiting of gastrobiliary content, unquantified fever. History of two similar episodes 6 months before, treated with alternative medicine.

Physical examination

Glasgow 15, algic facies, endomorphic constitution, globular abdomen by adipose tissue, peristalsis present; pain at the deep palpation in the right hypochondrium, murphy+, other abdominal pain points negative, negative rebound, without data of peritoneal irritation. Rest of physical examination without pathological findings

Paraclinics

Leukocytes 30, 840 ul, neutrophils 27,550 ul, hemoglobin 11.8 g/dl, total bilirubin 0.70 mg/dl, glucose 70 mg/dl, lipase 135 u/l, sodium 136 mmol/l, potassium 4.3 mmol/l, INR 1.39. USG liver and bile ducts: gallbladder with abundant biliary sludge, echogenicity inside, greater than 37 mm in diameter, dimensions of 91×56×49 mm, wall 2 cm, incipient data of hydrocholecystic and hepatic steatosis. Surgical intervention was performed, consisting of cholecystectomy (Figure 1). It was initiated with laparoscopic approach, it was not possible to identify anatomical structures, so it was decided to convert to open surgery (Figure 2).

Omentum and components of the Calot triangle were dissected (Figure 3), partial cholecystectomy was performed, draining to Winslow's hiatus.

Findings

The findings were collage, hepatic abscess 100 ml in hepatic segment 'v' (Figure 4), omentum towards vesicle, 5 mm cystic, multiple lithes 5-10 mm and large lithe 5×4 cm (Figure 5 and 6).

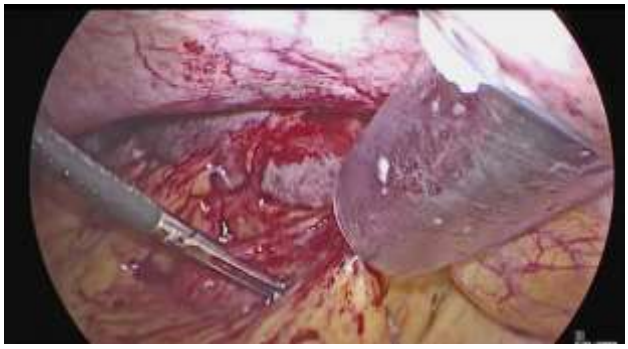

Figure 1: Initiation of laparoscopic approach, showing multiple adhesions.

Figure 2: Evidence of vesicular perforation contained.

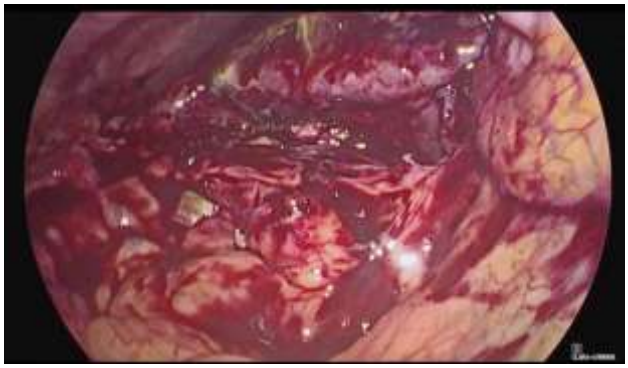

Figure 3: Cholecystitis severity grade 5 presence of any of the following: perforation, necrosis, inability to visualize the galbladder due to adhesions.

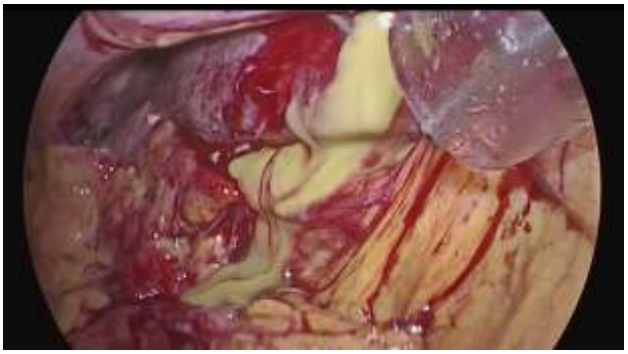

Figure 4: Vesicular perforation with hepatic abscess.

Figure 5: Cholecystectomy converted to open.

Figure 6: Pathology piece with gallbladder stone.

DISCUSSION

The management of cholecystitis requires hospital admission, bed rest, absolute diet, fluid therapy, antibiotherapy and analgesia. A The use of Non-steroidal anti-inflammatory drugs (NSAIDs) is recommended.[7] Cholecystectomy is the treatment of choice for cholecystitis since, although almost 50% of cases could be solved by medical treatment, 20% of patients would be readmitted for similar episodes.[4,8]

Laparoscopic cholecystectomy is the treatment of choice in symptomatic cholelithiasis, the experience gained has been decisive in reducing the incidence of lesions, which currently stands at around 0.4%. If anatomo surgical conditions are difficult, do not hesitate to convert to open surgery, in order to prevent possible injuries.[5,9]

Gallbladder perforation is a rare complication of acute cholecystitis (2%-11%). Cystic duct obstruction caused by lithiasis followed by increased intraluminal pressure, ischemia, gangrene, and perforation.[10]

In 1934 Niemeyer classified the perforation of the gallbladder into three types: (a) type I- acute perforation with generalized peritonitis; (b) type II- subacute perforation with formation of abscesses and localized peritonitis; and (c) type III- chronic perforation with biliary or bilioenteric fistula formation.[3] The presence of perivesicular abscesses is rare, its incidence varies between 2.1% and 19.5%. Type I is the most common, located adjacent to the gallbladder; type II the abscess is intramural; type III is the abscess is intraperitoneal.[5]

Cholecystectomy and abdominal lavage are usually sufficient in the treatment of gallbladder perforation.

The presence of peri-vesicular abscesses is infrequent, its prevalence varies between 2.1% and 19.5%. They are also classified into three types: type I is the most common, located adjacent to the gallbladder; type II the abscess is intra mural; and type III, in which the abscess is intra peritoneum.[7,8] The American Association for Trauma Surgery has developed a system that classifies the anatomical severity of inflammation (Parkland scale) that predicts the difficulty of the laparoscopic procedure, and serves to make the decision to convert the surgery to open.[6,9]

CONCLUSION

We reported the case of a 75 years old patient with a history of diabetes mellitus-2 and systemic arterial hypertension who goes to a second level public hospital with acute symptoms of cholecystitis, a therapeutic diagnostic protocol is initiated, at the time of initiating laparoscopic cholecystectomy a Parklan 5 is evident as well as vesicular perforation and liver abscess. According to the severity scale of Parkland cholecystitis, this case corresponds to a grade 5 that consists of perforation, necrosis and inability to visualize the gallbladder due to adhesions, with the subsequent conversion of the procedure to open surgery. According to Niemeyer's classification, a type II was found with subacute perforation with formation of abscess and localized peritonitis. The treatment of bladder perforation is surgical, cholecystectomy, surgical washing and drainage, as well as empirical antibiotic therapy aimed at gram

negative bacteria. We indicated a double empirical antibiotic regimen (ceftriaxone and metronidazole), at 48 hrs was observed by penrose serohematic discharge of 20 ml, began liquid diet that was progressed to tolerance. Control labs with a leukocyte count of 9,300 ul. Early ambulation was indicated, with discharge for clinical improvement on the fifth day of the procedure, without complications.

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REFERENCES

1. Santamaría AJR, Rodríguez WU, Sámano GM. Perforación vesicular secundaria a hidrocolecisto y sepsis grave de origen biliar. Reporte de un caso y revisión de la literatura. Rev Hosp Jua Mex. 2009;76(1):40-3.
2. Puyueloa CJG, Aranguren FJ, Ángel M. Acute cholecystitis. Gastroenterology and hepatology Digestive System Service. Lozano Blesa University Clinical Hospital. 2011;10(1):47-52.
3. Ergul E, Gozetlik EO. Perforation of gallbladder. Bratisl Lek Listy. 2008;109(5):210-4.
4. Sood BP, Kalra N, Gupta S, Sidhu R, Gulati M, Khandelwal N, et al. Role of sonography in the diagnosis of gallbladder perforation. J Clin Ultrasound. 2002;30(5):270-4.
5. Derici H, Kara C, Bozdag AD, Nazli O, Tansug T, Akca E. Diagnosis and treatment of gallbladder perforation. World J Gastroenterol. 2006;12(48):7832-6.
6. Madni TD, Leshikar DE, Minshall CT, Nakonezny PA, Cornelius CC, Imran JB, et al. The Parkland grading scale for cholecystitis. Am J Surg. 2018;215(4):625-30.
7. Roslyn JJ, Thompson JE, Darvin H, Besten L. Risk factors for gallbladder perforation. Am J Gastroenterol. 1987;82(7):636-40.
8. Morris BS, Balpande PR, Morani AC, Chaudhary RK, Maheshwari M, Raut AA. The CT appearances of gallbladder perforation. Br J Radiol. 2007;80(959):898-901.
9. Chong VH, Lim KS, Mathew VV. Spontaneous gallbladder perforation, pericholecystic abscess and cholecystoduodenal fistula as the first manifestations of gallstone disease. Hepatobiliary Pancreat Dis Int. 2009;8(2):212-4.
10. Derici H, Kara C, Bozdag AD, Nazli O, Tansug T, Akca E. Diagnosis and treatment of gallbladder perforation. World J Gastroenterol. 2006;12(48):7832-6.

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