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Case Report

A mega gallbladder removed by laparoscopic cholecystectomy: a case report

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ABSTRACT

Report the case of a giant gallbladder secondary to chronic cholecystitis treated with laparoscopic cholecystectomy with no complications. The patient was a 79-year-old woman who attended the emergency department because of a long-standing abdominal pain in the right hypochondrium exacerbated in the last 2 months. Physical exam revealed fever and a sensible mass in the right flank, laboratory tests shown leucocytosis, a mild indirect hyperbilirubinemia and elevated alkaline phosphatase. Images revealed an importantly distended gallbladder with sludge, stones and hydrops associated. Antibiotic therapy was started. She ultimately underwent laparoscopic cholecystectomy. A pathological examination evidenced cholelithiasis, acute and chronic cholecystitis. Only a few cases of surgical treatment of mega gallbladders are found in the literature. It is important to recognize them in the preoperative period for an adequate surgical planning. A laparoscopic approach was successful in our case.

Keywords: Mega gallbladder, Cholecystitis, Cholelithiasis, Laparoscopic cholecystectomy

INTRODUCTION

Cholecystectomy has always been one of the most common abdominal surgical procedures, and its number increased even more since the first laparoscopic cholecystectomy was done in 1985 by Mühe, in Germany.[1] Nowadays, in the United States, 90% of cholecystectomies are performed using a laparoscopic approach.[2]

Gallstone disease present in approximately 15% of Western populations, predominantly in women (9% vs. 6%).[3]

The frequency of this disease has permitted an adequate understanding of its physiopathology, complications and treatment, this is why today we know that laparoscopic cholecystectomy is the "gold standard" for treating the gallstone disease as results in lower incidence of complications, less postoperative pain, shorter length of hospital stays, earlier return to normal activities and better cosmesis.[4]

As the benefits and superiority of the laparoscopic approach are known, it is important for all surgeons to acquire the enough experience to perform this procedure and decide wisely whether it is indicated or not, or an open approach or conservative therapy is more suitable. Also, there are cases when it is important to consider the necessity of conversion to open surgery, which can be affected by the degree of difficulty while performing the procedure and surgeon's experience.[5]

The difficulty of the surgery can be influenced by a variety of factors such as history of previous abdominal surgery, recurrent attacks of cholecystitis, acute cholecystitis, advanced age, male gender, congenital malformations of the gallbladder, or bile ducts and

vascular supply anatomical variations. Anticipating to this risk factors is essential for planning a safe surgical procedure and complete it successfully.[5,6]

In this case report we describe a very rare entity of a mega gallbladder with cholecystitis associated, treated with laparoscopic cholecystectomy.

CASE REPORT

A 79 years old woman with hypertension and chronic pulmonary obstructive disease was admitted to the emergency department because of 2 months of severe abdominal pain in the right hypochondrium irradiated to the ipsilateral flank, she denied having nausea, emesis, fever or any other symptom. Lately, she had been using hyoscine butyl bromide intermittently with partial benefit. Prior to this, the patient had a long-time history of intermittent abdominal pain that resolved spontaneously. A physical examination revealed fever of 38.9 °C and a sensible non-well-defined large mass in the right flank, without peritoneal irritation signs.

Abdominal ultrasound (US) shown an enlarged and distended gallbladder without specifying its size, with engrossed walls occupied by abundant biliary sludge and multiple stones, with a common biliary duct (CBD) diameter of 18 mm with biliary sludge inside it. Laboratory tests were done and leucocytosis was found, hepatic function tests revealed a mild indirect hyperbilirubinemia and mild elevation of alkaline phosphatase, the rest of the tests were normal. Computed tomography (CT) of the abdomen and pelvis was obtained after the intravenous and oral administration of contrast material, it revealed an importantly distended gallbladder, with hypodense material and a 30×23 mm stone in the fundus, with gallbladder hydrops associated, the CBD was described as normal.

The patient was hospitalized, antibiotic treatment was started and a laparoscopic cholecystectomy was indicated, with high risk of conversion to open surgery. The patient and her family accepted to undergo the procedure.

A laparoscopic cholecystectomy was done requiring the use of 5 trocars, an epigastric 12-mm trocar, a 12-mm umbilical trocar, and three 5-mm trocars, two in the right flank and one in mesogastrium (Figure 1). The procedure was performed without complications with a two-and-a-half-hour duration.

The removed gallbladder was extremely enlarged, with dimensions of 22.5 cm in length and 8 cm in width, it contained abundant sludge and multiple gallstones, the biggest was 4 cm diameter (Figure 2).

The postoperative period was uneventful; the patient had a well-controlled pain, tolerated oral intake at the third postoperative day. The antibiotic was discontinued when 14 days were completed and was discharged home with prescription for analgesia 10 days after surgery. Early follow-up was favourable, the patient did not report any symptomatic complaints.

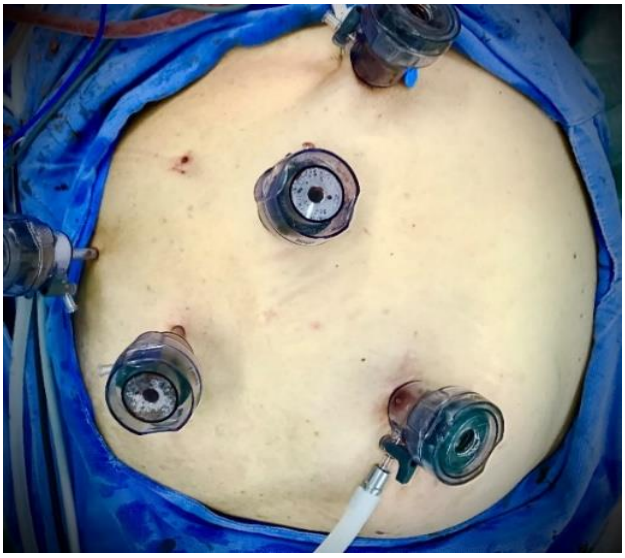

Figure 1: Disposition of trocars.

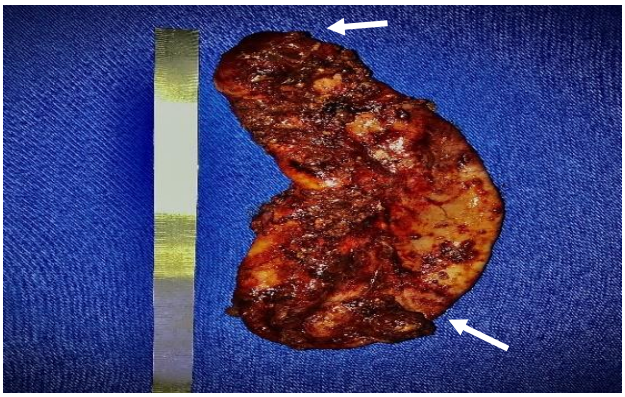

Figure 2: Gallbladder and gallstones (arrows) resected.

Histopathological examination of the gallbladder was unremarkable, it evidenced cholelithiasis, and acute and chronic cholecystitis, without malignancy.

DISCUSSION

The normal gallbladder's size is about 7 to 10 cm in length and 2.5 to 3.5 cm in width, its volume varies depending on whether it is fasting or eating period, it varies from 50 to 60 mL up to 300 mL with certain pathologic states.[7]

Giant gallbladders are rare, being only few cases reported in the literature, and it is considered that a gallbladder bigger than 1.5 litres is giant. In most cases, the treatment offered is open surgery. These big gallbladders can be due to chronic gallstone obstruction or malignancy.[10]

Other causes of giant gallbladders are congenital abnormalities when no obstructive matter such as tumour or gallstones are observed, also mucocele, empyema, acromegaly or gallbladder volvulus can be causes of this unusual finding.[8,9]

According to Courvoisier, obstructive gallstones generate repeated episodes of infection and chronic inflammation which produces wall changes, such as fibrosis, becoming the gallbladder non-distensible, shrunken, scarred and hence, palpable. On the other hand, other causes of obstruction, such as tumours, generates enlargement of a flexible gallbladder. In the case of our patient, the cause of the gallbladder size was more probably the chronicity of the gallstone intermittent obstruction, which corresponds to an exception to Courvoisier's law.[10]

Giant gallbladders are rare, multiple causes have been identified. In general, results are favourable for patients who undergo a cholecystectomy procedure, the surgical approach depends on the patient conditions and surgeon's experience, which can help to take the decision of performing a laparoscopic, open procedure or to consider conversion during a laparoscopic cholecystectomy, because of a disrupted anatomy or difficulties during a minimally invasive procedure.

CONCLUSION

To conclude, this case report supports that it is possible a minimally invasive approach regardless the size of the gallbladder, whenever a good surgical planning and anticipating to possible difficulties are done, modifying the classical technique as needed to complete the procedure. In this case, the laparoscopic approach was carried out successfully and our patient had a prosperous recovery.

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