

Iatrogenic Lesions of Biliary Tract Caused by Foreign Body: A Case Report

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ABSTRACT

Objective: Case report of biliary tract lesion caused by the presence of a foreign body into the abdominal cavity after cholecystectomy. **Case report:** A 56-year-old woman reported postprandial fullness, nausea, vomiting, hyperexia, weight loss, pain and palpable mass in right hypochondrium for 15 months, three months after she had been submitted to cholecystectomy due to chronic calculous cholecystitis. She also reported the onset of jaundice and itching in the last 40 days. On physical examination the patient was icteric (2+/4+), dehydrated (1+/4+), arterial pressure of 180x120mmHg, tense and painful abdomen at deep palpation on the right hypochondrium without signs of peritoneal irritation. The abdominal ultrasound and abdominal computed tomography depicted dilation of intrahepatic biliary tract and injury of the hepatic ducts junction. **Meeting synthesis:** The patient was submitted to laparoscopy where it was observed severe inflammatory process over the main biliary tract and a foreign body on the light of the choledochous. Choledochotomy was performed with the withdrawal of the foreign body and reconstruction through choledochoplasty of the choledochohepatic tube over the Kehr drain. **Discussion:** Biliary tract lesion due to a foreign body is a rare complication with an increased morbid-mortality rate associated with difficulty to obtain an early diagnosis and surgical correction¹.

Key words: Biliary tract; Iatrogenic disease; Incidence; Cholecystectomy.

Bras. J. Video-Sur, 2008, v. 1, n. 4: 175-177

Accepted after revision: July, 07, 2008.

INTRODUCTION

Cholecystectomy is the most frequent surgical procedure of the abdominal cavity (700.000 procedures annually in the USA)¹, and the iatrogenic lesion of the biliary tract is one of the greatest challenges of surgeons of the digestive tract. The increased use of laparoscopic techniques has contributed to raise the incidence of these lesions². Sawaya depicted in his study that post laparotomy extrahepatic biliary tract injuries are diagnosed later than the injuries in the laparoscopic approach³.

Cholecystectomy is the abdominal surgery that is most associated with iatrogenic lesion of the biliary tract¹⁻⁶. The incidence of biliary tract injury varies from 0% a 3%¹⁻⁹. Rauws have reported incidence of biliary tract injury from 0% to 2.7% in laparoscopy and from 0.2% to 0.5% associated with laparotomy. Despite its rare frequency, biliary tract injury presents high morbid-mortality rate³.

Biliary tract injury caused by open cholecystectomy is usually associated with the

formation of stenosis, whereas iatrogenic lesions caused by laparoscopic cholecystectomy are associated with complete transection of the common or hepatic biliary duct. The present study reports the case of biliary tract injury by laparoscopic cholecystectomy in a 56-year-old female patient. This lesion occurred due to a foreign body – surgical gauze in the abdominal cavity after surgery.

CASE REPORT

ANAS, a 56-year-old African American, married, housewife, born in Uberaba-MG, from the District of Campo Florido-MG was seen at the Emergency Service of the Federal University School Hospital of the Triângulo Mineiro (PS-HE UFTM) in January 2006. The patient reported postprandial fullness, nausea, vomiting, hyperexia, weight loss, pain and palpable mass in right hypochondrium for 15 months, three months after she had been submitted to open cholecystectomy due to chronic calculous cholecystitis. She also reported the onset of jaundice

and itching in the last 40 days and previous history of systemic arterial hypertension, Chagas disease and use of tobacco.

On physical examination the patient was in regular condition, icteric (2+/4+), dehydrated (1+/4+), arterial pressure of 180x120mmHg, tense and painful abdomen at deep palpation on the right hypochondrium without signs of peritoneal irritation.

The following lab exams were performed: hemogram with no alterations, alkaline phosphatase= 712, GGT= 511, total bilirubin= 1,88 with 1,04 of direct level and 0,84 of indirect level, TGO = 104, TGP = 120 and amylase = 22.

The abdominal ultrasound depicted dilation of intrahepatic biliary tract and injury of the hepatic ducts junction with suspicious of Klatskin tumor. Abdominal computed tomography depicted dilation of intra and extrahepatic biliary tract making evident hepatic steatosis and absence of gall bladder.

The transparietohepatic cholangiography that was performed on the day before the surgery depicted dilated intrahepatic biliary tract with a filling defect at the level of the hepatic junction and absence of contrast flow through the choledochous duct. (Figure 1)



Figure 1 - Transparietohepatic cholangiography (TPHC) depicting obstruction of the contrast flow to the choledochhepatic duct.

The patient was submitted to laparoscopy where it was observed severe inflammatory process over the main biliary tract and a foreign body on the light of the choledochous. Then choledoctomy was performed with the withdrawal of the foreign body and reconstruction the choledochhepatic duct through choledochoplasty transversally closing it over the Kehr drain, thus drainage of the abdominal cavity was maintained with a tubular-laminar drain at the subhepatic space.

DISCUSSION

Biliary tract lesion caused by foreign bodies may be classified in three categories: operative remnants, perforating objects and ingestions¹⁰. The most common biliar tract lesion was due to operative remnants, especially suture thread that in 89% of the cases served as the base to the formation of the calculi, as foreign bodies in the biliary tract are substratum to form calculi¹⁰. We report a case of biliary tract lesion caused by operative remnant that led to the formation of a fistula.

Several risk factors have been associated with postcholecystectomy biliary tract lesion. Training and experience of the surgeon are recognized as factors that are frequently associated with biliary tract lesion. Since its introduction in 1987 by François Dubois, the laparoscopic cholecystectomy (LC) has rapidly replaced the open cholecystectomy (OC) for treating symptomatic cholelithiasis and acute cholecystitis⁹. Studies have reported high rate of biliary tract lesion after LC comparing to OC^{11,12}. Researchers believe that the real incidence of lesions is higher than the ones reported in the literature and it will tend to decrease, as OC after the acquisition of an increased learning curve¹⁰. In the case reported the iatrogenic lesion of biliary tract occurred during laparotomy and it was repaired by laparoscopic approach.

The risk of biliary tract injury is greater in patients with complicated calculous biliary disease, obese, female, previous history of a long symptomatic period and severe preoperative bleeding, excessive traction of the cystic duct, deep dissection of the hepatic parenchyma or indiscriminate use of cautery⁵⁻¹⁰. In accordance to this statistics our case presents a female patient with advanced age and long history of symptomatic period.

Patients with biliary tract lesions that occurred during cholecystectomy may depict earlier

symptomatology during the postoperative period. Diagnosis of suspicious lesions is observed during the first week in 10% of the patients; in the first six months in 70%; and within the first year in 80%⁶. Usually the patient presents clinical symptoms of icteric syndrome; pain in the right hypochondrium, nausea and vomiting. In our report the patient presented the symptoms three months after the surgery.

Patients diagnosed lately depict significant hepatocellular damage; some of them need liver transplantation⁶. Despite the late diagnosis of the case reported the patient recover well and did not present any significant hepatic damage.

Ultrasonography, computed tomography and cholangiography may be used to confirm the diagnosis⁶. However, some studies have depicted through radiologic investigation that cases of foreign body in the biliary tract present high rate of diagnostic failure, as it happened in the case reported.

Some findings have suggested that biliary tract lesions are precociously repaired during LC than during OC^{1,9}. The proposed repair for biliary tract lesions implies in preservation of the full length of the biliary duct without sacrificing tissue⁶. If the lesion is near the confluence of the hepatic duct or the injured segment is more than 1 cm in length, the Roux-en-Y reconstruction seems to be the best option. In the case reported reconstruction of the choledochohepatic duct through choledochoplasty was the choice which depicted a good result.

Another two cases of biliary tract lesion caused by surgical gauze have been reported in the literature. In one case the surgical gauze was retrieved endoscopically¹¹ and in the other case the surgical approach was used as well as in the case reported in this manuscript. However, in the case that has been reported in the literature only simple choledochorraphy was performed as the main biliary duct was not compromised¹².

Biliary tract lesion is a serious complication that affects individuals with benign diseases. Several subsequent procedures (surgeries and/or endoscopies) are almost always necessary to be performed in order to repair it, with a high socioeconomic cost which is a burden for the patient; therefore all efforts should be done in order to avoid such uneventful situation.

REFERENCES

1. Moossa AR, Easter DW, Vansonnenberg E, et al. Laparoscopic injuries to the bile duct: a cause for concern. *Ann Surg.* 1992, 215:203-8.
2. Rauws EAJ, Gouma DJ, Endoscopic surgical management of bile duct injury after laparoscopic cholecystectomy. *Best Practice & Research Clinical Gastroenterology.* 2004. 18 (5):839-44.
3. Sawaya DE, Johnson LW, Sitting K, et al. Iatrogenic and Noniatrogenic Extrahepatic Biliary Tract Injuries. *The American Surgeon.* 2001, 5: 473-7.
4. Savassi-Rocha PR, Almeida SR, Sanches MD, et al Iatrogenic bile duct injuries. *Surg Endosc.* 2003, 17:1356-61.
5. Mercado MA, Chan C, Orozco H, et al. Iatrogenic Intestinal Injury Concomitant to Iatrogenic Bile duct Injury: The second Component. *Corrent Surgery.* 2004, 61 (4):380-4.
6. Quintero GA, Patino JF, Surgical Management of Strictures of the Biliary Tract. *World J Surg.* 2001, 25:1245-50.
7. Ahrendt SA, Pitt HA, Surgical therapy of iatrogenic lesions of biliary tract. *World J Surg.* 2001, 25:1360-5.
8. Chartrand-Lefebvre C, Deferesne MP, Lafortune M, et al. Iatrogenic Injury to the Bile Duct: A Working Classification for Radiologists. *Radiology* 1994, 193:523-6.
9. Krahenbuhl L, Sclabas G, Wente MN, et al. Incidence, Risk Factors, and Prevention of Biliary Tract Injuries during Laparoscopic Cholecystectomy in Switzerland. *World J Surg.* 2001, 25: 1325-30.
10. Savassi-Rocha PR, Ferreira JT, Diniz MTC, et al. Laparoscopic cholecystectomy in Brazil: analysis of 33,563 cases. *Int Surg.* 1997, 82:208-12.
11. Cipoletta L, Bianco MA, Rotondano G, et al. Endoscopic retrieval of a surgical gauze from common bile duct. *Ital J Gastroenterol Hepatol* 1997; 29:58-61
12. Cimsit B, Keskin M, Ozden I and Alper A. Obstructive jaundice due to a textiloma mimicking a common bile duct stone. *J Hepatobiliary Pancreat Surg.* 2006, 13(2):172-3.

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