

Laparoscopic Exploration of the Biliary Tract in a Geriatric Patient

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Abstract

Laparoscopic common bile duct exploration (LCBDE) is a consistent, reproducible and cost-effective treatment for common bile duct stones. We present the case of an 86 year old female patient that in February of this year presented a history of 2 months of intermittent postprandial pain. An ultrasound was performed of upper abdomen that showed severe dilatation of the intra and extrahepatic bile duct with abundant stones in the gallbladder. Cholecystectomy was performed to further exploration of the bile duct by laparoscopy, choledochotomy and through irrigation the removal of the stones in the common bile duct; subsequently probe was placed in the T bile duct. As complications were not present and the evolution of the patient was satisfactory the prognosis for the patient is excellent. Even nowadays the treatment of choledocholithiasis remains controversial, mainly from the acceptance of the laparoscopic cholecystectomy as the elective treatment of the lithiasic biliary disease. The LCBDE, is a method that provides diagnosis and treatment in a single step, with very little morbidity and mortality.

Keywords

exploration of the bile duct; laparoscopic exploration; laparoscopic cholecystectomy

Introduction

Laparoscopic common bile duct exploration (LCBDE) is a safe and effective single-stage treatment for choledocholithiasis and can be performed safely and effectively in both elective and emergency settings [1]. LCBDE is a consistent, reproducible and cost-effective treatment for common bile duct stones [3]. Although data have been reported complications with this technique, these are determined by: the local availability of expert endoscopists capable of a high degree success, the availability of laparoscopic and choledochoscopic equipment, the surgeon's own expertise in laparoscopic surgery, and the general condition of the patient [2]. We present the case of a geriatric patient with choledo cholithiasis to whom a LCBDE was conducted with T tube drainage without any complications.

Case Report

We present the case of an 86 year old female patient that in February of this year presented a history of 2 months of intermittent postprandial pain, associated especially with the intake of fatty foods. The patient presented a clear picture of obstruction of the biliary tract with jaundice, choluria and acholia. She denied fever or any previous pathological history.

On physical examination the patient showed characteristics of chronic disease and jaundiced appearance. In the abdominal evaluation the patient felt slight pain at the upper right quadrant, and there were no signs of peritoneal irritation or bounce.

Diagnostic Studies

Laboratory tests were carried out with the following results: white blood cells 10,380, hemoglobin of 10.3 g/dL, alkaline phosphatase of 2229U/L, direct bilirubin of 2.77mg/dL, indirect bilirubin 0.24 mg/dL, Aspartate aminotransferase (AST) of 70U/L and Aminotransferase of alanine (GPT) of 103U/L, type and Rh O+.

An ultrasound was performed of upper abdomen that showed severe dilatation of intra and extrahepatic bile duct with a common bile duct of 1.5cm in their largest diameter and with multiple images suggestive of stones in the common bile duct and abundant stones in the gallbladder.

The colangio-resonance reported severe dilatation of intra and extrahepatic bile ducts with the presence of 3 stones in the common bile duct, measuring the largest 1.8cm (Fig 1,2).

Treatment

Prior to surgery it was applied enoxaparin 20mg as prophylaxis and 5mg of midazolam to relax the patient. Cholecystectomy was performed to further exploration of the bile duct by laparoscopy, choledochotomy, and through irrigation is performed the removal of the calculations of the common bile duct, subsequently probe is placed in T bile, performing intra-corporeal suture of the common bile duct with virile 3-0 (Fig 3 and 4); there were no complications trans or post surgical. Contrasted trans-surgical study was conducted by means of calligraphy by a probe in T which showed absence of stones in the common bile duct (Fig 5). Intravenous analgesics were applied during the hospital stay of the patient.

After the procedure the patient was mobilized, starting ambulation and allowing oral liquid diet, no pain or vomiting. The next day soft diet was tolerated by the patient, so it decided the medical discharge with outpatient evaluation.

Six weeks after T tube cholangiography was performed showing an acceptable pass of contrast and no filling defect, it is decided to remove it and was given the ultimate discharge. There were no complications and the evolution of the patient was adequate, the patient prognosis is excellent.

Discussion

In our country, no literature on the prevalence of cholelithiasis was found, but some foreign literature reveals a prevalence of 20% in men and 40 to 50% in women [4].

The literature reports that about 700,000 laparoscopic cholecystectomies performed annually in the United States with a frequency of injury to the bile duct that reaches 0.6%. The rate of conversion to open surgery is 4.6% in elective surgery and 9.4% in the emergency [5]. In regard to this case in particular is discarded any type of lesion of the biliary duct and there was no need to convert the laparoscopic surgery in open surgery.

It finds that between 5-15% of patients who undergo cholecystectomy will find associated with cholelithiasis [6]. In this case it was observed that the patient had a stone blocking the light of the common

bile duct, entering the patient in this percentage.

Even nowadays the treatment of choledocholithiasis continues to be controversial, mainly from acceptance of laparoscopic cholecystectomy as the elective treatment of biliary stone disease [7]. At private institutions with experienced surgeons in this technique this is always the method of choice while there is no medical contraindication.

Many studies confirm that the benefits of this approach are multiple, these may include: short hospital stays, less pain, rapid reintegration activities, lower costs and complications similar to open procedure [4,8]. Benefits can be seen in this case in particular, since the hospital stay and the recovery time of the patient were brief and consequently their reintegration to daily activities was fast, there was no type of complication in the patient.

The literature suggests the analysis of the need for surgical exploration in a patient without contraindications for the procedure by diagnosis of cholecistolithiasis, taking into account medical history, laboratory tests, images, and reaffirming the presence of stones and showing their characteristics and morphology of the bile duct, being the assessments of greater certainty for many, magnetic resonance imaging and endoscopic ultrasound [1]. In comparison with the patient is shown that before proceeding to the LCBDE the diagnosis of cholecistolithiasis per clinic, laboratory tests and images confirmed at all times the diagnosis.

The literature shows that the appropriate time for the LCBDE is next to the surgical procedure because it lets perform the definitive treatment at the same time [1]. It is noted that as recommended the LCBDE and cholecystectomy was made at a single time in this patient, providing a definitive treatment.

The criteria for defining the track of treatment depend on the characteristics of the bile duct and the stones as well as the surgical equipment and its resources, the basic conditions favorable and the requirements to carry out the approach for many authors in the literature are: complete equipment with optimal vision (vital), Cystic size and permeable (essential), distal choledocholithiasis, less than 5 lithos, Dormia catheter, coledocian probes for washing of different diameters or biliar Fogarty, flexible choledochoscope (not essential) and management of the laparoscopic surgical technique (indispensable) [1]. Although it is not a general rule and depends very much on the surgeon, it can be seen that the patient met with many of these requirements, making the ELVB the treatment choice.

The risk factors for cholecystectomy complication are: male sex, age (over 65 years), obesity, diabetes mellitus, acute cholecystitis and previous abdominal surgery [5]. Our patient had one risk factor, her age, but despite this risk there was no complication presented.

Conclusion

The ELVB is a method that provides diagnosis and treatment in a single step, with very minimum morbidity and mortality even in geriatric patients, less pain and better time to return to daily activities. It is suggested to be taken into account as a method of choice for this type of conditions.

Figures



Figure 1: Gallbladder (GB) with stones in its interior. It is noted clear dilatation of the common bile duct (CBD) with stones on the inside.



Figure 2: Stones within the gallbladder and defines the stone that obstructs the light of the common bile duct (CBD).

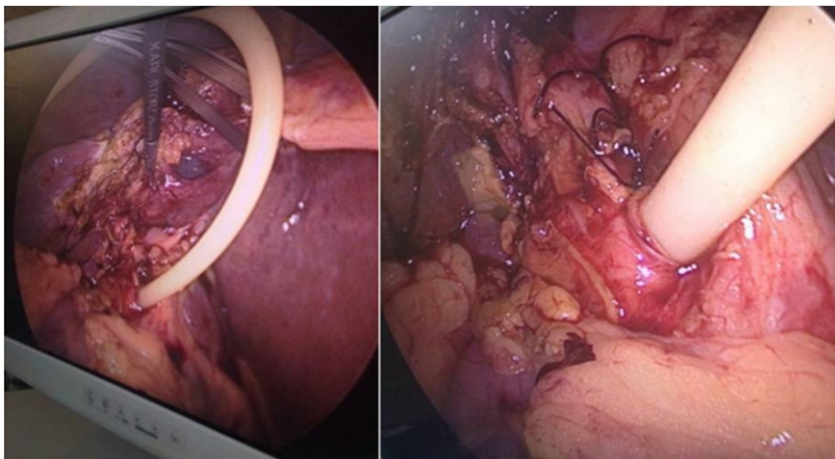


Figure 3,4: Tran-surgical irrigation removing the stones of the common bile duct and located T tube, with intra-corporeal suture of the common bile duct.



Figure 5: Cholangiography where it can visualize the passage of contrast medium through the liver and bile ducts.

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