COEXISTENCE OF TWO CHOLECYSTODUODENAL FISTULAS WITH COMMON BILE DUCT STONES IN A PATIENT WITHOUT JAUNDICE – A CASE REPORT

MACIEJ STACHOWIAK
Department of General Surgery, Specialist Hospital in Piła
Ordynator: dr n. med. K. Nowicki

This article presents the case of a 56 year-old female patient who was admitted to the surgery ward in order to undergo laparoscopic cholecystectomy. The information obtained through an interview with the patient confirmed a 20-year history of colic pain in the upper right side of the abdomen following dietary transgressions, periodic vomiting, but no fever. The patient did not notice any jaundice. Ten months prior to her admission to the hospital, the patient underwent endoscopy and abdominal ultrasound, which identified the possibility of choledocholithiasis. The patient’s lab results were normal and a routine abdominal ultrasound examination confirmed only cholecystolithiasis, no choledocholithiasis, three months prior to her admission to the hospital. Her bilirubin level at the time of admission to the general surgery unit was within the norm. Laparoscopic cholecystectomy was initiated, but following the diagnosis of cholecystoduodenal fistulas, it was converted to an open cholecystectomy, the gallbladder was removed, internal fistulas were supplied, the bile ducts were checked with some stones removed, and a T-drain was inserted. Cholangiography was not performed during the surgery due to equipment malfunction. Post-op recovery was without complication. Cholangiography performed one week after surgery showed residual choledocholithiasis. ERCT and EST were performed and numerous small deposits were removed from the bile ducts. Follow-up cholangiography did not show any choledocholithiasis. Following the removal of the T-drain, the patient was discharged from the hospital in good condition. She has been under observation and does not report any symptoms.

Key words: cholecystoduodenal fistula, common bile duct stones, surgical and endoscopic treatment

Spontaneous internal gall fistulas are, apart from the Mirizzi syndrome and gall-bladder cirrhosis, complications of chronic gall-bladder inflammation. They are detected in approximately 1-2% of operations because of gallstones. Most often these are fistulas between the gallbladder and duodenum (75%) or, more rarely, between the gall-bladder and transverse colon (10%), between the gall-bladder and the stomach (5%) and between the bile duct and the duodenum (4%). In about 3% of cases, there are multiple fistulas (1). Internal fistulas often show no symptoms. The symptoms, if they occur, are most often connected with fistula complications, such as: intestinal obstruction (Bernard syndrome), bile duct inflammation, diarrhea, and bleeding into the digestive tract (1-4).

Bile duct lithiasis is present in about 10% of patients with gallstones. Sometimes it shows no symptoms, but most often it obstructs the flow of bile into the duodenum causing strong abdominal pains, jaundice and abnormal biochemical test results. If, following the gallstones, the condition leads to complications such as bile duct inflammation, there may also be returning fever and tremors apart from abdominal pains and jaundice (Charcot’s triad), or sometimes symptoms of septic shock and consciousness disorders (Reynolds’ quintet).

Diagnosing gallstones, apart from clinical symptoms, is made possible by USG of the abdomen, when one can notice extended bile duct and deposits in the bile ducts in 75% of patients (5). Endoscopic ultrasound (EUS), cholangiography of spiral computer tomography and
Coexistence of two cholecystoduodenal fistulas with common bile duct stones in a patient without jaundice

Cholangiography of magnetic resonance imaging (MRI) are more precise in diagnosing bile duct pathology (6). In patients qualified for laparoscopic cholecystectomy with a suspicion of bile duct stones, one should perform endoscopic retrograde cholangiopancreatography (ERCP) before surgical treatment. After diagnosing bile duct stones, sphincterotomy (ES) and appropriate instruments such as Dormia baskets, balloon catheters, lithotripsy, should be used to remove bile duct deposits (7).

Intraoperatively, one diagnoses bile duct lithiasis by means of palpation of hepatic-duodenal ligament (open cholecystectomy) and dynamic intraoperative cholangiography, intraoperative ultrasound or choledochoscopy (open and laparoscopic cholecystectomy) (8). After intraoperative diagnosis of bile duct lithiasis during the open cholecystectomy, one should perform choledochotomy, remove deposits, and place a T drain. During the laparoscopic cholecystectomy, one can remove deposits through the bladder duct, in the case of deposits situated above the bladder duct orifice by means of choledochotomy. Exploring the bile ducts by means of choledochotomy usually requires the use of a Kehr’s drain. There are centers where, after meeting certain requirements (among others, lack of jaundice, small number of deposits, lack of bile ducts inflammation in choledochoscopy and experience in laparoscopic treatment), there is no bile duct drainage with two-thirds of patients (6). Sometimes in the case of deposits with diameter less than 5 mm, one can elect to wait, since 80% of them will move into the duodenum without any symptoms (1). ERCP with ES and deposit removal may also be performed after surgical treatment (6).

There are also reports of laparoscopic treatment of various kinds of bile-intestinal fistulas; however, this kind of treatment requires extensive experience in laparoscopic surgery and the use of appropriate instruments (9).

**CASE REPORT**

Patient Z.C., (no 91/01669/2007) age 56, was admitted to the surgical ward in January 2007 to perform planned laparoscopic cholecystectomy because of endocetic gallstones.

In the interview, the patient reported acute pains in the right epigastrum following improper diet for 20 years that subsided after non-invasive treatment. She had never noticed jaundice. In March 2006, diagnostic tests were performed in the outpatient department. During gastroscopy reflux inflammation of the oesophagus type A, bile inflammation of the antepyloric part of the gaster and duodenum inflammation were diagnosed. Ultrasound of the abdominal cavity showed gallstones and suspicion of multiple deposits in extra-hepatic bile ducts while the remaining organs of the abdominal cavity showed no pathological changes. The patient was admitted in November 2006 to the Emergency Room because of acute pains of the epigastrum, but these problems subsided after typical analgesic treatment. Laboratory tests showed insignificantly elevated levels of ALAT and AspAT, billirubin (0.97 mg/dl), amylase, electrolytes and other tests results were within normal limits. In control ultrasound of the abdomen, gallstones were diagnosed without any other pathologies. After surgical consult, the date of planned surgical treatment was set.

The patient was admitted to the surgical ward in January 2007 as planned. On the day of admission, she did not report any complaints, and during the object test, no abnormalities were noted. Laboratory tests, including bilirubin (0.59 mg/dl), were within normal limits.

Under general anesthesia, laparoscopic cholecystectomy commenced. Because of hard planar adhesions and lack of progress in the operation within 15 minutes, conversion was performed. Two fistulas between the gall-bladder and duodenum were diagnosed. Cholecystectomy was performed, and the wall of duodenum was stitched in two places with single stitches. Then, because of palpable gallstones, choledochotomy was performed, bile duct lithiasis internal and external to the liver was diagnosed, and multiple deposits in common hepatic duct, common bile duct and right and left hepatic ducts were removed. Bile ducts were rinsed. The patency of Vater’s ampulla was controlled. No intraoperative cholangiography was performed due to equipment failure. After placing a Kehr’s drain and peritoneal cavity drainage, the operation was ended.

The postoperative period ran normally, the patient was in good condition, the wound healed properly, and every day 500-550 mls of bile were drained from the Kehr’s drain.

The results of histopathological tests confirmed cholecystitis calculosa chronica.
On day 7 after the operation, cholangiography was performed through the Kehr’s drain, and extending the common bile duct to 15 mm, small deposits in the area of Vater’s ampulla and no contrast flow to duodenum were diagnosed.

On day 12 after the operation, endoscopic reverse cholangiography and endoscopic sphincterotomy were performed, and together with a Dormia basket, multiple small deposits were removed from the bile ducts. The sites after stitching the fistulas between the gall bladder and duodenum were not visible.

After the endoscopic treatment, the patient was in good condition, and she did not report any complaints. The laboratory test results were within normal limits. The bile ducts were rinsed twice a day through the Kehr’s drain that was gradually closed. On day 19 after the operation, control cholangiography was performed – the passage of the contrast medium to the duodenum was unobstructed, and the bile duct was of normal width without any deposits. The patient, after removal of the Kehr’s drain, was discharged. The patient is in contact with the surgeon, she is in good condition, she reports no complaints, and her laboratory tests are within normal limits.

DISCUSSION

The above case was presented because of the diagnosis of chronic lithiatic cholecystitis only during the surgical treatment. The patient did not show any clinical symptoms that would indicate the existence of the above complications. Only on the basis of one ultrasound result from the previous 10 months could one suspect bile duct stones and, in connection with the lack of jaundice, the co-existence of spontaneous internal gall fistula. The next ultrasound of the abdominal cavity did not confirm the bile ducts lithiasis. The results of tests performed a few times, including bilirubin, were within normal limits. In connection with the lack of unambiguous indications, there was no preoperative ERCP.

Earlier detection of these complications would require different treatment strategies: first, preoperative ERCP/ES with the removal of deposits from bile ducts, and then cholecystectomy with purveyance of gall-duodenal fistulas without the external drainage by Kehr’s drain. This would result in less discomfort for the patient, decrease the risk of complications, shorten the time of hospitalization and decrease the cost of treatment.

The analysis of this case makes us draw a conclusion that every patient should be approached individually, being aware of the co-existence of various diseases that occurring together, like in this case, may cause non-typical clinical syndromes. Such conduct would enable us to avoid surprises, like finding additional disease only during the operation and to plan a better, more beneficial treatment plan for the patient. It should be emphasized that these days, with well-developed laparoscopic methods, every surgeon should also have experience with traditional methods of surgical treatment for bile duct pathologies.

REFERENCES

Laparoscopic cholecystectomy is the most often performed procedure in surgical departments. The above-mentioned is the “golden standard” in the treatment of choledolithiasis. In the era of laparoscopy, preoperative diagnostics seem essential. The presented study showed patients with coexisting choledocholithiasis and cholecystoduodenal fistulas. One should mention that in case of suspicion of choledocholithiasis on the basis of imaging examinations, as well as history of mechanical jaundice, preoperative diagnostics should include ERCP and cholangio-MR. In case the above-mentioned are not performed, intraoperative cholangiography and cholangioscopy are recommended. One must remember that laparoscopic cholangiography or cholangioscopy are technically difficult and expensive (1). The authors of the study did not perform ERCP, due to ultrasound examination result discrepancies. Intraoperative cholangiography or cholangioscopy were also not performed, due to technical difficulties. Conversion to classical surgery, choledochotomy, evacuation of concrements, and Kehr’s drainage are justified in such situations. Reference centers in such cases perform intraoperative ERCP with sphincterotomy and evacuation of concrements, which enables biliary duct endoprosthesis closure, avoiding the need for Kehr’s drainage.

Laparoscopy in the treatment of cholecystoduodenal fistulas is technically difficult, controversial and should be performed in specialized centers (2). I agree with the Author’s of this study on the need for classical surgery training on the biliary ducts. One should not forget that in times of laparoscopic cholecystectomy, the decision concerning conversion to open surgery and treatment of biliary ducts pathologies might prove crucial, considering the future of the patient. Thus, in case of clinical doubt, such patients should be directed towards reference centers with the possibility of complex biliary duct management: classical, laparoscopy, and endoscopy.

REFERENCES


Prof. dr hab. Jan Kulig
Kierownik I Katedry Chirurgii Ogólnej CM UJ w Krakowie

The simultaneous existence of two cholecystoduodenal fistulas is rare, although possible. Management undertaken by the author of the study proved justified. I would like to comment on the treatment of choledocholithiasis in a patient with a Kehr’s drain. The method performed by the Author was effective, although risky. Twelve days after surgery, the patient was subjected to endoscopy requiring air insufflations into the duodenum. This was connected with the possible risk of rupture of sutures performed during surgery of duodenal fistulas. The Author described that they found no traces of sutures, although this should be considered as a fortuitous coincidence. Personally, I would choose another method of management in such cases. Biliary duct deposits in patients with a Kehr’s drain can be removed by means of the drain’s canal. The procedure in the hands of an experienced radiologist is effective and does not require the introduction of an endoscope into the duodenum such short period after suturing its wall, as was the case.

Patients with cholelithiasis and suspicion of choledocholithiasis should be subjected to endoscopic treatment. Laparoscopic treatment of choledocholithiasis has not become widespread, as it requires significant laparoscopic experience and special instrumentation.

Prof. dr hab. Marek Krawczyk
Kierownik Katedry i Kliniki Chirurgii Ogólnej, Transplantacyjnej i Wątroby AM w Warszawie