

Duodenal fistula after laparoscopic cholecystectomy

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Dear Editor,

A 77-year-old female patient was admitted to the hospital for elective cholecystectomy with symptomatic cholelithiasis. Patient's medical history she had several episodes of cholecystitis. Physical examination was normal. Biochemical parameters and blood clotting levels were normal. Multiple stones in the gall bladder was reported Ultrasound (USG). Biggest stone size is 13 mm. Exploration during the LC; Adhesions were observed from gallbladder to the duodenum. The adhesions were separated with aspirator-irrigator device. There was no difficulty in separating the adhesions, and one foley drain was placed in the subhepatic area after standard LC.

First postoperative day, approximately 400 cc of bile was observed in the drain. It is like character of duodenal content. White Blood cell (WBC): 15000 $10^3/uL$, C Reactive Protein (CRP) :15 mg/dl. On physical examination had no fever and tachycardia. Broad spectrum antibiotics and total parenteral nutrition was started. Computed tomography (CT) was performed and reported as minimal fluid was observed around the liver and between the intestines. Following the patient, WBC and CRP levels decreased to normal levels. Postoperatively up to the 8th day around 300 cc liquid per day as drainage. Post operative 8th day methylene blue give from oral way. Five minutes later it comes from drain. Post operative 9th day, drainage was stopped. Control USG reported as a normal findings. Post operative 14th day we started enteral feeding and no drainage so we took the drain postoperative 15th day and discharge the patient.

Adhesions between gallbladder and duodenum may play a role in iatrogenic duodenal perforation. Careless use of irrigator - aspirator device, electrosurgical and laser burns, may cause perforation of the duodenum (2). In our case adhesions between the gallbladder and the duodenum were separated with the help of an aspirator-irrigator device. No difficulties were encountered while separating. Usually the symptoms occur immediately after surgery, abdominal pain and sensitivity to the upper right quadrant. Although pain is usually seen after laparoscopy, persistence of pain

should be kept in mind about duodenal perforation (2). USG or CT may show liquid abdominal or subhepatic area. If the subhepatic area is drained after cholecystectomy, a biliary fistula can be observed easily (2). In our case, a bile fistula was observed on first postoperative day. There was widespread liquid in CT and USG. Control USG reported as normal post operative 9th day Methylene blue was given as a oral way and methylene blue appeared in the drain. If the duodenal perforation is in the posterior wall, there is no fluid in the abdomen, retroperitoneal fluid and air were seen with abdominal CT. So CT is more sensitive than USG for duodenal perforations (2).

Duodenal perforation should be suspected if bile is detected in the peritoneal space during operation. Duodenal perforation requires rigorous investigation, intraoperative upper gastrointestinal endoscopy and mobilization with Kohr maneuver of the duodenum may be required (2). Treatment approach to duodenal perforations should be as early as possible. When intraoperative perforation noticed, laparoscopic repair can be performed for perforation. With laparoscopy, complications can be recognized and treated, but laparotomy may be needed sometimes. Primary suture and omentopexy of the perforation area as can be used with laparoscopic or with laparotomy approach (2). In some cases, treatment with endoscopic stenting is also possible (4).

In case of delayed diagnosis, percutaneous abscess drainage and bilroth II, subtotal gastrectomy and gastrojejunostomy can be performed (5). Conservative approach to treatment of duodenal perforations; total parenteral nutrition, somatostatin infusion, nasogastric drainage is important (2). A conservative approach was performed because of the low-mid fistula, and controlled fistula and the absence of septic findings in the patient. The patient underwent broad spectrum antibiotherapy and total parenteral nutrition. Follow-up with USG of the abdomen was followed to see if there was any fistula. On the postoperative 9th day, drainage of the fistula was discontinued and control was observed in the USG with no accumulation in the womb.

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During LC, duodenal injuries may occur due to adhesions between gallbladder and duodenum. The possibility of duodenal injury should be kept in the mind especially elderly patients also adhesions may be easily separated.

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