

Sub Diaphragmatic Abscess Following Laparoscopic Cholecystectomy: an Uncommon Event

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Abstract

In the current era of minimally invasive surgery, Laparoscopic Cholecystectomy has become the gold standard for the surgical management of symptomatic gallstones. However, with the increase in the number of laparoscopic operations performed, there has also been a noticeable increase in the number of complications specific to these procedures. Known complications of laparoscopic Cholecystectomy include bowel and vascular injury, injury of the bile duct and complications of retained stones, in less than 5% procedures performed. Spillage of bile and stones in the abdominal cavity has been reported in 15%-40% of procedures performed, but these are believed to be innocuous. We report a patient who suffered a thoraco abdominal complication in form of right sub diaphragmatic abscess, may be due to bile spillage, three weeks after initial operation.

Keywords: Sub diaphragmatic abscess; Laparoscopic cholecystectomy

Introduction

In the current era of minimally invasive surgery, Laparoscopic Cholecystectomy has become the gold standard for the surgical management of symptomatic gallstones. However, with the increase in the number of laparoscopic operations performed, there has also been a noticeable increase in the number of complications specific to these procedures. Known complications of laparoscopic Cholecystectomy include bowel and vascular injury, injury of the bile duct and complications of retained stones, in less than 5% procedures performed. Spillage of bile and stones in the abdominal cavity has been reported in 15%-40% of procedures performed [1], but these are believed to be innocuous. We report a patient who suffered a thoraco abdominal complication in form of right sub diaphragmatic abscess, may be due to bile spillage, three weeks after initial operation. This is worth reporting because authors have seen only single instance of sub diaphragmatic abscess in an experience of more than 700 lapcholecystectomies.

Case Report

A 25 year old female presented to primary care physician with 3 days history of pain right hypochondrium and right lower chest, coughing and fever (range 100°F-10°F), approximately three weeks after laparoscopic Cholecystectomy. X-ray chest done shows air fluid level under Right. Sub diaphragm with Right Basal lung signs. Sonography revealed Right sub diaphragmatic abscess, with Right. Pleural effusion HRCT thorax also confirmed Right sub diaphragmatic abscess, USG guided Right. Sub diaphragmatic abscess drainage done twice on 18/07/2013 and 22/07/2013, but abscess could not be completely resolved, hence drainage under GA done on 26/07/2013. Detailed investigation revealed TLC 11.16×10^3 , Hb-9 gm/dl, ESR-80 mm in 1st hr, CRP +ve, Pleural fluid culture sterile, pus culture-pseudomonas aeruginosa grow pleural fluid ADA-127 u/l, Pleural fluid -sugar 57 mg/dl, Protein 3.8 gm/dl, LDH -434 u/l. No AFB seen in Pus or pleural fluid. Patient discharged on 31/07/13. Patient at 6 month follow up when last seen was perfectly well.

Discussion

Since its inception in 1987, laparoscopic Cholecystectomy has largely replaced the open approach for treatment of Cholecystitis and Cholelithiasis. The benefits of laparoscopic surgery are well described

and include greatly reduced postoperative hospital stay and surgical pain. Nevertheless, rare but serious complications such as vascular and common bile duct injuries occur twice as often with laparoscopic approach versus an open procedure [2]. A more frequent undesired event is accidental spillage of gall stones occurring is 6% to 16% of the cases, in recent large retrospective analysis [3,4]. Although the bile is easily sucked after irrigation in such cases, removal of gallstones from within the abdominal cavity can prove more challenging.

Various authors have reported postoperative complications in 0.08% to 2.5% of all patients undergoing laparoscopic Cholecystectomy having unretrieved gall stones [5-7].

A review of the literature published in 2002 revealed 127 case reports describing spillage of gall stones since 1963, of which 44% involved intra peritoneal abscess, 18% abdominal wall abscess, 12% thoracic abscess, 10% retroperitoneal abscess, 3% pelvic abscess and 3% pericolic abscess [8].

Thus overall thoracic complications of unretrieved gall stones are rare, but do represent significant morbidity in the affected patient. In our patient there was no spillage of gall stones, still our patient had developed sub diaphragmatic abscess, probably it would have been spilled bile which was not sucked completely, so a need to do proper peritoneal toileting is mandatory especially in difficult cases.

There is insufficient evidence to support conversion of a laparoscopic procedure to a laparotomy based solely on the spillage of bile, or even the leaving of multiple stones intraperitoneally after the procedure. It is good practice to attempt to remove all debris spilt intra operatively during laparoscopic Cholecystectomy, but this does not necessitate conversion to a laparotomy in most cases. It is also important for the

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surgeon to be mindful of delayed complications in patients presenting with vague symptoms after a laparoscopic Cholecystectomy.

Percutaneous drainage of a sub diaphragmatic abscess is an accepted method of treatment today. Percutaneous drainage offers lower invasiveness and cost and has equal efficacy in drainage [9]. However, we feel that once sub diaphragmatic collection develops than drainage under general anesthesia should be considered initially to avoid morbidity in such cases. In our case USG guided aspiration was done twice, but with unsatisfactory result, so we have to resort to drainage under general anesthesia. Further location of these abscesses is such that hinders satisfactory USG guided aspiration.

Conclusion

During lap Cholecystectomy, bile may spill into the abdominal cavity for a variety of reasons. Every attempt should be made to minimize the spillage, irrigate the abdomen to dilute the spilled bile prior to sucking and retrieve the dropped stones if any.

In spite of all attempts, it is important for the surgeon to be aware that unsucked bile, on rare occasion, may result in complication after the initial operation. Our patient presented 3 weeks after lap Cholecystectomy as a Right sub diaphragmatic abscess and treated successfully by external drainage. Hence emphasis should be made to minimize the bile spillage, irrigate the abdomen to dilute the spilled bile and suck the dropped bile.

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