



A RETROSPECTIVE STUDY OF GALL BLADDER PERFORATION DURING LAPAROSCOPIC CHOLECYSTECTOMY

Surgery

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ABSTRACT

Background: During laparoscopic cholecystectomy, gallbladder perforation with leakage of bile and gallstones into abdominal cavity occurs frequently while Gallbladder is being from dissected from liver bed or while extracting it through the port site. In this retrospective study we have studied the case files of the patients who underwent laparoscopic cholecystectomy and had intraoperative gallbladder perforation and had studied its effect on outcome of the surgery. **Material & Method:** This is a retrospective done at Patna medical college & hospital in January 2019 in which the patients record of 310 patients of laparoscopic cholecystectomy from January 2018 to December 2018 were studied. The incidence of perforation, duration of operation and the post-operative complication were noted and the data obtained was analyzed. **Result:** Perforation was more common during dissection from liver bed. The mean duration of surgery in perforated case were 65 min compared to 50 mins in patients without perforation. **Conclusion:** Intraoperative gallbladder perforation does not lead to any other adverse complications.

KEYWORDS

INTRODUCTION

Laparoscopic cholecystectomy is the gold standard for the treatment of cholelithiasis. Although the overall complication rate is less than the traditional open approach, there appear to be at least two operative complications that occur with greater frequency during laparoscopic cholecystectomy. One is the bile duct injury and other is the gallbladder perforation. Gallbladder gets perforated while it is being dissected from liver bed or while being extracted through the port. During laparoscopic cholecystectomy, because of perforation of the gallbladder, the rate of bile spillage and loss of gallstones into the peritoneum has been reported to be between 3% to 33%. The gallstone left in the peritoneal cavity acts as the source of infection, while the bile spillage may lead to chemical peritonitis and may cause localized or systemic infection, inflammation, fibrosis, adhesion, small bowel obstruction, septicemia and intra-abdominal abscess. After the perforation some surgeon consider to convert it to open in search of stone and for adequate lavage of the peritoneal cavity, while some surgeon feels that adequate lavage can be done through the laparoscopy and there is no need of extensive stone search and conversion to the open procedure. Gallstone spillage can manifest years after the surgery as fibrosis, adhesion, and small bowel obstruction. In the retrospective study we have studied the case files of the patients who underwent laparoscopic cholecystectomy and had intraoperative gallbladder perforation and studied its effect on the outcome of the surgery.

MATERIAL AND METHODS

This is a retrospective done at PMCH, Patna in January 2019 in which the patients records of 310 patients of laparoscopic cholecystectomy from January 2015 to December 2015 was studied. All the patients had received prophylactic preoperative antibiotics. The incidence of intraoperative gallbladder perforation, duration of surgery, postoperative complications were noted down and the outcome and impact of intraoperative gallbladder perforation was studied in comparison to the patients who did not have intraoperative gallbladder perforation. The data obtained from this study was analyzed and compared in terms of postoperative complication, stay in the hospital.

RESULTS

There were total 310 patients in this study, out of which 29 were males and female 281 were females with male and females ratio being 1:9. Out 310 patients operated 16 patients (5%) had intra-operative gallbladder perforation. In 16 patients of intraoperative gallbladder perforations, 9 patients had perforation during dissections of gallbladder from liver bed and 7 patients had perforations at the time of its extraction from the port site. 12 patients had only bile spillage while 4 patients had both bile and stone spillage together.

Table 1. Results

Total no. of patients	310
Incidence of GB perforations	16 (5.17%)
Perforation at liver bed	9
Perforation at port sites	7

Bile spillage only	12
Bile and stone spillage	4
Converted to open	0
Drained	12
Not drained	4

It is protocol at our hospital, that if such thing happens, the peritoneal cavity is thoroughly irrigated with normal saline and then aspirated and stone were searched and taken out laparoscopically. It is on the decision of surgeon to put drain or not. In this study out 16 patients, drain was put in 12 patients. None of the patients were converted to open. The drain was taken out after 24 hours and then patients were discharged. The mean durations of operation of laparoscopic cholecystectomy was 50 min while in patients who had gallbladder perforation, the mean duration was 65 minutes.

The postoperative period was uneventful. None of the patients had surgical site infections. Only three patients (18.75%) had post operative fever for which ultrasound was done which did not showed any collections in subhepatic or subphrenic space.

The fever subsided with the use of 3rd generation cephalosporin with metronidazole. The mean duration of stay in the hospital for the patients of gallbladder perforation was 55 hrs., compared to 22 hrs. for the patients without perforation.

Table 2. Comparisons Of GB Perforation Case With The Patients Without GB Perforation.

	GB perforation cases	Without GB perforation
Mean duration of surgery	65 mins	50 mins
Postoperative fever	3(18.75)	16(5.4%)
Duration of stay in the hospital	56 hrs.	22 hrs.

DISCUSSION

Most common complication reported with laparoscopic cholecystectomy is the wound infection, the most common worrisome complication is bile duct injury or bile leakage.

Other commonly described complications include retained common duct stones, hemorrhage or vascular structure injury, bowel or other viscera injury and intraoperative gallbladder perforation and stone spillage. The most common site of gallbladder perforation as has been previously described in literature is at the time of dissection of gallbladder from liver bed and secondly at the time of its extraction from the port site. Main cause being cited for it is lack of preprocedural aspiration of bile as it used to be during open cholecystectomy and dissections being done with distended gallbladder. The incidence of gallbladder perforation has been reported to be around 30% and incidence of stone spillage in the peritoneal cavity is around 20%. In our study the incidence of gallbladder perforation is 5.17% and the incidence of stone spillage being 1.2%. The gallstone left in the

peritoneal cavity acts as a site of infections, while bile spillage may lead to biliary peritonitis these might be the cause of wound infections, intraperitoneal abscesses, adhesions with consequent intestinal obstruction. In our study only 3 patients (18.75%) of gallbladder perforation had postoperative fever for which USG was done to look for any collection. USG finding was negative for collections. The fever subsided with antibiotics. If gallstone are knowingly spilled within the abdominal cavity, every attempt should be made to remove all gallstones. Because infective complications are rare following gallbladder perforation, conversion to laparotomy is not routinely indicated. T. THUI et al. reported gallbladder perforation rate as 36% cases without any late postoperative complication. For this reason, conversion to an open procedure for removal of dropped stone is not advocated.

CONCLUSION

Intraoperative Gallbladder perforation does not cause any serious complication. The only effect is increase in the duration of surgery and the hospital stay which can be attributed to postoperative fever and drain placements. There is no need of conversion to open in cases of intraoperative gallbladder perforation.

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