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A study on post operative bile leak after cholecystectomy in JLNMC, Bhagalpur

General Surgery

Dr. Apurva kumar Rajan Senior resident Department of surgery Jawaharlal Nehru Medical College, Bhagalpur, Bihar

Dr. Sohail Anjum Senior resident Department of surgery Jawaharlal Nehru Medical College, Bhagalpur, Bihar

ABSTRACT

Aim and Objectives: Bile leak is a common and serious complication of cholecystectomy. In this study we find the incidence, source and management of bile duct injuries.

Materials & Methods: In this study, 100 surgically operated cholecystectomy cases were taken with age group between 15-60 years. Study was done in surgery department of JLNMCH, Bhagalpur, Bihar from February 2016 to January 2017. All cases were registered fulfilled the inclusion criteria.

Results: Out of 100, 65 cases were undergone open cholecystectomy and 35 cases were operated by laparoscopic cholecystectomy. Females were more than females in the study. Average age group was 30 years. Post operative bile leak was seen in 08 cases. 05 cases of bile leakage were seen in open cholecystectomy, 03 cases after laparoscopic cholecystectomy. Cause of bile leakage were from liver bed in 04 cases, CBD injury 02 cases, cystic duct injury in 01 case and from injury to accessory bile ducts in 01 case. They were managed conservatively by drain, laparotomy with ligation of cystic duct and accessory duct and endoscopic stenting. No mortality was observed. Post operative hospital stay was 14 days on average.

Conclusions: Bile leakage was more common in open cholecystectomy than laparoscopic cholecystectomy. Conservative treatment was employed in majority of leaks. Further strategies need to be developed for dealing with bile duct injuries as early diagnosis and help in timely management.

KEYWORDS:

Cholecystectomy, Biliary leakage, endoscopic stenting, laparotomy, CBD injury

Introduction

Cholecystectomy is one of the most frequently performed surgeries. The surgery is associated with many avoidable complications and hence requires a serious and cautious approach. The frequency of bile duct injury remains fairly constant. The seriousness of this complication relates in part of problems of biliary fistula and uncontrolled sepsis and in part to the technical difficulties of successful repair of bile duct injuries. Laparoscopic cholecystectomy has now replaced open cholecystectomy as the first-choice of treatment for gallstones unless there are contraindications to the laparoscopic approach. Sometimes a laparoscopic cholecystectomy may be converted to an open cholecystectomy for technical reasons or safety. Laparoscopic cholecystectomy has recently become the more preferred operation over open cholecystectomy. Complications associated with cholecystectomy are bile duct injuries, bile leak from accessory bile ducts or due to clip displacement from the cystic duct, retained stones in the common bile duct, perforation of gallbladder, bleeding from liver, cystic or hepatic artery, subphrenic abscess and peritonitis. Bile duct injuries are important because they are preventable, but once they occur, they may be associated with considerable morbidity and mortality. Although LC has shortened hospitalization and decreased mortality and morbidity, reviews have reported that LC has a two-fold higher incidence of bile duct injuries than OC (0.6% vs 0.3%)(1-3). There are also some reviews which have reported the incidence of biliary leakages as up to 1.1%. Biliary leaks can occur after laparoscopic cholecystectomy in 0.3% to 2.7% of patients. ERCP has emerged as a minimally invasive method for the primary treatment for bile leaks. The outcome of sealing the leak can be accomplished by a variety of endoscopic techniques. These methods include biliary sphincterotomy alone, biliary stenting with or without sphincterotomy, and nasobiliary drainage. All of these methods of endotherapy seem to be equally effective in allowing the leak to heal in most cases, but the approach of choice remains controversial. Although there is no consensus regarding the optimal endoscopic intervention, recent data suggest that a combination of biliary sphincterotomy and the placement of a transpapillary biliary stent has a better outcome for the treatment of high-grade and more complex biliary leaks. However, despite the high success rate and safety of endotherapy for bile leaks, there are reports of difficult-to-treat refractory bile leaks that require multiple endoscopic interventions and sometimes require surgery. In recent years, the temporary placement of a fully covered self-expandable metal stent has emerged as an effective rescue therapy for refractory biliary leaks.

Materials & Methods:

In this study, 100 surgically operated cholecystectomy cases were taken with age group between 15-60 years. Study was done in surgery department of JLNMCH, Bhagalpur, Bihar from February 2016 to January 2017. All cases were registered fulfilled the inclusion criteria.

Results:

Out of 100, 65 cases were undergone open cholecystectomy and 35 cases were operated by laparoscopic cholecystectomy.

Method of cholecystectomy	Number of patients operated
Open	65
Laparoscopic	35

Females were more than females in the study.

Gender	Number of patients
Females	68
Males	32

Average age group was 30 years. Post operative bile leak was seen in 08 cases. 05 cases of bile leakage were seen in open cholecystectomy, 03 cases after laparoscopic cholecystectomy.

Post op bile leak in	Number of cases
Open cholecystectomy	05
Laparoscopic cholecystectomy	03

Cause of bile leakage were from liver bed in 04 cases, CBD injury 02 cases, cystic duct injury in 01 case and from injury to accessory bile ducts in 01 case.

Cause of bile leak	Number of patients
liver bed	04
CBD injury	02
cystic duct injury	01
injury to accessory bile ducts	01

They were managed conservatively by drain, laparotomy with ligation of cystic duct and accessory duct and endoscopic stenting.

Method of management	Number of patients
Conservative	05
Laparotomy and ligation	02
Endoscopic stenting	01

No mortality was observed. Post operative hospital stay was 14 days on average.

Conclusions: Bile leakage was more common in open cholecyste ctomy than laparoscopic cholecystectomy. Conservative treatment was employed in majority of leaks. Further strategies need to be developed for dealing with bile duct injuries as early diagnosis and help in timely management.

Discussion

The biliary tract is a complex organ system that performs the simple though vital task of collecting, storing, and delivering bile to the gastrointestinal tract. Diseases of the biliary tract can be extremely painful, debilitating, and occasionally life threatening. Deziel et al. reported identifying the site of leakage in 107 patients; as arising from the cystic duct in 57, the gallbladder fossa in 24, the CBD or hepatic duct in 18, an aberrant bile duct in 7, and the liver biopsy site in 1.21 Retained CBD stones were also found in 3 patients with cystic duct leaks. In our study bile leakage were from liver bed in 04 cases, CBD injury 02 cases, cystic duct injury in 01 case and from injury to accessory bile ducts in 01 case. Some surgeons have managed leakages after biliary surgery by open surgical therapy. More than one surgery is needed for these patients. There are also high mortality (8%) and morbidity rates, especially in the early postoperative period. There are some studies which indicate laparoscopic correction or drainage is successful in patients who have no jaundice or biliary stones. But this method is not suggested for major leakages. Percutaneous therapy has some disadvantages as well. It is difficult to puncture the biliary tree when it is not dilated. There is also the fear of hemorrhage and biliary leak during stenting with large diameters. But some studies have shown percutaneous treatment as effective. Stenting is a more accepted treatment than NBD according to the literature. The pressure gradient between the biliary tree and duodenum disappears through stents and biliary flow becomes easier. We use NBD more than stenting as we believe it shortens the recovery period with the help of a higher bilioathmospheric gradient than bilioduodenal gradient. Furthermore, it is possible to monitor the leakage without risk of second endoscopic procedure and premedication. Although carrying NBD is not comfortable, this is an important advantage

Conclusions:

The incidence of SSI is high in our setup. Elderly age group, diabetic, immunocompromised have more chances to hav ssi than others. Our study reveals that though SSIs have been widely studied since a long time, they still remain as one of the most important causes of morbidity and mortality in surgically treated patients. The steps taken to reduce SSIs are still not adequate. Proper infection control measures and a sound antibiotic policy should reduce SSIs in the future.

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