

Original Research Article

The Study of Gall Bladder Perforation (2005-2015)

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Abstract: The aim of the study was to study the gall bladder perforation and its management. This was a retrospective study, conducted on the 35 patients over a period of 10 years (2005-2015) in Department of Surgery, Dr. S. N. Medical College, and Jodhpur. Patients were studied for clinical presentations, associated risk factor, and accuracy of various diagnostic modalities, its complications and associated mortality and morbidity. GB perforation was more common in the elder age groups and in patients with associated illness like DM, IHD, and HTN etc. Common symptoms were pain abdomen, vomiting and fever. Pre-operative diagnosis was made in <50% patients. MRCP was far superior to other investigation for early diagnosis. Timely appropriate surgical intervention like total cholecystectomy/ partial cholecystectomy/chole cystostomy was helpful in decreasing morbidity and mortality. All 35 (n=35), patients were treated with surgery. 11% patients expired and 35% developed various post -operative complications. Because of old age, lack of preoperative diagnosis and surgical difficulties, gall bladder perforation was associated with high mortality and morbidity.

Keywords: Perforation, cholecystitis, morbidity & mortality, MRCP

INTRODUCTION

Gall bladder perforation is a rare but life threatening complication of acute cholecystitis. Gall bladder perforation presentation sometimes does not differ from uncomplicated acute cholecystitis thus resulting in high morbidity and mortality. The establishment of early cholecystectomy and improvement of antibiotics therapy regimen have reduced the risk of gall bladder perforation in acute cholecystitis to 0.8-3.2% today [1]. Clinical presentation ranges from acute general peritonitis to benign non-specific abdominal symptoms. A perforation can occur as early as 2 days after onset of acute cholecystitis or several weeks after. Because of poor blood supply fundus is the most common site of perforation.

MRCP has gained widespread use as a most sensitive test for diagnosis of choledocolithiasis, evaluation of biliary tract and detect severe complication of acute cholecystitis [2]. Systemic disease such as diabetes mellitus, atherosclerosis & heart disease are thought to be contributory and elderly patients are especially susceptible to GB perforation.

MATERIALS AND METHODS

The study was conducted in department of general surgery, DR. S.N.M.C Jodhpur, Rajasthan

during last 10 years (2005-2015). Only diagnosed cases of GB perforation were included in this study. Patients with gall bladder perforation due to trauma, iatrogenic causes or due to malignancy were not included in the study.

RESULTS

Study includes 35 patients admitted in surgical wards among them 4 expired and 31 survived. Study shows maximum incidence of gall bladder perforation were seen in sixth decade of life (34%) followed by seventh and eight decade (17% each). Gall bladder perforation was more common in diabetics and hypertensive as compared to normal population (14.2% and 8.6% respectively). Most of patients presented with complaint of pain abdomen (100%) followed by fever and vomiting 94% & 62% respectively.

Most common complication was ARF (34%) followed by biliary peritonitis (31.4%) and sub hepatic collection (25%) (TABLE I). Study reveals that MRI detected all cases of perforation accurately (100%) and CT detect 66.6% cases of perforation only and USG was able to detect only 20% cases of perforation accurately (Figure 1).

All patients of perforation were operated. Most common surgery performed was open total cholecystectomy (51.4%), partial cholecystectomy (37.2%) and chole cystostomy (11.4%) in rest patients (Figure 2). Laproscopic surgery was not attempted in our study because of lack of expertise. In our study most common type of perforation was type 2 (65.7%) followed by type 1 perforation (31.5%) and type 3 perforation was noted only in one case (2.8%) (Table 1).

Most common incision used was right sub costal (42.9%), midline vertical (37.1%) and right paramedian least common (20%). In our study most common site of perforation, in contrary to other studies, was neck (37.2%) followed by fundus (31.4%) and body (25.7%).

In this study most common post-operative complications were surgical site infection (34%), cardio-respiratory complication (31%), bed sore (14.2%) and bile leak in 11.2%. All cases of biliary leakage were managed with ERCP & CBD stenting. Mortality was recorded in only 4 patients.

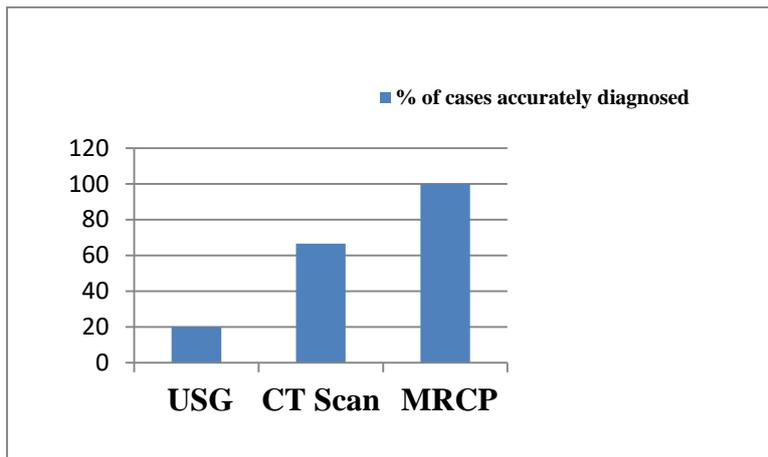


Fig 1 Accuracy of imaging modalities

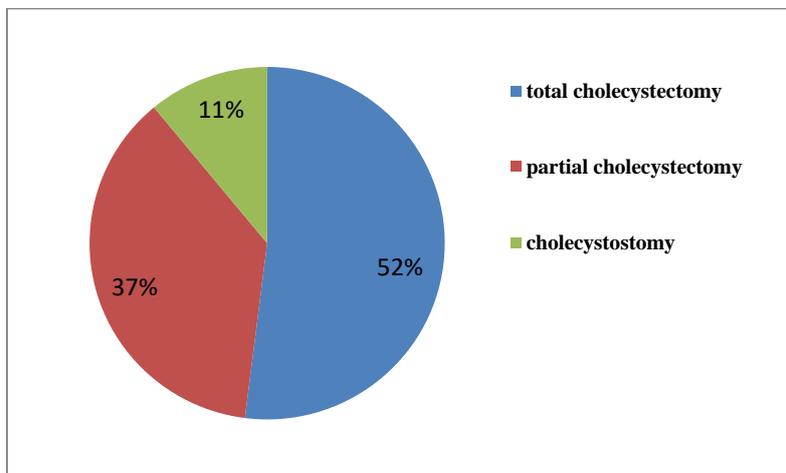


Fig 2 Types of operation

Table 1: Types and complications of perforation

Types of Perforation		
S. No.	Types of Perforation	% of Patients
1	Type I	31.5%
2	Type II	65.7%
3	Type III	2.8%
Complications		
S. No.	Complications	% of Patients
1	Biliary peritonitis	31.4
2	Sub hepatic collection	25.7
3	Pleural effusion	8.6
4	ARF	34.3

DISCUSSION

Gall bladder perforation is a life threatening complication of acute cholecystitis. The early diagnosis and management of gall bladder perforation can prevent morbidity and mortality. Our study shows incidence of perforation was almost equal in both genders. Incidence of perforation was more in elderly, diabetics, hypertensive and heart disease. Pain abdomen was most common presentation followed by fever and vomiting.

Preoperative diagnosis was made in lesser than 50% cases. Diagnosis delay leads to operative delay and increased mortality & morbidity. Study reveals that MRCP was far superior to USG and CT scan in diagnosis of GB perforation. About 50% patients were treated with partial cholecystectomy and chole cystostomy because of surgical difficulties. In other studies, fundus was the most common site of perforation but in our study most common site of perforation was neck followed by fundus & body. Surgical site infections were most common post-operative complications followed by cardiorespiratory complications, bed sore, bile leak etc. Mortality rate was 11% in our study as compared to other study in which mortality rate was 9.6% [5].

CONCLUSION

Our study concludes that gall bladder perforation is a serious complication of acute cholecystitis, especially in diabetic, hypertensive and in elderly patients. Morbidity & mortality can be avoided by early diagnosis with help of various diagnostic modalities (MRCP> CT>USG) and early appropriate intervention like cholecystectomy or chole cystostomy. Associated post-operative complications were cardio-respiratory difficulty followed by bed sore, bile leak etc.

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