

A RETROSPECTIVE STUDY ANALYSING OUTCOME AND MANAGEMENT OF SPONTANEOUS GALL BLADDER PERFORATION IN A TERTIARY CARE CENTRE**Dr. Zainub Nabi Antoo¹, Dr. Mohammed Anyees Khanday*², Dr. Iqbal Saleem Mir³ and Dr. Abdul Rashid Ganai⁴**^{1,2}Post Graduate Scholar, Department of Surgery, Government Medical College Srinagar, India.³Professor, Department of Surgery, Government Medical College Srinagar, India.⁴Associate Professor, Department of Surgery, Government Medical College Srinagar, India.***Corresponding Author: Dr Mohammed Anyees Khanday**

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ABSTRACT

Introduction: GB perforation is a rare complication of Acute as well as Chronic Cholecystitis. The clinical outcome of patients presenting to our hospital is analysed and presented in a retrospective manner. **Materials and Methods:** Records of 25 people coming to the ER between 2019 and 2020 were analysed. Association of Spontaneous Gall bladder Perforation with gallstones, age, co-morbidities was studied. **Results:** 18 patients with gall bladder perforation had gallstones, 5 were acalculous, 2 patients had Carcinoma of GB causing the perforation. 23 patients had a recovery and 2 expired. Type 1 perforation was the commonest. **Conclusion:** In stable patients with type 1 Gallbladder Perforation, immediate surgical intervention remains the best treatment option.

KEYWORDS: Gallbladder perforation, Gall bladder Abscess, Acute cholecystitis.**INTRODUCTION**

Gallbladder perforation (GBP) is a very rare yet potentially lethal condition seen as a complication of cholecystitis (calculous or acalculous). In cases of persistent gall bladder inflammation, where the obstruction is not relieved, there may be distention of the gall bladder causing ischaemic and necrotic changes to its wall finally It is not uncommon for the presentation to mimic as uncomplicated acute cholecystitis and the delayed diagnosis contributes significantly to its fatality rate.

It has a significantly high mortality rate at around 12 - 16%.^[1]

The clinical picture of gall bladder perforation is varied and can range from acute cholecystitis to frank peritonitis with systemic sepsis.

Furthermore, a subset of even rarer presentations such as intrahepatic perforation of the gallbladder with liver abscess and cholecystohepatic communication make it a challenge for surgeons.

Acute cholecystitis, calculus, or acalculous, can lead to GBP in 6-12% of cases.^[2,3]

Niemeir classification (given in 1934) is the most commonly used system for classification of Gallbladder

Perforation. On the basis of this classification system, GB Perforation is classified into 3 types,

Type I: Acute – GB Perforation with generalized biliary peritonitis.

Type II: Subacute - localized fluid collection at the site of perforation with pericholecystic abscess and localized peritonitis.

Type III: Chronic - Internal Fistulas eg Bilio-Enteric or External fistulas eg Cholecysto-cutaneous.^[4]

In this retrospective analysis, we herein present our clinical experience in diagnosis and management of 25 cases of gallbladder perforation at our institution.

AIMS AND OBJECTIVES

1. To study the Outcome of Gallbladder perforation.
2. To study the Risk factors predisposing to Gallbladder Perforation
3. To study the Post-operative Complications
4. To study the duration of Hospital stay

MATERIALS AND METHODS

This retrospective study analysed patient data over a period of 18 months from June 2019 to December 2020 and included a total of 25 patients.

The study was conducted in the Department of General Surgery, Government Medical College, Srinagar. All cases diagnosed with gall bladder perforation on Ultrasonography who presented to the Emergency Room

of The Department of General Surgery, GMC Srinagar, during this study period were included in the study.

All patients were subjected to detailed history taking and a complete general physical examination. Following Baseline investigations were included

Hb, TLC, DLC

BT, CT

Serum electrolytes (Na⁺, K⁺),

LFT / KFT

X-ray chest and abdomen

Ultrasonography

12-Lead ECG were done.

CECT was done in patients in which USG was inconclusive.

Patients were put on Intravenous Fluids and Antibiotics.

A written informed consent was obtained from all the patients before any surgical intervention.

INCLUSION CRITERIA

Patients presenting to the department of general surgery with acute abdomen and diagnosed with Gall Bladder Perforation on Ultrasound

EXCLUSION CRITERIA

Traumatic GB Perforations

Iatrogenic GB Perforations

OBSERVATIONS AND RESULTS

Table 1: Age distribution.

Age (In Years)	No. Of Patients	Percentage
30–39	1	4%
40–49	3	12%
50–59	10	40%
≥60	11	44%

Table 5: Type of Perforation and Association with Gallstones.

Type of Perforation	No. of patients GBP With gallstones	No. of patients GBP Without gallstones
TYPE I	9 (36%)	4 (16%)
TYPE II	6 (24%)	4 (16%)
TYPE III	2(8%)	

SITE OF PERFORATION OF GALL BLADDER

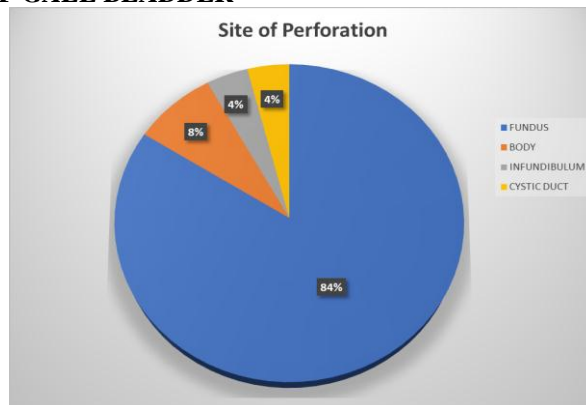


Fig. 1: Sites of Perforation.

Table 2: Gender Distribution.

Gender	No. Of Patients	Percentage
Male	14	56%
Female	11	44%

IN OUR STUDY, 4% OF THE PATIENTS WERE AGED BETWEEN 30-39 YEARS

MAXIMUM NUMBER OF PATIENTS WERE IN THE AGE GROUP OF 50 YEARS

AND ABOVE.

GB PERFORATION WAS MORE COMMON IN MLES (56%) AS COMPARED TO FEMALES (44%)

Table 3: Clinical Features of Gall Bladder Perforation.

Symptom	No of patients	Percentage
Pain Abdomen	15	60%
Fever	2	8%
Localised Peritonitis, Fever, Lump Rhc	6	24%
Vomiting, Abdominal Distention, Generalised Peritonitis	1	4%
Obstructive Features	1	4%

Table 4: Association with Gallstones.

Gallstones	No. of patients	Percentage
Present	17	68%
Absent	8	32%

Table 6: Co-Morbid Conditions.

Comorbid conditions	Patients of gallbladder perforation WITH gallstones	Patients of gallbladder perforation WITHOUT gallstones
DIABETES, OBESITY	2	1
DIABETES, HYPERTENSION	5	1
COPD, HTN, DIABETES	2	2
COPD, HTN	1	0
DIABETES, CKD	1	2

8 PATIENTS DID NOT HAVE ANY CO-MORBIDITIES

6 OUT OF THESE 8 HAD GALL STONES AND 2 PTIENTS WERE WITHOUT GALL STONES

TABLE 7: Management.

Mode of treatment	Gbp with Gallstones	Gbp without Gallstones
Laparotomy with cholecystectomy	5	4
Open Cholecystostomy	2	1
Percutaneous Cholecystostomy	4	1
Conservative with interval cholecystectomy	6	2

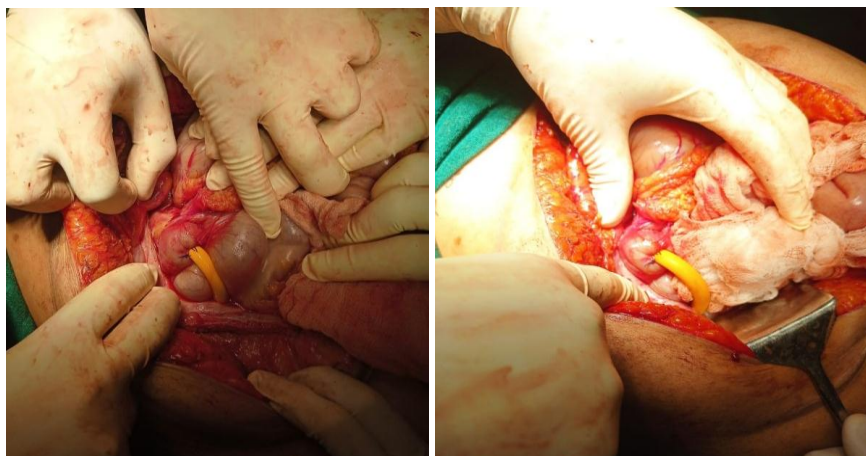
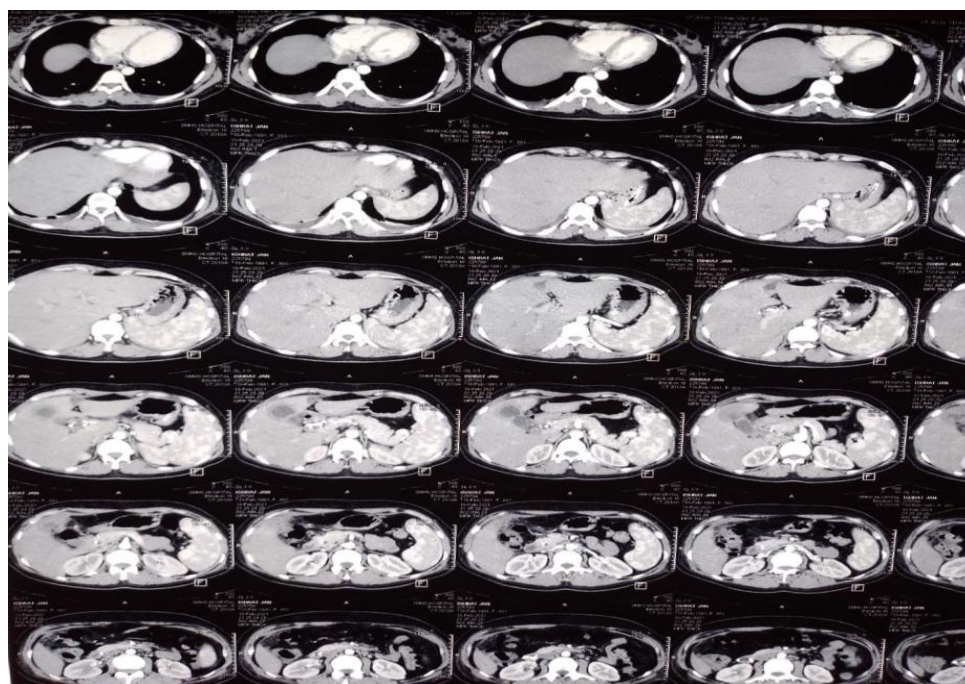
**Fig. 2 and 3: Open Cholecystostomy.****Fig. 4: CECT Showing GB Perforation.**

Table 8: Complications.

COMPLICATION	NO OF PATIENTS	PERCENTAGE
Intra Abdominal Collection/ Pericholecystic Abscess	6	24%
Wound Dehiscence	2	8%
Surgical Site Infection	4	16%
Death	2	8%

Table 9: Duration of Hospital Stay

Hospital Stay (days)	No of Patients	Percentage
5	2	
6	1	
7	1	
8	1	
9	6	
10	3	
11	4	
12	4	
13	0	
14	1	
15	2	

RESULTS

Among the sample size of 25 patients, 14 were male and 11 were females. Abdominal pain was commonest presenting complaint bringing the patients of GBP to the hospital (60%) followed by localised peritonitis with fever (24%).

68% of Patients had GBP associated with Gallstones. Type 1 perforation was the most prevalent at 52%. Fundus of the Gall bladder remained the most common site of perforation at 84%.

Majority of the patients had atleast one co-morbidity. 10 out of 25 patients underwent laparotomy with cholecystectomy (40%). 8% patients underwent Open Cholecystostomy, while 20% of patients unfit for laparotomy underwent Percutaneous Cholecystostomy.

2 patients had Gallbladder Carcinoma. Papillary and Squamous types were found on Histopathology. 2 Patients presented with SIRS.

The mortalities were at 8%

DISCUSSION

The first reported case of Gall bladder perforation was by J Duncan of The Royal Infirmary, Edinburgh in 18445. GBP cannot be reliably predicted but it serves to have a high index of suspicion in people with advanced age and co morbidities such as Diabetes and Atherosclerosis.^[6] In cases of GallBladder Perforation secondary to a calculus, the rise in intraluminal pressure due to retained secretions caused by a blockade of the cystic duct by a calculus seems to be the triggering event. This rising intraluminal pressure impedes venous and lymphatic flow and cascades into ischemia leading to necrosis, with the sequelae of gall bladder perforation and in some

cases progresses to gangrene. GBP also develops following acalculous cholecystitis, although rare.^[8] Gall bladder fundus, the distal most part in terms of blood supply, is the most common site of perforation^[9] and it frequently leads to generalized peritonitis (type 1).^[1,12,13,14] If the site of perforation is other than the fundus, it is often sealed by the omentum or the intestines (both large and small bowel) and the condition remains limited to the right hypochondrium with lump formation and pericholecystic fluid or abscess (Type 2). These cases can be managed by lavage and drainage if cholecystectomy cannot be proceeded with. CT can show more accurate signs of free intraperitoneal fluid, pericholecystic fluid, and abscess¹⁵. CT can also show GB wall thickness and the defect on the wall due to perforation.

Fistulas develop from the gradual erosion of the weakened, chronically inflamed and densely adherent wall of the gallbladder, and bowel.

GBP remains one of the rare presentations of Gallbladder Malignancy

CONCLUSION

The presenting complaints such as Pain Abdomen, Fever, vomiting, tenderness in the upper abdomen are non-exclusive to Gall Bladder Perforation, diagnosis is often delayed until imaging is done.

Sealed Perforations in haemodynamically stable patients can be managed conservatively under observation, although a careful watch is needed as the seal may not be permanent and patient can go into frank biliary peritonitis upon dislodgement/ leak of the seal.

Early Surgical Interventions appear to shorten the mortality and morbidity of the disease.

Having a high index of suspicion of Possible GBP in elderly co-morbid patients serves well for expediting imaging studies needed for early diagnosis of the disease. A Delay in diagnosis and consequently a delay in intervention increases the morbidity and mortality associated with the disease.

Conflict Of Interest

None.

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