



USE OF USG GUIDED PERCUTANEOUS CHOLECYSTOSTOMY IN ACUTE CHOLECYSTITIS AND GALL BLADDER PERFORATION

General Surgery

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ABSTRACT

Background: Acute cholecystitis is defined as inflammation of gall bladder it can be divided into calculous cholecystitis and acalculous cholecystitis, Gall bladder perforation. Acute cholecystitis not responding to antibiotics therapy requires intervention and intervention of choice being laparoscopic cholecystectomy however many patients will not be able to tolerate surgical stress. Thus, patient who are unfit for surgery can be benefitted with per cutaneous cholecystostomy. **Method:** This study was a non-randomized cohort study carried out in 15 patients who presented to our tertiary care center with clinical symptoms and signs of acute cholecystitis and gall bladder perforation. **Results:** In present study of total study patients 10 (66%) are male and 5(34%) females. In the study patient with acute cholecystitis are 12(80%) and type 2 Gall bladder perforation were 3(20%). Patient who underwent USG guided PCC 98% had significant pain improvement measured by pain scale. Patient with USG guided PCC has 100 % improvement in blood parameters - TLC, RFT, LFT, thus patient who underwent medical 95 % management had increase hospital stay and 16% mortality. Patient who underwent emergency cholecystectomy 50% had more pain and morbidity **Conclusion:** Patients with USG-guided PCC have better morbidity compared to conservative management. As USG-guided PCC has less surgical stress, it is better compared to emergency cholecystectomy.

KEYWORDS

INTRODUCTION

Acute cholecystitis is a common indication for hospital admission and an increasing burden on the Western healthcare system. In the United States, the number of hospital admissions for acute cholecystitis increased by 44% during 1997-2012, from 149 661 to 215 995.¹

In young, otherwise healthy patients early laparoscopic cholecystectomy is considered the treatment of choice for acute calculous cholecystitis.² In high-risk patients the management of acute cholecystitis remains controversial. Cholecystectomy in these patients can lead to serious morbidity and mortality owing to reduced physiological reserve.³⁻⁶ Therefore, imaging guided percutaneous catheter drainage is increasingly being performed as an alternative to early cholecystectomy. This minimally invasive radiological procedure resolves local and systemic inflammation without the risks of surgery. According to international guidelines, it is a valuable treatment in high risk patients and in those with moderate or severe cholecystitis.⁷ A drawback of percutaneous catheter drainage, however, is that it is not a definitive treatment since the gallbladder is not removed. This may lead to recurrent cholecystitis, and other biliary complications with severe clinical effects.^{8,9}

No randomised studies have compared laparoscopic cholecystectomy with percutaneous catheter drainage in patients with acute cholecystitis. It therefore remains unclear which treatment should be preferred in terms of clinical and economical outcomes. In daily practice, both cholecystectomy and percutaneous catheter drainage are performed according to the preference of the treating surgeon, gastroenterologist, or other clinicians.

The purpose of this study was to evaluate the use of USG guided Percutaneous Cholecystostomy in acute cholecystitis and gall bladder perforation.

MATERIAL AND METHODS

This study was a non-randomized cohort study carried out in 15 patients who presented to our tertiary care center with clinical symptoms and signs of acute cholecystitis and gall bladder perforation. Patient with ultrasonography showing pericholecystic collection with wall thickness and distended gall bladder are planned for percutaneous cholecystostomy. In local anesthesia under ultrasonography guidance 8 Fr Pigtail catheter was introduced to the gall bladder and fixed using mersilk no. 1 suture

Inclusion Criteria

- Patient with symptoms and signs of acute cholecystitis not resolving with antibiotics for 48 hours

- Patient with symptoms and signs of type 2 gallbladder perforation
- Patient between age group of 18 to 70 years
- Patients of both sexes

Exclusion Criteria

- Patient not consenting for interventions
- Patient with CBD stones
- Patient with diffuse peritonitis
- Patient with type 1 gb perforation
- Patients with ultrasonography abdomen showing contracted gall bladder/ non accessibility for PCC insertion.

Patients who underwent USG guided PCC were compared with other group in terms of

1. Pain abdomen improvement
2. Improvement in blood parameters- total leucocyte count, renal function test, liver function test
3. Hospital stay/need of ICU care
4. Mortality



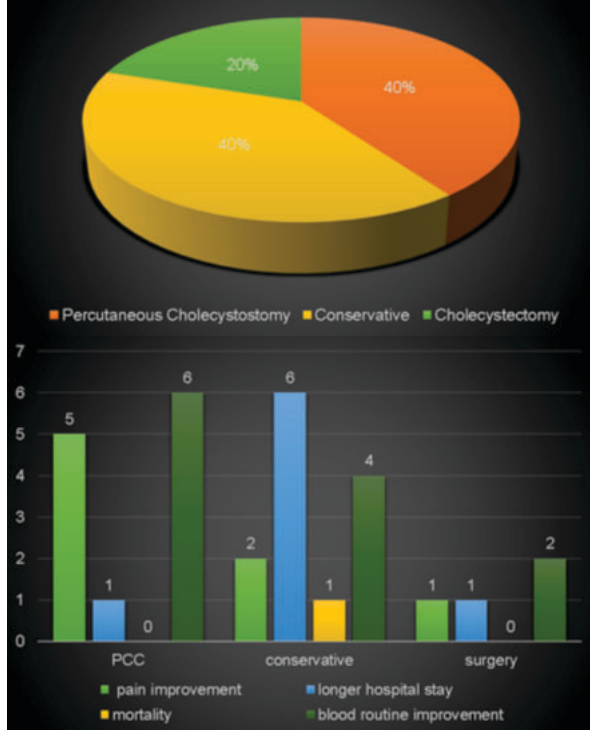
RESULTS

This study was a non-randomized cohort study carried out in 15 patients who presented to our tertiary care center with clinical symptoms and signs of acute cholecystitis and gall bladder perforation.

In present study of total study patients 10 (66%) are male and 5(34%) females. In the study patient with acute cholecystitis are 12(80%) and type 2 Gall bladder perforation were 3(20%). Of the gall bladder

perforation 2 patient underwent percutaneous cholecystostomy and one underwent emergency cholecystectomy. Acute cholecystitis cases 6 were medically managed and 2 underwent emergency cholecystectomy and 4 patients underwent percutaneous cholecystostomy.

	Male	Female
Acute cholecystitis	8	4
Gall bladder perforation	2	1
Comorbidity	Acute cholecystitis	Gall bladder perforation
Type 2 DM	11	3
Cardiac disease	3	1
COPD/Asthma	0	1
Hypertension	2	0
	MALE	FEMALE
Percutaneous Cholecystostomy	4	2
Cholecystectomy	3	0
Medical management	3	3



Patient who underwent USG guided PCC 98% had significant pain improvement measured by pain scale. Patient with USG guided PCC has 100% improvement in blood parameters - TLC, RFT, LFT, thus patient who underwent medical 95% management had increase hospital stay and 16% mortality. Patient who underwent emergency cholecystectomy 50% had more pain and morbidity.

DISCUSSION

The incidence of gallbladder disease increases with age and acute cholecystitis in the elderly is related to a high mortality rate of emergency cholecystectomy in critically ill patients. Percutaneous cholecystostomy enables adequate resolution of the acute phase of cholecystitis. Percutaneous cholecystostomy is an easy procedure to perform.

In present study of total study patients 10 (66%) are male and 5(34%) females. Similar results were observed in a study conducted by Abdual A F et al., were they found the maximum patients were male with count of 71.4%.¹⁰

In our study patient with acute cholecystitis are 12(80%) and type 2 Gall bladder perforation were 3(20%). Of the gall bladder perforation 2 patient underwent percutaneous cholecystostomy and one underwent emergency cholecystectomy. Acute cholecystitis cases 6 were medically managed and 2 underwent emergency cholecystectomy and 4 patients underwent percutaneous cholecystostomy.

Patient who underwent USG guided PCC 98% had significant pain

improvement measured by pain scale. Patient with USG guided PCC has 100% improvement in blood parameters - TLC, RFT, LFT, thus patient who underwent medical 95% management had increase hospital stay and 16% mortality. Patient who underwent emergency cholecystectomy 50% had more pain and morbidity.

Başaran et al concluded ultrasound-guided PC to be a relatively safe and easy method for treating acute cholecystitis in critically ill patients, with a low risk of complications and high likelihood of success.¹¹

Atar et al conducted a study regarding the outcome of PC in critically ill patients with acute cholecystitis. Their study included 71 patients with calculous cholecystitis and 10 with acalculous cholecystitis. In all cases, the PC drain was successfully inserted with no immediate major procedural complications. They concluded early percutaneous GB drainage to be safe and effective in critically ill patients in the acute phase of cholecystitis, with a high technical success rate, and surgical outcomes in survivors to be better than those reported in patients treated without drainage. Bile duct stones can be eliminated without creating additional access.¹²

Li et al in their study regarding the role of PC for high-risk patients with acute cholangitis found 100% technical success rate for PC with no procedure-related mortality. They concluded PC to be an effective treatment for acute cholangitis in high-risk elderly patients; particularly valuable as a temporizing measure before definitive treatment in critical patients or as salvage therapy where other methods such as ERCP/PTBD failed.¹³

CONCLUSION

Patients with USG-guided PCC have better morbidity compared to conservative management. As USG-guided PCC has less surgical stress, it is better compared to emergency cholecystectomy.

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