ORIGINAL RESEARCH

Evaluation of profile and surgical findings among patients of acute cholecystitis

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ABSTRACT

Background: The present study was conducted for evaluating profile and surgical findings among patients of acute cholecystitis.**Materials & methods:**100 patients with acute abdominal pain or with other illness on investigation found to have acute cholecystitis were enrolled. Assessment of patient include detailed history, clinical examination, standard laboratory test including liver function tests, serum amylase, lipase and radiological diagnosis with ultrasound examination, CT, MRCP. The treatment plan followed and given for the patient is noted and assessed. Surgical findings were recorded separately. All the results were recorded in Microsoft excel sheet and was subjected to statistical analysis using SPSS software.**Results:**Mean age of the patients was 53.9 years. Sonographic Murphy's sign was seen in 98 percent of the patients. Surgical management was done in 88 percent of the patients. Among these patients, open surgical procedure was carried out in 15 percent while laparoscopic procedure was done in 73 percent. Conservative treatment was done in 12 percent of the patients. While assessing the surgical findings, it was seen that calculi were found to be present in 94 percent of the patients. Acalculus Chol. was seen in 2 percent of the patients. Emphysematous GB, Dense adhesion and Perforation was seen in 1 percent, 2 percent and 1 percent of the patients respectively. **Conclusion:**Ultrasonogram remains the most important investigation of choice for the diagnosis of acute cholecystitis. Laparoscopic cholecystectomy is the most preferred.

Key words: Acute Cholecystitis, Cholelithiasis

INTRODUCTION

Gallbladder is an accessory organ of the digestive tract, storing and concentrating bile between meals. Gallstone disease is a worldwide medical problem, but the incidence rates show substantial geographical variation, with the lowest rates reported in African populations. Cholelithiasis has been described as a disease of civilization. Acute calculous cholecystitis (ACC) represents the second source of complicated intra-abdominal infection (18.5%).[1, 2]ACC is the most common complication of cholecystolithiasis accounting for 14% to 30% of cholecystectomies performed in many countries. ACC is caused by an inflammatory/infectious process involving the gallbladder wall, in many cases due to an impacted gallstone in the infundibulum or in the cystic duct. The continued mucin production from epithelium and the gallbladder distention, results in micro and macro circulatory perfusion deficits. There is no unique marker capable of definitively indicating the diagnosis of ACC with high accuracy. Patients with symptomatic ACC and CBDS detected during preoperative and/or intraoperative studies should be candidates to undergo CBDS extraction. The choice of treatment depends on the level of surgical expertise, equipment, and the availability of multidisciplinary facilities at each hospital.[3, 4]Hence; the present study was conducted for evaluating profile and surgical findings among patients of acute cholecystitis.

MATERIALS & METHODS

The present study was conducted for evaluating profile and surgical findings among patients of acute cholecystitis.Inclusion criteria for the present study included all patients with acute abdominal pain and Patients admitted with other illness on investigation found to have acute cholecystitis. After meeting the

inclusion criteria, a total of 100 patients were enrolled. Assessment of patient include detailed history, clinical examination, standard laboratory test including liver function tests, serum amylase, lipase and radiological diagnosis with ultrasound examination, CT,MRCP. The treatment plan followed and given for the patient is noted and assessed. Surgical findings were recorded separately. All the results were recorded in Microsoft excel sheet and was subjected to statistical analysis using SPSS software.

RESULTS

Mean age of the patients was 53.9 years. 66 percent of the patients of the present study were females while the remaining 34 percent were males. 22 percent of the patients were diabetic, while hypertension was found to be present in 15 percent of the patients. Abdominal pain was seen in 100 percent of the patients while loss of appetite was present in 92 percent of the patients. Vomiting and fever were present in 88 percent and 81 percent of the patients. Jaundice and shock were encountered in 63 percent and 19 percent of the patients. Wall thickness was >4mm in 83 percent of the patients. Peri-cholesystic fluid collection was seen in 76 percent of the patients. Intrahepatic biliary radicals and Common bile duct dilatation was seen in 91 percent of the patients. Sonographic Murphy's sign was seen in 98 percent of the patients. Surgical management was done in 88 percent of the patients. Among these patients, open surgical procedure was carried out in 15 percent while laparoscopic procedure was done in 73 percent. Conservative treatment was done in 12 percent of the patients. While assessing the surgical findings, it was seen that calculi were found to be present in 94 percent of the patients. Acalculus Chol. was seen in 2 percent of the patients. Emphysematous GB, Dense adhesion and Perforation was seen in 1 percent, 2 percent and 1 percent of the patients respectively.

Table 1: Clinical profile

Clinical profile	Number of patients	Percentage
Abdominal pain	100	100
Loss of appetite	92	92
Vomiting	88	88
Fever	81	81
Jaundice	63	63
Shock	19	19

Table 2: Imaging findings

Variable		Number of patients	Percentage
Wall thickness	>4mm	83	83
	≤4mm	17	17
Peri-cholesystic fluid collection	Present	76	76
	Absent	24	24
Intrahepatic biliary radicals and Common bile duct dilatation	Present	91	91
	Absent	9	9
Sonographic Murphy's sign	Present	98	98
	Absent	2	2

Table 3: Distribution of patients according to treatment

Treatment		Number of patients	Percentage
Surgery	Open	15	15
	Laparoscopic	73	73
Non-surgical (Conservative)		12	12
Total		100	100

Table 4: Surgical findings

Findings	Number of patients	Percentage
Calculi	94	94
Acalculus Chol.	2	2
Emphysematous GB	1	1
Dense adhesion	2	2
Perforation	1	1

DISCUSSION

Acute cholecystitis is an acute inflammatory disease of the gallbladder. It is often attributable to gallstones, but many factors, such as ischemia; motility disorders; direct chemical injury; infections with microorganisms, protozoa, and parasites; collagen

disease; and allergic reaction are involved.Acute cholecystitis is diagnosed on the basis of symptoms and signs of inflammation in patients with peritonitis localised to the right upper quadrant. Acute cholecystitis should be differentiated from biliary colic by the constant pain in the right upper quadrant and Murphy's sign (in which inspiration is inhibited by pain on palpation). Patients with acute cholecystitis may have a history of attacks of biliary colic or they may have been asymptomatic until the presenting episode.[5- 7]

Ultrasound scanning is the investigation of choice in patients suspected of having acute cholecystitis. Sonograms typically show pericholecystic fluid (fluid around the gall bladder), distended gall bladder, oedematous gallbladder wall, and gall stones, and Murphy's sign can be elicited on ultrasound examination. Colour flow Doppler ultrasound shows hyperaemic, pericholecystic blood flow and acute inflammation. Plain abdominal radiographs show radio-opaque gall stones in about 10% of cases of acute cholecystitis and gas within the gallbladder wall in emphysematous cholecystitis.[8- 10]Hence; the present study was conducted for evaluating profile and surgical findings among patients of acute cholecystitis.

In the present study, mean age of the patients was 53.9 years. 66 percent of the patients of the present study were females while the remaining 34 percent were males. 22 percent of the patients were diabetic, while hypertension was found to be present in 15 percent of the patients. Abdominal pain was seen in 100 percent of the patients while loss of appetite was present in 92 percent of the patients. Vomiting and fever were present in 88 percent and 81 percent of the patients. Jaundice and shock were encountered in 63 percent and 19 percent of the patients. Wall thickness was >4mm in 83 percent of the patients. Peri-cholesystic fluid collection was seen in 76 percent of the patients. Intrahepatic biliary radicals and Common bile duct dilatation was seen in 91 percent of the patients. Sonographic Murphy's sign was seen in 98 percent of the patients. Horn T et al presented the results of a 10-year experience with this treatment modality. A total of 278 patients were treated with PC for ACC. Of these, 13 (4.7%) died within 30 days, 28 (10.1%) underwent early laparoscopic cholecystectomy and three (1.1%) patients were lost from follow-up. Of the remaining 234 patients, 55 (23.5%) were readmitted for the recurrence of cholecystitis. In 128 (54.7%) patients, PC was the definitive treatment (median follow-up time: 5 years), whereas 51 (21.8%) patients were treated with elective laparoscopic cholecystectomy. The frequency of recurrence of cholecystitis in patients with contrast passage to the duodenum on cholangiography was lower than that in patients without contrast passage (21.1% versus 36.7%; P = 0.037). The present study, which is the largest ever conducted in this treatment area, supports the hypothesis that PC is an effective treatment modality for critically ill patients with ACC unfit for surgery and results in a low rate of 30-day mortality.[11]Agrawal R et al evaluated the safety and feasibility of early LC for acute cholecystitis. 50 patients with diagnosis of acute cholecystitis were assigned randomly to early group, (LC within 24 hrs of admission), and delayed group, (initial conservative treatment followed by delayed LC, 6–8 weeks later). They found that the conversion rate in early LC and delayed LC was 16% and 8%, respectively, Operation time for early LC was 69.4 min versus 66.4 min for delayed LC, postoperative complications for early LC were 24% versus 8% for delayed LC, and blood loss was 159.6 mL early group versus 146.8 mL for delayed group.[12]

In the present study, surgical management was done in 88 percent of the patients. Among these patients, open surgical procedure was carried out in 15 percent while laparoscopic procedure was done in 73 percent. Conservative treatment was done in 12 percent of the patients. While assessing the surgical findings, it was seen that calculi were found to be present in 94 percent of the patients. Acalculus Chol. was seen in 2 percent of the patients. Emphysematous GB, Dense adhesion and Perforation was seen in 1 percent, 2 percent and 1 percent of the patients respectively. Cao AM et al conducted study to compare clinical outcomes between early and delayed cholecystectomy for acute cholecystitis. Early laparoscopic cholecystectomy in acute cholecystitis demonstrated decreased incidence of wound infections, a shorter total length of stay and decreased costs with no difference in the rates of mortality, bile duct injuries, bile leaks and conversions. These results support that early laparoscopic cholecystectomy is the best care and should be considered a routine in patients presenting with acute cholecystitis.[13]Loozen CS et al examined the short- and long-term outcome of conservative treatment of patients with acute calculous cholecystitis. The pooled success and mortality rate during index admission and the pooled recurrence rate of gallstone-related disease during long-term follow-up were calculated using a random-effects model. A total of 1841 patients were included in 10 randomized controlled trials and 14 non-randomized studies. Conservative treatment during index admission was successful in 87 % of patients with acute calculous cholecystitis and in 96 % of patients with mild disease. In the long term, 22 % of the patients developed recurrent gallstone-related disease. Pooled analysis showed a success rate of 86 % (95 % CI 0.8–0.9), a mortality rate of 0.5 % and a recurrence rate of 20 % (95 % CI 0.1–0.3). They concluded that conservative treatment of acute calculous cholecystitis during index admission seems feasible and safe, especially in patients with mild disease.[14]

CONCLUSION

Ultrasonogram remains the most important investigation of choice for the diagnosis of acute cholecystitis.Laparoscopic cholecystectomy is the most preferred.

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