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Early Surgical Intervention in Acute Cholecystitis

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Abstract

The role of early surgical intervention in the management of acute cholecystitis is evaluated. Forty one patients were studied. Early cholecystectomy was planned to be carried out for all patients unless there was a contraindication or poor surgical risk. Real time ultrasonography proved to be very reliable in establishing the diagnosis. Three patients were managed conservatively. Thirty eight patients were explored. Cholecystectomy was successfully accomplished in 30 patients and two had cholecystostomy. Flexibility of the time limit for performing early operation allowed cholecystectomy to be performed up to 8 days from the onset of the acute attack. Routine operative cholangiography is recommended since it detected C. B. D. stones in 19.4% of patients. The morbidity rate was 13.9% and there was no mortality. The mean hospital stay for the surgically treated group was 9.8 days.

Early surgical intervention is a safe, effective and relatively less costly procedure in the management of acute cholecystitis.

Introduction

ACUTE cholecystitis is one of the commonest abdominal surgical emergencies encountered today. The management of acute cholecystitis follows two schools of thought: either conservative or early surgical intervention [1,2].

We have been following the policy of early surgical intervention for patients presenting with acute cholecystitis except for patients who refused surgery or had concomitant disease that precluded surgery.

Patients and Methods

All patients presenting with acute cholecystitis during the 10 years period from 1982 to 1992, were included in the study. The diagnosis was established by real-time ultrasonography and positive ultrasonic

Murphy sign [2,3]. Once the diagnosis was established, preparation for operation was done under antibiotic cover, starting one hour before surgery. Patients refusing surgery or those having concomitant serious disease were continued on conservative treatment.

Cholecystectomy was the standard procedure done unless hazardous dissection compelled the operator to limit himself to tube cholecystostomy only, pending another setting for elective cholecystectomy.

Cholecystectomy always started with proper exposure of the triangle of Calot. Peroperative cholangiography through the cystic duct was routinely performed and any ductal stones were dealt with accordingly. If any doubt was raised regarding the course of the cystic duct and artery, retrograde dissection starting at the fundus was then completed.

T-tube completion cholangiography was done in those patients whose ducts were explored. A suction drain was left in the hepatorenal fossa.

Antibiotic cover continued for 3 days and prolonged for 5 days after surgery in patients who had perforated, gangrenous gall bladder or with generalized peritonitis. The suction drain was removed on the fifth postoperative day.

Results

Forty one patients with acute cholecystitis were studied. There was a high preponderance of male patients (43.9%) and almost 2/5 of patients were above the age of 60 years. Only half the patients had previous history of biliary tract disease and a quarter were diabetic. Frank jaundice and pancreatitis were rare association (Table I).

Ultrasonography was very accurate in the diagnosis of acute cholecystitis. Only one patient had calcular acute cholecystitis who was a 73 years old male with marked hypercholesterolaemia and ischaemic heart disease (Table I).

Table (I): Analysis of 41 Patients Presenting with Acute Cholecystitis.

	Number
Sex	18
Male	23
Femle	
Age (yr)	
1-59	23
60-79	16
80 & above	2
Previous biliary disease	20
Jaundice	2
Diabetes mellitus	11
Pancreatitis	1
Ultrasonography:	
Calculous	40
Acalculous	1
Diagnosis:	
Confident	39
Doubtful	2

The preoperative diagnosis of acute cholecystitis was double in 4.9% of patients.

Early surgical intervention was done in 92.7% of patients including the two having doubtful diagnosis. Three patients were treated conservatively including two patients who were poor surgical risk because of severe pulmonary insufficiency due to emphysema in one and due to heart failure in the other (Table II).

About half of the patients undergoing surgery presented later than 2 days from the onset of the acute episode, two of them were delayed for more than a week (Table II).

The 23.7% incidence of complicated acute cholecystitis discovered at operation were among the patients who presented later than 2 days from the onset of the attack (Table III).

Tube cholecystostomy was done in two patients, one due to liver cirrhosis which was not detected on preoperative ultrasonography and the other due to extreme friability and adhesions at the Calot triangle. Cholecystectomy was successfully performed in 94.7% of patients with more than half carried out by the combined retrograde dissection technique (Table III).

Operative cholangiography detected ductal stones in seven patients, four of them were totally unexpected to have choledochal stones. Choledochoduodenostomy was done in two patients (Table IV).

Table (II): Management of Patients with Acute Cholecystitis in 41 Patients.

	Number	
Early surgery:	38	
. Definite diagnosis		36
. Doubtful diagnosis		2
Conservative	3	
. Refusing surgery		1
. Poor surgical risks		2
Time of surgical:		
Within 48 hours	20	
Between 2-7 days	16	
More than 7 days	2	

Table (III): Operative Findings and procedure in 38 Patients

	Number	
The gall bladder:		
Calculous	37	
Acalculous	1	
Complicated:	9	
Pericholecystic abscess		4
Gangrenous wall		3
Generalized		2
Procedure		
Cholecystostomy	2	
Cholecystectomy	38	
Antegrade		17
Combined retrograde		19

Preoperative endoscopic sphincterotomy and extraction of C.B. D. stones, leaving a naso-biliary tube for drainge, saved the life of one of the patients who presented with jaundice and bacteraemic shock secondary to ascending cholangitis. Cholecystectomy and extraction of a retained stone was done one week later.

Complications developed in 13.9% of patients. All were minor in the form of septic wounds and pulmonary segmental atelectasis. However, on patient developed subcapsular diffuse hepatic haematoma that was not infected and developed secondary right pleural effusion for an unexplained cause and resolved in 6 weeks time. There was no mortality in this series.

The mean period of hospital stay among the operated patients was 9.8 days (Table V). One patient developed ascending cholangitis 10 weeks after cholecystectomy. A missed stone was extracted with endoscopic sphincterotomy. The patient had a normal biliary ductal system on operative cholangiography (a false negative result to the procedure).

Among the 3 patients treated conservatively two patients resolved and one patient had to be operated upon because of progressing signs and developed gangrenous cholecystitis removed by cholecystectomy. The mean period of stay of the conservatively treated patients was 14.2 days (Table VI).

Table (V): Outcome of Patients Undergoing Cholecystectomy for Acute Cholecystitis (36 Patients).

	Number
Morbidity	
Specific complications	3
Other complications	2
Morbidity	-
Hospital stay (mean days)	9.8
Residual stones	1

Table (IV): Comon Bile Duct Stones among Patients Undergoing Cholecystectomy (36 Patients).

	Number
C.B.D. stones	7
T-tube insertion	6

Table (VI): Outcome of Conservative Management of Acute Cholecystitis (3 Patients).

	Number
Resolution	2
Morbidity	1
Mortality	-
Surgery for complication	1

Discussion

The confident diagnosis of acute cholecystitis has recently been made possible with the real-time ultrasonography, which has an accuracy rate above possible with the real-time ultrasonography, which has an accuracy rate above 95% [2,3].

It has definitely facilitated the decision-making process in many difficult cases, especially when it is noted that about half of the patients presenting with acute cholecystitis had no previous history of biliary tract disease [4].

Once the diagnosis of acute cholecystitis has been made, the choice of management lies between two well recognized standard lines of treatment: conservative versus early surgical intervention.

Conservative management results in 60-85% resolution rate, yet about 20% will develop recurrent acute cholecystitis over a period of 5 years [1,5]. The patient is kept in the hospital for a longer period of stay and the total duration of illness is prolonged compared to early surgical intervention [6, 7].

Early operation rids the patient of the diseased gall bladder in a short period of time and allows the patient to return early to work. It significantly cuts down the cost compared to that spent for conservative treatment followed by elective cholecystectomy at a later date. Early cholecystectomy is safe and has even a slightly lower mortality rate than conservative treatment because of earlier treatment for some patients whose condition would have worsened during expectant management [5, 6, 8,9]. These include elderly male diabetics, those with gangrenous mall bladder wall, acalculous cholecystitis, association of ductal stones and when the diagnosis is doubtful [1, 10, 11].

Our strategy is to operate unless there is a contraindication or poor surgical risk rather than to conserve unless there is a complication. We have been flexible regarding the optimum duration of the acute episode after which surgical intervention could be hazardous. Cholecystectomy was safely performed up to 8 days from the onset of the acute attack without an increase in the morbidity. Dissection was more difficult but care, perseverance and the combined retrograde approach made it possible to safely remove all gall bladders intended to, apart from one which was quite adherent and the triangle of Calot was impossible to dissect.

Routine peroperative cholangiography is mandatory in cases of acute cholecystitis even more than in chronic cholecystitis [12]. It helps to define the anatomy of the biliary tract prior to ligation of the cystic duct which is crucial in these difficult cases with oedema, adhesions and displacement of the ductal system by the acute inflammatory reaction. Cholangiography has proved significant in detecting choledoctral stones in 4 patients who would surely be

denied the exploration of their common bile ducts, had cholangiography been omitted as a routine.

The role of preoperative endoscopic sphincterotomy and extraction of common bile duct stones in patients presenting with ascending cholangitis must be emphasized. It has proved to be life saving, and should be followed by cholecystectomy as soon as the patients' general condition permits.

In conclusion, early cholecystectomy has proved to be quite safe and definitive line of treatment for patients with acute cholecystitis with minimal morbidity [13, 14], and without any increase in mortality above the standard figures for elective cholecystectomy. We recommend this line of early surgical intervention in most cases of acute cholecystitis unless there is a real contraindication.

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