

A Study of Clinico Epidemiological Profile of Diagnosed Cases of Acute Cholecystitis

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Keywords

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Abstract

Background: Diagnosis of acute cholecystitis is primarily made on of clinical features and then confirmed by ultrasound scanning. First line treatments include fasting, intravenous fluids, and analgesia. Very ill patients or those unfit to undergo surgery, percutaneous cholecystostomy is a safe alternative to cholecystectomy.

Aim and Objective: the study is to assess the socio-demographic and clinical profile of acute cholecystitis cases presenting to the Department of Surgery & Emergency at Santosh medical college and hospital, Ghaziabad and to describe the management and complications.

Methodology: The present study is an Observational and Prospective study conducted at Santosh Medical College and Hospital, Ghaziabad (Uttar Pradesh). The study was conducted from November 2018 to April 2020. The study was carried out among adult patients (18 years and above) being referred to the Emergency department and Department of Surgery, Santosh Medical College and Hospital, Ghaziabad (Uttar Pradesh) presenting with Upper Abdominal Pain.

Result: Acute cholecystitis affected the majority of patients (45%) between the ages of 41 and 60. In this study, women made up 72% of participants, compared to men who made up only 28%. Less than 10% of the cases had a family history that would have pointed to gallstone disease. 90% of the remaining cases lacked any evidence of gall stone disease in their families.

Conclusion: Acute cholecystitis is typically brought on by gallstones. For the first-line therapies of fasting, intravenous fluids, and analgesics, patients with acute cholecystitis should be admitted to the hospital right away. Surgery (cholecystectomy) should be performed after the initial course of treatment within 24-48 hours of admission (early). Although open cholecystectomy was used in this study, laparoscopic cholecystectomy is the preferred method and the gold standard. For other researchers to understand the severity of acute cholecystitis in this area of the region, they can use the current work as a benchmark.

1. Introduction

The gallbladder, also known as a biliary vesicle, is a tiny organ that serves as a tank to store bile between meals. [1] Acute cholecystitis (AC), a pathological condition brought on by the gallbladder's acute inflammation, is one of the illnesses of the bladder.

Patients with gallstones, which account for 10 to 25% of all surgical operations performed on patients with gallbladder problems, which affect a significant portion of the global population, should pay particular attention to this information. [2-4] The presence of biliary stasis, in addition to bacterial infections that may potentially be present and

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potential bladder wall ischemia, is a key indicator of acute cholecystitis. Approximately 90% to 95% of the time, acute lithiasic cholecystitis is identified in individuals who have biliary stasis as a result of calculous obstruction of the cystic duct [5-8].

An ultrasound scan is used to validate the clinical symptoms used to make the diagnosis of acute cholecystitis. Fasting, fluids administered intravenously, and analgesia are first-line therapy. 20% of complex cases require emergency surgery to address, such as gangrenous cholecystitis or gallbladder perforation. Cholecystectomy is a risk-free alternative for extremely unwell patients or those who are not healthy enough to undergo surgery. [9-12]

Immediately refer a patient who may have acute cholecystitis to the hospital. Acute cholecystitis is primarily diagnosed based on clinical signs, with ultrasound imaging serving as a secondary confirmation. Fasting, intravenous fluids, and analgesia are first-line therapy. Emergency surgery is required to treat 20% of serious cases, such as gangrenous cholecystitis or gallbladder perforation. [13] Percutaneous cholecystostomy is a risk-free alternative to cholecystectomy for extremely unwell individuals or those who are unfit for surgery.

2. Methods and Materials

The present study is an Observational and Prospective study conducted at Santosh Medical College and Hospital, Ghaziabad (Uttar Pradesh). The study was conducted from November 2018 to April 2020. Study Setting: The study was carried out among adult patients (18 years and above) being referred to the Emergency department and Department of Surgery, Santosh Medical College and Hospital, Ghaziabad (Uttar Pradesh)

presenting with Upper Abdominal Pain. A total of 60 adult patients (18 years and above) were recruited in the study. In the present research, presenting complaint of upper abdominal pain was considered for admission. Patients with a diagnosis of Acute Cholecystitis were then recruited into the study.

A total of 60 adult patients who presented with abdominal pain and then diagnosed with Acute Cholecystitis were included in the study, and were further evaluated. The details of patient's particulars, as well as socio-demographic details were recorded by the investigator. [14,15] The details of the complaint were recorded in a pre-fabricated case history format. The case history format included chief complaint, and details of duration of illness, along with complications.

All individuals with suspected acute cholecystitis symptoms underwent extensive clinical assessment. Following proper confirmation with various imaging modalities, the patients had appropriate care in accordance with hospital practise. [16]

IBM SPSS version 24 was used to evaluate all the data, which had been gathered using a systematic proforma. For categorical data, descriptive analysis was carried out using frequency and proportion, and for quantitative variables, mean and standard deviation were computed.

3. Results

The details of patient's particulars, as well as socio-demographic details were recorded by the investigator. The details of the complaint were recorded in a pre-fabricated case history format. The case history format included chief complaint, and details of duration of illness, along with complications.

Table 1: Demographic profile of study subjects (n=60)

Characteristics		Frequency	Percent
Gender	Male	14	23.3
	Female	46	76.7
Age	Mean \pm SD	43.47 + 11.99	

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Table 1 shows that the gender wise distribution in study subjects showed that majority of them were females (76.7%) and 23.3% were males.

Table 2: Clinicology profile of study subjects

Symptoms		Frequency	Percent
Pain	Yes	60	100.0
Fever	No	36	60.0
	Yes	24	40.0
Jaundice	No	60	100.0
Bowel Habit	Normal	11	18.3
	Constipation	45	75.0
	Loose stools	4	6.7
Nausea and Vomiting	No	21	35.0
	Yes	39	65.0
Days of experiencing symptoms	1 day	11	18.3
	2 days	13	21.7
	3 days	13	21.7
	4 days	8	13.3
	5 days	13	21.7
	10 days	2	3.3
Previous history of symptoms kkjk	None	51	85.0
	Same episode occurred 3 month back	4	6.7
	Same episode occurred 4 months back	2	3.3
	Same episode occurred 8 months back	1	1.7
	Same episode occurred 2 years back	2	3.3

Table 2 represents distribution of study participants according to symptoms perceived. All patients recruited in the study sample were experiencing pain (100.0%). Nearly 40% of the subjects were having

fever. None of the study subjects had any symptom of jaundice (0.0%). Only 18% had normal bowel movements, 75% experienced constipation, and nearly 7% experienced loose stools. A total of 65%

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subjects experienced nausea and vomiting among all the study participants. The mean number of symptom days was 3.22 ± 1.89 (Mean + SD) with a range of 1-10 days. A major proportion of participants had symptoms up to 3 days (61.7%), and 2-, 3-, and 5-day symptoms were experienced by more than one-fifth participants in each category (21.7%). Majority of patients had been experiencing this for the first time (85%), however, among the

people experiencing similar episode previously, 10% people experienced same episode not earlier than 4 months back. However, none of the patients were seen to have a palpable and/or tender gall bladder (0.0%). A majority of study subjects (83.3%) had a positive Murphy's sign, and a majority of study subjects (71.7%) had pain in the right hypochondrium.

Table 3: Clinical signs among the study subjects

Clinical subjects		Frequency	Percent
Pain in Right Abdomen	Yes	60	100.0
Location of Pain	Epigastrium	17	28.3
	Rt. Hypochondrium	43	71.7
Rigidity	Yes	60	100.0
Palpable and/or Tender GB	No	60	100.0
Murphy's Sign	No	10	16.7
	Yes	50	83.3
Pericholic cystic fluid	No	34	56.7
	Yes	26	43.3
Fluid in Morrison's pouch	No	40	66.7
	Yes	20	33.3
Peri GB edema	No	12	20.0
	Yes	48	80.0
Impacted stone in Hartman's pouch	No	55	91.7
	Yes	5	8.3
GB wall thickness	Normal	22	36.7
	4 mm	16	26.7
	5 mm	16	26.7
	6 mm	6	10.0

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Number and size of GB calculi	Single calculus	24	40.0
	2-3 calculi	7	11.7
	3-4 calculi	4	6.7
	Multiple tiny calculi	25	41.7
Common Bile Duct	Normal	56	93.3
	Mild Dilated	4	6.7

Table 3 shows that the ultrasonography findings of the study population diagnosed with acute cholecystitis. It was noticed that nearly 43.3% of study population had presence of pericholic cystic fluid. Also, a lesser proportion (33.3%) had presence of mild fluid in Morrison's pouch. However, a majority of the study population (80%) presented with peri GB edema. Further, only 8.3% of the study subjects were seen to have an impacted stone in Hartman's pouch the level of GB wall thickness among study population diagnosed with acute cholecystitis, as evaluated by ultrasonography. More than one-thirds of the study population had normal wall thickness, and rest had an extended wall thickness, ranging from 4-6 mm and the number and size of GB calculi present among the study population, as evaluated by ultrasonography. It was interesting to note that the majority of study population had either a single calculus in their GB (40.0%), or had multiple tiny calculi (41.7%). Very few subjects had 2-4 calculi in their GB. It was noticed that only 7% of the study participants had a mild dilatation of the CBD, and the rest subjects had normal course of CBD.

4. Discussion

The study was observational, prospective, and inferential study conducted among 60 adult patients (18 years and above) being referred to the Emergency department and Department of Surgery, Santosh Medical College and Hospital, Ghaziabad (Uttar Pradesh) presenting with Upper Abdominal Pain. Patients with a diagnosis of Acute Cholecystitis and voluntarily participating were then recruited into the study. The details of patient's particulars, as well as socio-demographic details

were recorded by the investigator. The details of the complaint were recorded in a pre-fabricated case history format. The case history format included chief complaint, and details of duration of illness, along with complications. Severity of the patient was assessed as per Tokyo Guidelines. Patients were assessed on the basis of clinical symptoms, signs, haematological investigations and ultrasonography findings. First the patient was kept on conservative management with fasting, intravenous fluids, antibiotics and analgesia.[17] Patient responding to conservative management was called for elective cholecystectomy after 4-6 weeks. Patients not responding to conservative management were taken up for surgery as early cholecystectomy.

Early surgical intervention was required in 11.7% of the study participants. Acute cholecystitis can be successfully treated with cholecystectomy, which is widely accepted. However, early laparoscopic cholecystectomy for acute cholecystitis appears to remain controversial, and the causes include a dearth of surgeons with the required abilities as well as the restricted availability of operating room space. [18] The present study shows that the majority of the study participants had a Grade 1 acute cholecystitis in accordance with Tokyo's guidelines (46.7%) followed by 43.3% with Grade 2.

5. Conclusion

Health is multidimensional. Gastrointestinal health has gained importance recently due to the changing food habits and patterns. Acute cholecystitis is one of the common causes of acute abdomen, characterized by inflammation of gall bladder and usually caused by obstruction of cystic duct.

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The gallstone disintegrates and falls back into the gall bladder lumen, assisting the cystic duct in emptying, and the majority of patients with acute cholecystitis respond to conservative, first-line therapy. Early surgical intervention was required in 11.7% of the study participants. The present study shows that the majority of the study participants had a Grade 1 acute cholecystitis in accordance with Tokyo's guidelines followed by half of the patients with Grade 2. On the theory that inflammatory tissue in need of treatment is more susceptible to surgical treatments and can increase the risk of surgical complications, delayed surgery is performed.

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