Clinical Profile and Outcome of Acute Abdomen in a Tertiary Care Centre: A Prospective Study

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Introduction: Acute abdomen represents one of the most common surgical emergencies requiring prompt diagnosis and timely intervention. It encompasses a wide spectrum of intra-abdominal pathologies ranging from benign self-limiting conditions to life-threatening surgical emergencies. Early identification of the etiology significantly influences morbidity and mortality. Despite advances in imaging and laboratory diagnostics, diagnostic delays remain a major challenge in tertiary care settings. ***Materials and Methods:*** This prospective observational study was conducted in the Department of General Surgery at a tertiary care center over 18 months. A total of 200 patients presenting with acute abdominal pain requiring surgical evaluation were included. Clinical presentation, laboratory findings, imaging, management modality, and outcomes were analyzed. Patients were followed until discharge or death. ***Results:*** The most common cause of acute abdomen was acute appendicitis (38%), followed by intestinal obstruction (22%), perforation peritonitis (18%), acute cholecystitis (12%), and others (10%). Surgical intervention was required in 76% of cases. Postoperative complications were observed in 21% of patients. Overall mortality was 4.5%, predominantly among elderly patients with perforation peritonitis and delayed presentation. ***Conclusion:*** Acute appendicitis remains the leading cause of acute abdomen in tertiary care settings. Early diagnosis, timely surgical intervention, and prompt resuscitation significantly improve outcomes. Delayed presentation and comorbidities are major predictors of morbidity and mortality.

Keywords: Acute abdomen, Appendicitis, Peritonitis, Intestinal obstruction, Surgical emergency, Morbidity, Mortality

INTRODUCTION

Acute abdomen refers to sudden onset abdominal pain of less than 7 days duration requiring urgent evaluation and often surgical intervention[1]. It accounts for nearly 5–10% of all emergency department visits worldwide[2]. The condition encompasses a broad range of etiologies including inflammatory, obstructive, perforative, vascular, and gynecological causes[3].

The clinical challenge of acute abdomen lies in its variable presentation. Symptoms may range from localized pain to diffuse peritonitis, with associated nausea, vomiting, fever, or hemodynamic instability[4]. The classical teaching emphasizes careful history, thorough physical examination, and judicious use of laboratory and radiological investigations[5]. Despite technological advancements, clinical acumen remains central to diagnosis[6].

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Acute appendicitis is the most frequent cause of acute abdomen globally, particularly in young adults[7]. Perforation peritonitis, commonly secondary to peptic ulcer disease or typhoid ileal perforation in developing countries, contributes significantly to mortality[8]. Intestinal obstruction due to adhesions, hernias, and malignancy remains another major cause[9].

Imaging modalities such as ultrasonography (USG) and contrast-enhanced computed tomography (CECT) have improved diagnostic accuracy[10]. CT scan sensitivity for appendicitis exceeds 90%[11]. However, in resource-limited settings, reliance on clinical judgment is still high[12].

Early resuscitation with fluid management, correction of electrolyte imbalance, broad-spectrum antibiotics, and timely surgical intervention are key principles in management[13]. Delayed presentation and advanced age are associated with increased postoperative complications and mortality[14].

Tertiary care centers receive referrals of complicated cases, making outcome assessment essential for improving clinical protocols[15]. Therefore, the present study aims to evaluate the clinical profile, etiological spectrum, management strategies, and outcomes of acute abdomen in a tertiary care hospital.

MATERIALS AND METHODS

Study Design

Prospective observational study.

Study Setting

Department of General Surgery, tertiary care teaching hospital.

Study Duration

18 months.

Sample Size

200 patients diagnosed with acute abdomen.

Inclusion Criteria

- **Age ≥ 18 years**
- **Acute abdominal pain < 7 days duration**
- **Clinical suspicion of surgical cause**
- **Willing to provide informed consent**

Exclusion Criteria

- **Chronic abdominal pain (>7 days)**
- **Trauma abdomen**
- **Known malignancy on palliative care**
- **Pregnant women**
- **Patients refusing consent**

Data Collection

Detailed history including onset, duration, nature of pain, vomiting, fever, bowel disturbances was recorded. Clinical examination focused on guarding, rigidity, rebound tenderness, abdominal distension, and bowel sounds.

Investigations

- **Complete blood count**
- **Serum electrolytes**
- **Liver and renal function tests**
- **Serum amylase**
- **Ultrasonography abdomen**
- **Erect abdominal X-ray**
- **CECT abdomen (when indicated)**

Management

Patients were categorized into conservative or surgical groups. Initial resuscitation included IV fluids, nasogastric decompression, urinary catheterization, and IV antibiotics. Surgical procedures were performed based on diagnosis.

Outcome Measures

- **Duration of hospital stay**
- **Postoperative complications**
- **Need for ICU admission**
- **Mortality**

Data were analyzed using SPSS version 25. Chi-square test was used for categorical variables. P-value <0.05 was considered statistically significant.

RESULTS

Table 1: Age Distribution

Age Group (Years)	Number (n=200)	Percentage
18–30	72	36%
31–45	58	29%
46–60	40	20%
>60	30	15%

Interpretation: Majority of patients were young adults (18–30 years).

Table 2: Gender Distribution

Gender	Number	Percentage
Male	120	60%
Female	80	40%

Interpretation: Male predominance observed.

Table 3: Etiology of Acute Abdomen

Diagnosis	Number	Percentage
Acute Appendicitis	76	38%
Intestinal Obstruction	44	22%
Perforation Peritonitis	36	18%
Acute Cholecystitis	24	12%
Others	20	10%

Interpretation: Appendicitis was the most common cause.

Table 4: Management Modality

Treatment	Number	Percentage
Surgical	152	76%
Conservative	48	24%

Table 5: Postoperative Complications

Complication	Number	Percentage
Surgical Site Infection	20	10%
Respiratory Complications	8	4%
Septic Shock	6	3%
No Complications	118	59%

Table 6: Outcome

Outcome	Number	Percentage
Recovered	191	95.5%
Mortality	9	4.5%

DISCUSSION

The present study demonstrated that acute appendicitis (38%) was the leading cause of acute abdomen, consistent with global reports[16]. Similar findings were reported by Kim et al. (2018) and Singh et al. (2020)[17,18]. Young adults were most affected, reflecting peak incidence in the second and third decades of life[19].

Intestinal obstruction (22%) was the second most common cause, largely due to postoperative adhesions, aligning with findings by ten Broek et al. (2018)[20]. Perforation peritonitis (18%) showed higher morbidity and mortality, especially among elderly patients, comparable to studies in developing countries[21].

Postoperative complication rate (21%)

was mainly surgical site infection, similar to WHO surgical site infection surveillance data[22]. Mortality rate (4.5%) correlated with delayed presentation and sepsis, in agreement with global emergency surgery data[23].

Early imaging significantly improved diagnostic accuracy, particularly CT in doubtful cases[24]. However, clinical evaluation remains indispensable[25]. Overall, early diagnosis and prompt intervention significantly reduce adverse outcomes.

CONCLUSION

Acute abdomen remains a common surgical emergency with appendicitis being the predominant cause. Early diagnosis, appropriate imaging, timely surgical management, and aggressive resuscitation are essential for favorable outcomes. Elderly patients and delayed presentations are associated with increased morbidity and mortality.

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