

## A Retrospective Study of Case Series of Acute Abdomen In General Surgery Ward

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### Abstract

**Introduction:** Acute abdominal pain is one of the most common presenting complaints at emergency of general surgery department and due to its varied etiology, it poses significant diagnostic challenges for surgeons. Acute abdomen is a term used to encompass a spectrum of surgical, medical and gynecological conditions ranging from trivial to life threatening conditions, which require hospital admission, investigations and treatment

**Results:** In our study of acute abdomen, the presentation of acute appendicitis was 46%, perforation peritonitis was 24%, Intestinal obstruction was 16%. Male to Female ratio was 2.3:1 with the male predominance. The clinical presentations were abdominal pain in 78% vomiting 62%, constipation 21%, distension 19%, fever 15%. The clinical signs were guarding 68%. The emergency surgeries done were appendicectomy 46%, perforation closure with 24%. The post operative complications noted were wound infection 18%, respiratory infection 6%, mortality 4%

**Conclusion:** The commonest acute abdominal emergency was acute appendicitis, second commonest was perforation peritonitis, third commonest was intestinal obstruction. Acute abdomen commonly seen in males. Commonest age group affected was 41 to 50 years. The commonest presentation next to abdominal pain was vomiting. The commonest surgery performed was emergency open appendicectomy. Commonest post operative complication was wound infection.

**Key Words:** Acute abdomen, operated, complications

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### I. Introduction

The acute abdominal pain is defined as a pain that arises suddenly and is of less than a week's and in most cases less than 48 hours' duration<sup>1,2</sup>. The term acute abdomen defines a graver presentation of abdominal pain, accompanied by guarding and muscular rigidity, which essentially describes the clinical picture of peritonitis and usually calls for an emergency operation<sup>3</sup>. This led to the common misconception that the acute abdomen is synonymous with the surgical abdomen. However, not all cases of acute abdomen are best treated with surgery. In literature as well as in clinical practice the borders between the acute abdominal pain and acute abdomen overlap and are used interchangeably

Acute abdominal pain is one of the most common presenting complaints at emergency of general surgery department and due to its varied etiology, it poses significant diagnostic challenges for surgeons.<sup>1</sup> Acute abdomen is a term used to encompass a spectrum of surgical, medical and gynecological conditions ranging from trivial to life threatening conditions, which require hospital admission, investigations and treatment. It has sudden onset, can persist for several hours to days and is associated with wide variety of clinical features specific to underlying condition or disease. It remains the important cause of mortality and morbidity in the emergency department.

The acute abdomen is with 5-10% one of the most common reasons for a visit to the emergency department<sup>4,6</sup>. It represents the most common surgical emergency, the most frequent cause for the consultation of a surgeon in the emergency department and the most common cause for nontrauma related hospital admissions<sup>4</sup>. The causative pathologies of the acute abdomen range from intra-abdominal to extra-abdominal and metabolic diseases

Acute abdomen varies from mild dull aching pain, to frank guarding and rigidity with associated systemic symptoms. Surgeon managing a case of acute abdomen should be aware of diverse etiology of acute abdomen, so there is a need to enlist the different etiologies leading to acute abdomen and the most common among them. Women of childbearing age present a specific challenge when making decisions about diagnostic

imaging. Gynecological causes of abdominal pain are more common in these women, and radiation exposure should be avoided if pregnancy is likely. Therefore, abdominal or transvaginal ultrasonography is generally recommended for evaluating left lower quadrant pain in women of childbearing age<sup>2</sup> and in pregnant patients with right lower quadrant abdominal pain.<sup>3</sup> The investigative procedure involved should be such that, they should give a definite diagnosis in a short time. And after a diagnosis is made, the method of management of case holds prime importance. Very often an accurate diagnosis cannot be made without surgery and many wonders are revealed on opening the abdomen. So, it is the last court of appeal in investigating abdominal cases. This study hopes to find the presentation of acute abdomen of nontraumatic origin in general surgery ward.

## II. Materials And Methods

The study material comprises the detailed clinical study of 100 consecutively operated cases of acute abdomen of different aetiology. This retrospective study was conducted after obtaining permission from Institutional Ethical Committee. The materials for the clinical studies were collected from the cases admitted in the emergency department of Government Dharmapuri Medical College, Dharmapuri, in the period between January 2021 to August 2021 retrospectively. For all the cases admitted with non traumatic abdominal pain are included in the study. The accurate history taken and detailed clinical examinations were noted done.

After admission to the hospital, a detailed clinical history and examination of the patient was done to arrive at provisional diagnosis. Routine investigations such as complete blood count, liver function test, kidney function test, blood grouping, Urine routine microscopy, serological investigation like HIV and HbsAg were done. Special blood investigations like Serum lipase and amylase in patients suspected of acute pancreatitis, Serum electrolyte in patients with suspected intestinal obstruction and intestinal perforation were done. Radiological investigations such as Ultrasonography, chest X-ray PA view, X-ray abdomen standing of every patient done. X-ray KUB in case of suspected urolithiasis patient done. Ultrasound Abdomen was performed routinely to confirm the diagnosis, for evaluation of biliary tract disease and detection of complications. Contrast enhanced computed tomography Abdomen and pelvis done only when diagnosis is doubtful and not confirmed by ultrasonography. Diagnostic laparoscopy was done if needed.

### INCLUSION AND EXCLUSION CRITERIA:

All the non traumatic abdominal pain patients who underwent surgical treatment and age more than 12 years included in this study, whereas traumatic causes of acute abdomen, medical causes of acute abdomen, paediatric causes, Obstetric and Gynaecological causes, Urological causes, acute abdomen managed conservatively were excluded.

## III. Results:

A total number of 100 patients were selected retrospectively who came with diagnosis of acute abdomen was included in the study. The mean age of the patients was 49 years for both genders, overall, 70 male and 30 female patients were there. Thus, acute abdomen has male preponderance.

The common diagnoses in patients admitted to the surgery ward with acute abdomen are summarized in *Table 1*. The most frequent cause was acute appendicitis followed by perforative peritonitis and intestinal obstruction.

**Table 1: Diagnosis**

DIAGNOSIS	PATIENTS	PERCENTAGE
ACUTE APPENDICITIS	46	46%
PERFORATIVE PERITONITIS	24	24%
INTESTINAL OBSTRUCTION	16	16%
GASTRITIS/PEPTIC ULCER	7	7%
BILIARY COLIC	4	4%
RENAL COLIC	3	3%

Abdominal pain was the main symptom seen in all the patients 150 (100%) followed by tenderness 109 (72.7%) and vomiting 98 (65.3%).

**Table 2: Presenting symptoms**

PRESENTING SYMPTOMS	NO OF PATIENTS	PERCENTAGE
ABDOMINAL PAIN	78	78%
VOMITING	62	62%
CONSTIPATION	21	21%
ABDOMINAL DISTENSION	19	19%

FEVER	15	15%
GAURDING	68	68%

Cases managed operatively include acute appendicitis, Hollowviscusperforation with peritonitis, intestinal obstruction. Cases managed conservatively include Urolithiasis, Gastritis, Acute cholecystitis.

Among operated cases on table in cases presented with pathology in appendix, open appendicectomy was done, among which most of them had acute appendicitis followed by eight patients with perforated appendix or burst appendix, while two patients presented with gangrenous appendix.

Among patients presented with suspect perforation with air under diaphragm in x ray, it was totally 24 patients and open laparotomy and omental patch closure was done in all patients among which 18 had duodenal perforation, 4 had gastric perforation and two patients had ileal perforation.

Among 16 patients who underwent surgery with intestinal obstruction, the cause was adhesions in 3 patients, sigmoid volvulus in 7 patients, SMA thrombosis in 2 patients and obstructed inguinal hernia in two patients.

**Table 3: Intra-operative findings in surgical cases**

APPENDICITIS		
ACUTE APPENDICITIS	36	36%
PERFORATED APPENDICITIS	08	8%
GANGRENOUS APPENDICITIS	02	2%
PERFORATIVE PERITONITIS		
DUODENAL PERFORATION	18	18%
GASTRIC PERFORATION	4	4%
ILEAL PERFORATION	2	2%
INTESTINAL OBSTRUCTION		
POSTOPERATIVE ADHESIONS	3	3%
SIGMOID VOLVULUS	7	7%
SMA THROMBOSIS	2	2%
OBSTRUCTED INGUINAL HERNIA	4	4%

Among all patients admitted in our surgery ward with acute abdomen in our study four patients died with patients developing post operative complication with septicemia ending up in multi organ dysfunction where as wound infection was seen in 18 patients and respiratory infection developed in 6 patients. One important correlation we noted is patients who had complications or bad outcome had some sort of comorbidities already.

#### IV. Discussion

Acuteabdominalpainisacommonpresentingcomplaint in the surgical emergency ward and clinicians must consider multiple diagnoses, especially in those cases that require immediate intervention in order to limit morbidity and mortality.Itisextremelyimportanttodeveloptheskillof identifying patients with an “acute abdomen” requiring immediate surgical intervention either by open or laparoscopy.

In our study the most commonest age group was 41-50 years, male preponderance was there with male female ration of 2.3: 1 , Which was compared to Bhatnagar et al which reported at 3 : 1.

In present study of 100 cases which are presented as acute abdomen, The most common etiology of non-traumatic acute abdomen in our study was acute appendicitis (46%) which is similar to that reported by Venkateswarlu MC *et al*,<sup>7</sup>Ohene-yeboah M *et al*<sup>8</sup>and Caterino S *et al*.<sup>9</sup>

In a study done by Jain *et al*, the most common cause was perforative peritonitis (39.7%), followed by acute appendicitis (37.7%), and followed byintestinal obstruction (14.2%).<sup>9</sup> In a study done by Ray *et al*<sup>10</sup>, perforative peritonitis was the most common cause for surgical intervention in patients with acute abdominal pain. In our study perforative peritonitis was the second most common diagnosis followed by intestinal obstruction.

Shakeeb et al<sup>11</sup> stated the various causes of intestinal obstruction at adhesion 32.7%, hernia, 17.5%, K.P.Rao et al<sup>12</sup> stated volvulus (14.5%). In our study among 16 patients who underwent surgery with intestinal obstruction, the cause was adhesions in 3 patients, sigmoid volvulus in 7 patients, SMA thrombosis in 2 patients and obstructed inguinal hernia in two patients.

In present study, abdominal pain was the main symptomseeninallthepatientsfollowedby vomiting 98 (65.3%). In a study by Kesarwani *et al*<sup>13</sup>, pain abdomen was the main complaint in all the 100 patients (100%), followed by vomiting in 78%, constipation in 29%, abdominal distension in 26% and fever in 17% of the patients.<sup>11</sup> In another study by Barai *et al*<sup>14</sup>, pain abdomen was themain complaint in all the patients

(100%), followed by vomiting in 42%, constipation in 27%, abdominal distension in 22.13% and fever in only 4% of the patients, which were compared with John Berry et al<sup>15</sup> and Bhatnagar et al Study<sup>16</sup>.

S.K.Nair et al<sup>17</sup> in 1981 studied post operative complication of hollow viscus perforation there were wound infection in 52%, respiratory infection 4%, faecal fistula in 16% and septicemia in 8%. In our study there was wound infection and respiratory infection at similar rate.

In our study there was mortality of 4% , this was less in comparison with study done by K.P.Rao et al<sup>12</sup> where it was 8.5%, G. McEntee D Pender<sup>18</sup> with 11.4% and ES Palwe et al<sup>19</sup> with 8.5%. this less rate may be due to early diagnosis and proper management by efficient surgeons in our institute.

## V. Conclusion

Acute abdomen is often a surgical emergency and still it is challenging to surgeons. From present study we conclude that Acute appendicitis is still the most common cause of admission in emergency department for patients with acute abdomen. Early diagnosis and its management play an important role in a better clinical outcome.

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