

Original article:

Study to analyze the nature & presentation of the non-traumatic acute abdominal emergencies treated in rural surgical units

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Abstract

Background: Acute abdomen means, the patient complains of acute abdominal symptoms that suggest a disease, which definitely or possibly threatens life and may or may not demand immediate operative interference. The diagnosis and management of acute abdomen forms a large part of routine duties of a general surgeon throughout his career.

Methods: The study was conducted in Department of Surgery wherein patients with acute abdominal pain have been studied. Patients who underwent surgery have been only included in this study to come to correct diagnosis, whereas acute abdomen of traumatic origin, paediatric age group patients, gynaecological or medical causes of recurrent pain abdomen were excluded. Pre-operative history of all acute abdominal emergencies has been taken to arrive at pre-operative diagnosis. In all the cases, operative findings and post-operative diagnosis were recorded.

Results: Acute abdomen was more common in 2nd, 3rd and 4th decade of life and in males. Hollow viscus perforation forms the commonest cause of acute abdomen. Acute appendicitis being the 2nd and acute calculus cholecystitis forms the 3rd commonest cause of acute abdomen.

Conclusion: The majority of patients suffering from pain abdomen & getting investigated & admitted in the hospital are having non-specific abdominal pain, in which no obvious causes like acute appendicitis, intestinal obstruction, gynecological can be found following investigations and even laparotomy.

Key words: acute abdomen, hollow viscus perforation, Acute appendicitis, intestinal obstruction

Introduction:

The term acute abdomen designates symptoms and signs of intra-abdominal disease usually treated best by surgical operation. Many diseases, some of which do not require surgical treatment, produce abdominal pain, so the evaluation of patients with abdominal pain must be methodical and careful.¹ The proper management of patients with acute abdominal pain requires a timely decision about the need for surgical operation. This decision requires evaluation of the patient's history and physical findings, laboratory data, and imaging tests. The syndrome of acute abdominal pain generates a large number of hospital visits and may affect the very young, the very old, either sex, and all socioeconomic groups.² All patients with abdominal pain should undergo evaluation to establish a diagnosis so that timely treatment can minimize morbidity and mortality.³ With this view, present study was planned to analyze the nature & presentation of the non-traumatic acute abdominal emergencies treated in surgical units.

Methodology:

After obtaining Institutional Ethical Committee approval and written informed consent from study subjects, this randomised prospective study was conducted at R.L. Jalappa Hospital & Research centre attached to Sri Devaraj Urs Medical College, Kolar between December 2009 to December 2011

100 patients between 18 to 80 years of age, of either sex, with acute abdominal pain, who underwent surgery, were included in the study. Pain abdomen in pediatric age group, traumatic acute abdomen, medical condition, gynecological conditions, recurrent pain abdomen patients were excluded from our study, because a correct diagnosis could be established only then.

Patients who fulfilled the inclusion criteria were examined, detailed history was taken and appropriate investigations were carried out in each case. All study subjects were explained about surgical procedure and consent was taken. After admission routine investigations, namely hemogram, blood urea, serum creatinine, urine examinations were carried out. Relevant procedure like a plain x-ray abdomen and abdominal ultrasound were done, if needed. In all the cases, the details of preoperative assessment, intraoperative observation and postoperative course were recorded in a proforma.

Results:

In 100 cases of acute abdominal conditions, which were operated in R.L. Jalappa Hospital & Research centre, majority of the patients were in the age group of 21-50 years. 14 patients were above 60 years. Youngest patient in this study was 21 years and eldest patient was 80 years old.

Out of 100 cases of acute abdomen 65 cases were males, 35 cases were females. Out of 51 cases of hollow viscus perforation 42 were males, 9 were females. 25 patients diagnosed to have acute appendicitis in which 15 were males and 10 females. Intestinal obstruction was found to be common in males than females (8:1). In general, all types of acute abdomen have got preponderance in males.

Out of 100 patients, 51 patients had hollow viscus perforation. 37 out of 51 (72%) had duodenal perforation, 8 of 51 (16%) patients had ileal perforation and 6 of 51 (12%) had perforated gastric ulcer.

25 cases had acute appendicitis, in which position of appendix was delineated. The most common position of appendix in our study was retrocecal, constituting about 80%. The leading cause of acute abdomen was duodenal perforation constituting 37%.

Acute cholecystitis was the cause of acute abdomen in 15 cases, thus accounting to be third common cause of acute abdomen in our study. In 9 cases, intestinal obstruction was the cause of acute abdomen. The commonest cause of intestinal obstruction being post operative adhesions between bowel loops 77.78% (7 of 9 cases).

Table 1: Causes of Intestinal Obstruction

Sl. No.	Cause of Intestinal Obstruction	No. of Cases	%
1	Postoperative adhesions	7	77.78
2	Sigmoid Volvulus	1	11.11
3	Mid gut volvulus	1	11.11

Discussion

Acute abdomen is a clinical entity, more commonly seen in males (M: F: 65:35) and patients in their 3rd decade of life, less common in extremes of age groups. Peritonitis secondary to hollow viscus perforation was seen between the age group of 20-60 years. Acute appendicitis was more common in second and third decade. It is uncommon after 40 years. Appendicitis was common in individuals from higher socio economic status.⁵ Intestinal obstruction was more common in 3rd to 4th decade. Out of 51 cases of hollow viscus perforation, 42 were males and 9 were females. 8 cases were males in intestinal obstruction, while 1 was female. Of 25 cases of acute appendicitis 15 were males and 10 were females.

The leading cause of acute abdomen in our study was perforated duodenal ulcer constituting 37% of the cases .Out of 37 cases there was mortality of 2 cases. The second common cause of acute abdomen was acute appendicitis constituting 25% of cases, with no mortality. The third common cause was acute cholecystitis accounting for 15% (15 cases) of cases, in which mortality was nil.⁴

Hollow viscus perforation was the commonest cause of acute abdomen. Diagnosed in 51 cases: 37 were duodenal perforation, 8 ileal perforation and 6 gastric perforations. Gastric perforations cases were secondary to analgesic and spicy food intake. All cases of duodenal perforation and gastric perforations were treated with simple closure and pedicle omental graft (Graham's patch) and started with anti Helicobacter pylori medications for 14 days. Patients responded well to treatment to above treatment. 2 cases of acute abdomen secondary to duodenal perforation expired (mortality 2%). All cases of ileal perforation were secondary to enteric fever, for which primary closure (two layered) was done.

Out of total 25 cases of acute appendicitis studied, 2 were gangrenous, 21 were inflamed, 1 had appendicular mass formation while 1 had appendicular perforation. Inflamed and gangrenous appendicitis were treated by appendicectomy. One case with diagnosis of appendicular mass was managed conservatively. The appendicular mass was closed without disturbing the mass. Interval appendicectomy was done after 6 weeks. And for appendicular perforation, exploratory laparotomy with appendicectomy was done. The commonest position of appendix seen in our study was retrocaecal 80% (20/25).

The third common cause was acute cholecystitis accounting for 15% (15 cases) of cases, in which mortality was nil. These cases were managed by open cholecystectomy. Out of 9 cases of intestinal obstruction, 7 cases were due to post-op adhesions between bowel loops, 1 due to sigmoid volvulus, 1 due to mid gut volvulus. 7 cases due to post op adhesions were taken for laparotomy and adhesiolysis was done. Sigmoid volvulus for which resection and anastomosis of sigmoid colon and fixing was done. The other cause was due to mid gut volvulus for which derotation and fixing was done.

Conclusion:

The majority of patients suffering from pain abdomen & getting investigated & admitted in the hospital are having non-specific abdominal pain, in which no obvious cause could be found following investigations and even laparotomy. Hollow viscus perforation, acute appendicitis, acute cholecystitis, intestinal obstruction being the leading causes of non traumatic acute abdomen in surgical patients.

References:

1. Inderbir singh, "Alimentary system in Human Embryology", Ch: 12, Ed 5, Macmillan India limited publication, 1995,175 to 187.
2. Courtney M. Townsend, R. Daniel Beauchamp "Acute Abdomen" in Sabiston text book of surgery, Ch: 45, Edn18th, Vol 2, Elsevier publication, 2008, 1180-1198.
3. Chummy S. Sinnatamby, "Introduction to regional anatomy" in Last's anatomy regional &Applied, Ch:1, Edn 10th,Churchill livingstone publication,1999,1to31.
4. Das S, "Examination of Acute Abdomen", in Clinical Das, SB Publications, Ch: 33, Edn.4, 1998; 335-357.
5. Prof John SP Lumely "The Acute Abdomen", in Hamilton Bailey's Physical Signs, Ch:24, Edn. 18, Butterworth – Heinemann Publications, 1997; 299-319.