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Original Research Article

Epidemiology of Acute Abdominal Pain: A Cross-Sectional Study

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Abstract:

Background: Pain Abdomen is a symptom caused by a wide variety of disorders ranging from organic to functional. The organic causes of pain abdomen may be inflammation ulceration, perforation, haemorrhage, malignancies, obstructions or distension of intra-abdominal organs including the retroperitoneal structures.

Methods: An institution based, cross-sectional study was conducted on 200 patients were admitted with surgical causes of pain abdomen. Data were collected on the day of discharge, with the help of pre-tested, semi structured Schedule.

Results: In this study the presenting symptoms were vomiting, abdominal distention, constipation, fever and diarrhea were present. In this study, the most common cause of acute abdomen was acute appendicitis, it was present in 37 (37.00%) of study subjects. 2nd most common cause was gall bladder related pathology and was present in 38(19.0%) of study subjects.

Conclusions: Most common cause of surgical acute abdomen was acute appendicitis. Adequate health infrastructures at the primary and secondary health care level may be an important step forward to address common causes of acute abdomen.

Keywords: Acute abdomen, Appendicitis, Gall bladder pathology, Perforation peritonitis, Surgical emergency

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Introduction

Pain in the abdomen is the single most important symptom of an acute abdominal pathologic process. It is the symptom that brings the patient to his physician and the symptom that deserves the utmost care in evaluation. It has been said that a skilled clinician can identify the source of abdominal pain from the history alone 80 to 90% of the time. [1]

Pain Abdomen is a symptom caused by a wide variety of disorders ranging from organic to functional. The organic causes of pain abdomen may be inflammation ulceration, perforation, haemorrhage, malignancies, obstructions or distension of intra-abdominal organs including the retroperitoneal structures. However, some acute medical problems like porphyria, diabetic ketoacidosis and several heart and lungs may also present with Pain Abdomen. [2] Pain Abdomen is also the most common feature of functional gastrointestinal disorders such as irritable bowel syndrome and functional dyspepsia. Functional Pain Abdomen is a more challenging problem and can be difficult to diagnose and manage. In patients with functional abdominal pain, frequently, there is no clear organic cause that can explain the underlying symptoms. [3]

A number of causes of Pain Abdomen may be preventable. The preventable causes of Pain Abdomen, include causes related to communicable/infectious diseases; causes related to life style diseases and causes related to environmental factors like water pollution. Majority of the districts of South Rajasthan are conventionally described as “High Fluoride” areas of Rajasthan. [4] Fluorosis is also one of the well-known environment related cause of chronic Pain Abdomen mainly by causing non ulcer dyspepsia [5] and urolithiasis.

This study aims to find out the epidemiological spectrum of surgical acute pain abdomen among patients attending emergency Department of a Medical College Churu Rajasthan.

Material and Method

Type of study- An institution based cross-sectional study

Sample size- 200 patients were admitted with surgical causes of pain abdomen.

Inclusion Criteria

• All patients aged ≥18 years,

• Admitted with acute pain abdomen in surgical ward during data collection period.

Exclusion Criteria

• Traumatic pain abdomen,

• Non traumatic pain abdomen in pregnant women,

• Non-emergency hospitalisation,

• Refusal to give consent.

Sampling Technique - Non probability, Consecutive sampling technique was used to recruit study subjects.

Data Collection

Data were collected from 200 study subjects after obtaining written informed consent from them. A pretested, semi structured Schedule was used to collect data. Data was collected on the discharge day, by individual interview of the study subjects. In cases were study subjects were not able to give interview, responsible family member was interviewed for information. Relevant medical records like discharge certificates and bed head tickets were reviewed for Clinical presentation, final diagnosis and treatment.

Statistical Analysis

Data were codified and entered in MS Excel spread sheet. Frequency distribution tables were prepared to show results.

Results

Table- 1. Socio-demographic profile

Mean age in yrs	34.12±16.32 years
Male : female	124 : 76
Urban : Rural	112 : 88

Table 2: Distribution of study population according to their clinical presentation

Pain abdomen	200(100.00%)
Vomiting	152(76.00%)
Abdominal distention	112 (56.00%)
Constipation	108(54.00%)
Fever	94(47.00%)
Diarrhea	6 (3.00%)
Abdominal tenderness	200(100.00%)
Abdominal guarding	122(61.00%)
Absent bowel sounds	106 (53.00%)
Tachycardia	96(48.00%)

Table 3: Distribution of study population according to etiology

Acute appendicitis	74 (37.00%)
Gall bladder pathology	38 (19.00%)
Renal/ ureteric stones	33 (16.50%)
Perforation peritonitis	28 (14.00%)
Intestinal obstruction	17 (8.50%)
Bowel ischemia	10 (5.00%)

Discussion

Acute pain abdomen is one of the common presentations in the medical emergency. Acute abdomen has sudden onset and may be due to the surgical as well as non surgical causes. The etiology varies from region to region and is also influenced by various socio-demographic characteristics. Patients with acute pain abdomen presents with vide range of clinical signs and symptoms. Most of the times sign and symptoms are subtle and are often overlapping. Missed and/or error in etiological diagnosis is common among acute abdomen patients. The chances of error are more in the emergent situation and more so if, health infrastructures are poorly equipped and overburdened. Idea about geographical distribution of acute abdomen etiologies may help in quick and more precise diagnosis, especially in emergency situation and may help in rapid revival of patients. This study was conducted to find out the frequency and etiological spectrum of surgical acute abdomen among patients admitted through emergency department of a tertiary care hospital. [5]

In this study the presenting symptoms were vomiting, abdominal distention, constipation, fever and diarrhea were present. Chimkode R et al, also reported pain abdomen as most common presenting symptoms, followed by abdominal distention (78.0%) and vomiting (58.0%). [6]

Most consistent presenting sign was abdominal tenderness, it was present in all 200(100.0%) of

study subjects. Other presenting sign was abdominal guarding, absent bowel sounds and tachycardia. In a study done by Chimkode et al, abdominal tenderness was present in 96.0% of study subjects. Abdominal guarding and tachycardia were present in 96.0% and 46.0% of cases respectively. [6]

In this study, the most common cause of acute abdomen was acute appendicitis, it was present in 37 (37.00%) of study subjects. 2nd most common cause was gall bladder related pathology and was present in 38(19.0%) of study subjects. Other causes of acute abdomen were renal/ureteric stones, perforation peritonitis, intestinal obstruction and bowel ischemia which were present. Tariq et al, from Pakistan also reported acute appendicitis as most common cause of acute abdomen, followed by acute pancreatitis and duodenal ulcer. [7] A study by Ohene- Yeboah M, from Ghana, Africa, also reported acute appendicitis followed by typhoid fever, ileal perforation and acute intestinal obstruction as most common cause of acute abdomen. [8] Caterino S et al, also reported acute appendicitis as most common cause of surgical acute abdomen requiring emergency hospitalization. [9, 10]

Conclusion

Most common cause of surgical acute abdomen was acute appendicitis. Adequate health infrastructures at the primary and secondary health care level may be an important step forward to address common causes of acute abdomen.

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