Original Paper

ACUTE ABDOMEN IN A PERIPHERAL MILITARY HOSPITAL

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Abstract

The term 'acute abdomen' is widely used but poorly defined. Essentially it represents a rapid onset of severe symptoms that may indicate a life threatening intra-abdominal pathology. This observational study was carried out at Combined Military Hospital (CMH) Ghatail (n=87) and CMH Momenshahi (n=63) from June 2006 to June 2007. A total of 150 patients admitted in the surgery ward clinically diagnosed as acute abdomen were studied. The goal of evaluating the patient with acute abdominal pain was to establish an early, efficient, and accurate diagnosis. When evaluating a patient with acute abdominal pain, the most important elements in making an accurate early diagnosis were the patient's history and physical examination. Acute abdominal pain was more common in the age group 21 to 30 years (50%) with female predominance (72.67%). Some patients presented without any associated symptoms other than abdominal pain, other presented with vomiting and fever in addition to abdominal pain. Sixty two (41.33%) patients had no positive findings in laboratory investigation; radiology and ultrasonography. Most of them did not require any surgical intervention. Large fraction of cases (40%) was diagnosed as non specific abdominal pain. Maximum patients (59.33%) responded with conservative management and 40.67% patient required operative treatment.

Key words: Acute abdomen, conservative management, non specific pain abdomen.

Introduction

The acute abdominal pain is a common problem, ranking in the top three symptoms of patients in emergency departments, accounting for 5-10% of presenting complaints[1]. The term 'Acute abdomen' denotes any sudden spontaneous non traumatic disorder whose chief manifestation is in the abdominal area and for which urgent operation may be necessary[2]. Clinical recognition of the acute abdomen has been documented in the literature since the time of Hippocrates[3]. In 35% to 40% of all hospital admission for abdominal pain, the pain is non specific[4]. This study aimed to identify the distribution of patients with different acute abdominal condition, along with the analysis of the presenting complaints and findings of physical examination and to identify the distribution of patients in requiring operative treatment as well as conservative treatment.

Materials and Methods

This observational study was carried out at CMH Ghatail (n=87) and CMH Momenshahi (n=63) from June 2006 to June 2007. A total of 150 patients admitted in the surgery ward clinically diagnosed as acute abdomen were selected for study. In all cases detail history, thorough clinical examination and essential investigations were done. During data analysis, age and sex, symptoms and signs, investigation reports, final diagnosis and management of patients were grouped separately. Cases underwent surgery were monitored closely and advised for further follow up for any complication. Patients admitted in medical and gynaecologocal ward with abdominal pain and pain originating from abdominal wall were excluded from the study.

Results

Majority of cases (50%) were in the age group of 21 to 30 years followed by age group of 06 to 10 years (18.67%). The male female ratio was 1: 2.7 (Table - I).

Table-I: Distribution of patients in respect of age and sex.

Age group (in years)	CsA group			Percentage (n=150)
	Male	Female	Total	
01 - 05	00	09	09	06.00
06 - 10	02	26	28	18.67
11 - 20	11	09	20	13.33
21 - 30	17	58	75	50.00
31 - 40	04	07	11	07.33
41 - 50	04	00	04	02.67
> 51	03	00	03	02.00
Total	41 (27.33%)	109 (72.67%)	150	100

Fifty three (35.33%) patients presented with no other associated symptoms. Forty patients (26.67%) had associated vomiting and 34 (22.67%) had fever associated with abdominal pain. Some patients complained of diarrhea, constipation and dysuria (Fig - 01).

Physical examinations revealed that 107 (71.33%)

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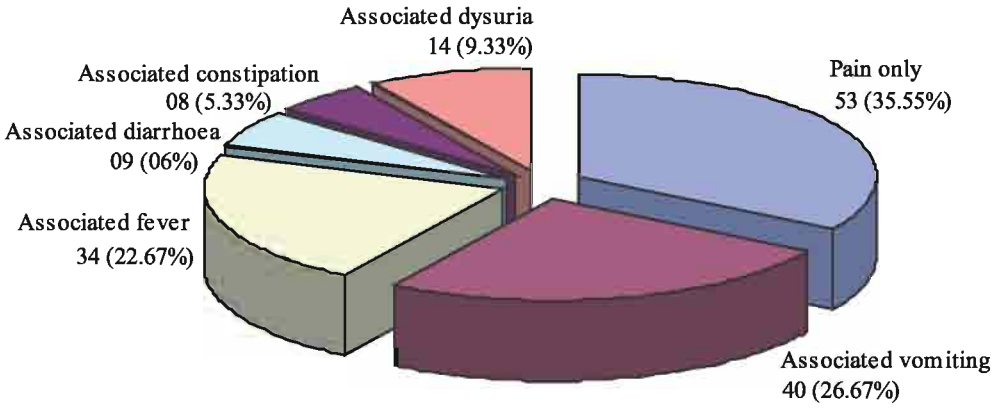

Fig-1: Distribution of patients according to presenting complaints (n=150)

patients had tenderness and 63 (42%) were found with positive rebound tenderness. Thirty one (20.67%) patients were observed having muscle guard/rigidity. None of them had any intra-abdominal mass. Other findings are shown in Fig-2.

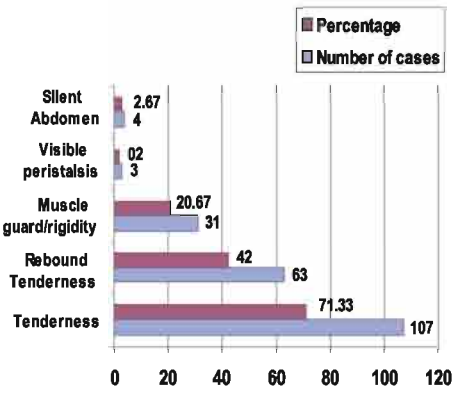

Fig-2: Distribution of patients according to abdominal signs (n=150).

Table-III: Distribution of patients according to the final diagnosis (n=150)

Disease	Number of patient		
	Male	Female	Total (%)
Acute appendicitis	23	25	48 (32.0%)
Perforation of duodenal ulcer	03	00	03 (02.0%)
Intestinal obstruction	00	03	03 (02.0%)
Acute exacerbation of chronic PUD	01	03	04(2.67%)
UTI	02	03	05 (3.33%)
Strangulated/obstructed Hernia	02	00	02 (1.33%)
Acute pancreatitis	02	00	02 (1.33%)
Acute cholecystitis	02	07	09 (06.0%)
Urolithiasis	03	01	04 (2.67%)
Tubal pregnancy	00	06	06 (04.0%)
PID	00	02	02 (1.33%)
Gastroenteritis	00	02	02 (1.33%)
Non specific abdominal pain	03	57	60 (40.0%)

Table-II: Distribution of patients according to the findings of laboratory investigations, X-ray and Ultrasonographic findings (n=150).

Name of the test	Positive Findings	Negative Findings
Blood complete picture (Neutrophilic leukocytosis)	82 (54.67%)	68 (45.33%)
Urine analysis (Urinary infection)	08 (5.33%)	142 (94.67%)
Plain X-ray Abdomen and X-ray KUB	12 (08%)	138 (80.67%)
Ultra sonogram of Abdomen and KUB	41 (27.33%)	109 (72.67%)

A thorough physical examination verified the diagnostic suspicion that arose from the history. Selective use of appropriate laboratory and radiographic examinations provided further objective evidence to support a specific diagnosis. Table - II shows that 82 (54.67%) had neutrophilic leukocytosis, 08 (5.33%) had evidence of infection in urine. Plain X-ray was helpful in 12 cases (08%) and 41 patients (27.33%) were diagnosed by ultra sonogram. No abnormality was detected in routine investigations in 62 (41.33%) cases.

Maximum patients (40%) were diagnosed as non specific abdominal pain. Thirty two percent were cases of acute appendicitis, Perforation of duodenal ulcer and Intestinal obstruction were 03 (02%) cases

Table-IV: Distribution of patients according to the management.

Management	Number	Percentage
Conservative	89	59.33
Surgery	61	40.67
Acute appendicitis	48	78.69
Perforation of duodenal ulcer	03	04.92
Intestinal obstruction	02	3.28
Strangulated/obstructed Hernia	02	3.28
Tubal pregnancy	06	09.84

each (Table-III). Eighty nine (59.33%) patients responded with conservative treatment and 61 (40.67%) required surgical intervention (Table-IV).

Discussion

History taking, physical examination and laboratory investigations remain the most important step to find out underlying cause of abdominal pain. The abdominal wall as a source of pain has received little attention and only a few reviews on the topic have been published in the past decade[5,6]. Textbook descriptions of abdominal pain have limitations because people react to pain differently. Some, particularly elderly people are stoic, whereas others exaggerate their symptoms. Infants, young children and some elderly people may have difficulty in localizing the pain. Moreover some patients (especially younger) having pain abdomen without any organic cause. The characteristics of pain differ from disease to disease. Steady pain indicates inflammatory process whereas cramping pain indicates obstructive process. Onset of pain is also important. Sudden onset is suggestive of perforation, hemorrhage, infarct etc. Gradual onset indicates peritoneal irritation or hollow organ distension. Abdominal pain may be referred or may shift to sites far remote from the primarily affected organs[2]. Vomiting is a prominent symptom in upper intestinal obstruction. 26.67% patients had vomiting associated with pain in this study.

Fever is an important sign which indicates some inflammatory process is going on. Constant low grade fever is common in inflammatory condition such as diverticulitis, acute cholecystitis and acute appendicitis. Disorientation or extreme lethargy combined with a very high fever or swinging fever or with chills and rigors signifies impending septic shock. This is most often due to advanced peritonitis, acute cholangitis or pylonephritis. However, fever is often mild or absent in elderly, chronically ill or immunosuppressed patient with serious acute abdomen. Thirty four (22.67%) patients in this study were found having associated fever.

Constipation itself is hardly an absolute indicator of intestinal obstruction. However obstipation (absolute constipation) strongly suggest mechanical bowel obstruction if there is progressive painful abdominal distension or repeated vomiting. Here, 08 (5.33%) patients had history of constipation; they had intestinal obstruction, strangulated hernia or paralytic ileus following perforation of duodenal ulcer.

Tenderness that connotes localized peritoneal inflammation is the most important finding in patient with an acute abdomen. Muscle guard/rigidity is a protective phenomenon seen in peritonitis. In this study, 107 (71.33%) patients were found having localized or diffuse tenderness and 31 (20.67%) patients had muscle guard during physical examination.

Whenever possible, an attempt should be made to arrive at an accurate diagnosis before the operation is commenced, since this allows preoperative treatment to be planned[7]. Diagnosis of acute appendicitis is difficult in nearly 30% of patients with pain in low right quadrant[8]. A careful history should be taken indicating the symptoms of patient and a careful examination to find out the physical signs and their interpretation which are of high significance to come to a diagnosis in these cases[9]. Though history and clinical examination gives most of the clues for diagnosis, laboratory investigations and imaging are of great help. A complete blood picture gives idea about the presence of acute inflammation. Urinalysis is easily performed and may reveal useful information. Pregnancy test should be ordered if there is a history of missed period[2]. Plain X-ray of the abdomen in the supine and upright positions can often provide immediate information which helps to confirm a diagnosis or exclude certain diagnoses which have been considered. Ultrasonography is almost conclusive in many cases, which is also reflected in this study (X-ray of 12 patients and Ultrasonography of 41 patients were conclusive in diagnosis). No abnormality was detected in routine investigations in 62 (41.33%) cases.

In 35% to 40% of all hospital admission for abdominal pain, the pain is non specific[4]. Here 60 (40%) patients were diagnosed as having non specific abdominal pain and were responded well with conservative treatment. It also simulates the study of Telfer and team[10]. Total 61 (40.67%) patients required surgery. All patients were initially treated with analgesic, antibiotics, H_2 receptor blocker and were kept on nothing by mouth. Previous practice was to withhold analgesia until surgical review. One recent review showed that opiate administration may alter physical examination findings, but these changes result in no significant increase in management errors[11]. Another study showed that morphine safely provides analgesia without impairing diagnostic accuracy[12]. A Cochrane review also supported the use of analgesia before assessment by a surgeon[13]. All acute appendicitis, duodenal ulcer perforation, strangulated hernia, tubal pregnancy and 02 intestinal obstruction cases were treated

surgically. Other cases responded by conservative treatment which includes acute pancreatitis, acute cholecystitis, UTI, acute exacerbation of chronic PUD, PID and gastroenteritis.

Conclusion

Twenty-five percent of general surgical admissions present primarily with acute abdominal pain and thus, represent a significant proportion of a general surgeon's workload[14]. When evaluating a patient with acute abdominal pain, the most important elements in making an accurate early diagnosis are the patient's history and physical examination. Selective use of appropriate laboratory and radiographic examinations provides further objective evidence to support a specific diagnosis. The accuracy of ultrasound in diagnosing hepatobiliary and gynecological disorders helps to reduce negative laparotomy rate and is cost effective. The interaction and consultation between the emergency and imaging departments is of utmost importance and should be simplified[15]. Hence ultrasonography should be a part of routine surgical investigation should be mastered and used by surgeons. When confirmatory tests are negative or not available, supportive investigations and clinical suspicion should be considered strongly for diagnosis to avoid delay in treatment[16]. Acute abdominal pain always makes a diagnostic dilemma due to wide range of differential diagnosis. It is important to make early diagnosis and a delay will worsen the condition and may lead to fatal outcome.

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