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Original Research Article

"Diseases in Patients with Non-Traumatic Acute Abdomen"

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Abstract: ***Introduction:*** The surgeon considers abdomen as an enigma because in a good proportion of his cases, the cause of abdominal pain or the nature of the abdominal lump, may not be decided in spite of all possible investigations. But application of anatomical knowledge makes diagnosis more interesting and more rational except in few cases. ***Objective:*** To assess the diseases in patients with Non-Traumatic Acute Abdomen. ***Materials and Methods:*** It is a prospective study. Two hundred cases of nontraumatic emergency laparotomy patients were studied in Different surgical units of Dhaka Medical College Hospital during the period of July 2007to June 2008. The peak age incidence was found in the third decade of life (34%). Overall male-female ratio was 2.3:1, but there were disease specific variations. Acute abdominal pain was the constant symptom with different degree of severity, presenting either locally or diffusely. In conditions with peritonitis either local or diffuse, muscle guarding, rigidity or diminished bowel sound were found. ***Results:*** In the present study 200 patients were included. All these patients underwent emergency laparotomy with the provisional diagnosis of acute abdomen. ***Conclusion:*** The most common cause of acute abdomen in the study was acute appendicitis, affecting young population; this was followed by Hollow viscus perforation with peritonitis and bowel obstruction. To evaluating patients with acute appendicitis and peritonitis, plain x ray abdomen high sensitive in bowel obstruction and peritonitis as well. USG abdomen had high specificity as well as positive and negative predictive value in acute appendicitis. Acute appendicitis was the commonest cause 48% of patients presenting to Emergency and Casualty as acute abdomen. It must be remembered that 'Diagnostic errors at the initial assessment may at best result in unnecessary surgical intervention, and at worst demise of the patient or a protracted illness due to the development of complications, which could have been avoided by prompt intervention.

Keywords: Non traumatic acute abdomen, laparotomy, Appendicectomy, Laparotomy, peritonitis.

INTRODUCTION

The surgeon considers abdomen as an enigma because in a good proportion of his cases, the cause of abdominal pain or the nature of the abdominal lump, may not be decided in spite of all possible investigations. But application of anatomical knowledge makes diagnosis more interesting and more rational except in few cases. Acute abdomen means- 'the term acute abdomen denotes .any sudden spontaneous no traumatic disorder whose chief manifestation is in the abdominal area and for which urgent operation may be necessary [1]. The term acute abdominal pain generally refers to previously undiagnosed pain that arises suddenly and is of less than 7 day's (usually less than 48 hour's) duration. The correct interpretation of abdominal pain is one of the most challenging demands to any Surgeon. Since proper therapy often requires urgent action, the luxury of the leisurely approach suitable for the study of other conditions is frequently denied. The pathophysiology of acute abdomen depends on underlying nature of the lesion. Among the causes, those related to gastrointestinal and gynecological system is the top of the list Most of them present with the feature of peritonitis. It may be local peritonitis following acute appendicitis, or diffuse peritonitis following perforated duodenal and gastric ulcer, perforated bowel, burst appendix or from ruptured tubo ovarian mass. It is important factor in the diagnosis of acute abdomen. Reflex ileus is often induced by visceral afferent fibers stimulating sympathetic efferent fibers of the splanchnic nerves to reduce the intestinal peristalsis. Hence, paralytic ileus undermines the value of constipation in the different diagnosis of acute abdomen. The complexity of situation is enhanced by the various types of intra and extra abdominal pathology that contributes to the complaint of abdominal pain. Abdominal pain that persists for 6 hours or longer is usually caused by disorders of surgical significance. The primary goals in the

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management of patients with acute abdominal pain are (1) to establish a differential diagnosis and a plan for confirming the diagnosis through appropriate imaging studies, (2) to determine whether operative intervention is necessary, and (3) to prepare the patient for operation in a manner that minimizes perioperative morbidity and mortality It can be defined as one of nature's earliest sign of morbidity. Pain is usually the predominant and presenting feature of an acute abdomen, in order to elucidate its cause, the location, mode of onset, progression and character of pain must be determined. To reach a correct diagnosis, detail history taking is imperative of a patient suffering from acute abdomen. It has also other objectives, such as:

- To start a doctor-patient relationship and to reassure the patient so that he/she can be easy.
- To have an idea regarding patient's state of health, degree of distension and anxiety.
- To formulate a correct management plan by getting information from the patient (Diabetes, IHD and COPD).
- To provide a platform for next physical examination of the patient.

At other times, the clinical evaluation establishes the presence of acute intraabdominal pathology (acute abdomen) but only a differential diagnosis is possible and laboratory tests and other investigations are necessary to establish a definite diagnosis [2]. Where appendicitis is confirmed, laparoscopy is also a useful diagnostic tool in managing obtunded, elderly or critically ill patient who may have subdued manifestation of acute abdomen.

MATERIALS AND METHODS

Study design: It is a prospective study.
Study period: The study period is one year starting from 1st July, 2007 to 30thJune, 2008.
Study population. All the patients admitted into the surgery units of Dhaka Medical College Hospital with an initial diagnosis of acute abdomen of nontraumatic origin.
Study Place: Different surgical units of Dhaka Medical College Hospital, Dhaka, Bangladesh.
Sample size: 200 patients were selected for the study.

INCLUSION CRITERIA

All the patients of thirteen to eighty years with an initial diagnosis of acute abdomen of non-traumatic origin that is manageable by emergency laparotomies

EXCLUSION CRITERIA

(i) Age < 10 years or, > 80 years.

- Acute pancreatitis.
- Acute cholecystitis.
- Severe cardio-respiratory problems.
- Patients who refused to give any consent for laparotomy.

STUDY METHOD

Detailed history was taken and a meticulous clinical examination was performed. A per designed study proforma (data sheet) was duly filled in. After making a provisional diagnosis, few investigations were needed to help the clinical diagnosis and to exclude differential diagnosis. Laparotomy findings and pathological assessment in relevant cases were also documented. Finally correlations between preoperative clinical diagnosis and peroperative findings were compared. Limited investigations dictated by the clinical conditions were done. Plain-ray abdomen was the most frequently used investigation alone with blood count, serum amylase and ultrasonogram of abdomen. Clinical diagnosis was made depending on clinical findings and the results of investigations.

RESULTS

In the present study 200 patients were included. All the patients underwent emergency laparotomy with the provisional diagnosis of acute abdomen.

Table-1: Sex distribution of the patients: (n=200)

Sex	Total No.	Percent
Male	139	69.5%
Female	61	30.5%

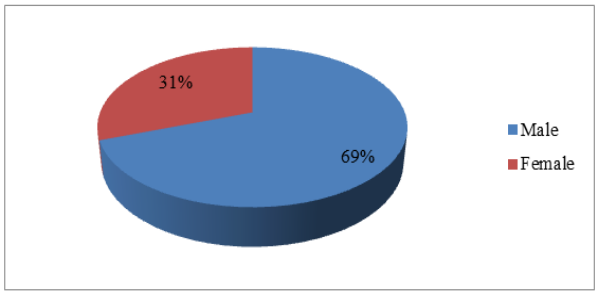

Fig-1: Pie chart showing sex distribution.

In total, 200 cases of nontraumatic emergency laparotomy, 139(69.5%) were male and 61(30.5%) were female.

Table-2: General clinical findings of acute abdomen (n-200)

Signs	No. of cases	%
Anxious look	182	91
Anaemia	83	41.5
Dehydration	62	31
Tachycardia	187	93.5
Hypotention	33	16.5

Tachycardia was present in 95.5%% patients and 91% patients were anxious. Anaemia was present in 41.5% of patients.31% patients had dehydration.

Table-3: Correlation between clinical diagnosis and operative findings.

Clinical diagnosis	Total	Confirmed on laparotomy No.(%)		Inappropriate diagnosis No. (%)	
Acute appendicitis	96	84	87.5	12	12.5
Perforated peptic ulcer	56	51	91.07	5	8.93
Perforated small bowel	18	14	77.77	4	22.23
Intestinal obstruction	18	16	88.88	2	11.2
Miscellaneous	12	7	58.33	5	41.77

Diagnostic accuracy in respect of clinical diagnosis was highest in case of perforated peptic ulcer (91.07%). In case of acute appendicitis, it was 87.5%. In case of intestinal obstruction, it was 88.88%.

Table-4: Non correlated surgery.

Preoperative diagnosis	No. of Patients	Preoperative diagnosis
Acute appendicitis	5	Perforated peptic ulcer
Acute appendicitis	2	Ruptured ectopic pregnancy
Acute appendicitis	2	Twisted ovarian cyst
Acute appendicitis	3	Mesenteric lymphadenitis
Perforated peptic ulcer	2	Gallbladder perforation
Perforated peptic ulcer	1	Large gut perforation
Perforated peptic ulcer	1	CBD perforation
Perforated peptic ulcer	1	Burst liver abscess
Perforated peptic ulcer	4	Burst appendix
Intestinal obstruction	2	Peptic ulcer perforation

Table-5: Findings of ultrasonography of whole abdomen (n=36)

Findings	Number	%
Distended bowel loops	10	27.77
Distended bowel loops with free fluid	7	19.44
Tubo-ovarian mass	4	11.11
Collection in Cul-De-Sac	2	5.55
Normal	14	38.88

Table-6: Disease specific findings of radiological examination.

Types of disease	Radiological findings	Number	%
Perforated duodenalulcern=56	Free gas	41	73.22
	Free gas and free fluid level	8	14.28
	No free gas but multipleair fluid level	7	12.5
Acute Intestinalobstructionn=18	Multiple fluid gas level	15	88.33
	Nonspecific	3	16.67
Perforated small gutn=18	Free gas and fluid level	10	55.55
	Fluid level only	6	33.33
	Nonspecific	2	11.11

In duodenal ulcer perforation free gas shadow under the dome of diaphragm inerect posture was found in 87.5% cases in acute intestinal obstruction, multiple fluid level and gas shadows were found in 83.33% of cases.

DISCUSSION

The quest for improvement in the management of acute abdominal pain has been stimulated by many factors, amongst which are an increasing public awareness and indeed criticism of the management of medical and surgical conditions. Acute surgical emergencies constitute 50% of all general surgical admission and 50% of them are for acute abdomen, 50% of which require surgical intervention. If diagnosis is in doubt it is advised to operate for exploration rather than wait and watch. But this policy will definitely raise the unnecessary laparotomy rate and morbidity. This study shows that commonest cause of nontraumatic emergency laparotomy is acute appendicitis, 48%. The second commonest cause is duodenal ulcer perforation, 28%. Next is ileal perforation, 9%. It correlates with the study of Irvin [3], who found most common cause as acute appendicitis. Also with Wilson *et al*. [4] and Dombal *et a*l. [5]. This series revealed male female ratio in perforated duodenal ulcer was 8.3:1; it almost correlates with the study of Staniland *et al*. [6]. It this

study, male-female ratio in acute intestinal obstruction was 2:1. Itnearly correlates with the study of Staniland *et al*. (1.5:1) and also with Iqbal [7] (3.7:1). In case of large gut obstruction male-female ratio was almost equal. This does not correlate with the study of Brewer *et al*. [8]. This study shows that most common age group for acute appendicitis was the third decade in case of male. But in case of female it was the second decade. In this study abdominal pain: the predominant feature of the patient was found in all cases, of which is consistent with the study by Brewer *et al*. [8]. Among the patients, 90% of them were anxious looking, 41.5% of them had anaemia. 31% patients were dehydrated. 93.5% of them had tachycardia. Only 16.5% had hypotension. Commonest cause of nontraumatic emergency laparotomy was acute appendicitis. Incidence is increasing in our country. Probably due to change in food habit of our people. In this study male-female ratio for ileal perforation was 2.6:1. This correlates with the study of Irvin [3]. So far the etiology of nontraumatic emergency laparotomy is concerned, in this series the commonest was acute appendicitis 48%, followed by perforated duodenal ulcer 28% & intestinal obstruction 9%.In this study 87.5% of the clinically diagnosed acute appendicitis was accurate by preoperative diagnosis. In case of intestinal obstruction diagnostic accuracy was 88.88%. They correlate with the study of Jones [9].

CONCLUSION

The most common cause of acute abdomen in the study was acute appendicitis, affecting young population; this was followed by Hollow viscus perforation with peritonitis and bowel obstruction. To evaluating patients with acute appendicitis and peritonitis, plain x ray abdomen high sensitive in bowel obstruction and peritonitis as well. USG abdomen had high specificity as well as positive and negative predictive value in acute appendicitis. Acute appendicitis was the commonest cause 48% of patients presenting to Emergency and Casualty as acute abdomen. It must be remembered that 'Diagnostic errors at the initial assessment may at best result in unnecessary surgical intervention, and at worst demise of the patient or aprotracted illness due to the development of complications, which could have been avoided by prompt intervention.

REFERENCE

1. Gerard, M., Doherty, M.D., & John, H., Boey, M.D. (2003). The Acute Abdomen.In: Current surgical diagnosis & Treatment, 11h edition. *USA: McGraw-Hill Companics*, 503-516.
2. CUSCHEIRI, A. (1986). The acute abdomen and disorders of the peritoneal cavity In: Cuschieri A, Giles GR, Moosa AR, eds. *Essential Surgical Practice, 2a ed. London: Wright PSG*, 1-238.
3. Irvin, T. T. (1989). Abdominal pain: a surgical audit of 1190 emergency admissions. *Journal of British Surgery*, *76*(11), 1121-1125.
4. Wilson, P. D., Horrocks, J. C., Lyndon, P. J., Yeung, C. K., Page, R., & De Dombal, F. T. (1975). Simplified computer-aided diagnosis of acute abdominal pain. *Br Med J*, *2*(5962), 73-75.
5. De Dombal, F. T., Leaper, D. J., Horrocks, J. C., Staniland, J. R., & McCann, A. P. (1974). Human and computer-aided diagnosis of abdominal pain: further report with emphasis on performance of clinicians. *Br Med J*, *1*(5904), 376-380.
6. Staniland, J. R., Ditchburn, J., & De Dombal, F. T. (1972). Clinical presentation of acute abdomen: study of 600 patients. *Br Med J*, *3*(5823), 393-398.
7. Iqbal, S.A. (1991). Correlation between clinical diagnosis and operative findingof acute abdomen [dissertation]. Dhaka: Bangladesh College ofPhysicians and Surgeons.
8. Brewer, B. J., Golden, G. T., Hitch, D. C., Rudolf, L. E., & Wangensteen, S. L. (1976). Abdominal pain. An analysis of 1,000 consecutive cases in a University Hospital emergency room. *American journal of surgery*, *131*(2), 219-223.
9. Jones, P. F. (1990). Practicalities in the management of the acute abdomen. *Journal of British Surgery*, *77*(4), 365-367.

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