Original Article

Presentation and management of non-traumatic acute abdominal pain at tertiary care hospital

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Abstract

Background: Acute Abdomen is one of the most common reasons for an emergency surgical department visit. The spectrum of aetiology of diseases causing acute abdomen ranges from appendicitis, hollow viscous perforation, intestinal obstruction and others. This study was done to identify the various etiologies of non-traumatic acute abdomen, the various clinical patterns that help to make a clinical diagnosis, presentation of pain in various etiologies and its influence on clinical decision making. **Material and Methods:** A total of 100 patients, aged more than 12 years, presenting with complaint of acute abdominal pain of non-traumatic origin requiring admission were evaluated. The pain characteristics, presentation of pain in different aetiologies and correlation between preoperative provisional diagnosis and intra operative findings were analyzed. **Results:** Out of 100 cases included in the study, 53 were male and 47 were female. The pain was sudden in onset in 59% of patients. In majority of the cases pain was colicky (54%) and in 24% it was dull aching, whereas 22% cases were unable to characterize their pain. Common associated symptoms included nausea (68%), vomiting (41%) and urinary symptoms (12%). Acute appendicitis was the most common provisional diagnosis of non-traumatic acute abdominal pain. Intraoperatively all the provisional diagnosis were confirmed except in one case of acute appendicitis which had normal appendix. **Discussion and Conclusion:** The most common cause of acute abdomen in this study was acute appendicitis affecting young population. The other common causes were urolithiasis followed by gastritis and hollow viscus perforation affecting middle aged and elderly. Adequate history and physical evaluation alone is sufficient to accurately diagnose the condition and treat accordingly.

Keywords: Non-traumatic acute abdomen, acute appendicitis.

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INTRODUCTION

Acute Abdomen is one of the most common reasons for an emergency surgical department visit, accounting to about 5 to 10% of all emergency department visits[1]. It can be due to surgical, medical and gynecological conditions ranging from a symptom of transient disorder to life threatening conditions, which may require hospital admission, extensive investigations and surgical intervention at times[2]. Acute abdominal conditions occupy one of the few areas of medical practice where the surgeon often reaches a clinical diagnosis without resorting to numerous investigations. The wide range of causes and the varied spectrum of patient presentation pose a formidable diagnostic and therapeutic challenge[3]. At presentation, it is usually of sudden onset and associated with features like nausea, anorexia, vomiting, tachycardia etc. The causes and presentation also varies according to demographic patterns, age distributions and local availability of health care facilities[4]. The spectrum of aetiology of diseases causing acute abdomen ranges from appendicitis, appendicular abscess, hollow viscous perforation, Intestinal obstruction and others.The accurate diagnosis and management of patients with acute abdominal pain remains one of the most challenging tasks for the surgeons. In traumatic cases of acute abdomen the history itself and presentation are much obvious but non traumatic cases have the risks of missed diagnosis, over-

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investigation and even an undue intervention. All patients with abdominal pain do not require extensive diagnostic tests. Sometimes, adequate history and physical evaluation alone is sufficient to accurately diagnose the condition and treat accordingly. Patients may have acute exacerbations of chronic problems (e.g., peptic ulcer disease, pancreatitis, and inflammatory bowel disease), acute surgical abdomens (e.g., appendicitis, intestinal perforation, and acute volvulus) or non-surgical abdominal emergencies (e.g. ureteric colic and biliary colic). This study was done to identify the various etiologies of non-traumatic acute abdomen, the various clinical patterns that help to make a clinical diagnosis, presentation of pain in various etiologies and its influence on clinical decision making.

MATERIAL AND METHODS

This prospective study was conducted in general surgery department of a tertiary care hospital from period January 2015 to June 2016.A total of 100 patients, aged more than 12 years, presenting with complaint of acute abdominal pain of non-traumatic origin requiring admission were evaluated and included in study after written valid consent of each case and after clearance by ethical committee. Patients with traumatic abdominal pain and medical and obvious gynecological causes of acute abdomen were excluded from the study.

After admission to the hospital, a detailed clinical history and examination of the patient was done to arrive at provisional diagnosis. Routine blood investigations such as complete blood count, liver function test, kidney function test, urine routine microscopy, serological investigations like HIV and HBsAg were done. Special blood investigations like serum lipase in patients suspected of acute pancreatitis, serum electrolytes 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 was done. Ultrasound Abdomen was performed routinely to confirm the diagnosis, for evaluation of biliary tract disease and detection of complications. CT Abdomen and pelvis was done only when diagnosis is doubtful and not confirmed by ultrasonography.

Out of 100 admitted patients 38 were kept conservatively and 62 were managed operatively. Patients presenting with perforative peritonitis and intestinal obstruction underwent exploratory laparotomy under emergency settings and patients presenting with acute appendicitis underwent emergency appendicectomy. All patients had given informed consent for surgical intervention.

RESULTS

Out of 100 cases included in the study, 53 were male and 47 were female. The pain was sudden in onset in 59% of patients. In majority of the cases pain was colicky (54%) and in 24% it was dull aching, whereas 22% cases were unable to characterize their pain. Lower abdominal pain was reported by 63% of participants, while 25% had upper abdominal location. The pain was generalized in 12% of patients. The majority of patients (93%) did not have any radiation of the pain. The pain radiated to back in three cases of acute pancreatitis. Two cases each of gastritis and urolithiasis had radiating pain to shoulder and groin respectively. Associated symptoms helped in identifying the cause and sometimes to the presence or absence of complications. Common associated symptoms included nausea (68%), vomiting (41%), urinary symptoms (12%), constipation (6%) and diarrhea (3%) (Table 1).

Table 1: Pain characteristics in non traumatic acute abdomen cases

Pain characteristic	Number
Onset of pain	
Sudden	59
Gradual	41
Localization of pain	
Lower abdominal	63
Generalized	12
Upper abdominal	25
Type of pain	
Dull	24
Colicky	54
Others	22
Radiation	
Back	03
Shoulder	02
Groin	02
None	93
Associated symptoms	
Nausea	68
Vomiting	41
Urinary symptoms	12
Abdominal distension	08
Constipation	06
Diarrhoea	03

The most common provisional diagnosis of non traumatic acute abdominal pain was acute appendicitis (44%). Urolithiasis (14%), gastritis (13%), hollow viscus perforation (12%), intestinal obstruction (6%) and acute cholecystitis (6%) were the other diagnosis made on the basis of clinical findings (Table 2).

Table 2: Incidence of provisional diagnosis

Provisional Diagnosis	Cases	Common Age (yrs)	Common gender
Acute appendicitis	44	20-30	Male - 59% Female - 41%
Urolithiasis	14	30-60	Male - 57.2% Female - 42.8%
Gastritis	13	20-40	Male - 23.0% Female - 76.9%
Hollow viscous perforation	12	>60	Male - 75% Female - 25%
Intestinal obstruction	06	40-50	Male - 66.7% Female- 33.3%
Acute Cholecystitis	06	30-50	Male - 33.3% Female - 66.6%
Acute pancreatitis	05	30-40	Male - 80% Female - 20%

Out of 100 admitted patients 38 were kept conservatively and 62 were managed operatively. Patients presenting with hollow viscous perforation and intestinal obstruction underwent exploratory laparotomy under emergency settings and patients presenting with acute appendicitis underwent emergency appendicectomy. In all operated cases of acute appendicitis (n=44), intraoperatively it was found that 28 cases had acute inflamed appendicitis, nine cases had perforated appendicitis, six cases had gangrenous appendicitis, whereas one case had normal appendix. Patients provisionally diagnosed as hollow viscous perforation (n=12) revealed intraoperatively as cases perforation of duodenum (7%), stomach (4%) and ileum (1%). Cases of intestinal obstruction (n=6) intraoperatively had postoperative adhesive band (3%), sigmoid volvulus (1%), superior mesenteric artery thrombosis (1%) and obstructed hernia (1%).

DISCUSSION

Acute abdominal pain is one of the most common symptoms of emergency department patients. It's a difficult endeavor to differentiate cases with severe abdominal pathology, which requires surgical intervention, from other benign conditions which can be managed conservatively. The clinical assessment of acute non-traumatic abdominal pain becomes even more complicated as its causes are broad, ranging from minor, self-limiting conditions to catastrophic, life-threatening diseases. In the present study most common aetiology of non-traumatic acute abdomen was acute appendicitis (44%). Causes of acute abdominal pain include both medical and surgical[5]. A study done in Ghana, Africa, also reported acute appendicitis followed by typhoid fever with ileal perforation and acute intestinal obstruction as commonest causes of acute abdominal pain[6]. In another retrospective study done at Institute of Surgery of the University of Rome on 450 patients presenting with acute abdominal pain to the emergency department, appendicitis was the most common cause followed by non-specific abdominal pain (15.5%), cholelithiasis (12.5%) and abdominal malignancy (10.3%)[7]. In our study most common presentation of pain in patients with acute appendicitis was pain in right iliac fossa (100%) which is similar to that reported by Farid *et al*(99%)[8], Abdu *et al*(93%)[9] and Angela *et al* (100%)[10]. The most common intraoperative finding in patients with preoperative diagnosis of acute appendicitis was acute inflamed appendicitis (63.63%).Abdu *et al*(36.1%)[9] Abdelrhman *et al*(74.1%)[11] and Anumah *et al*(69.7%)[12] reported the similar observations. Only one case of acute appendicitis with final diagnosis of normal appendix was misdiagnosed and managed operatively in present study that was attributed to over expressed pain and vague complaint by a patient. In our study, urolithiasis (14%), gastritis (13%) and hollow viscus perforation (12%) were the other common reasons for emergency department visits due to abdominal pain. Caterino *et al*[7] also reported the similar findings. To conclude, the most common cause of acute abdomen in this study was acute appendicitis affecting young population. The second common cause was urolithiasis affecting middle aged and elderly, followed by gastritis and hollow viscus perforation. In majority of the cases, adequate history and physical evaluation alone is sufficient to accurately diagnose the condition and treat accordingly.

REFERENCES

1. Kamin RA, Nowicki TA, Courtney DS, Powers RD. Pearls and Pitfalls in the Emergency Department Evaluation of Abdominal Pain. Emerg Med Clin North Am. 2003;21:61–72.
2. Agboola JO, Olatoke SA, Rahman GA. Pattern and Presentation of Acute Abdomen in a Nigerian Teaching Hospital. Niger Med J. 2014;55:266-70.
3. Hari Prasad, Gabriel Rodrigues, Rajgopal Shenoy. Role of Ultrasonography in Non Traumatic Acute Abdomen. The Internet J Radiol2007;5:2.
4. Graff LG, Robinson D. Abdominal pain and emergency department evaluation. Emerg Med Clin North Am 2001;19:123-136.
5. Saleh MA, Troy S, Etienne T. What Clinical and Laboratory Parameters Determine Significant intra-abdominal Pathology for Patients Assessed in Hospital with Acute Abdominal Pain? World J Emerg Surg. 2007;2:26.
6. Ohene-Yeboah M. Acute surgical admissions for abdominal pain in adults in Kumasi, Ghana. ANZ J Surg. 2006;76:898–903.
7. Caterino S, Cavallini M, Meli C, Murante G, Schiffino L, Lotito S, *et al*. Acute abdominal pain in emergency surgery. Clinical epidemiologic study of 450 patients. Ann Ital Chir. 1997;68:807–17.

8. Farid J, Bhambhro RJ, Soomro S. Acute appendicitis; present pattern and postoperative complications. Professional Med J 2016; 23(3):241-245.
9. Abudu EK, Oyebadeyo TY, Tade AO, Awolola NA. Surgical Pathologic Review of Appendectomy at a Suburban Tropical Tertiary Hospital in Africa. J Medicine Medical Sci 2011;2(6):932-938.
10. Angela W, Bonnie LV, Karl G, *et al*.Risk factors for the development of abdominal abscess following operation for perforated Appendicitis in children in Kano, Nigeria. Arch Surg2007;142:236-241.
11. Abdelrhman, Deneke. Acute appendicitis: still a missed diagnosis in Ei Obeid, Western Sudan. Sudan JMS 2007;2(1):7-9.
12. Anumah M, Edino ST, Mohammed AZ, Ochicha O.Appendicitis in Kano, Nigeria: A 5-Year Review of Pattern, Morbidity and Mortality. Annals of African Medicine 2004;3(1):38-41.

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