Original Research Article

Clinical profile of patients with non-traumatic acute abdomen at a tertiary care hospital

Krishna Kishore G[1], Srinivas Rao Mandalapu[2*]

[1]Assistant Professor, [2]Associate Professor, Department of Surgery, SVS Medical College: Mahabubnagar: Telangana, INDIA.
Email: drmsraoms1@gmail.com

Abstract

Background: One of the most common emergency department visits is for abdominal pain (ED). It presents a diagnostic difficulty for emergency physicians because there are a variety of reasons ranging from benign to life-threatening illnesses. A physician in the emergency room must assess a variety of diagnoses, particularly those that are life-threatening and require prompt treatment to reduce morbidity and death. **Aim:** The goal of this research was to figure out the clinical profile and etiological spectrum of diseases that present as acute abdomen in the emergency room. **Materials and Methods:** This study was a retrospective study that was conducted at an emergency department in Government Medical College after institutional ethics committee approval was obtained. This study was conducted between February 2017 to November 2019. **Results:** 300 patients were included in the study. The majority of patients were in the age group of 16-31 years (58.3%), 30.7% were in the age group of 32-51 years, 11% were above 51 years. 32% of patients showed sudden onset of pain and 68% of patients showed pain more than 3 days. 5% of patients had hypertension, 7% had type 2 diabetes, 1% had IHD, 4% had post laparotomy, 3% had malignancy and 1% had tuberculosis. The etiology of acute abdomen in patients presenting during an emergency was observed as acute appendicitis and was observed to be majority in 31.7% of patients. Metabolic acidosis was the most common complication observed in 7.7% of patients. mortality rate of 1.7% was observed in the study. **Conclusion:** During the workup of these patients, clinicians must explore several diagnoses; patients who may require surgical exploration should be recognized early to reduce morbidity and mortality.

Keywords: Acute Abdomen, Emergency department.

[*]**Address for Correspondence:**
Dr Srinivas Rao Mandalapu, Associate Professor, Department of Surgery, SVS Medical College: Mahabubnagar: Telangana, INDIA
Email: drmsraoms1@gmail.com

Received Date: 08/10/2021 Revised Date: 12/11/2021 Accepted Date: 16/12/2021

Access this article online

Quick Response Code:

Website: www.medpulse.in

DOI: https://doi.org/10.26611/1062123

INTRODUCTION

Acute abdominal issues have been known from Hippocretes' time. One of the most common emergency department presentations is abdominal pain (ED). It accounts for about 10% of the cases seen in the emergency room[1]. A multitude of words was used to describe acute abdominal disorders, including iliae passion. Celsus and Hippocrates were familiar with iliae passion, which can be considered synonymous with acute abdomen. In the case of intestinal obstruction, Hippocrates recommended deflation of the intestines and the use of enemas. It's a diagnostic problem for emergency physicians because the causes can range from benign to life-threatening, including gastrointestinal, urological, and gynecological issues, among others[2]. Although most abdominal pain is harmless, up to 10% of patients in emergency rooms have a serious or life-threatening condition that requires surgery[3]. Stomach pain is caused by a variety of disorders, some of which may not require surgical treatment. As a result, the examination of patients with acute abdominal pain must be thorough and careful[4]. Atypical presentations are seen in the elderly, with pain lasting longer at the time of presentation. The majority of cases of acute abdomen may be diagnosed clinically by the presence or absence of abdominal pain, abdominal tenderness, guarding, and rigidity, while roughly a quarter of patients are left with a non-specific etiology, but that percentage has been reduced thanks to recent radiological imaging. The goal of this

How to cite this article: Krishna Kishore G, Srinivas Rao Mandalapu. Clinical profile of patients with non-traumatic acute abdomen at a tertiary care hospital. *MedPulse International Journal of Surgery.* February 2022; 21(2): 36-39. https://www.medpulse.in/Surgery/

research was to figure out the clinical profile and etiological spectrum of diseases that present as acute abdomen in the emergency room.

MATERIALS AND METHODS

This study was a retrospective study that was conducted at an emergency department in Government Medical College after institutional ethics committee approval was obtained. This study was conducted between February 2017 to November 2019. The study included all non-trauma patients over the age of 15 who presented to the emergency department with stomach pain. The study excluded all pregnant women who had been diagnosed. For all patients, an X-ray abdomen and Ultrasonography (USG) were performed after a comprehensive clinical examination and detailed history was collected. Other radiological and blood tests were performed as needed. Analgesics were given orally or intravenously, depending on the degree of the pain. The patients were followed up with until they were discharged from the ED/admitted ward, and the final diagnosis was recorded at that time.

RESULTS

300 patients were included in the study.

Table 1: Distribution based on age.

Age (Years)	No. of patients	Percentage
16-31	175	58.3
32-51	92	30.7
>51	33	11

Table 1 shows that majority of patients were in the age group of 16-31 years (58.3%), 30.7% were in the age group of 32-51 years, 11% were above 51 years.

Table 2: Distribution based on sex.

Sex	No. of patients	Percentage
Male	197	65.6
Female	103	34.4
Total	**300**	**100**

Table 2 shows that majority were males which were 65.6% and females were 34.4%.

Table 3: Distribution based on pain.

Duration (Days)	No. of patients	Percentage
<3	204	68
>3	96	32
Total	**300**	**100**

Table 3 shows that 32% of patients showed sudden onset of pain and 68% of patients showed pain more than 3 days.

Table 4: Distribution based on comorbidity.

Comorbidity	No. of patients	Percentage
Hypertension	15	5
Type 2 Diabetes	20	7
IHD	4	1
Post Laparotomy	13	4
Malignancy	10	3
Tuberculosis	3	1

Table 4 shows that 5% of patients had hypertension, 7% had type 2 diabetes, 1% had IHD, 4% had post laparotomy, 3% had malignancy and 1% had tuberculosis.

Table 5: Distribution based on etiology of acute abdomen of patients presenting to an emergency.

Etiology	No. of patients	Percentage
Acute appendicitis	95	31.7
Acute intestinal obstruction	38	12.7
Acute acalcular pancreatitis	11	3.7
Acute calcular pancreatitis	13	4.3
Acute acalcular cholecystitis	18	6
Acute calcular cholecystitis	32	10.7

Mesenteric ischemia	2	0.7
Perforated peptic ulcer	10	3.3
Peritonitis	13	4.3
Nephrolithiasis	31	10.3
Ectopic Pregnancy	1	0.3
Liver abscess	6	2
Acute myocardial infarction	2	0.7
Pleurisy	6	2
Acid peptic disease	17	5.7
Acute urine retention	5	1.6
Total	**300**	**100**

Table 5 shows that the etiology of acute abdomen in patients presenting during an emergency was observed as acute appendicitis and was observed to be majority in 31.7% of patients.

Table 6: Distribution of complications of patients.

Complications	No. of patients	Percentage
Acute Renal Disease	10	3.3
Shock	4	1.3
Metabolic Acidosis	23	7.7
Electrolyte Imbalance	15	5
GI	1	0.3
Total	**53**	**17.6**

Table 6 shows that metabolic acidosis was the most common complication observed in 7.7% of patients.

Table 7: Mortality among patients.

Mortality	No. of patients	Percentage
Survivors	295	98.3
Non Survivors	5	1.7

Table 7 shows that a mortality rate of 1.7% was observed in the study.

DISCUSSION

"An abnormal condition characterized by a quick onset of severe pain within the abdominal cavity that demands immediate evaluation, diagnosis, and may require surgical intervention," according to the definition of immediate acute abdomen. The first record exterostomy is thought to have been performed by Paraxegoras. Pierre franeo advised surgery for an inguinal hernia as early as 1556[5]. In the treatment of strangulated inguinal hernias, he advocated surgical surgery. Jaharn Friedrich Dieffenbach did not disclose the successful removal of gangrenous bowel in a strangulated hernia until 1836.[6] The adoption of a surgical line of therapy for acute duodenal ulcer perforation, along with the advent of antibiotics and relaxant anesthesia, has resulted in a progressive decrease in fatality rates, from 4% in 1953 to 2% in 1960. The entire abdominal cavity or a section of the visceral or parietal peritoneum can be affected by peritonitis. Transudation can result in an increase in peritoneal fluid, which is high in protein and leukocytes, making it easier for fibrin to develop on peritoneal surfaces. 5 Peritonitis refers to any type of peritoneal inflammation. Peritonitis can develop as a widespread bacterial infection without a clear intra-abdominal source of contamination in primary or spontaneous peritonitis. Children are more likely than adults to develop primary peritonitis, which is most usually caused by Pneumococcus or hemolytic Streptococcus. Adults with ascites and cirrhosis, on the other hand, are vulnerable to Escherichia coli and Klebsiella-induced peritonitis. Perforation, infection, or gangrene of an intra-abdominal organ, most commonly the gastrointestinal system, causes secondary peritonitis. The normal structure of the abdominal cavity and its viscera is determined by the developmental architecture of the abdominal cavity and its viscera, which influences the pathophysiology and clinical symptoms of most abdominal disorders. Extensive diagnostic tests are not required for all people with stomach pain. In some cases, a thorough history and physical examination are enough to accurately identify and treat an illness. Patients may appear with a variety of ambiguous complaints and symptoms, making identification of illnesses ranging from benign to life-threatening problematic. In the present study, more than half of them said their discomfort started suddenly, while the other half said it started gradually. Similar results were observed in Dr. Naveed Anjum Qureshi *et al.* study.[7] In the present study, the etiology of acute abdomen in patients presenting during an emergency was observed as acute appendicitis and was observed to be majority in 31.7% of patients. In Tariq *et al.*[8] study, Acute appendicitis was the

most common cause of acute abdomen, followed by acute pancreatitis and duodenal ulcer. In OheneYeboah M *et al.*[9] study; the most prevalent causes of acute abdominal discomfort were documented to be acute appendicitis, typhoid fever, ileal perforation, and acute intestinal obstruction. In Dr. Ritesh Gajjar *et al.*[10] study, the most common reasons for ED visits due to abdominal pain were ureteric colic (22%), acute gastroenteritis (11%), acid peptic disease (11%), UTI (7%), hollow viscus perforation (08%) and acute appendicitis (07%). In Selbst SM *et al.*[11] and Kachalia A *et al.*[12] studies; approximately 73 percent of the patients with acute appendicitis were under the age of 25. The presenting issue in a large majority of medicolegal lawsuits against both general and pediatric EM practitioners is abdominal pain. In Flum DR *et al.*[13] study; the fact that, despite diagnostic and therapeutic improvements (computed tomography [CT], ultrasonography, and laparoscopy), the misdiagnosis rate of the most common surgical emergency, acute appendicitis, has remained relatively constant throughout time should embarrass the modern physician. In roughly 12% of instances, no particular diagnosis was found. According to Wong *et al.*,[14] conditions like dengue can produce stomach discomfort, therefore looking for an abdominal source of abdominal pain may be useless. Special groups of people, such as pregnant women and the elderly, appear in different ways, making the approach even more complex. Designing a common approach to acute abdominal discomfort is difficult for these reasons. Because this is an ED-based study, gold standards were not used for confirmation of the diagnosis.

CONCLUSION

Acute abdomen is a common emergency room complaint, and numerous intraabdominal disorders have similar symptoms. Aside from easing the patient's symptoms, the primary job of the emergency physician is to identify instances that require prompt action to reduce morbidity and mortality. In a tiny proportion of these individuals, despite a complete history, clinical examination, laboratory, and radiographic studies, diagnosis remains elusive. A patient should be reassessed if a test result is unexpectedly negative. A good technique is to examine patients regularly and identify those who may require immediate investigation.

REFERENCES

1. Lameris W, van Randen A, van Es HW, van Heesewijk JP, van Ramshorst B, Bouma WH, et al.: Imaging strategies for detection of urgent conditions in patients with acute abdominal pain: diagnostic accuracy study. BMJ 2009;338:b2431.
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. [PMCID: PMC4089059] [PubMed: 25013262]
3. 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. [PubMed: 12630731]
4. Town send CM. Sabiston textbook of Surgery: The biological basis of modern surgical practice 16 Ed. Singapore: Harcourt Asia PTE Ltd., W. B. Saunders Co., 2001.
5. Inderbirsingh, "Alimentary system in Human Embryology", Ch: 12, Ed 5, Macmillan India limited publication, 1995,175 to 187.
6. Chummy S. Sinnatamby, "Introduction to regional anatomy" in Last's anatomy regional andApplied, Ch:1, Edn 10th, Churchill livingstone publication,1999,1to31.
7. Dr. Naveed Anjum Qureshi, Dr. Viney Sambyal; Clinical profile of non-traumatic acute abdomen at a tertiary care hospital- a retrospective study; International Journal of Medical and Biomedical Studies; Volume 3, Issue 4; April: 2019; Page No. 135-138.
8. Muhammad TA, Asma H, Waqar SH, Shah SF, Zafar IM, Zahid MA. Presentation and Outcome of Acute Abdomen in a Tertiary Care Unit. Ann Pak Inst Med Sci. 2011;7:137–44. 10.
9. OheneYeboah M. Acute surgical admissions for abdominal pain in adults in Kumasi, Ghana. ANZ J Surg. 2006;76:898–903. [PubMed: 17007619].
10. Dr. Ritesh Gajjar, Dr. P.B.Gupta, Dr. Diwakar Verma, Dr. Binod Gouda; Pattern and Presentation of Non-Traumatic Acute Abdominal Pain to an Emergency Department of a Tertiary Care Hospital; International Journal of Health Sciences and Research; Vol 7; Issue:5; May 2017.
11. Selbst SM, Friedman MJ, Singh SB. Epidemiology and etiology of malpractice lawsuits involving children in US emergency departments and urgent care centers. Pediatr Emerg Care. 2005;21:165–169. [PubMed]
12. Kachalia A, Gandhi TK, Puopolo AL, et al. Missed and delayed diagnoses in the emergency department: a study of closed malpractice claims from 4 liability insurers. Acad Emerg Med.2007;49:196–205. [PubMed]
13. Flum DR, Morris A, Koepsell T, et al. Has misdiagnosis of appendicitis decreased over time? JAMA. 2001; 286:1748–1753. [PubMed]
14. Wong JG, Gan VC, Ng EL, Leo YS, Chan SP, Choo R, et al. SelfReported Pain Intensity with the Numeric Reporting Scale in Adult Dengue. PloS One. 2014;9: e96514.

Source of Support: None Declared
Conflict of Interest: None Declared