

EPIDEMIOLOGICAL EVALUATION OF ACUTE ABDOMINAL PAIN AT TERTIARY CARE CENTER

Dr. Abhishek Jain^{1*}, Dr. Robhin Bothra²

1. Assistant professor, Department of Surgery, RD Gardi Medical college, Ujjain, 2. Assistant professor, Department of Surgery, Getanjali Medical College, Udaipur (Raj.)

*Corresponding author – Dr. Robhin Bothra

Email id – vinitapathlab@gmail.com

Received:15/11/2018

Revised:18/01/2019

Accepted:15/03/2019

ABSTRACT

Background: The management of acute abdominal pain is an emergency and act as great challenge for the medical professionals. The diagnostic algorithm for acute abdominal pain is also very vast and one of the most difficult for the surgeons and physicians. **Material & Methods:** The present observational study was conducted at of our tertiary care hospital, with study duration of six months from January 2018 to June 2018. 300 Patients with non-traumatic acute abdominal pain were enrolled for the study after written informed consent. Clearance from Institutional Ethics Committee was taken before start of study. **Results:** Perforation Peritonitis was reported the most common cause of acute abdomen pain which was found in 117 (39%) patient which was followed by appendicitis in 111 (37%) patients. Intestinal obstruction was found in 42 (14%) patients, ruptured liver abscess was found in 9 (3%) patients, gall bladder pathology and bowel ischemia were found in 6 (2%) patients, respectively and Meckel's diverticulitis was found in 3 (1%) patients. **Conclusion:** The acute abdomen pain represents a group of abdominal signs and symptoms which can be rapidly deteriorate and need a urgent surgical treatment. Early diagnosis and prompt treatment decrease the major morbidity and mortality as well as the duration of hospital stay.

Key words: Acute Abdomen, Appendicitis, Perforation peritonitis.

INTRODUCTION

The management of acute abdominal pain is an emergency and act as great challenge for the medical professionals. The diagnostic algorithm for acute abdominal pain is also very vast and one of the most difficult for the surgeons and physicians. This difficulty in diagnosis is mainly due to the wide range of the clinical signs and symptoms for abdominal pain, as well as to the perceptivity of the patient's feelings when it comes to clearly correlating the symptoms (1). Accurate diagnosis of the burden and magnitude of the origin of acute abdominal pain is still difficult. The etiology of acute abdominal is as well as wide-

ranging, which includes very different clinical situations, ranging from abdominal aneurysm complications to viral gastroenteritis and through nonspecific benign and psychogenic abdominal pain (2).

Acute abdominal pain described as pain of nontraumatic in origin with a maximum time period of five days (3). Acute abdominal pain is among the most common complaints at Emergency Department which accounts for 7–10% of all Emergency hospital visits (4). In majority of patient's symptoms are self-limiting

but few of these patients will develop serious intra-abdominal disease or complication which requires emergency intervention (5). However, frequency of abdominal pain is relatively high but its symptoms are suggestive of a serious underlying disease and therefore it is very essential and challenging to differentially diagnose the condition to attain favorable outcomes. Acute abdominal pain can persist for many hours to days and clinical features are generally overlapping and sometimes misleading (6).

On classifying the broad etiology of acute abdominal pain on the basis of age we found among children and young adults the main causes are acute appendicitis, acute gastroenteritis and abdominal trauma. Among middle aged and elderly patients, the common causes are intestinal obstruction, diverticulitis, biliary diseases and appendicitis (7). Metabolic and cardiac emergencies are the common non-surgical causes. The present study aimed to find out the epidemiology of spectrum of acute pain abdomen among patients visiting Department of surgery at our tertiary care center.

MATERIALS & METHODS

The present observational study was conducted at of our tertiary care hospital, with a study duration of six months from January 2018 to June 2018. A sample size of 300 was calculated at 95% confidence interval at 10% acceptable margin of error by epi info software version 7.2. Clearance from Institutional Ethics Committee was taken before start of study. A written informed consent was taken from all the study participants with non-traumatic type of acute abdominal pain. Detailed history was taken related to demographic data, age, gender, blood pressure, smoking and alcohol history, previous clinical and medical history was recorded for all the patients. All the OPD cases who were admitted, patients who were willing to take full treatment, patients with traumatic acute abdomen cause, patients less than 15years of age and patients who were pregnant were excluded from the present study. Data analysis was conducted by using SPSS v22. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

RESULTS

In present study, A total of 300 patients with non-traumatic acute abdominal pain were enrolled for the study. There were 204 (68%) males and 96 (32%) females in the present study with a male: female ratio of 2.12:1. Highest number of patients were from the 21-30 years of age group. There were 105 (35%) patients out of 300 were aged between 21-30 years age group followed by 54 (18%) patients who were in the less than 21 years age group. (Table 1)

Table 1: Distribution of study participants according to demographic details.

Parameters		No. of patients (%)
Gender	Female	96 (32)
	Male	204 (68)
Age groups	<21	54 (18)
	21-30	105 (35)
	31-40	51 (17)
	41-50	33 (11)
	51-60	42 (14)
	61-70	12 (4)
	>70	3 (1)
Total		300 (100)

In the present study, abdomen pain was present among all the study participants 300 (100%), which is followed by abdominal pain with vomiting in 213 (71%) patients. Abdominal distension was present in 147 (49%) patients followed by constipation in 141 (47%) patients, fever present in 123 (41%) patients and diarrhea present in 6 (2%) present. Abdominal tenderness was present in 291 (97%) patients which was followed by abdominal guarding/ rigidity found in 180 (60%) patients and absent bowel sounds found in 150 (50%) patients, while tympanic note was not found in any of the patient of non-traumatic acute abdomen. (Table 2)

In the present study, Perforation Peritonitis was reported the most common cause of acute abdomen pain which was found in 117 (39%) patient which was followed by appendicitis in 111 (37%) patients. Intestinal obstruction was found in 42 (14%) patients, ruptured liver abscess was found in 9 (3%) patients, gall bladder pathology and bowel ischemia were found

in 6 (2%) patients, respectively and Meckel's diverticulitis was found in 3 (1%) patients. (Table 3)

Table 2: Distribution of study participants according signs and symptoms.

	Parameters	No. of patients (%)
Symptoms	Abdominal Pain	300 (100)
	Vomiting	213 (71)
	Abdominal distension	147 (49)
	Constipation	141 (47)
	Fever	123 (41)
	Diarrhea	6 (2)
	Signs	Abdominal tenderness
Abdominal guarding/ rigidity		180 (60)
Absent bowel sound		150 (50)

Table 3: Distribution of study participants according to spectrum of disease.

Parameters	No. of patients (%)
Perforation peritonitis	117 (39)
Appendicitis	111 (37)
Intestinal obstruction	42 (14)
Ruptured liver abscess	9 (3)
Gall bladder pathology	6 (2)
Bowel ischemia	6 (2)
Meckel's diverticulitis	3 (1)

DISCUSSION

In present study, A total of 300 patients with non-traumatic acute abdominal pain were enrolled for the study. There were 204 (68%) males and 96 (32%) females in the present study with a male: female ratio of 2.12:1. Highest number of patients were from the 21-30 years of age group. There were 105 (35%) patients out of 300 were aged between 21-30 years age group followed by 54 (18%) patients who were in the less than 21 years age group. A similar study conducted by Memon et al among 600 patients of non-traumatic acute abdomen, stated that 174 (29.69%) patients were females and 412 (70.30%) were males

with the female to male ratio of 1:2.3. They found highest prevalence of acute abdomen 163 (27.81%) among in participants of 21-30 years of age which was followed by age group of less than 20 years 150 (25.59%) followed by 30-40 years age group 101 (17.23%) (8).

In the present study, abdomen pain was present among all the study participants 300 (100%), which is followed by abdominal pain with vomiting in 213 (71%) patients. Abdominal distension was present in 147 (49%) patients followed by constipation in 141 (47%) patients, fever present in 123 (41%) patients and diarrhea present in 6 (2%) present. A similar study conducted by Chanana et al among a total of 264 patients of non-traumatic acute abdomen, reported that the commonest symptom found was abdominal pain in (100%) patients which was followed by vomiting among (58%) patients (9). A similar study conducted by Yemane B et al among a total of 255 patients of non-traumatic acute abdomen, reported that the commonest symptom found was abdominal pain in (100%) patients which was followed by vomiting among (58%) patients (10).

In the present study, abdominal tenderness was present in 291 (97%) patients which was followed by abdominal guarding/ rigidity found in 180 (60%) patients and absent bowel sounds found in 150 (50%) patients, while tympanic note was not found in any of the patient of non-traumatic acute abdomen. A retrospective study conducted by Singh G et al among seven patients admitted for non-traumatic acute abdomen pain, reported that abdominal tenderness was the most common sign which was followed by abdominal distension as the commonest sign (11). A similar retrospective study conducted by Hagos M among 299 patients admitted for non-traumatic acute abdomen pain, reported that abdominal tenderness was present in 287 (96%) patients which was followed by abdominal guarding/ rigidity found in 269 (90%) patients an rebound tenderness in 139 (46.4%) patients (12).

In the present study, Perforation Peritonitis was reported the most common cause of acute abdomen pain which was found in 117 (39%) patient which was followed by appendicitis in 111 (37%) patients. Intestinal obstruction was found in 42 (14%) patients,

ruptured liver abscess was found in 9 (3%) patients, gall bladder pathology and bowel ischemia were found in 6 (2%) patients, respectively and Meckel's diverticulitis was found in 3 (1%) patients. A similar study conducted by Yeboah O et al among a total of 3114 patients of non-traumatic acute abdomen, reported that the acute appendicitis was reported the most common cause of acute abdomen pain which was found in 22.4% patient which was followed by perforation peritonitis in 16% patients (13). A similar study conducted by Agboola et al among a total of 276 patients of non-traumatic acute abdomen, reported that the most common cause of acute abdomen pain which was found in 30.3% patient which was followed by intestinal obstruction in 27.9% patients (14).

CONCLUSION

We concluded from the present study that the acute abdomen pain represents a group of abdominal signs and symptoms which can be rapidly deteriorate and need a urgent surgical treatment. We found perforation peritonitis followed by acute appendicitis are the most common cause of acute abdominal pain in present study. Early diagnosis and prompt treatment decrease the major morbidity and mortality as well as the duration of hospital stay.

REFERENCES

1. Sebbane M, Dumont R, Jreige R, Eledjam J-J. Epidemiology of Acute Abdominal Pain in Adults in the Emergency Department Setting. In Springer, Berlin, Heidelberg; 2011. p. 3–13.
2. Cervellin G, Mora R, Ticinesi A, Meschi T, Comelli I, Catena F, et al. Epidemiology and outcomes of acute abdominal pain in a large urban Emergency Department: retrospective analysis of 5,340 cases. *Ann Transl Med.* 2016 Oct;4(19):362.
3. Gans SL, Pols MA, Stoker J, Boermeester MA, expert steering group. Guideline for the Diagnostic Pathway in Patients with Acute Abdominal Pain. *Dig Surg.* 2015;32(1):23–31.
4. Hastings RS, Powers RD. Abdominal pain in the ED: a 35 year retrospective. *Am J Emerg Med.* 2011 Sep;29(7):711–6.
5. Powers RD, Guertler AT. Abdominal pain in the ED: Stability and change over 20 years. *Am J Emerg Med.* 1995 May;13(3):301–3.

6. 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 Mar;21(3):165–9.
7. Kachalia A, Gandhi TK, Puopolo AL, Yoon C, Thomas EJ, Griffey R, et al. Missed and Delayed Diagnoses in the Emergency Department: A Study of Closed Malpractice Claims From 4 Liability Insurers. *Ann Emerg Med.* 2007 Feb;49(2):196–205.
8. A.A. M, A.A. B, G.S. S, A. J, Q.-A. S. Spectrum of diseases in patients with non-traumatic acute abdomen. *J Liaquat Univ Med Heal Sci.* 2008;7(3):180–3.
9. Chanana, Lakshay, Jegaraj MK, Kalyaniwala K, Yadav B, Abilash K. Clinical profile of non-traumatic acute abdominal pain presenting to an adult emergency department. *J Fam Med Prim Care.* 2015;4(3):422.
10. Yemane Berhane, Kiflom Girmay AG. Out Come Of Emergency Surgical Operations Performed For Non- Traumatic Acute Abdomen Among Adults In Mekelle Hospital ., *Eur J Pharm Eur J Pharm Med Res.* 2016;3(4):106–11.
11. Singh G, Dogra BB, Jindal N, Rejintal S. Non-traumatic ileal perforation: a retrospective study. *J Fam Med Prim care.* 2014 Apr;3(2):132–5.
12. Hagos M. Acute Abdomen In Adults: A Two Year Experience In Mekelle, Ethiopia. *Ethiop Med J.* 2015 Jan;53(1):19–24.
13. Ohene-Yeboah M. Acute Surgical Admissions For Abdominal Pain In Adults In Kumasi, Ghana. *Anz J Surg.* 2006 Oct;76(10):898–903.
14. Agboola JO, Olatoke SA, Rahman GA. Pattern and presentation of acute abdomen in a Nigerian teaching hospital. *Niger Med J.* 2014 May;55(3):266–70.

How to cite this article: Jain A., Bothra R., Epidemiological Evaluation of Acute Abdominal Pain At Tertiary Care Center. *Int.J.Med.Sci.Educ* 2019;6(1):107-110