

# ORIGINAL ARTICLE

## Evaluation of outcome of surgically treated non- traumatic surgical acute abdomen

Manish Goyal

Assistant Professor, Department of General Surgery, F H Medical College, Etamadpur, Agra, Uttar Pradesh, India

### ABSTRACT:

**Background:** Acute abdomen is an acute onset of abdominal disease entities that require immediate surgical intervention in most of the cases. The present study was conducted to assess outcome of surgically treated non- traumatic surgical acute abdomen. **Materials & Methods:** 94 surgically treated non-traumatic surgical acute abdomen patients of both genders were enrolled. Parameters such as diagnosis, signs and symptoms, causes of acute abdomen, tachycardia and hypotension were recorded. **Results:** Age group 11-20 years had 10, 21-30 years had 22, 31-40 years had 30 and 41-50 years had 32 cases. Signs were tenderness in 68, abdominal distension in 54 and guarding and rigidity in 32 cases. Symptoms were vomiting in 42, abdominal pain in 33 and distention in 56. Blood pressure was normal in 24 and hypotension in 70 cases. Pulse rate was normal in 28 and tachycardia in 66. Operative diagnosis was acute appendicitis in 24, generalized peritonitis in 16, perforated appendicitis in 34 and typhoid perforation in 20 cases. The difference was significant ( $P < 0.05$ ). **Conclusion:** Common causes of non-traumatic acute abdomen operation was acute appendicitis, generalized peritonitis, perforated appendicitis and typhoid perforation.

**Key words:** acute abdomen, perforated appendicitis, typhoid perforation

**Corresponding author:** Manish Goyal, Assistant Professor, Department of General Surgery, F H Medical College, Etamadpur, Agra, Uttar Pradesh, India

**This article may be cited as:** Goyal M. Evaluation of outcome of surgically treated non- traumatic surgical acute abdomen. J Adv Med Dent Sci Res 2015;3(1):284-287.

### INTRODUCTION

Acute abdomen is an acute onset of abdominal disease entities that require immediate surgical intervention in most of the cases.<sup>1,2</sup> It is the most common presenting surgical acute abdominal emergency that has been estimated at least 50% of general surgical admissions are emergencies and 50% of them present with acute abdominal pain and encompasses a spectrum of surgical, medical and gynecological conditions, ranging from the trivial to the life-threatening, which require hospital admission, investigation and treatment.<sup>3</sup>

Intestinal obstruction has been the leading cause of acute abdomen in several African countries whereas acute appendicitis is the most frequently seen cause in the developed world.<sup>4</sup> The leading causes of intestinal obstruction in Africans have mostly been hernia and volvulus whereas adhesions are most frequent in the developed world.<sup>5</sup>

Common causes of acute abdominal pain include acute appendicitis and nonspecific abdominal pain, while other serious pathologies may be a reflection of

infection, mechanical obstruction, biliary disease, malignancy, cardiac problems, and GI ischemia.<sup>6</sup> The symptom complex of acute abdomen commonly results from luminal obstruction, inflammation and peritonitis recently, abdominal tuberculosis is becoming a major surgical emergency in our set up.<sup>7</sup> The present study was conducted to assess outcome of surgically treated non- traumatic surgical acute abdomen.

### MATERIALS & METHODS

The present study comprised of 94 surgically treated non-traumatic surgical acute abdomen patients of both genders. The consent was obtained from all enrolled patients.

Data such as name, age, gender etc. was recorded. Parameters such as diagnosis, signs and symptoms, causes of acute abdomen, tachycardia and hypotension were recorded. Data thus obtained were subjected to statistical analysis. P value  $< 0.05$  was considered significant.

### RESULTS

**Table I Distribution of cases**

Age group (Years)	Number	P value
11-20	10	0.02
21-30	22	
31-40	30	
41-50	32	

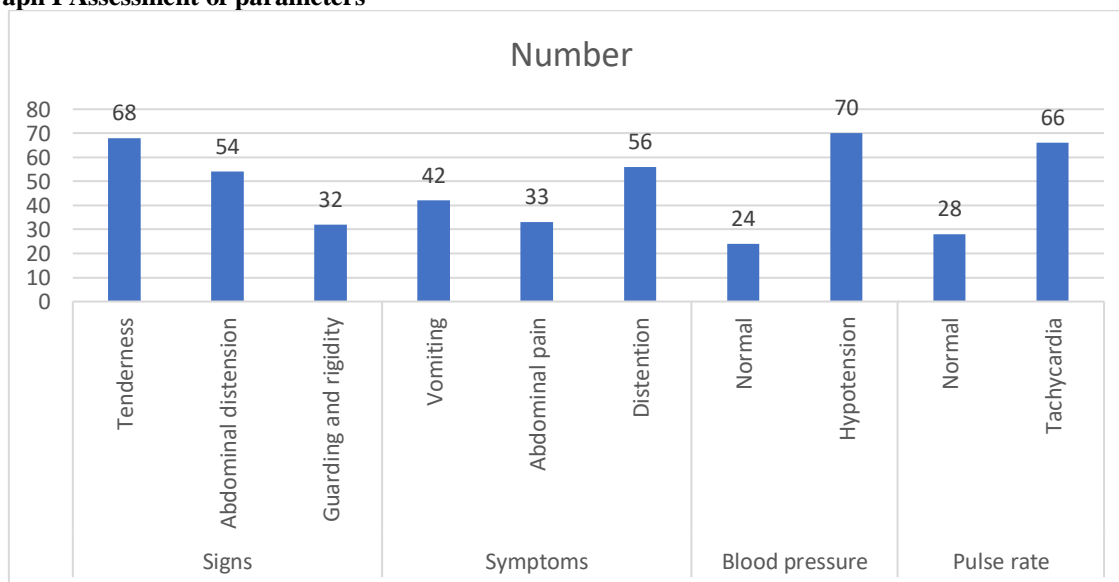
Table I shows that age group 11-20 years had 10, 21-30 years had 22, 31-40 years had 30 and 41-50 years had 32 cases. The difference was significant ( $P < 0.05$ ).

**Table II Assessment of parameters**

Parameters	Variables	Number	P value
Signs	Tenderness	68	0.14
	Abdominal distension	54	
	Guarding and rigidity	32	
Symptoms	Vomiting	42	0.21
	Abdominal pain	33	
	Distention	56	
Blood pressure	Normal	24	0.01
	Hypotension	70	
Pulse rate	Normal	28	0.02
	Tachycardia	66	

Table II, graph I shows that signs were tenderness in 68, abdominal distension in 54 and guarding and rigidity in 32 cases. Symptoms were vomiting in 42, abdominal pain in 33 and distention in 56. Blood pressure was normal in 24 and hypotension in 70 cases. Pulse rate was normal in 28 and tachycardia in 66. The difference was significant ( $P < 0.05$ ).

**Graph I Assessment of parameters**



**Table II Operative diagnosis of cases**

Operative diagnosis	Number	P value
Acute appendicitis	24	0.12
Generalized peritonitis	16	
Perforated appendicitis	34	
Typhoid perforation	20	

Table III shows that operative diagnosis was acute appendicitis in 24, generalized peritonitis in 16, perforated appendicitis in 34 and typhoid perforation in 20 cases. The difference was significant ( $P < 0.05$ ).

**DISCUSSION**

Acute abdomen defines as any serious acute intra-abdominal condition (such as appendicitis) attended by pain, tenderness, and muscular rigidity, and for which emergency surgery must be considered.<sup>8</sup> The causes of acute abdomen are several and their relative incidence varies in different populations.<sup>9</sup> Several factors are described to be responsible for these differences. Socioeconomic factors and diet have mostly been incriminated to be responsible for the

observed differences. Different regional incidences of pathologies that can cause acute abdomen make comparison among these cases difficult.<sup>10</sup> Even with an expert surgeon and advanced diagnostic tools, it can yet be difficult to make an accurate preoperative diagnosis in many patients, which can delay proper treatment or lead to an unnecessary exploratory laparotomy. Patients with an acute abdomen diagnosis and who undergo laparotomy have a negative rate of exploration as high as 22%.<sup>11</sup> Some

studies propose the use of laparoscopy to evaluate acute abdomen as it has high diagnostic accuracy, is associated with a low rate of negative laparotomy, and has low mortality and morbidity.<sup>12,13</sup> The present study was conducted to assess outcome of surgically treated non-traumatic surgical acute abdomen.

We found that age group 11-20 years had 10, 21-30 years had 22, 31-40 years had 30 and 41-50 years had 32 cases. Fahel et al<sup>13</sup> in their study 166 patients who underwent emergency abdominal surgery for non-traumatic acute surgical abdomen were included. Of this 166 patients, 94 (56.6%) were male and 72 (43.4%). The most common cause of acute abdomen was acute appendicitis 54.2% followed by generalized peritonitis 27.1% and intestinal obstruction 18.7%. There were 07 deaths in the study period giving an overall case fatality rate of 4.2%. A higher morbidity and mortality was observed in patients who presented late.

We found that signs were tenderness in 68, abdominal distension in 54 and guarding and rigidity in 32 cases. Symptoms were vomiting in 42, abdominal pain in 33 and distention in 56. Blood pressure was normal in 24 and hypotension in 70 cases. Pulse rate was normal in 28 and tachycardia in 66. Faku et al<sup>14</sup> evaluated the role of videolaparoscopy in non-traumatic acute abdomen as a method of diagnosis and treatment. 462 patients' charts were reviewed, retrospectively. Patients were admitted to the emergency room with symptoms of non-traumatic acute abdomen. Routine investigation of abdominal pain was performed in all patients, followed by videolaparoscopy. The laparoscopic procedures were done with four main purposes: diagnosis (ie, enteritis); diagnosis and treatment (ie, appendicitis); treatment only, when the diagnosis was known (ie, acute cholecystitis); and in cases where the conversion to conventional laparotomy was necessary, indicating the best incision. The vast majority of patients had inflammatory causes of acute abdomen (82.03%); others causes were hemoperitoneum (11.03%), bowel obstruction (3.25%), perforation of a hollow viscera (1.74%), vascular occlusion (1.3%), and negative laparoscopy (0.65%). This study shows that laparotomy was necessary in only 7.14% of the patients. The videolaparoscopic approach was used for diagnosis (99.35%) and treatment (92.86%) of patients with acute abdomen.

We found that operative diagnosis was acute appendicitis in 24, generalized peritonitis in 16, perforated appendicitis in 34 and typhoid perforation in 20 cases. Mahamed et al<sup>15</sup> found that there were 192 non-traumatic emergency surgical acute abdomens admitted in surgical ward and 171 (89%) of cases were managed surgically while 11% were managed conservatively. The three top causes of acute surgical abdomen were acute appendicitis accounting 48% followed by bowel obstruction 28% and Peritonitis 24%. Late presentation of patients

before intervention, sex, age and postoperative complications were independent predictors with management outcome in our study. The total postoperative complication rate was 17% of which the commonest early postoperative complications were wound infection (5.4%), sepsis (4.3%) and pneumonia (2.3%). About 90.1% were discharged well while 9.35% were passed away in the hospital which is unacceptably high mortality.

## CONCLUSION

Authors found that common causes of non-traumatic acute abdomen operation was acute appendicitis, generalized peritonitis, perforated appendicitis and typhoid perforation.

## REFERENCES

- Hanks L, Lin CP, Tefera G, Seyoum N (2014) Abdominal surgical emergencies at Tikur Anbesa Specialized Hospital in Ethiopia; A shifting paradigm. *East and Central African Journal of Surgery* 19: 90-94.
- Al-Mulhim AA (2006) Emergency general surgical admissions. Prospective institutional experience in non-traumatic acute abdomen: Implications for education, training and service. *Saudi Med J* 27: 1674-1679.
- Nyundo M, Rugwizangoga E, Ntakiyiruta G, Kakande I (2013) Outcome of Emergency Abdominal Surgery at Kigali University Teaching Hospital: A review of 229 cases. *East and Central African Journal of Surgery* 18.
- Tsegaye S, Osman M, Bekele A (2006) Surgically treated acute abdomen at Gondar University Hospital, Ethiopia. *East and Central African Journal of Surgery* 12: 53-57.
- Adesunkanmi AR, Agbakwuru EA (2006) Changing pattern of acute intestinal obstruction in a tropical African Population. *East Afr Med J* 73: 727-31.
- Gelfand M (2008) The pattern of disease in Africa and the western way of life. *Trop Doc* 6: 173-179.
- Warambo mw, acute volvulus of the small intestine. *East afr. Med. J.* 1971; 48:209.
- Datubo-brown dd, adotey jm. Pattern of surgical acute abdomen, the university of port harcourt teaching hospital. *West afr j med* 1990; 9(1):59-62.
- Zelalem a. Pattern of acute abdomen in yirgalem hospital, southern ethiopia. *Ethiop med j.* 2000; 38(4):227-235.
- Adesunkanmi ar. Changing pattern of acute intestinal obstruction in a tropical african population. *East afr. Med. J.* 1996 nov; 73 (11):727-31.
- Ajao OG. abdominal emergencies in a tropical african population, *BrJSurg* 1981; 68(5):345-7.
- Omari ah, alkhatibll, khammash changing pattern of intestinal obstruction in north Jordan actachirbelg 2000; 109(6):772-4.
- Fahel E, Amaral PC, Azaro Filho EM, Ettinger JE, Souza EL, Fortes MF, Alcantara RS, Regis AB, Neto MP, Sousa MM, Fogagnoli WG. Non-traumatic acute abdomen: videolaparoscopic approach. *JSLS: Journal of the Society of Laparoendoscopic Surgeons.* 1999 Jul; 3(3):187.
- Faku h, Faraja MB patterns of acute abdomen in sulaimany teaching hospital. *Journalzankoy sulmaini (jzs)* 2000; 3(59-72).

15. Mahamed T, Asma H. Presentation and outcome of acute abdomen in tertiary care unit islamabad ann.

Pak. Inst. Med. Sci. 2011; 7(3): 137-141