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## A prospective study on clinical study and management of non-traumatic acute abdomen

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### Abstract

**Background:** Acute abdomen means, the patient complains of acute abdominal symptoms that suggest a disease, which definitely or possibly threatens life and may or may not demand immediate operative interference. The diagnosis and management of acute abdomen forms a large part of routine duties of a general surgeon throughout his career.

**Aim& Objectives:** To study the proportion of occurrence of various causes of, clinical features and success in the treatment non traumatic acute abdomen in Ayaan institute of Medical Sciences with respect to age, sex.

**Methods:** The study was conducted in Ayan institute of Medical Sciences from January 2019 to December 2019. 60 cases have been studied. Those acute cases, who underwent surgery have been only included in this study because of a correct diagnosis could be established.

**Results:** Acute abdomen was more common in 2nd, 3rd, and 4th decade of life and in males. Acute appendicitis forms the commonest cause of acute abdomen. Hollow viscus perforation being the 2nd and intestinal obstruction forms the 3rd commonest cause of acute abdomen.

**Conclusion:** In our study acute abdomen was found more commonly 2nd to 4th decade of life with male: female: 69:31. Most common presenting symptom was pain abdomen. The commonest cause being acute appendicitis. Commonest position of appendix was retrocaecal and pathological type was non-perforated inflamed appendix, for which emergency appendectomy was done and mortality was nil. Hollow viscus perforation 2nd commonest and intestinal obstruction was 3rd commonest cause of acute abdomen.

**Keywords:** Clinical study, management, non-traumatic acute abdomen

### Introduction

Acute Abdomen remains the important cause of morbidity and mortality in emergency. A delay in seeking a surgical opinion contributes to make the situation even worse. Since presentation of a case of acute abdomen <sup>[1-3]</sup>.

Acute abdomen varies from mild dull aching pain, to frank guarding and rigidity with associated systemic symptoms, there is also need to know the spectrum of presentation as well as the most frequent among them.

Surgeon managing a case of acute abdomen should be aware of the diverse etiology of acute abdomen. So, there is a need to enlist the different etiologies leading to acute abdomen and the most enlist the different etiologies leading to acute abdomen and the most common among them, so that the decision regarding the management of such a case can be taken at the earliest.

It is always advantageous to do an early surgery than a late surgery. The investigative procedure involved should be such that, they should give a definite diagnosis in a short-time. And after a diagnosis is made, the method of management of the case holds prime importance <sup>[4]</sup>.

Hence the present study mainly focused on the proportion of occurrence of various causes of, clinical features and success in the treatment non traumatic acute abdomen in Ayaan institute of Medical Sciences, with respect to age, sex.

### Materials and Methods

This is a study of non-traumatic acute abdomen and management, 60 consecutive cases from January 2019 to December 2019 at Ayaan Institute of Medical Sciences.

Only those acute abdominal cases, which underwent surgery, have been included in this study, because a correct diagnosis could be established only then.

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Patients with blunt and penetrating trauma were excluded from the study. Pediatric patients less than 14yrs were excluded from the study. Patient of acute abdomen due to non surgical causes were referred to appropriate speciality.

Data was systematically collected according to a proforma. The proforma includes history, physical examination, appropriate minimal investigations, treatment and post op follow up was done at least for 4 months to note complications and success of treatment.

Routine investigation like haemoglobin, bleeding time, clotting time, total WBC count, renal function test, radiological investigations like X ray, USG done in some cases. All patients were given informed consent for surgery; laprotomy was carried out for most patients, to establish diagnosis and treated accordingly.

**Results and Observation**

**Table 1:** Out of 60 cases of acute abdominal conditions from January 2019 to December 2019

Sl No	Causes of Acute Abdomen	No. of Cases	Mortality
1	Acute appendicitis	25	0
2	Perforated duodenal ulcer	20	2
3	Ileal Perforation	5	1
4	Gastric perforation	3	0
5	Acute Intestinal Obstruction	6	1
6	Ruptured LIVER Abscess	1	0
Total		60	4

Out of 60 cases of acute abdominal conditions from January 2019 to December 2019, which were operated at Ayaan Institute of Medical Sciences, the leading cause of acute abdomen was acute appendicitis constituting 41.66%.

**Table 2:** Age distribution of acute abdominal cases

Age in years	Ac. App	Intestinal Obstruction	Perforation	Others	Total
14-20	8	2	1	-	11
21-30	15	2	6	-	23
31-40	4	4	8	1	17
41-50	1	1	3	-	5
51-60	-	-	1	-	1
61-70	-	-	1	-	1
71-80	1	-	0	1	2
81-90	-	-	-	-	-
91-100	-	-	-	-	-
Total	29	9	20	2	60

This table shows that majority of the patients are in the age group of 21to30 years only 2 patients were above 60 years. Youngest patient in this group was 14 years and eldest patient was 72year old.

**Table 3:** Sex Distribution of Acute Abdomen

Sl No	Disease	Male	%	Female	%	Total
1	Appendicitis	20	71.4	08	28.5	28
2	Hollow viscus perforation	15	71.4	06	28.5	21
3	Intestinal obstruction	6	66.66	3	33.33	9
4	Miscellaneous	0	00	2	100	2
Total		41		19		60

Out of 60 cases the acute abdomen 41 cases were males, 19 cases were females. Of 28 cases of acute appendicitis male were 20, and females 8. Out of 21 cases of Hollow viscus perforation 15 were males, 06 were females. 6cases were males in intestinal obstruction and 3cases were females. In general, all types of acute abdomen have got preponderance in males.

**Table 4:** Pathological Types of Appendix

Sl. No.	Pathological Type	No. of Cases	%
1	Inflamed appendix without perforation	30	73.17
2	Gangrenous without perforation	5	12.19
3	Appendicular mass	4	9.75
4	Appendicular Abscess	2	4.87
Total		41	100

In our study most common pathological type of appendix was inflamed appendix without perforation.

**Table 5:** Position of appendix

Sl. No.	Position of Appendix	No. of Cases	%
1	Retro-caecal	26	63.41
2	Pelvic	9	21.95
3	Pre-ileal	2	4.87
4	Paracaecal	2	4.87
5	Post Ilial	2	4.87
Total		41	100

Out of 41 cases of acute appendicitis in which position of appendix was delineated, the most common position of appendix in our study was retrocaecal, which constitute about 63.41%

**Table 6:** Incidence of Hollow viscus perforation

Sl. No.	Hollow Viscus Perforation	No. of Cases	%
1	Perforated duodenal ulcer	10	47.61
2	Ileal perforation	8	38.09
3	Gastric perforation	3	14.28
Total		21	100

Out of 60 patients in our study 10 (47.61%) had duodenal perforation, 8 (38.09%) patient had ileal perforation and 3 (14.28%) had perforated gastric ulcer

**Table 7:** Causes of intestinal obstruction

Sl. No.	Cause of Intestinal Obstruction	No. of Cases	%
1	Obstructed Right Inguinal Hernia	3	33.3
2	Sigmoid Volvulus	1	11.1
3	Obstructed Epigastric Hernia	0	0
4	Obstructed Incisional Hernia	1	11.1
5	Intussusception	1	11.1
6	Postoperative Int adhesions	3	33.3
Total		09	100

Out of 9 cases intestinal obstruction, the commonest cause was obstructed inguinal hernia and Postoperative Int adhesions 3(33.3%).

**Table 8:** Types of hernia causing obstruction

Sl. No.	Type of Hernia	No. of Cases	%
1	Right Inguinal hernia	5	83.33
2	Incisional hernia	1	16.66
	Total	6	100

In our study the commonest cause was obstructed right inguinal hernia contributing 83.33%.

**Table 9:** Incidence of signs and symptoms

Symptoms and signs	Number of cases	%
Pain abdomen	41	68.33
Vomiting	32	53.33
Distension	30	50
Constipation	25	41.66
Tachycardia	40	66.66
Previous surgical scar	30	50
Tenderness	25	41.66
Mass	20	33.33
Visible psoriasis	32	53.33

## Discussion

Totally 60 cases were studied. Acute abdomen of traumatic origin was not included in this study, to ensure correct diagnosis. The leading cause of acute abdomen was acute appendicitis, constituting 41.66% of cases of which appendectomy was done in 25 cases and mortality was nil.

The second common cause of acute abdomen was perforated duodenal ulcer constituting 20% of cases of which mortality was 10% (2 cases). The third common cause was ileal perforation accounting for 8.33% of cases of which mortality was 20% (1 case). Acute intestinal obstruction constitute 10% of cases with mortality of 16.66%<sup>[5]</sup>

## Acute appendicitis

It was the commonest cause of acute abdomen. Out of total 41 cases studied 5 were gangrenous and 30 were inflamed, which were treated by appendectomy. 4 case with diagnosis of appendicular mass and 2 with appendicular abscess were managed conservatively.

The appendicular mass was closed without disturbing the mass. And in appendicular abscess it was drained and corrugated drained was kept in right flank. In both cases interval appendectomy was done after 6 weeks. The commonest position of appendix seen was retrocaecal 26 (63.41%)<sup>[6]</sup>.

## Intestinal obstruction

Out of 9 cases of intestinal obstruction, 6 cases were due to obstructed hernias, 3 were due to post op adhesions. 1 due to sigmoid volvulus, 1 was secondary to intussusception and Out of 3 cases of obstructed hernias, 1 were due to obstructed right inguinal hernia, 1 obstructed epigastric hernia. In 1 case of obstruction due to obstructed inguinal hernia resection and anastomosis was done in view of the gangrenous changes seen in the bowel.

The other 3 were obstructed right inguinal hernia for which obstruction was relieved and hernioplasty was done. Incisional hernia were reduced and anatomical repair was done. Sigmoid volvulus for which derotation and fixing was done. The other two causes are intussusception for which reduction was done

and post-op intestinal adhesions in which adhesions were released.

## Hollow viscus perforation<sup>[7,8]</sup>

Hollow viscus perforation was the diagnosis in 21 cases of acute abdomen: 10 were duodenal perforation, 8 ileal perforation and 3 gastric perforations. All cases of duodenal, and gastric perforations were treated with simple closure and pedicle omental graft (Graham's patch).

Acute appendicitis was more common in second and third decade; youngest case in our study was a 14 year old male. It is uncommon after 40 years. Intestinal obstruction was more common in 3rd to 4th decade.

Peritonitis secondary to hollow viscus perforation was seen between the age group of 20-60 years. So acute abdomen is a clinical entity, which is more commonly seen in young adults and middle aged. Of 60 cases of acute abdomen 41 were males and 19 females. Of 28 cases of acute appendicitis males were 20 and females 8. Out of 21 cases of Hollow viscus perforation 15 were males and 6 were females, 6 cases were males in intestinal obstruction 3 cases were females.

In general all types of acute abdomen have got preponderance in males. Out of 60 cases of acute abdomen, which underwent surgery, 4 cases died during post-operative period. 3 were due to ileal perforations; 1 was secondary to intestinal obstruction due to strangulated inguinal hernia.

The acute intestinal obstruction was due to strangulated inguinal hernia, the distal ileal was gangrenous for which resection and ileo-ileal anastomosis was done. On the 6th postoperative day patient developed a fecal fistula and expired on 18th post operative day due to septicaemia. One case was due to ruptured liver abscess, for which laparotomy was done and Peritoneal lavage was done. Third generation cephalosporins were administered prophylactically in all cases due to enteric perforation and continued till the 7th post op day.

## Conclusion

Acute abdomen is often a surgical emergency and a challenge to any surgeon. Out of 60 cases of acute abdomen acute appendicitis was 41.66% and perforation was 33.33%. Most common age group was 31 to 40 yrs of age. The sex incidence was male 68.33% and female 31.66%. Most common symptom of acute abdomen was pain abdomen 68% and next was vomiting 53.33%. Out of 41 cases of appendicitis 30 were due to inflammation without perforation and retro caecal position was 63.41%.

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