


Original Research Article

# Retrospective study analyzing the data on non-traumatic abdominal emergency surgeries done tertiary care hospital, Chennai

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## Abstract

**Background:** Abdominal pain is one among the common reason to visit the casualty. Appendicitis remains the commonest cause in it. An accurate diagnosis is needed for the essential treatment.

**Materials and methods:** All patients admitted in emergency surgical ward as acute abdomen and underwent emergency surgeries during a period of November 2015 to January 2016 (3 months) in our Stanley Hospital were studied. Patients with history of trauma were excluded from the study. Patients managed conservatively were also excluded from the study. A total of 268 cases underwent emergency abdominal surgery were studied. The age, sex, type of surgery done, etc. details were collected from the emergency registers and other records available. The results were tabulated for age and sex incidence according to different surgeries done.

**Results:** A total of 178 cases of acute appendicitis were operated. The majority of cases were in the age group of 10-30 years. 2 patients having appendicular mass were operated and 6 appendicular abscess patients were operated and drained. Most of the patients were operated by open appendectomy and few numbers of patients operated via laparoscopy technique. A total of 32 cases of intestinal perforation were studied. Out of 32 during the study 2 case of gastric perforation and 2 cases of ileal perforation were reported. Total number of cases operated was 20 with inguinal hernia accounting for 15 cases and umbilical hernia 2 and epigastric hernia 2 cases, 1 case of incisional hernia. 3 cases (10%) of large bowel obstruction observed and were due to gangrenous bowel, sigmoid.

**Conclusion:** Our study shows that appendectomy still remains the commonest non traumatic abdominal emergencies in our hospital. Duodenal perforation was the commonest cause of hollow viscous perforation.

## Key words

Non-traumatic, Surgical emergencies, Appendicitis.

## Introduction

Abdominal pain is one among the common reason to visit the casualty [1, 2]. Appendicitis remains the commonest cause in it. An accurate diagnosis is needed for the essential treatment [3-5]. Mainstay of diagnosis is history and physical examination. Regular reexamination is key for the progression of the disease and often avoids unnecessary surgical intervention [6, 7]. In present scenario the advanced diagnostic procedures, antibiotic, and better anesthesia, preop and postoperative care led to decrease in morbidity and mortality of patients of acute abdomen [8-10]. The aim and objective of the study was to determine the various causes of non-traumatic acute emergencies, their incidence, management and mortality in both sexes and all age groups.

## Aim and objectives

- To determine the commonest causes of acute abdominal emergency surgeries and their incidence in our hospital.
- To study age and sex incidence of the patients requiring abdominal emergency surgeries.

## Materials and methods

### Patient selection criteria

All patients admitted in emergency surgical ward as acute abdomen and underwent emergency surgeries during a period of November 2015 to January 2016 (3 months) in our Stanley Hospital were studied. Patients with history of trauma were excluded from the study. Patients managed conservatively were also excluded from the study.

A total of 268 cases underwent emergency abdominal surgery were studied. The age, sex,

type of surgery done, etc. details were collected from the emergency registers and other records available. The results were tabulated for age and sex incidence according to different surgeries done.

## Results

A total of 268 patients underwent emergency abdominal surgeries and were included in the study. The study was conducted for a period of 3 months from November 2015 to January 2016. Each surgical group of emergencies was discussed as separate group. Total cases studied were as per **Table – 1**.

**Table – 1:** Total cases studied.

Type	Total no.	%
Appendicitis	178	66.41
Perforation	32	11.94
Obstructed/ Irreducible Hernia	20	7.46
Intestinal obstruction	12	4.47
Others	12	4.47
<b>Total</b>	<b>268</b>	<b>100</b>

### Appendicitis

A total of 178 cases of acute appendicitis were operated. These included uncomplicated cases of appendix as well as appendicular abscess and mass.

### Age incidence

This has been classified by the decade wise incidence. In the first decade – 2 cases, Second decade – 80 cases, Third decade – 64 cases, Fourth decade – 26 cases, Fifth decade – 4 cases, >50 years – 2 cases. Youngest one was 10 year old male child. Oldest one was 76 year old male. The majority of cases were in the age group of 10-30. 1.12% was below 10 years of age. 3.36% were above 40 years of age.

### **Sex incidence**

Out of 178 cases, 108 were males, 70 were females. This showed a majority of male patients.

### **Associated complications**

2 patients having appendicular mass were operated and 6 appendicular abscess patients were operated and drained.

### **Procedure**

Most of the patients were operated by open appendectomy and few numbers of patients operated via laparoscopy technique.

### **Hollow viscus operation**

A total of 32 cases of intestinal perforation were studied for age and sex incidence.

### **Incidence**

Duodenal perforation – 28, Gastric perforation – 2, Ileal perforation– 2

### **Duodenal perforation**

Most of the cases were in 4<sup>th</sup> and 5<sup>th</sup> decade. 2 patients were below 30 years of age and 7 cases between 30-40 age group. 19 patients above 40 years. The youngest patient was a 25 years old male and oldest one was a 77 years old female. 5 of patients were females rest of patients were males.

### **Gastric and ileal perforation**

Out of 32 during the study 2 case of gastric perforation and 2 cases of ileal perforation were reported.

### **Procedure**

Live omental (Graham's Patch) closure using silk and vicryl.

### **Obstructed/ Irreducible hernia**

Total number of cases operated was 20 with inguinal hernia accounting for 15 cases and umbilical hernia 2 and epigastric hernia 2 cases, 1 case of incisional hernia. Patients with inguinal hernia were usually males and patient with umbilical hernia one was a male and other was female. Most of the patients were in the 5<sup>th</sup> decade. Youngest was 13 year male (right side inguinal hernia), oldest was 70 year male. Right sided inguinal hernia was more commonly obstructed.

### **Procedure**

Mesh plasty, Hernioraphy and herniotomy for young patients.

### **Intestinal obstruction**

Total number of cases – 12

### **Age and sex incidence**

Most of the cases were in there 4<sup>th</sup> and 5<sup>th</sup> decade with 10 males and 2 female. Small bowel obstruction accounting for 9 patients (75%) was caused mostly due to post-operative adhesions. We had volvulus and colonic growth. Youngest patient was 29 year male and oldest 70 year male one case of intussusception and ileocecal tuberculosis in 30 year female and 40 year male respectively.

### **Large bowel obstruction**

3 cases (10%) of large bowel obstruction observed and were due to gangrenous bowel, sigmoid.

### **Procedure**

For adhesions, adhesiolysis was done. For obstructions, resection and anastomosis was the procedure.

### **Gynecological emergencies in surgery**

Total number of cases was 12. Twisted ovarian cyst was 7. For most of them, since they were young females, ovarian cystectomy was done as an emergency procedure.

### **Other emergency surgeries**

2 cases of liver abscess underwent laparotomy and pus drained. 3 cases emergency open cholecystectomy was done for cholecystitis which failed conservative line of management.

### **Discussion**

A total of 286 cases requiring emergency surgical intervention were studied. The patients who were managed conservatively were excluded (ureteric colic, subacute intestinal obstruction, pelvic inflammatory disease and pancreatitis). Among the total cases studied appendicitis was the commonest accounting for about 66.41% followed by hollow viscus

perforation accounting for about 11.94% and obstructed hernias for about 7.46%.

### **Appendicitis**

Comparing the age incidence, the maximum incidence was 11 – 30 age groups accounting for 80% of all cases in contrast to the western studies where the maximum incidence is 0 -10 age group we had only 2% of such cases. In our study the male incidence (60.67%) predominated over the female (39.32%). The oldest patient to undergo surgery was 76 year old male via laparoscopy. The youngest patient was a 10 year old male. The position of Appendix was most commonly Retro-caecal. The incidence was more among males as shown by persons.

### **Hollow viscus perforation**

There was rise in incidence of 20 – 40 age groups accounting for nearly 40% which was in contrast to general studies which showed maximum incidence in 40 plus age group. The younger age group can probably be attributed to the stress and lifestyle with low economic group of our patients. Also males were predominantly more compared to western studies with fewer women working in jobs and exposed to stress. In our study of peptic ulcer perforations duodenal perforations were the maximum around 80% in comparison to the normal 60% duodenal perforation, with gastric perforation around 6%. Most of the perforations were in the anterior wall of duodenum (D1).

### **Obstructed hernia**

A Total of 20 cases were studied. The age incidence showed preponderance to those above 45 years of age and majority were males. The right sided inguinal hernias were commonly obstructed contributing to 85% of our cases. 1 patient of obstructed umbilical hernia needed resection and anastomosis. One case of incisional hernia which underwent obstruction was reported during the period of our study. Most of the inguinal hernias, anatomical repair, (herniorraphy) was done and for 1 case of umbilical hernia mesh resection and anastomosis was done.

### **Small bowel obstruction**

The mean age of small bowel obstruction was around 30 years and 60 % are males. The commonest cause was adhesions. This was equal with general view. Next common was stricture. 1 case of intussusception required resection and anastomosis of bowel and was 30 year old female, and also 1 patient was found to have a band causing small bowel obstruction.

### **Large bowel obstruction**

In our study, 3 cases of large bowel obstruction requiring emergency surgery were studied. Two of them were males and one was 65 year, male with gangrenous bowel and other 39 yea male with colonic growth showing shift age pattern of the disease. 1 patient had sigmoid volvulus was a female.

### **Gynecological and other cases**

Out of 268 cases, torsion ovarian cyst was most commonly reported to our emergency department. 2 cases of pyogenic liver abscess required laparotomy and 3 cases of emergency cholecystectomy were done for cholecystitis since the conservative line of management failed.

### **Conclusion**

Our study shows that appendicectomy still remains the commonest non traumatic abdominal emergencies in our hospital. The age incidence of appendicitis showed a definite shift between 15 and 25 age groups, accounting for nearly 30% of cases. There was a definite male preponderance in the case study. Duodenal perforation was the commonest cause of hollow viscous perforation. Our study showed decreased in the average age of ulcer perforation with majority of males. Ileal perforation was next commonest cause of perforation. Inguinal hernias were the commonest hernias to get obstructed and the age and sex incidence were almost equal to the previous studies. Adhesions were the most common cause of small bowel obstruction after obstructed inguinal hernia. Large bowel obstruction, the average age incidence was above 50. Most of them were males with malignancies.

Of the gynecological emergencies twisted ovarian cyst were the commonest emergency done in general surgery. All abdominal emergency did not require emergency surgical intervention and were treated conservatively also. Since that was not the part of the study those were excluded.

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