



A CASE SERIES ON STUDY AND MANAGEMENT OF NON-TRAUMATIC ACUTE ABDOMEN

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ABSTRACT **BACKGROUND:** Abdomen has been referred to as a Pandora's magic box. The term Acute Abdomen refers to signs and symptoms of abdominal pain and tenderness, a clinical presentation that often requires emergency surgical therapy. The diagnosis associated with an acute abdomen vary according to age and gender. [2][3]
METHODS: A prospective based case series study of 100 patients who were categorized as non traumatic acute abdomen who were undergoing surgery for various diagnosis like acute appendicitis, Hollow viscus perforation and intestinal obstruction of various types we included in this study.
RESULTS: 100 cases which were operated are studied during a two year long duration and Usual age incidence is in the second to fourth decade, forming majority of the total cases analyzed. Acute abdomen is more common in males. The commonest cause of acute abdomen was hollow viscus perforation. The 2nd common cause of acute abdomen was acute appendicitis and the position was retrocaecal. The next common cause of acute abdomen was intestinal obstruction. Most common symptom of acute abdomen was pain abdomen.

KEYWORDS : Non traumatic acute abdomen, Acute Appendicitis, Hollow viscus perforation, Intestinal Obstruction.

INTRODUCTION

Acute abdomen has been a clinical problem for centuries for patients; it causes discomfort and anxiety, which varies from nuisance value to serious interference with the quality of life. For surgeons, it causes a range of problems of diagnosis, assessment and management which are not always clearly recognized.

The term Acute abdomen refers to signs and symptoms of abdominal pain and tenderness, a clinical presentation that often requires emergency surgical therapy. Acute abdomen varies from mild dull aching pain, to frank guarding and rigidity along with associated systemic symptoms. There is also need to know the spectrum of presentation as well as the most frequent among them.

A thorough clinical, laboratory and radiological examination helps in diagnosing the entity at an early stage. It is always advantageous to do an early surgery than a late surgery.

AIM

To analyze the nature, presentation and treatment of the non-traumatic acute abdominal emergencies treated in surgical units of ASRAM Hospital during a duration ranging from September 2016 to September 2018.

OBJECTIVES

All the patients of non traumatic acute abdomen like appendicitis, gastric or intestinal perforation, intestinal obstruction were taken.

Age groups from 11 years to 100 years were included in the study

Incidence, Prevalence and Management and outcome of the non traumatic acute abdomen

Mortality and morbidity of these patients.

PATIENTS AND METHODS

INCLUSION CRITERIA

1. This is a study of 100 cases of acute abdomen excluding traumatic abdomen and its management which was conducted at ASRAM medical college & Hospital Eluru during September 2016 to

September 2018.

2. Only those acute abdomen cases which underwent surgery have been included in this study.

EXCLUSION CRITERIA

1. patients with non surgical causes were referred to appropriate specialties and patients not fit for surgeries were also excluded.

METHODS

1. Informed consent was taken from all the patients before starting the procedure.
2. The proforma includes detailed history, physical examination, appropriate and minimal investigations, treatment and post op follow up was done for at least 6 months to note complications and success of the treatment.
3. Peritoneal fluid was sent for culture and sensitivity.
4. Biopsy specimens were sent for HPE.
5. Mortality in this study refers to death of patients in hospital during the same admission.

OBSERVATION AND RESULTS

- Out of 100 cases, 44 % were due to HVP, 38% were due to Acute Appendicitis, 16% were due to Acute intestinal obstruction and 2% case of ruptured liver abscess presented as peritonitis.
- Out of 100 cases, total of 67 patients were males and 33 cases were females.
- Among 100 cases, the most common age group of presentation is in between 21 – 30 yrs of age.
- Out of 44 cases of hollow viscus perforation, 22 were Duodenal perforation, 14 were Gastric perforation and 8 Ileal perforation.
- Out of 38 appendicitis cases 28 patients had inflamed appendix without perforation, 8 patients had a Gangrenous with perforation, 2 patients had Appendicular abscess. In our study most common pathological type of appendix was inflamed appendix without perforation.
- Out of 38 appendicitis cases, 22 patients had Retrocaecal appendix, 11 had pelvic, 2 Preileal, 1 Paraileal and 2 Postileal. In our study most common position of appendix was Retrocaecal appendix.

DISCUSSION**CLINICAL PRESENTATION:**

34% patients presented to the hospital within 24 hrs of onset and 66% patients presented after 24 hrs after the onset of symptoms. The most consistent symptom is pain in the abdomen. Vomiting was present in 80% cases and pain in the abdomen preceded vomiting in 90% of the cases. Fever was present in 64% of cases. Constipation was present in 43% of the patients.

In 90% of patients, pain abdomen preceded vomiting and in about 10% of patients, chronologies of symptoms were not sure. In almost all cases of hollow viscus perforation, pain abdomen was diffuse at the time of presentation. In 85% of patients with acute abdominal pain due to appendicitis, pain was localized to right iliac fossa. In 15% of patients, pain was limited to suprapubic region. The symptoms of small bowel obstruction are colicky abdominal pain, nausea, vomiting, and obstipation.

Abdominal distension was seen in 53 patients. Tachycardia in 62 patients. Tenderness seen in 80 patients. All cases of Acute Intestinal Obstruction and 44 cases of Acute Hollow Viscus perforation had abdominal distention. Obstipation was observed in 43 cases out of which, 13 cases were due to acute obstruction and rest were due to perforation.

Guarding and Rigidity were present in 64 patients. Hard board rigidity was classically observed in all cases of peritonitis. Obliterated liver dullness was noted in almost all cases of hollow viscus perforation. Bowel sounds were absent in all cases of hollow viscus perforation. Peristaltic sounds were also absent in 8 cases of appendicular perforation and 8 cases of strangulated intestinal obstruction.

Temperature was $< 100^{\circ}\text{C}$ in 72% of patients. Temperature was $> 100^{\circ}\text{C}$ in 28% of patients. All the Patients with generalized pain abdomen of > 24 hrs duration, had associated fever. Among 38 cases of appendicitis, 13 patients had temp $> 100^{\circ}\text{C}$ and the remaining patients had temp $< 100^{\circ}\text{C}$. Among 44 patients with hollow viscus perforation, temp $> 100^{\circ}\text{C}$ was observed in 16 cases and temp $< 100^{\circ}\text{C}$ was observed in 22 patients. Out of 16 cases of acute intestinal obstruction, only 2 patients had temperature above 100°C .

DIABETES AND HYPERTENSION:

Out of 100 cases, 20 patients were known hypertensives and were on medication. At the time of presentation, hypotension was observed in 15 cases, which was treated by IV fluids. 30% had diabetes and were on medication. All the diabetic patients were kept on Insulin (H. Actrapid) on sliding scale.

LAB INVESTIGATIONS:

TOTAL COUNTS:- Out of 100 cases, a TC range 7,000- 11,000 cells/mm³

were observed in 28 patients, TC range 11,000 – 15,000 cells/mm³ were observed in 49 patients, TC range > 15000 cells/mm³ were observed in 8 patients. TC was below 3000 cells/mm³ in 9 cases. Among the 38 cases of appendicitis, (22)55% had raised TC ($> 11,000$ cells/mm³). TC was significantly elevated in all perforated appendix. All cases of hollow viscus perforation had raised total counts, except in 9 patients where total counts were below 3000 cells/mm³ due to severe sepsis. In all cases where TC is significantly raised, severe polymorphosis was observed.

HB%: Hb% range 8–10 gm% were observed in 38 patients, 10 – 12 gm% in 42 patients, anemia with Hb < 8 gm% in 6 patients, and 14 patients had Hb > 12 gm%.

S.creatinine: levels in between 0.5–2 mg/dl were observed in 67% of patients. In 23% of patients, S.creatinine was above 2 mg/dl and in 9 cases of severe sepsis; serum creatinine was raised above 3mg/dl. In a case with ruptured liver abscess, S.creatinine value of 4.9mg/dl was observed.

LFT, PT, APTt, INR were sent in all cases with sepsis.

Serum amylase was sent in all cases of peritonitis and ranged between 30 – 100 IU. Hypokalemia was observed in 12 patients. Hyponatremia was observed in 8 patients and were correction was started preoperatively.

ABG was sent for analysis in all cases of peritonitis and shock. 16 showed metabolic acidosis, which was corrected in the emergency room. Total proteins and S. Alb were sent in all patients. Hypoalbuminemia was observed in 18 patients and was corrected postoperatively. Preoperative blood transfusion was not given in any of the patients.

Radiological investigations:

X-RAY Abdomen: Was taken in all cases which were compared and studied. Pneumoperitoneum was observed in 44 of patients in an upright chest radiograph and is a hallmark for perforation. In peritonitis patients, ground glass appearance was seen. Air fluid levels were observed in all obstruction cases. Multiple air fluid levels with step ladder pattern is seen in small bowel obstruction, coffee bean sign with few air fluid level with large dilated loop of colon was seen in sigmoid volvulus.

X-ray chest was done in all cases and is diagnostic in all cases of perforation.

Usg abdomen: 25 cases of acute abdomen showed appendicitis. Usg abdomen couldn't pick up appendix in 13 cases, only probe tenderness present.

The finding most specific for small bowel obstruction was the triad of dilated small bowel loops (> 3 cm in diameter), air-fluid levels seen on upright films, and a paucity of air in the colon. Dilated, thickened walled, fluid filled bowel loops with hyperechoic spots of gas moving within the fluid were features in acute intestinal obstruction. Localized extraluminal gas with free fluid collection and inflammatory changes adjacent to the thickened bowel segment were features in intestinal perforation.

SURGICAL TREATMENT:

24 patients have undergone laparoscopic procedure. Exploratory laparotomy was done in rest of the cases. Vertical Mid line incision around the umbilicus was used in all cases of explorative laparotomy, which was extended above till xiphisternum or below till pubic symphysis according to the intraoperative findings. Out of 38 cases of AC appendicitis, laparoscopic appendicectomy was done in 24 cases. In 14 cases, open appendicectomy was done using Lanz incision. Out of 16 cases of acute intestinal obstruction, ,, J shaped Inguino scrotal incision was given for cases with obstructed / strangulated inguinal hernia. Explorative laparotomy and procedure was done in rest of the cases. Peritoneal fluid was sent for culture sensitivity in all cases. Edge biopsies from gastric perforation were sent to rule out malignancy. Perforations were closed by modified Graham's patch. In all cases of peritonitis and obstruction, peritoneal lavage was done using 3-5 ltrs of warm saline. Drains were placed. Only one resection anastomosis (ileo-ileal) was done in case of strangulated hernia.

POST OPERATIVE PERIOD:

In the post operative period, patients were monitored closely with respect to vitals and laboratory values. Early mobilization in all cases was encouraged. Chest physiotherapy and incentive spirometry was advised to all patients. Post operative evaluation for symptomatic relief in the presenting complaint was done. Bacteroides species, E.coli, and streptococcal species were the commonest organisms isolated from peritoneal fluid and were found in the range of 10^2 to 10^8 organisms per gram of tissue. All the Gastric ulcer biopsies were reported- benign. Hospital stay for laparoscopic appendicectomy patients were for minimum of 3 days. Hospital stay for that of open appendicectomy and explorative laparotomy were 7 days. In complicated cases maximum days of hospital stay was 18 days. One death was observed in a case of severe peritonitis patient due to ruptured liver abscess leading to severe sepsis. Follow up of the patient was done for at least 6 months. It was observed that 3 patients with severe peritonitis later developed incisional hernia.

CONCLUSION

Acute abdomen is often a surgical emergency and a challenge to any surgeon. Rigorous approach to diagnosis is mandatory. Out of 100 cases, hollow viscus perforation were observed in 44%, Acute appendicitis were observed in 38%, Acute intestinal obstruction were observed in 16% and 2 cases were of ruptured liver abscess. Most common age group of presentation was 21 to 30 yrs of age. The sex incidence was male 67% and female 33%. Most common symptom of acute abdomen was pain in the abdomen 100%, followed by vomiting

was noted in 80%. Out of 38 cases of appendicitis, 28 were due to inflammation without perforation and retrocaecal position was most common with incidence of 57.89%. Most common site for perforation was duodenal ulcer perforation accounting for 50.00% followed by gastric perforation 31.8%. Most common cause of intestinal obstruction was obstructed hernia 37.5% and next post op adhesions 31.25%. Total mortality among 100 cases studied was in one patient due to ruptured liver abscess due to sepsis. 44 patients were diagnosed as hollow viscus perforation by clinical examination. X ray erect abdomen confirmed the diagnosis in all patients with perforation. Out of 38 cases of acute appendicitis, 24 of the patients were diagnosed on clinical examination, and in 22 patients in whom Alvarado scoring was 5-6; Ultra sound abdomen could confirm the diagnosis. All the cases (16 cases) of acute intestinal obstruction were diagnosed by x ray erect abdomen. Biopsy report sent for HPE in cases of appendicectomy was reported as acute inflamed appendicitis in 28 patients, 8 cases gangrenous without perforation and 2 cases were appendicular abscess. Biopsy sent in for HPE in all gastric perforation patients was reported negative for malignancy.

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