

Acute Abdomen-Clinical Cross Sectional Study of 60 Operated Cases

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1. Introduction

- Acute abdomen refers to the clinical situation in which an acute change in the condition of the intra abdominal organ, usually related to inflammation or infection, demands immediate and accurate diagnosis, with acute abdominal pain present for less than 6-8 hours.
- Cope in 1921 wrote that 'the majority of severe abdominal pain which ensues in patients who have been previously fairly well and which lasts as long as 6 hours are caused by conditions of 'surgical importance'.
- Success in treatment of acute abdomen depends largely on early diagnosis with early intervention and good post operative care.
- Sir Henle's aphorism is that 'In acute abdominal emergencies, the difference between the best and worst surgery is infinitely less, than between early and late surgery and greatest sacrifice is sacrifice of time

2. Objectives

- To study age and sex distribution.
- To study the various aetiologies.
- To study various modes of clinical presentation of acute abdomen.
- To study the pre-operative and post operative diagnosis.
- To study the surgical management and postoperative complications.

3. Methodology

- This study comprises a detailed clinical cross sectional study of 60 consecutively operated cases of acute abdomen of different aetiologies.
- The materials for the clinical study were collected from cases admitted in Kamineni Institute of Medical Sciences, Narketpally
- These patients with history of sudden onset of pain abdomen, vomiting, fever are examined. They found to have tenderness/guarding/rigidity, distention of abdomen are diagnosed as acute abdomen and subjected for evaluation.

Inclusion criteria

- Patients presenting with signs and symptoms of acute abdomen who undergo surgery
- Adults (patients above age 18 years)
- Signs and symptoms of acute abdomen as determined.
- Of these patients only those who underwent surgery were included.

Exclusion Criteria

- Children below < 18 years.

- Acute abdomen due to trauma
- Obstetric and gynaecological cases will be excluded from this study.
- Adult patients who are managed conservatively, who refuses Operative treatment will be excluded in the study.

The investigation done in the cases selected for study were the following.

- Routine blood examination including Hb%, TC, DC, ESR, blood grouping, HIV /HBsAg.
- RBS, blood urea, serum creatinine and serum electrolytes.
- Urine examination including albumin, sugar and microscopy.
- Erect abdomen x-ray to detect free gas under diaphragm or multiple air fluid level.
- Ultrasonography

Adequate preoperative preparation and the diagnosis was established in each case and subjected for laparotomy. The nature of acute abdomen and cause were noted at laparotomy & was followed up for post operative complication.

Table 1: Age Distribution in Acute Abdomen

Age	No. of Patients	Percentage	M	F
<20	11	18.33	10	1
21-30	13	21.67	10	3
31-40	14	23.33	10	4
41-50	12	20	10	2
51-60	9	15	7	2
>60	1	1.67	1	-
Total			48	12

Interpretation

In our study the common age group was between 31-40 year (23.33%) of 14 cases followed by 21-30 years (21.67%) of 13 cases and 41-50 years (20%) of 12 cases and <20 year (18.33%) of 11 cases 65% of patient were between 21-50 years.

Table 2: Gender Distribution & Male and Female Ratio in Relation to Etiology of Acute Abdomen

Sex	No. of cases	Percentage
Male	48	80
Female	12	20
Total	60	100

Etiology	No. of cases	M	F	Ratio
Perforation	28	24	4	6:1
Acute appendicitis	19	14	5	2.8:1
Intestinal Obstruction	11	8	3	2.6:1
Meckels diverticulitis	2	2	-	2:0
Total	60	48	12	4:1

Interpretation: In our study perforation is common by male to female ratio of 6:1 & male constituted 48cases (80%) and female 12cases (20%) with sex ratio 4:1 (Male: Female).

Table3: Etiology of acute abdomen

Etiology Perforation	No. of Cases	Percentage
DU	17	28.33
ILEAL	8	13.33
GASTRIC	3	5
Appendicitis	19	31.67
Intestinal Obstruction		
SBO	9	15
LBO	2	3.33
Meckels Diverticulitis	2	3.33
Total	60	100

Interpretation

- In our study, perforation of the hollow viscus is the commonest cause of acute abdomen with 28 cases (46.67%) which comprises of DU perforation 17 cases (28.33%), ileal perforation 8 cases (13.33%) and gastric perforation 3 cases (5%).
- Acute appendicitis were 19 cases 31.67% and intestinal obstruction 11 cases (18.33%) which included small bowel obstruction 9 cases 15% and large bowel obstruction 2 cases 3.33%. Meckels were found in 2 cases with 3.33%.

Table 4: Erect Abdomen X-Ray Findings in Relation To aetiology

Aetiology	No. of cases	X-Ray Erect AB. Gas Under Diaphragm	X-Ray Erect Abdomen Shows Maflevels	Negative
D.U.P	17	16(94.12)	-	01(5.88)
IP	8	5(62.5)	-	3(37.5)
GUP	3	3 (100)	-	
INTEST.OBS.	11	-	11(100)	
Appendicitis	19	-	-	19
Meckel's diverticulitis	02	-	-	02
Total	60	-	-	-

Interpretation:

- Erect abdomen X ray was taken in all perforation (28) and obstruction cases - (11) appendicitis (19) Meckel's diverticulitis (2) total of 60 cases.
- In DUP out of 17 cases positive findings were seen in 16 cases (94.12%) and negative in 1 case (5.88%).
- Out of 8 cases of Ileal perforation 5 cases had positive X ray finding at 62.5%, out of 3 GUP all (100%) had positive findings.
- Out of 11 cases of Intestinal obstruction all (100%) had positive X-ray findings.

Table 5: Treatment of Various Acute Abdomen

Etiology	Operations	No. of cases	Percentage
D.U.P	Closure Of Perforation With Omental Patch	17	100
I.P	Closure Of Perforation With Omental Patch	8	100
G.U.P	Closure Of Perforation With Omental Patch	3	100
Appendicitis	Appendicectomy	19	100
Intestinal Obstruction	Resection Anastomosis	6	54.55
	Band Release	2	18.18
	ILEO-Transverse Anastomosis	1	9.09
	Hemicolectomy	2	18.18
Meckel's Diverticulitis	Diverticulectomy end to END Anastomosis	2	100

Interpretation

- In our study of acute abdomen which included 17 cases of DUP and all underwent (100%) closure of perforation with omental patch
- 8 cases of IP and all underwent closure of perforation with omental patch (100%),
- 3 cases of gastric ulcer perforation and all underwent closure of perforation with omental patch (100%),
- Out of 19 cases of acute appendicitis all underwent appendectomy (100%)
- Out of 11 cases of intestinal obstruction 6 patients underwent resection anastomosis (54.55%), 2 patient band release (18.18%), and 1 patient with ileo-transverse anastomosis (9.09%) and 2 patients underwent hemicolectomy (18.18%).
- Out of 2 cases of Meckel's diverticulitis both underwent diverticulectomy and end to end anastomosis (100%).

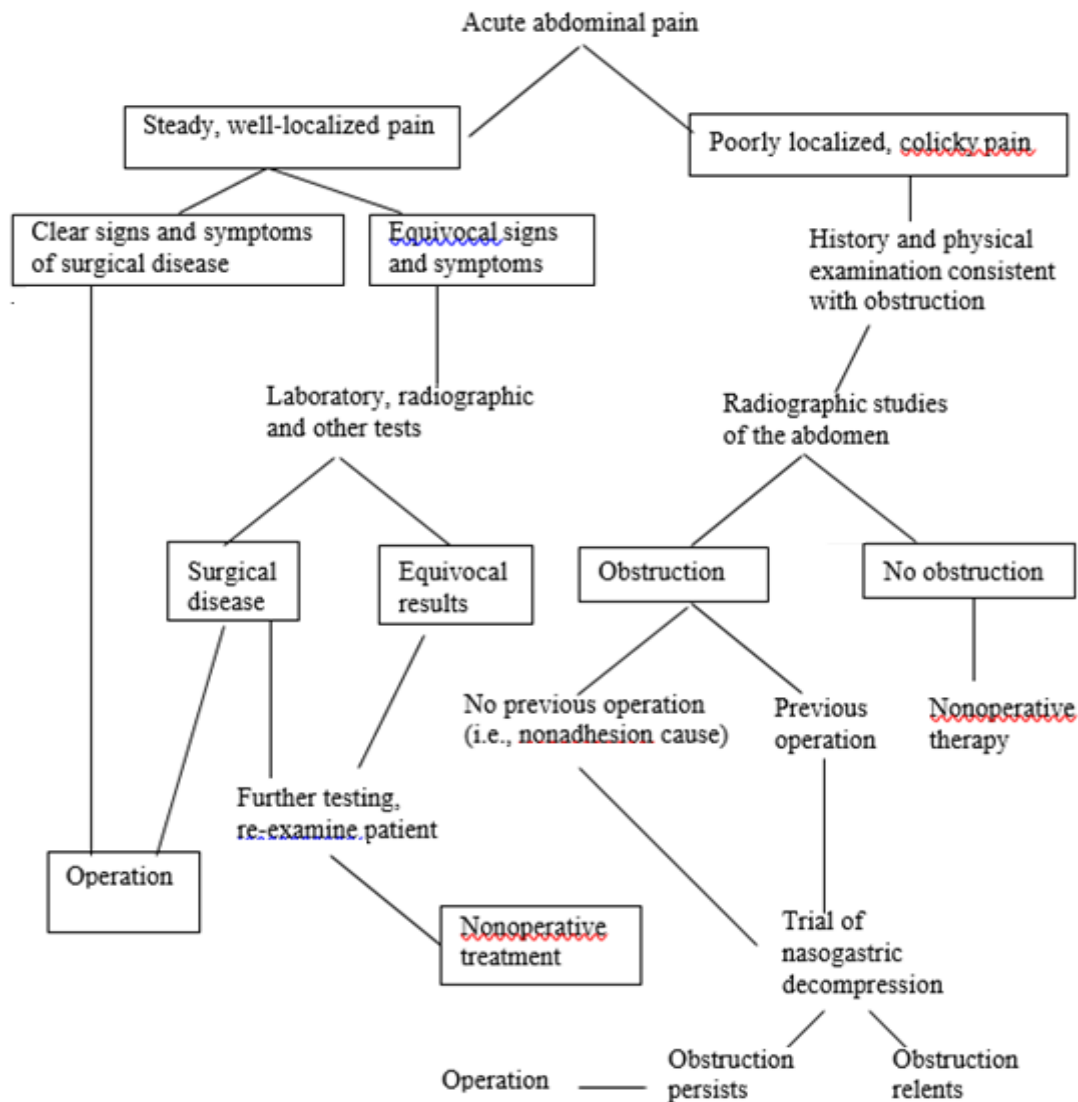


Table 6: Correlation of Preoperative Versus Intraoperative Diagnosis

Diseases	No. of Cases	Correct diagnosis	Wrong diagnosis
Appendicitis	21	19	2 (MECKEL'S)
Intestinal Obstruction	11	9	2 (Perforation)
Perforation	28	26	2 (Intestinal & Obstruction)

Interpretation

- In our study we observed that the clinical diagnosis in acute abdomen was by enlarge accurate 90%
- We had seen 2 cases of Meckel's diverticulitis out of the 21 cases diagnosed preoperatively as appendicitis, of the 11 cases of intestinal obstruction. 9 cases proved correct operatively with 2 cases were hollow viscus perforation.
- Out of the 28 cases of perforation that we had preoperatively diagnosed 2 of them turned out to be intestinal obstruction. One of the 2 cases is Chillarditis syndrome and other case is pneumatosis intestinalis.
- All the cases were treated according to the etiologic.

Table 7: Postoperative Complications in Acute Abdomen

Aetiology	No. of Cases	Wound infection	Respiratory Infection	Incisional hernia	Intestinal Obstruction	Hypotension	Foecal fistula	Septicaemia	Mortality
D.U.P	17	7	2	01	-	2	-	1	1
I.P	8	3	2	-	-	1	1	2	1
GUP	3	2	-	-	-	-	-	-	-
Appendicitis	19	3	-	-	-	-	-	-	-
Intestinal Obstruction	11	-	-	01	-	-	-	1	1
Meckel's Diverticulitis	2	-	-	-	-	-	-	-	-
Total	60	15	4	2	-	3	1	4	3

Interpretation

- In our study morbidity of operated cases of acute abdomen in the form of wound infection in 15 cases (25%), respiratory infection 6 cases (10%), hypotensive shock in 3 cases (5%), incisional hernia in 2 cases (3.34%).
- Faecal fistula in 1 case (1.67%), septicaemia in 4 cases (6.67%) and incision hernia and intestinal obstruction were not observed.
- The commonest complications were wound infection followed by respiratory infection.
- During follow-up we had 11 cases of wound infection & respiratory tract infections were treated conservatively with dressings and antibiotics & faecal fistula patients were explored.

- [5] Beniwal Udai Singh et al. Comparative study of operative procedure in typhoid perforation. Indian J Surg 2003;65(2):172-76

Mortality

- Out of 60 cases studied 3 patients expired which included 1 patient was of DUP, 1 case was IP and 1 of intestinal obstruction.
- This patient presented in late stage and developed hypotensive shock and septicemia.

4. Conclusion

- Most common age group seen in 31-40 years & male: female ratio of 4:1.
- The most common symptoms - signs are pain abdomen, vomiting and guarding, rigidity.
- Hollow viscus perforation was the most common condition seen in our study with 28 cases (46.6 %) in that duodenal perforation was common.
- Other causes include acute appendicitis (19), intestinal obstruction (11), Meckel's diverticulitis (2).
- Use of x-ray erect abdomen along with USG of the abdomen helps in clinching the diagnosis in acute abdomen.
- Patients who presented late with hypotension & undergoing delayed surgery increased the morbidity and mortality.
- Our clinical diagnosis proved correct intraoperatively. Therefore, exception in 6 cases, we consider clinical diagnosis is accurate in 90% of acute abdomen.
- Early presentation, early diagnosis, good pre-operative resuscitation, timely surgical intervention, good post-operative care is essential in all cases of acute abdomen to reduce mortality.

References

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