

To Study the Clinical Profile and Management of Acute Small Bowel Obstruction at Acharya Vinobha Bhave Rural Hospital, Sawangi (Meghe), Wardha

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Abstract: Bowel obstruction remains one of the most common intra-abdominal problems faced by general surgeons in their practice whether caused by hernia, neoplasm, adhesions or related to biochemical disturbances intestinal obstruction of either the small or large bowel continues to be a major cause of morbidity and mortality. To identify and analyze the clinical presentation, management and outcome of patients with acute small bowel obstruction along with the etiology of obstruction. We have conducted a study on 30 cases of the Small Bowel Obstruction in our rural tertiary hospital with the following objectives: (1) various clinical presentation and etiopathogenesis of acute small bowel obstruction. (2) The role of radiological investigation for early detection of acute small bowel obstruction. (3) The diagnostic and therapeutic role of water soluble contrast study. (4) The morbidity and mortality rate in acute small bowel obstruction.

Keywords: Intestinal Obstruction, Small Bowel Obstruction, Water Soluble Contrast, Obstructed Hernia, GI Obstruction

1. Introduction

Bowel obstruction remains one of the most common intra-abdominal problems which can be acute or chronic^[1,2] faced by general surgeons in their practice whether caused by hernia, neoplasm, adhesions or related to biochemical disturbances intestinal obstruction of either the small or large bowel continues to be a major cause of morbidity and mortality³.

They account for 12% to 16% of surgical admissions for acute abdominal complaints. Manifestations of acute intestinal obstruction can range from a fairly good appearance with only slight abdominal discomfort and distension to a state of hypovolemic or septic shock (or both) requiring an emergency operation.

To identify and analyze the clinical presentation, management and outcome of patients with acute mechanical, obstruction along with the etiology of obstruction and the incidence and causes of bowel ischemia, necrosis and perforation⁴.

The death due to acute intestinal obstruction is decreasing with better understanding of patho-physiology, improvement in diagnostic techniques, fluid and electrolyte. Correction, much potent anti-microbial and knowledge of intensive care. Most of the mortalities occur in elderly individuals who seek late treatment and who are having associated with pre-existing diseases like, diabetes mellitus, cardiac diseases or respiratory disease.

Recent Advances has shown Water-soluble contrast studies can accurately predict the need for surgery and water soluble contrast agent (WSCA) when given therapeutically reduces the need for operation and shortens hospital stay.^[5-8]

With early diagnosis of obstruction, skillful management and proper intensive treatment carries a grateful result.

2. Materials and Methods

The materials for the clinical study of Acute Small Bowel obstruction were collected from cases admitted to various surgical wards in Acharya Vinobha Bhave Rural Hospital attached to Jawaharlal Nehru Medical College, Wardha during the period 2014- 2016, thirty cases of acute small bowel obstruction have been studied.

Inclusion criteria - Patients belonged to the age groups ranging from 18 years to 75 years.

Exclusion criteria – Patients of pediatric age group. Cases selection was done in the criteria of history, clinical examination and radiological examination. All the cases studied subjected to surgery and the diagnosis was established.

Study was conducted under the following parameters:

- History taking
- Physical examination
- Laboratory examination
- Radiological examination – Plain X-ray erect abdomen, Ultrasound Abdomen and Pelvis, CECT Scan of Abdomen as applicable.
- Mode of Treatment
- Results and Outcome

3. Observations and results

1) Age wise and gender wise distribution

Table 1: Age wise and gender wise distribution of patients

Age group(years)	Male	Female	Total
18-20	1(3.33%)	0(0%)	1(3.33%)
21-30	2(6.67%)	5(16.67%)	7(23.33%)
31-40	2(6.67%)	3(10%)	5(16.67%)
41-50	3(10%)	0(0%)	3(10%)
51-60	4(13.33%)	3(10%)	7(23.33%)
61-75	4(13.33%)	3(10%)	7(23.33%)
TOTAL	16(53.33%)	14(46.67%)	30(100%)

Out of the patients, 53.33% (16) patients were males and 46.67% (14) patients were female. Male to Female ratio is 4:1. Out of total 30 patients, majority of them were in the age group of 61-75 years, 51-60 years and 21-30 years (23.33%) with equal number of patients in all the three above mentioned age group followed by 31-40 years (16.67%). Mean age is 46.46 years (Table 1).

2) Etiology

Out of 30 patients, around 20% (06) patients suffered from Malignancy, 10% (03) suffered from obstructed hernias, 10% (03) suffered from Meckel's Diverticulum, 6.6% (02) patients suffered from Adhesions whereas Tuberculosis and Volvulus cause 3.3% (01) in both. **Malignancy** was the **most common cause** of intestinal obstruction. Others causes included 46.6% (14) patients, two with Stricture, two with Intussusception, three of Mesenteric Vein Thrombosis and seven of unknown etiology.

3) Signs and Symptoms

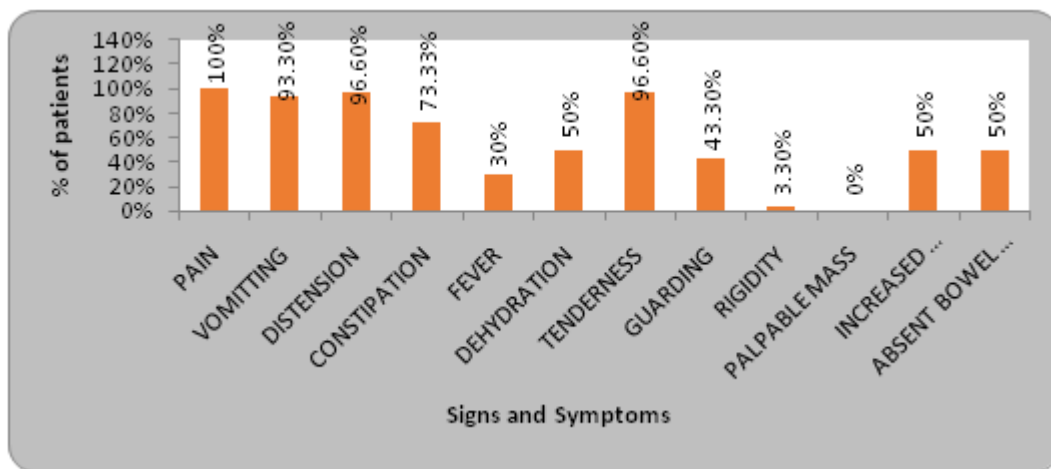
Out of 30 patients, majority had Pain, Distension, Vomiting followed by Constipation. Of the total patients tenderness was major signs. Increased bowel sounds were present in 50% (15) patients (Graph 1).

4) Radiological Findings

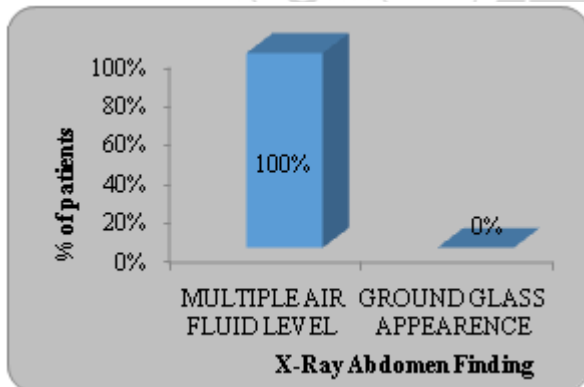
Out of 30 patients X ray Abdomen standing was done 100% (30) patients, multiple air fluid level was seen in 100% (30) patients, ground glass appearance was seen in 0% (00) patients (Graph 2).

5) Plan of Management

Out of 30 patients 60% (18) patients were treated surgically and 40% (12) patients were treated conservatively. Out of 12 patients of conservative management 2 patients were discharged on Request without completion of treatment (Graph 3)



Graph 1: Distribution of patients according to signs and symptoms



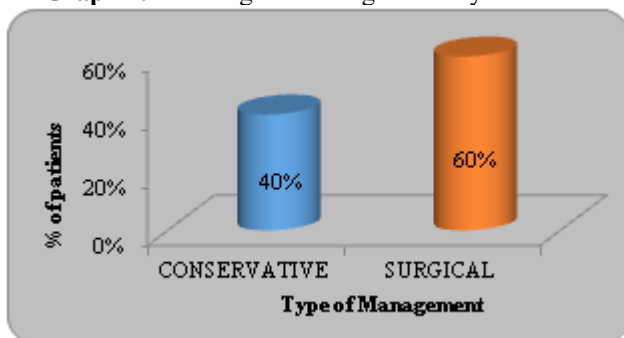
Graph 2: Radiological findings of X-ray abdomen

6) Length of stay in Conservative versus Surgical Management

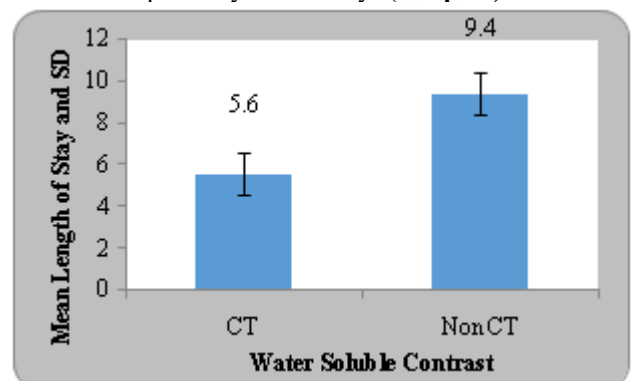
Out of 30 patients 60% (18) patients were treated surgically with mean Hospital stay of 18.18 days and 40% (12) patients were treated conservatively with mean hospital stay of 7.50 days which was significant

7) Length of stay in Contract and Non Contrast (Water Soluble Contrast) patients

Total out of 10 patients of managed conservatively, 5 were given contrast with mean hospital stay of 5.60 days which was significant in our case and 5 were not given contrast with mean hospital stay of 9.40 days (Graph 4).



Graph 3: Distribution of patients according to plan of management



Graph 4: Comparison of length of stay in Contract and Non Contract patients

Contrast (Water Soluble Contrast) patients

8) Type of Surgical management

Resection Anastomosis (72.20%) was most common of the operative management done followed by Hernia Repair (6.60%), ileostomy (6.60%) (Table 2).

9) Postoperative complications

Out of 30 patients, complication occurred in 3 patients, one was of Renal Failure, one was of fecal fistula and one was of Septicemia.

10) Mortality

Out of 30 patients, death occurred in 2 patients (6.66%). Out of 1 patient of Volvulus 1 died (100%), 1 patient was of Meckel's Diverticulum (33.33%). 1 patient died due to Renal Failure and other 1 patient died due to Septicemia (Graph 5).

Table 2: Distribution of patients according to Type of Surgical management

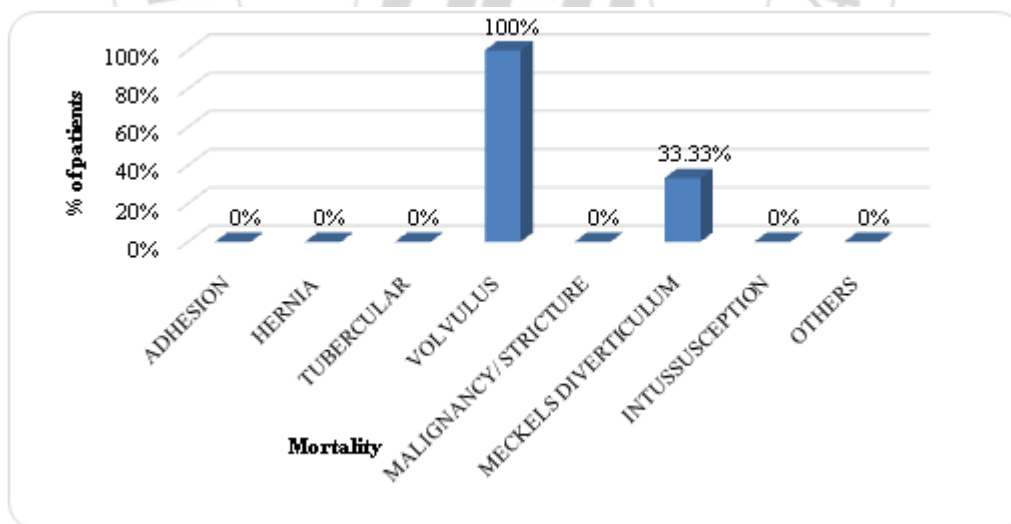
Type of operative management	No of patients	Percentage
Adhesinolysis	1	5.50%
Resection anastomosis	13	72.20%
Hernia repair	2	6.60%
Ileostomy	2	6.60%
Total	18	100%



Figure 1: CECT Abdomen showing multiple air fluid level of Small Intestine



Figure 2: Strangulated hernia with gangrenous bowel



Graph 5: Distribution of patients according to Mortality

4. Conclusion

Acute Small Bowel obstruction remains an important surgical emergency in the surgical field. Success in the treatment of Acute Small Bowel obstruction depends largely upon early diagnosis skillful management and treating the pathological effects of the obstruction just as much as the cause itself.

Erect abdomen X-ray is valuable investigation in the diagnosis of acute small bowel obstruction. Contrast Enhanced CT scan plays an important role in diagnosis of Acute Small Bowel Obstruction. Water-soluble contrast added in form of CECT abdomen can accurately predict the need for surgery and water soluble contrast agent (WSCA) when given therapeutically reduces the need for operation and shortens hospital stay in cases of benign cause of Acute Small Bowel Obstruction.

Malignancy is one of the most common cause to produce Small Bowel obstruction. Clinical, radiological and operative findings together can diagnose the case of Acute Small Bowel obstruction. There are other unknown etiology which should be further evaluated for a proper diagnosis and treatment. Mortality is not of much significant in acute small bowel obstruction if treated accurately and on time.

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