

## **An Analytical Study of Acute Intestinal Obstruction Cases in Adults**

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### **Abstract:**

**Background:** *One of the commonest problems and surgical emergency is the Acute Intestinal Obstruction which a general surgeon has to face every day irrespective of day and night. This has to be examined in detail.*

**Aim:** *To find out the incidence and causes of acute intestinal obstruction among the patients admitted and to identify the factors modifying the prognosis of the patient.*

**Material and Methods:** *This was an analytical study of patients admitted with the diagnosis of acute intestinal obstruction who were operated upon. It comprised of 76 patients.*

**Results:** *The obstructed external hernia ranks top in the list (53%). The next comes the obstruction due to adhesion and bands (28%). The other causes are volvulus, colonic growth. Intussusception and abdominal tuberculosis occupy the least number.*

**Conclusion:** *Obstructed external hernia and adhesions remains the leading causes of Acute Intestinal Obstruction. Early intervention reduces mortality.*

**Keywords:** *Acute Intestinal Obstruction, hernioplasty*

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### **I. Introduction**

Acute Intestinal obstruction is the main surgical emergency problem which a general surgeon has to face every day irrespective of day and night. It is quite an exciting experience to examine, investigate, diagnose, explore and look into the abdominal cavity where it would reveal the puzzling conditions. A surgeon adds this experience to his/her knowledge every day from each and every case.

Acute intestinal obstruction can result from a variety of causes, and there is a tendency to concentrate on the features which differentiate one cause from another at the expense of the features of the intestinal obstruction itself. Success in the treatment of acute intestinal obstruction depends largely upon early diagnosis, skillful management, and the appreciation of the importance of treating the pathological and physiological effects of the obstruction just as much as the cause itself.

### **II. Aim of the Study**

1. To find out the incidence of acute intestinal obstruction among the patients admitted
2. To identify the causes of acute intestinal obstruction and the factors modifying the prognosis of the patient
3. To study about mortality and morbidity rate in the analysed cases

### **III. Materials And Method Of Study**

An analytical study was carried out over a period of 2 years in the Department of General Surgery, in our hospital at Coimbatore. Total number of patients admitted in the surgical department were 26,238, out of which 224 patients were diagnosed with acute intestinal obstruction.

To conduct a study on "Acute Intestinal Obstructions in adults", a general survey was made on these 224 cases. However the analytical and critical study was carried out only on 76 cases which were operated upon.

The cases with diagnosis of acute intestinal obstruction which were taken up for surgery were thoroughly analysed, a separate proforma was maintained, and whenever possible the histopathological examination of the specimen was carried out to confirm the clinical diagnosis. All patients were followed up during the post-operative period.

### **Pre-Operative Management**

All the necessary and relevant procedures were undertaken to monitor and manage patients' pre-operative status. Routine checkups and repeated clinical examinations were done to assess the progress of the condition. The general condition of the patients improved with management were taken up for surgery.

**Etiological Factors**

Out of the 76 cases diagnosed 40 (53%) had external hernias, 21 (28%) had adhesions and bands and the remaining were affected by sigmoid volvulus (6), Intussusception (3), colonic growth (4) and abdominal tuberculosis (2). These were given in the tabular form.

**Table1** Etiological Factors

S.No	Diagnosis	No.of Cases	Percentage
1	External hernias	40	53%
	a) Inguinal	35	
	b) Femoral	5	
2	Adhesions and bands	21	28%
	a) Post-operative	14	
	b) Idiopathic	7	
3	Sigmoid volvulus	6	8%
4	Colonic growth	4	5%
5	Intussusception	3	4%
6	Abdominal tuberculosis	2	3%

**IV. Discussion**

The obstructed external hernia is the first and foremost cause of intestinal obstruction especially in India. In the inguinal hernia 35 cases were taken and all were males. The pre-operative features it was found that the right side was found as more (25) compared to the left side (10). These cases were managed by the procedures like exploration, reduction and hernioplasty (22), resection, anastomosis and hernioplasty (13). The per-operative findings indicated that the condition of bowel in the hernial sac was viable in the case of 22 patients and gangrenous in 13 patients. During the post-operative period 15 patients developed wound infection, 3 patients with hemotoma and 10 patients by wound gapping.

A total of 5 (4 female and 1 male) femoral hernia cases were operated upon. Among them 3 cases presented with signs of strangulation. These cases were managed by exploration, reduction and repair done (2) and exploration, laparotomy, resection and anastomosis of gangrenous small bowel and repair done in 3 cases (high approach).

Out of the 21 cases examined for adhesions and bands most of them were males (19). In the 14 post-operative cases 4 cases presented with recurrent attacks of intestinal obstruction and previously treated conservatively. The causative factors include post-operative adhesions in 14 cases and idiopathic in 7 cases. In all the cases the small bowel was involved. The adhesions were generalized in 8 cases and localized in 13 cases. Further, in 17 cases the condition of the bowel was viable and in 4 cases it was gangrenous. Fifteen cases were managed with laparotomy and release of adhesion, 4 cases with laparotomy, adhesiolysis, resection and anastomosis and the remaining 2 cases by conservative management followed by laparoscopic adhesiolysis.

Three cases were reported (2 male 1 female) with intussusception. All the three cases presented with intermittent, colicky abdominal pain, treated privately for dysentery. Two cases were ileoileal type, the bowel involved was gangrenous. Both underwent resection and anastomosis of gangrenous bowel. Third case was ileocecolic type, after successful reduction the bowel was found to be viable and cecopexy was done. The causative factor was presented in one case (submucous polyp) post operatively one case developed mild wound gapping which healed spontaneously.

Two cases had tuberculous involvement of bowel. Out of them one was with multiple strictures present in the ileum and in another the peritoneal cavity was studded with tubercles with adhesions causing obstruction. One case was managed with resection of the stricturous portion of the ileum and anastomosis and other by adhesiolysis. Both patients were recovered well.

Out of 6 cases of volvulus 4 were males and 2 were females. The maximum cases were seen in 7<sup>th</sup> decade of life. The pre-operative features revealed that all the cases were presented with abdominal distension and constipation as main complaints and 2 cases also had vomiting. The peroperative features shown that all were sigmoid volvulus. All had redundant sigmoid with long mesocolon. All had anticlockwise rotation from half to two full turn of varying degrees. Two cases presented with gangrenous bowel and 4 cases with viable bowel. Three cases were managed by de-rotation and sigmoidopexy for viable bowel, one by resection and primary anastomosis (gangrenous) one with resection and exteriorisation of both ends (gangrenous bowel & toxemia) and the remaining one by resection and Hartmann’s procedure for gangrenous bowel. During the post-operative period one patient died in the 3<sup>rd</sup> POD due to toxemia, one patient developed fecal fistula which was healed by conservative management. Other patients recovered following minor complications.

Another 4 cases were admitted with features of Acute intestinal Obstruction had stenosing type of colonic growth. All the patients presented with constipation followed by abdominal pain and abdominal distention. No patient had history of melena. In all patients the lesion was above the level of mid rectum. So pre-operative per rectal examination didn’t reveals any findings. Per operative features reveals that in three patients

the rectal growth occluding the lumen completely, with enomorous dilatation of proximal colon. In one case the growth was situated in the splenic flexure occluding the lumen. In all the cases the ileocecal valve was competent. So small intestines were not dilated. Two cases had gangrenous patches over distended colon. During the post operative period one patient with splenic flexure growth, underwent decompression and ileostomy, who did not come for follow up. Two patients who had gangrenous patches, underwent decompression resection of gangrenous portion and transverse colostomy, both of them died in the post operative period due to toxemia and ARF. One patient with upper rectal growth, as a first stage procedure underwent decompression and transverse (Double Barrel) colostomy. After 6 weeks underwent anterior resection of growth then colostomy closure. For all four patients HPE report came as adenocarcinoma of the colon.

### Age Incidence

An analysis of age group of the patients revealed that most of the cases fell in the 31-60 age groups.

Age group	No. of Cases	Percentage
13-20	3	4
21-30	9	10.7
31-40	10	13.3
41-50	13	17.3
51-60	23	30.7
61-70	12	16
71-80	6	8
<b>Total</b>	<b>76</b>	<b>100</b>

### V. Results

- A collection of 76 cases was done for the study from all surgical units, which were provisionally diagnosed as acute intestinal obstruction and taken up for surgical management.
- The incidence in sex more in men than women and more in the age group between 31 to 60 years.
- The obstructed hernia ranks top in the list. The next comes the obstruction due to adhesion and bands. Then comes volvulus, colonic growth. Intussusception and abdominal tuberculosis occupy the least number.
- The main clinical picture of abdominal pain, vomiting and abdominal distension was presented in all cases.
- All the routine and special investigation were carried out.
- Plain X-ray abdomen in erect and supine position were helpful in diagnosing the cases.
- Cases with simple obstruction 48 (64%) and strangulation 27 (36%).
- Out of 27 cases in strangulation, 22 cases were small intestine and 5 cases were large intestine.
- Out of 76 cases operated, 7 (9.3%) patients died in the early postoperative period (5 by toxemia & ARF, 1 by hypovolemia due to hemorrhage and 1 by myocardial infraction)
- Morbidity occurs (24 cases) due to wound infection (21), wound gapping (10), faecal fistula (1) and broncho pneumonia (1).
- In the study, cases admitted with late presentation had poorer prognosis who had, severe Dehydration, Uraemia and Toxaemia and also associated diseases like diabetes mellitus, Ischemic heart disease contributed to the poor prognosis.

### VI. Conclusion

It was found that the external hernias and adhesions were the most common causes of acute intestinal obstruction. Close monitoring and early intervention reduces morbidity and mortality.

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