



Epidemiology, Aetiology, Clinical Pattern and Outcome of Adult Intestinal Obstruction in India

Dr.M.Satish

Assistant Professor, Department of Surgery, Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry.

Dr.M.Senthil Velan

Professor, Department of Surgery, Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry.

Dr.Santosh Raja Erabati

Assistant Professor, Department of Surgery, Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry.

ABSTRACT

Intestinal obstruction is a common cause of acute abdomen handled by surgeons. The clinical presentation varies depending on the type, site, duration etc. Timely evaluation, diagnosis and management plays an important role in disease outcome. While the main causes of intestinal obstruction may vary from country to country or among regions within a specific country, knowledge of the local disease patterns and outcomes may raise the index of suspicion, and reduce delays in diagnosis, referral and/or operative intervention. This is especially helpful in settings with limited diagnostic modalities where making a definitive diagnosis may be challenging. The aim of this study was to evaluate the epidemiology, aetiology, clinical pattern and outcome of adult intestinal obstruction in the department of surgery at a teaching medical college in over a two year period.

KEYWORDS : Abdominal distension, Adhesions, ROA- Release of Adhesions. RA- resection and anastomosis.

Aims and objectives of the study:

1. To study various causes of intestinal obstruction.
2. To study various presentations of the cases.
3. To study epidemiology of cases.
4. To study various surgical procedures and its outcome.
5. To study factors affecting morbidity and mortality.

Patients and Methods:

The materials for the clinical study of intestinal obstruction were collected from cases admitted to various surgical wards of a tertiary care hospital, during the period from September 2013 to September 2015, hundred cases of intestinal obstruction have been studied. Patients belonged to the age groups ranging from 12 years to 88 years; paediatric age group is excluded from this study. The criteria for selection of cases were based on clinical history, physical findings, radiological and haematological investigations. Patients who were having sub acute intestinal obstruction treated conservatively, patients with a dynamic obstruction and paediatric patients were excluded from the study, and only those cases of acute intestinal obstruction which were managed surgically were studied to establish the aetiology of intestinal obstruction with an aim to know the mode of presentation, physical findings, radiological and haematological findings, operative findings and outcome of acute intestinal obstruction. After the admission of the patient, clinical data were recorded as per the proforma.

Immediately after the admission along with above procedure resuscitation with IV fluids started till the hydration and urine output improved. Nasogastric decompression with Ryle's tube carried out and antibiotic prophylaxis started. And close observation of all bedside parameters (like pulse rate, BP, RR, urine output, abdominal girth, and bowel sounds) was done. Patients who showed reduction in abdominal distension and improvement in general condition especially in individuals with postoperative adhesions conservative management was confined for next 24 hours, those who showed improvement by moving bowels, reduction in pain/tenderness were decided for conservative treatment, Such individuals are excluded from this study. Patients with clear-cut signs and symptoms of acute obstruction were managed by appropriate surgical procedure after resuscitation. Surgery adopted and criteria for deciding the procedure were noted. The postoperative period was monitored carefully and all parameters

were recorded depending upon the patient's condition. Postoperatively Ryle's tube aspiration, intravenous fluids and antibiotics were administered. Any complications noted and treated accordingly. Post-operative follow up after the discharge of patients was done in majority of the patient's upto 6 months. The results are recorded stressing on following points age, sex, symptoms, examination findings, investigations, abnormalities, probable causative factors, operative findings and operative procedure adopted and complications if any.

Results:

Intestinal obstruction occurs across all ages. Our study showed predominant involvement of 51- 60(27%) and 61-70(20%). In the present study male to female ratio is 2.3:1 . Incidence of various etiologies as per our study is hernia 37%, adhesions 22%, tumours 14%, volvulus 12%. Symptomatology studied showed incidence of vomiting and abdominal distension as predominant features.(72% & 70%). Tachycardia was a uniform sign in a high percentage of patients.(95%). Patients with mixed diet were found to have more predispositions for intestinal obstruction probably due to the less fibre content of diet. Wound infection was most common complication. Site of obstruction was commonly found to be ileum due to its involvement in hernias as well as postoperative adhesions and in tuberculosis. Our study showed a mortality rate of 9%.

Conclusion:

The study showed that inguinal hernias are the most common cause of intestinal obstruction followed by adhesions, tumours & volvulus. Males were predominantly affected. Age group between 41 – 70 years was the most commonly affected. Patients taking mixed diet were predominantly affected. Mortality was found to be highest with colonic obstruction due to growth. Most common postoperative complication was wound infection. Resection and anastomosis as well as release and herniorrhaphy were the most commonly done surgical procedures.

RESULTS

AGE DISTRIBUTION OF INTESTINAL OBSTRUCTION

AGE in years	MALE	FEMALE	TOTAL
13-20	1	0	1
21-30	8	0	8

31-40	12	3	15
41-50	9	7	16
51-60	17	10	27
61-70	15	5	20
71-80	7	5	12
81-90	1	0	1
TOTAL	70	30	100

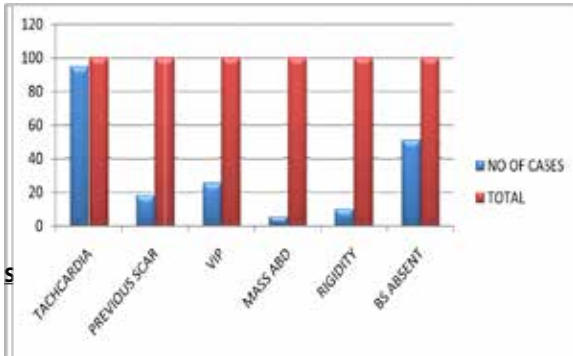
GENDER WISE INCIDENCE OF INTESTINAL OBSTRUCTION

GENDER	NUMBER OF CASES	PERCENTAGE
MALE	70	70%
FEMALE	30	30%

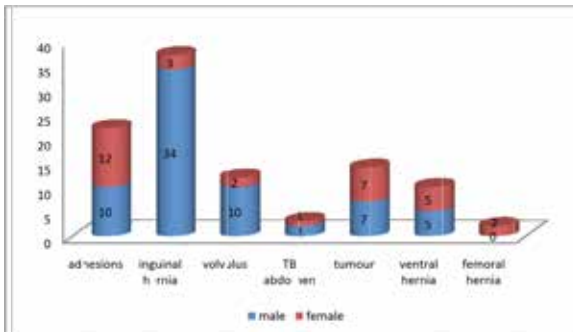
DIET WISE INCIDENCE OF INTESTINAL OBSTRUCTION

DIET	NO OF CASES	PERCENTAGE
VEGETARIAN	28	28%
MIXED	72	72%

INCIDENCE OF SIGNS IN THE CASES OF INTESTINAL OBSTRUCTION



INCIDENCE OF VARIOUS ETIOLOGY OF INTESTINAL OBSTRUCTION



ANATOMICAL DISTRIBUTION OF INTESTINAL OBSTRUCTION

Site	Male	Female
Duodenum	-	-
Jejunum	-	-

Ileum	51	23
Ascending colon	1	1
Transverse colon	1	2
Descending colon	3	2
Sigmoid colon	11	3
Anorectum	1	1

ANALYSIS OF THE SURGICAL PROCEDURE DONE

MANAGEMENT	NO OF CASES		TOTAL
	MALE	FEMALE	
RA & H	5	1	6
R & H	29	2	31
R & C	5	5	10
ROA	7	8	15
RA	21	10	31
DIVERSION	2	4	6

Resection and anastomosis was most commonly done procedure along with release and herniorrhaphy. RA&H-resection anastomosis and herniorrhaphy R & H- Release and Herniorrhaphy R & C- Release and Closure. ROA- Release of Adhesions.RA- resection anastomosis.

ANALYSIS OF POSTOPERATIVE COMPLICATIONS

COMPLICATION	MALE	FEMALE
Wound infection	21	15
Anastamotic leak	7	5
Burst abdomen	8	9
Mortality	4	5

DISCUSSION

Age incidence :

Intestinal obstruction occurs across all ages. Our study showed predominant involvement of 51- 60(27%) and 61-70(20%). Age incidence was more in elderly as most cases of obstructed inguinal hernias occurred in these age groups.

Gender Incidence

In the present study male to female ratio 2.3:1.These are comparable to previous studies with male predominance, probably due to increased incidence of obstructed inguinal hernias occurring in males.

Comparison of aetiology with other studies

Incidence as per our study is adhesions 22%, hernia 37%, volvulus12%, tumours 14% .This is correlating with the fact that in third world countries where people present late for treatment for hernias,

or where treatment is not easily available, they constitute an important part of intestinal obstruction. Adhesions being the second most common aetiology probably due to increasing operative interventions for various diseases than in the past.

Symptomatology studied showed incidence of vomiting and abdominal distension as predominant features.(72% & 70%).Patients with mixed diet were found to have more predispositions for intestinal obstruction probably due to the less fibre content of diet. Wound infection was most common complication which was comparable to other similar studies.

Site of obstruction was commonly found to be ileum due to its involvement in hernias as well as postoperative adhesions and in tuberculosis. Release of adhesions with herniorrhaphy along with resection anastomosis was the common surgical procedure done in our study.

Mortality rates :

Our study showed a mortality rate of 9% which was comparable to following studies. Mortality was more in elderly patients,with late presentations, malignancies. which all lead to the poor outcome. Gangrenous changes following late presentation was associated with increased post operative morbidity and mortality.

CONCLUSION

Acute intestinal obstruction remains an important surgical emergency in the surgical field. Success in the treatment of acute intestinal obstruction depends largely upon early diagnosis skilful 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 intestinal obstruction. The study showed that inguinal hernias are the most common cause of intestinal obstruction. Males were predominantly affected. Age group between 41 – 70 years was the most commonly affected. Patients taking mixed diet were predominantly affected. Most common symptom was vomiting . Most common sign was tachycardia. Mortality was found to be highest with colonic obstruction due to growth. Total number of Anastomatic leak and Wound infection were more in males. Most common postoperative complication was wound infection. Resection and anastomosis as well as release and herniorrhaphy were the most commonly done surgical procedures.

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