

## Comparative Study Of Clinical Outcome In 50 Cases Of Large Bowel Obstruction In Adults At Tertiary Care Centre.

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**Abstracts:** Background: To study the different modes of clinical presentation and study clinical outcome in various causes of large bowel obstruction in adults and to accomplish the operative management and to anticipate the postoperative complications and their management. Methodology: This is a prospective observational study of large bowel obstruction in adults and was carried out in 2012-2014. Results: A total 50 cases of large bowel obstruction were studied. Maximum patients 11(44%) cases belonged to age group 51-60yrs. Obstipation is seen in 50(100%), pain in 44(88%), distension in 50(100%), tenderness in 44(88%), constipation in 50(100%), rigidity in 14(28%). In present study, malignancy was the commonest (24 cases – 48%) cause of large bowel obstruction. There were 10 cases (20%) of stricture, 8 cases (16%) of volvulus, two case (4%) of endometriosis and two case (4%) of intussusception causing large bowel obstruction. Pseudo-obstruction comprised 4 cases. 20 cases (43.5%) were operated for resection anastomosis of pathological part to relieve obstruction, while 18 cases (39.1%) were operated for temporary colostomy due to lack of definitive procedure either due to unresectable mass or gross contamination of bowel loop. Rest of the cases 8(17.3%) were operated for end colostomy or ileostomy. Wound infection was the commonest complication observed in 10 cases. 6 patients died due to septicaemia. Pleural effusion was present in 4 patients. Skin excoriation around colostomy occurred in 6 cases. Mortality of the study was 6 (12%) cases. Conclusion: Old age (51-60) was the most common age group affected by large bowel obstruction. Colorectal carcinoma was the leading cause of large bowel obstruction. In our study. Distention and constipation were predominant symptoms.. Plain X-ray erect abdomen is the single most important diagnostic tool for diagnosing obstruction and its level of obstruction. CT SCAN abdomen confirmed the type and site of obstruction and spread of tumor in cases of large bowel malignancy. Early recognition and timely intervention is important to prevent the bowel from going for gangrenous changes. [Parmar K NJIRM 2015; 6(2):79-83]

**Key Words:** large bowel obstruction, malignancy, operative management, morbidity, mortality.

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**Introduction:** Large bowel obstruction accounts for one of the most common surgical emergency resulting in high morbidity and if timely intervention is not done, it results in mortality.<sup>9</sup> The incidence of this condition has not changed, though a different etiological pattern is present from place to place and time to time over the last century.<sup>9</sup> The mode of presentation is same in all but with varied causes.

With time, better understanding of pathophysiology, improvement in radiological techniques of diagnosis, high degree of refinement in correction of fluid and electrolyte imbalance, introduction of antibiotics with effective bacteriological control, introduction of techniques in gastrointestinal decompression, new surgical principles in management of large bowel

obstruction, through introduction of on table lavage and resection and primary anastomosis, has replaced staged procedures and decrease in a number of days of hospital stay has helped in better management of patients.<sup>9</sup>

Colonic obstruction may result from:-<sup>10</sup>

- Infectious/inflammatory
- Neoplastic
- Mechanical pathology
- Volvulus
- Incarcerated hernia
- Stricture
- Adynamic (pseudo obstruction)

In Present study most common cause is malignant growth obstructing the lumen.

Malignancy of large bowel is also the most common factor in western world and this is somewhat related to dietary habit of taking low residue diet. The hypothesis is that increased roughage is associated with reduced transit times, and in turn reduces the exposure of the mucosa to carcinogens.

There have also been studies linking increased dietary animal fat, smoking and alcohol to colorectal cancer.

Patient of large bowel obstruction presents with abdominal pain, abdominal distension, altered bowel habit, vomiting or bleeding per rectum. Patient is managed operatively either as palliative or curative measurement.

The present study includes fifty cases of large bowel obstruction excluding paediatric age group patients at our institute.

**Objectives:-** To analyse the different modes of clinical presentations of large bowel obstruction in adults. To analyse the various causes of large bowel intestinal obstruction. To accomplish operative management and to anticipate the postoperative complications and their management. To study clinical outcome in cases of large bowel obstruction.

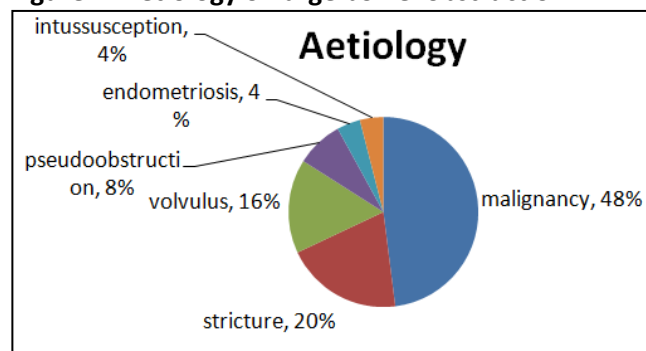
**Material and Methods:** The present study consists of 50 cases of large bowel obstruction in adults who were treated conservatively or operated upon for their underlying pathology.

- Random study of cases has been done.
- Each patient was evaluated clinically taking into consideration the history, general examination, abdominal examination & investigated and analyzed according to data collected on a planned preformed proforma.
- The patients were followed up for a varying period of 2 months to 1 year.
- Paediatric age group were not included in present study as aetiology and presentation are different from that of adults.
- This prospective study of large bowel obstruction in adults was carried out at our institute. The study was carried out from 2012- June 2014.

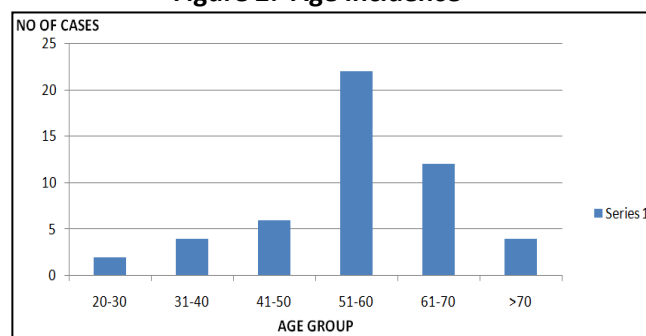
- During this time, 50 cases of intestinal obstruction were reported. 50 cases of large bowel obstruction were selected after they were confirmed on clinical, investigative and explorative grounds. Cases admitted on emergency basis which required surgical intervention and later confirmed as large bowel obstruction were included. The patients were informed about this study prior to inclusion into it and when they were duly convinced they were included into the study after signing of the consent forms.
- All patients in the age group between 18-80years were included in this study. All patients in <18 years and > 80 years were excluded from this study.(Permission of IRB was not taken.)

**Results:**

**Figure 1: Aetiology of large bowel obstruction**



**Figure 2: Age Incidence**



In case of malignant obstruction, there were 14 cases of female patients while 10 cases were male out of 24 cases.

**Table 1: Clinical Features of Large Bowel Obstruction**

Clinical Features	No. Of Cases	%
Pain	44	88%
Vomiting	26	52%
History Of Constipation	48	96%
Obstipation	50	100%
Altered Bowel Habit	20	40%
Bleeding Per Rectum	6	12%
Distension	50	100%
Abdominal Tenderness	20	40%
Guarding	14	28%
Rigidity	14	28%

**Table 2: Operative Findings – Site of Obstruction**

S.N.	Site	No. Of Cases	%
1	Anorectal	8	16%
2	Rectosigmoid	26	52%
3	Splenic +	6	12%
4	Transverse Colon	0	0
5	Hepatic +	4	8%
6	Cecum	2	4%
7	Pseudo – Obstruction	4	8%
	Total	50	100%

**Table 3: Procedure to Relive Obstruction**

S. N.	Procedure	No. of Cases	%
1	Temporary Colostomy	18	39.1%
2	End Colostomy/ Ileostomy	8	17.3%
3	Resection Anastomosis	20	43.5%
	Total	46	100%

**Table 4: Complications**

S N	Causes	Wound Infection	Pul. Compl	Septic-aemia \ Death	Skin Excoria-tion
1	Malignancy	06	04	04	02
2	Volvulus	-	02	-	02
3	Adhesion/ Stricture	04	-	02	02
4	Pseudo-Obstruction	-	-	-	-
5	Endometrio – Sis	-	-	-	-
6	Intus - susception	-	-	-	-
	Total	10	04	06	06

\*pul.-pulmonary, compl.-complications

In the present study, average hospital stay(10-20 days) was similar in different causes of obstruction, except in pseudo-obstruction in which case, patients were discharged early with conservative management.

Six cases expired due to septic shock.

**Discussion:**

- In the present study, 50 cases of large bowel obstruction are included who were admitted in our institute and were studied prospectively.
- In the present study, 51-60yr age group was the most affected group.
- In our study, male: female ratio is 2:1. In case of malignant obstruction, there were 14 cases of female patients while 10 cases were male patients out of 24 cases as compared to other study, Chakraborty et al. (1979)<sup>2</sup> reported a male: female ratio of 3:1 with an most affected age group of 51-60 years and AZ Sule et al. (2011)<sup>5</sup> reported male: female ratio is 3:1. The maximum patients of this study belonged to age group 41-50 yrs followed by 51-60yrs.
- Fuzan M et al. (1991)<sup>6</sup> in their study reported a male: female ratio of 2:1. Souvik Adhikari et al (2010)<sup>7</sup> reported a male: female ratio of 4:1.
- In present study, malignancy is the commonest (24 cases – 48%) cause of large bowel obstruction. There were 10 cases (20%) of stricture, 8 cases (16%) of volvulus, two case (4%) of endometriosis and two case (4%) of intussusception causing large bowel obstruction. Pseudo-obstruction comprised 4 cases as compared to other study, Chakraborty et al.(1979)<sup>2</sup> reported that 55.8% cases belonged to sigmoid volvulus while colon cancer accounted for 15.1% and AZ Sule et al. (2011)<sup>5</sup> reported, around 72% of cases belonged to sigmoid volvulus and 24% were of colon cancer.
- Obstipation and distension were the presenting symptom in all age group and commonest of all symptoms. As compared to our study, Markogiannakis H et al(2007)<sup>4</sup> in their study where they evaluated 36 cases of large bowel obstruction showed that pain (74%), constipation (90%) and distension (96%) as the chief complaints of patients.
- History of constipation was present in almost all cases, either of short or long history.

- In our study, about 28% of cases had guarding and rigidity suggestive of peritonitis as compared to AZ Sule et al (2011)<sup>5</sup> showed the pain (100%), constipation (96%) and distension (96%) as a chief complaints and guarding and rigidity (20%) were found.
- In our study, out of 50 cases 46 cases (92%) were operated to relieve obstruction and rest of the 4 cases (8%) were treated conservatively.
- In our study, out of 50 cases of large bowel obstruction, in 26 cases (52%) the site of obstruction was the rectosigmoid region, because of mass lesion or volvulus, hence, commonest site was the rectosigmoid region.
- Next commonest site was the anorectal region which led to obstruction. There were 8 cases which involved anorectal region. Six cases of obstruction were of splenic flexure with descending colon. Hepatic with ascending colon comprised 4 cases, while cecum was site for 2 case.
- In our study, out of 50 cases , 20 cases (43.5%) cases were operated for resection anastomosis of the pathological part of bowel to relieve obstruction while 18 cases (39.1%) were operated for temporary colostomy, due to lack of feasibility of definitive procedure, either due to unresectable mass or gross contamination of bowel loop. Rest of the cases 8(17.3%) were operated for end colostomy or ileostomy as compared to AZ Sule et al.(2011)<sup>5</sup> reported that they performed primary resection and anastomosis in maximum of their patients accounting to 90% and performed colostomies in only 4% patient. And Gatsoulis N et al (2004)<sup>8</sup> in their study of management of large bowel obstruction showed that they carried out primary resection and anastomosis in 67% of their patients and required colostomies and a second procedure in 33% of their cases.
- Various complications were observed in post operative period.
  1. Wound infection was the commonest complication observed in 10 cases.
  2. six patients died due to septicaemia.
  3. Pleural effusion was present in four patients.
  4. Skin excoriation around colostomy occurred in 6 cases.
- In the present study, average hospital stay was similar in different causes of obstruction except

in pseudo-obstruction in which case, patients were discharged early with conservative management.

- In our study, six cases (12%) were expired due to septic shock as compared to Gatsoulis N et al (2004)<sup>8</sup> showed a mortality rate of 14% in their study. Phillips et al. (2005)<sup>3</sup> showed a mortality rate of 23% in their study. AZ Sule et al. (2011)<sup>5</sup> showed a mortality rate of 12% in their study.

**Conclusion:** Following conclusions are derived from the study of 50 cases of large bowel Obstruction;

- Old age (51-60) was the most common age group affected by large bowel obstruction.
- Colorectal carcinoma was the leading cause of large bowel obstruction.
- Adhesion or stricture and volvulus were the next most common cause of large bowel obstruction.
- In our study male: female ratio is 2:1 and in the case of malignant obstruction, in which incidence in female patient were more common.
- Mode of presentation also differs in different levels of intestinal obstruction, distention and constipation were the predominant symptoms.
- The clinical examination stressed upon vital signs & per abdominal examination.
- Plain X-ray erect abdomen is the single important diagnostic tool for
- diagnosing obstruction and its level of obstruction.
- CT SCAN abdomen confirmed the type and site of obstruction and spread of tumor in cases of large bowel malignancy.
- Early recognition and timely intervention is important to prevent the bowel from progressing to gangrenous changes.
- Morbidity was due to wound infection and chest infection.

**References:**

1. Winslet MC. Intestinal obstruction. In: Russel RCG, Williams NS, Bullstrode CK editors. Bailey & Loves Short practice of Surgery 23<sup>rd</sup> edn .2000. Edward Arnold ltd NY.1058-75.
2. Chakraborty PB, Ratt GC, Senapati NB, Misra P. A review of 410 cases. Journal of medical association. 1979; 73:113-23.

3. Mr. R. K. S. Phillips, R. Hittinger, J. S. Fry, L. P. Fielding. Malignant large bowel obstruction. *British Journal of Surgery*, April 1985  
Published online Dec 2005; 296–302.
4. Haridimos Markogiannakis, Evangelos Messaris, Dimitrios Dardamanis. Acute Mechanical Bowel Obstruction: Clinical presentation, etiology, management and outcome. *Worldjournal of Gastroenterology* 2007 Jan 21; 13(3): 432-437.
5. AzSule , A Ajibade Adult Large Bowel Obstruction: A Review Of Clinical Experience Department of Surgery, Jos University Teaching Hospital, Jos, Nigeria *Ann Afr Med*. 2011Jan-Mar;10(1):45-50.
6. Fuzan M, Kaymake E, Harmancioglu O, Astarcioglu K. Principal causes of mechanical bowel obstruction in surgically treated adults in Western Turkey. *BJS* 1991; 78: 202-03.
7. Adhikari Souvik, Mohammed Zahid Hossein, Das Amitabha Etiology and Outcome of Acute Intestinal Obstruction: A Review of 367 Patients in Eastern India *Saudi J Gastroenterol*. 2010 October; 16(4): 285–287.
8. Gatsoulis N, Roukounakis N, Kafetzis I, Mavrakis G. Surgical management of large bowel obstruction due to colonic cancer. *Tech colo-proctol*. 2004 Nov; 8 Suppl 1:s82-4.
9. Atish Bansod, Ambrish Shamkuwar, "STUDY OF LARGE BOWEL OBSTRUCTION IN ADULTS" *Journal of Evolution of Medical and Dental Sciences/ Volume 2/ Issue 20/ May 20, 2013*.
10. Robert R. Zaid, Genesys Regional Medical Center, November 30<sup>th</sup>, 2005

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