e-ISSN: 0975-1556, p-ISSN:2820-2643

Available online on www.ijpcr.com

International Journal of Pharmaceutical and Clinical Research 2023; 15(11); 1038-1041

Original Research Article

Assessment of Surgical Profile of Acute Intestinal Obstruction at Tertiary Care Center

Abhishek Jain[1], Dr Dinesh Kumar Badaya[2], Vinita Jain [3], Robin Bothra[4]

[1]Associate professor, Department of Surgery, RD Gardi Medical College & Hospital, Ujjain
[2]Assistant professor, Department of Surgery, Mahatma Gandhi Medical College & Hospital, Jaipur
[3]Associate professor, Department of Pathology, Mahatma Gandhi Medical College & Hospital, Jaipur
[4]Associate professor, Department of Surgery, Mahatma Gandhi Medical College & Hospital, Jaipur

Received: 02-10-2023 / Revised: 18-10-2023 / Accepted: 26-10-2023
Corresponding author: Dr Dinesh Kumar Badaya
Conflict of interest: Nil

Abstract:

Background: Intestinal obstruction is reported as the most common surgical emergencies among all the ages worldwide. Mode of clinical presentation is reported same among all cases but underlying etiology varies among every age group. Acute mechanical Intestinal obstruction reported as the leading causes of hospital admissions in cases of surgical emergency worldwide.

Material & Methods: The present cross-sectional prospective study enrolled 30patients of acute intestinal obstruction, along with patients who had hernia with irreducibility and history of pain, vomiting and constipation of both the genders were enrolled for the study. Written informed consent was taken from each study participant. Clearance from Institutional Ethics Committee was taken before start of study.

Results: In present study, the most common presenting symptom was abdominal pain (30 patients) which was followed by vomiting (26 patients), abdominal distension (25 patients) and constipation (23 patients). The most common sign reported in present study was tachycardia (20 patients) which was followed by tenderness (16 patients) which was followed by visible intestinal peristalsis (8 patients) and the rigidity (14patients). Most common type of obstruction was due to adhesions result from previous surgeries(6 patients) which was followed by obstructed/strangulated external hernia present in(5 patients) of the patients. Bands and volvulus were present in (4 and 3 patients). TB stricture of ileum were found in (3 patients) followed by hirschprung's and intussusception among (2 patients) respectively. Other etiologies found were two cases of mesenteric ischaemia, meckels diverticulum and one case of meconium ileus.

Conclusion: We concluded from the present study that themost common type of obstruction was due to adhesions result from previous surgeries, obstructed/strangulated external hernia, Bands and volvulus, TB stricture of ileum, hirschprung's and intussusception, mesenteric ischaemia, meckels diverticulum and meconium ileus.

Keywords: Intestinal obstruction, Postoperative adhesions, Obstructed/strangulated hernia.

Introduction

Acute Intestinal obstruction is reported as the most common surgical emergencies among all the ages worldwide. Mode of clinical presentation is reported same among all cases but underlying etiology varies among every age group [1]. Acute mechanical Intestinal obstruction reported as the leading causes of hospital admissions in cases of surgical emergency worldwide [2]. Mechanical obstruction is responsible for 5 to 15% of cases out of totalacute abdominal pain requiring hospital admission [3]. Acute intestinal obstruction characterized by interruption in the forward motility of the intestinal contents. This interference can occur at any location or portion along the whole length of the intestinal tract. The clinical symptoms are varying and depends upon the level of obstruction. The most common etiology behind intestinal obstruction are namely intra-abdominal adhesions, intestinal herniation and malignancy [4].

The clinical presentation of acute intestinal obstruction includes nausea, vomiting,colicky abdominal pain, failure to pass flatus and absent bowel movements. This failure in propagation of intestinal motility in acute intestinal obstruction mainly seen due to underlying mechanical and functional pathology [5]. The characteristic physical examination reported abdominal distension, high-pitched bowel sounds, tympanicsounds on percussion. Radiological investigationshelp in establishing the

confirmatory diagnosis.The non-contrast computed tomography is highly specific investigation for confirming the diagnosis despite of suspicion persists after negative radiography [6]. In developing countries, the causes of acute intestinal obstruction are changing in etiology because of better health care infrastructure and facilities and increasing rate of early surgical intervention [7]. The present study was conducted to assesssurgical profile of acute intestinal obstruction at tertiary care center.

Materials & Methods

The present cross-sectionalprospectivestudy was conductedat department of surgeryof ourtertiary care hospital.The study duration was of one year from July 2022 to June 2023. A sample size of 30 was calculated at 90% confidence interval at 5% acceptable margin of error by Epi info software version 7.2. Patientsof acute intestinal obstruction, along with patients who had hernia with irreducibility and history of pain, vomiting and constipation of both the genderswere enrolled for the study. Patients who had sub acute intestinal obstruction and paralytic ileus were excluded from the study. Institutional Ethics Committee Clearance was obtained before start of study and written and informed consent for the procedure was obtained from all the patients. Strict confidentiality was maintained with patient identity and data and not revealed, at any point of time.

Detailed clinical history with general physical examination was doneand recorded in the proforma prepared for this study. Pathological and biochemical investigations were done along with X-ray erect abdomen on all patients. USG and CT abdomen was done in few patients whom X-ray findings were inconclusive. Appropriate surgical procedure was scheduled and after that each patient was followed up for period ranged from 2-6 month. Data were entered in the MS office 2010 spread sheet and Epi Info v7. Data analysis was carried out using SPSS v22. Qualitative data was expressed as percentage (%) and Pearson's chi square test was used to find out statistical differences between the study groups and sensitivity, specificity, positive predictive value and negative predictive value were calculated. If the expected cell count was < 5 in more than 20% of the cells then Fisher's exact test was used. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05and highly significant if p value less than 0.01.

Results

In present study, out of 30 patients who were diagnosed with acute intestinal obstruction were enrolled after written consent. Among the total study participants, 15 (50%) patients were in the age group of 21-40 years, 12 (40%) cases were in the age group of 41-60 years and 3 (10%) patients were in the age group of 61-80 years. The mean age of study participants was 36.53 ± 4.8 years. Out of the total study participants, 24 (80%) patients were male and 06 (20%) patients were female. The mean value of BMI of study participants was 27.22 ± 1.34. However, this distribution was statistically non-significant (P value >0.05).(Table 1).

Table 1: Age and gender wise distribution of the study participants

Parameters			p value
Age (Years)	21-40	15 (50%)	>0.05
	41-60	12 (40%)	
	61- 80	3 (10%)	
Mean age (Years)		36.53 ± 4.8	
Gender	Male	24 (80%)	>0.05
	Female	06 (20%)	
BMI (Mean)		27.22 ± 1.34	

In present study, the most common presenting symptom wasabdominal pain (30 patients) which was followed by vomiting (26 patients), abdominal distension (25 patients) and constipation (23 patients). The most common sign reported in present study was tachycardia (20 patients) which was followed by tenderness (16 patients)which was followed by visible intestinal peristalsis (8 patients) and the rigidity (14patients). (Table 2)

Table 2: Distribution study participants according tosigns and symptoms

Symptoms and signs	Number of cases
Pain abdomen	30
Vomiting	26
Distension	25
Constipation	23
Tachycardia	20
Tenderness	16
Rigidity	14
Visible peristalsis	08

In present study, most common type of obstruction was due to adhesions result from previous surgeries (6 patients) which was followed by obstructed/strangulated external hernia present in(5 patients) of the patients. Bands and volvulus were present in (4 and 3 patients). TB stricture of ileum were found in (3 patients)followed by hirschprung's and intussusception among (2 patients) respectively. Other etiologies found were two cases of mesenteric ischaemia, meckels diverticulum and one case of meconium ileus.(Table 3).

Table 3: Distribution study participants according toetiology

Etiology	Number of cases
Post-operative adhesions	06
Obstructed hernia	05
Bands	04
Volvulus	03
TB stricture of ileum	03
Hirschprung's	02
Intussusception	02
Mesentric ischemia	02
Meckels diverticulum	02
Meconium ileus	01

Discussion

In present study, out of 30 patients who were diagnosed with acute intestinal obstruction were enrolled after written consent. Among the total study participants, 15 (50%) patients were in the age group of 21-40 years, 12 (40%) cases were in the age group of 41-60 years and 3 (10%) patients were in the age group of 61-80 years. Out of the total study participants, 21 (70%) patients were male and 09 (30%) patients were female. The mean age of study participants was 36.53 ± 4.8 years. Out of the total study participants, 21 (70%) patients were male and 09 (30%) patients were female. The mean value of BMI of study participants was 27.22 ± 1.34. However, this distribution was statistically non-significant (P value >0.05). Similar results were obtained in a study conducted by Cole G et al among 436 cases on acute intestinal obstruction and found that the most common age group reported to be affected was 31–40 years as found in present study (8). Similar results were obtained in a study conducted by Adhikari S et al among 367 cases on acute intestinal obstruction and found that the most common age group reported to be affected was 41–50 years [9].

In present study, the most common presenting symptom wasabdominal pain (30 patients) which was followed by vomiting (26 patients), abdominal distension (25 patients) and constipation (23 patients). The most common sign reported in present study was tachycardia (20 patients) which was followed by tenderness (16 patients)which was followed by visible intestinal peristalsis (8 patients) and the rigidity (14patients). Similar results were obtained in a study conducted by Thampi D et al among 50 cases on acute intestinal obstruction and found that the most common presenting symptom wasabdominal painwhich was followed by vomiting, abdominal distensionand constipation [10].Similar results were obtained in a study conducted by Akrami M et al among 411 cases on acute intestinal obstruction and found that the most common presenting symptom wasabdominal painwhich was followed by vomiting and abdominal distension [11].

In present study, most common type of obstruction was due to adhesions result from previous surgeries(6 patients) which was followed by obstructed/strangulated external hernia present in(5 patients) of the patients. Bands and volvulus were present in (4 and 3 patients). TB stricture of ileum were found in (3 patients) followed by hirschprung's and intussusception among (2 patients) respectively. Other etiologies found were two cases of mesenteric ischaemia, meckels diverticulum and one case of meconium ileus. Similar results were obtained in a study conducted by Khan J et al among 100 cases on acute intestinal obstruction and found that themost common type of obstruction was due to adhesions result from previous surgeries which was followed by obstructed/strangulated external hernia [12].

Conclusion

We concluded from the present study that themost common type of obstruction was due to adhesions result from previous surgeries, obstructed/strangulated external hernia, Bands and volvulus, TB stricture of ileum, hirschprung's and intussusception, mesenteric ischaemia, meckels diverticulum and meconium ileus. Clinical findings along with radiological and operative findings corelated to better prognosis and outcome of intestinal obstruction.

References

1. Jackson PG, Raiji MT. Evaluation and management of intestinal obstruction. Am Fam Physician [Internet]. 2011 Jan 15;83(2):159–65.
2. Hucl T. Acute GI obstruction. Best Pract Res Clin Gastroenterol [Internet]. 2013 Oct;27(5):691–707.
3. Bauer J, Keeley B, Krieger B, Deliz J, Wallace K, Kruse D, et al. Adhesive Small Bowel

Obstruction: Early Operative versus Observational Management. Am Surg [Internet]. 2015 Jun [cited 2019 Jun 29];81(6):614–20.
4. Jackson P, Vigiola Cruz M. Intestinal Obstruction: Evaluation and Management. Am Fam Physician [Internet]. 2018 Sep 15;98(6):362–7.
5. Loftus T, Moore F, VanZant E, Bala T, Brakenridge S, Croft C, et al. A protocol for the management of adhesive small bowel obstruction. J Trauma Acute Care Surg [Internet]. 2015 Jan;78(1):13–21.
6. Bilderback PA, Massman JD, Smith RK, La Selva D, Helton WS. Small Bowel Obstruction Is a Surgical Disease: Patients with Adhesive Small Bowel Obstruction Requiring Operation Have More Cost-Effective Care When Admitted to a Surgical Service. J Am Coll Surg [Internet]. 2015 Jul;221(1):7–13.
7. Ogunrinde TJ, Dosumu OO, Shaba OP, Akeredolu PA, Ajayi MD, Adejumo A. The influence of the design of mandibular major connectors on gingival health. Afr J Med Med Sci [Internet]. 2014 Mar;43(1):29–33.
8. Cole GJ. A review of 436 cases of intestinal obstruction in Ibadan. Gut [Internet]. 1965 Apr 1;6(2):151–62.
9. Adhikari S, Hossein MZ, Das A, Mitra N, Ray U. Etiology and outcome of acute intestinal obstruction: a review of 367 patients in Eastern India. Saudi J Gastroenterol [Internet]. 2010;16(4):285–7.
10. Deepak Thampi, Vinayak N Tukka, Nagaraj Bhalki, Sreekantha, Remya AS. A Clinical Study of Surgical Management of Acute Intestinal Obstruction. Int J Res Heal Sci [Internet]. 2014 Jan 8;2(1):299–308.
11. Akrami M, Ghaeini Hesarooeih A, Barfei M, Zangouri V, Alborzi Z. Clinical Characteristics of Bowel Obstruction in Southern Iran; Results of a Single Center Experience. Bull Emerg trauma [Internet]. 2015 Jan;3(1):22–6.
12. Khan JS, Alam J, Hassan H IM. Pattern of intestinal obstruction a hospital based study. Pakistan Armed Forces Med J [Internet]. 2007 Dec 31;57(4):295–9.