ORIGINAL ARTICLE

Most Common Cause of Intestinal Obstruction in our Set Up

LIAQAT ALI ZIA, AJMAL FAROOQ, IMRAN AMIN, *ALI RAZA*

ABSTRACT

Aim: To establish the main cause of intestinal obstruction in our set up.
Study design: Descriptive study,
Place & duration of study: Surgical unit 1, University Teaching Hospital Gujranwala from January 2014 to June 2015
Methods: This Study included patients admitted in General Surgery Ward, with acute intestinal obstruction. Detailed history, physical examination and necessary investigations (baseline, and x-ray abdomen erect and supine in all cases and ultrasound and CT scan in selected cases) were carried out. Informed written consent was taken from every patient and was counseled about his or her condition and prognosis. After resuscitation all patients were explored through midline laparotomy incision. Operative information of every case was recorded on proforma.
Results: Frequency and pattern of different causes of intestinal obstruction were recorded and analyzed. Total number of patients was 250. Male patients were 148(59.2%) while female were 102 (40.8%). Ileus secondary to intraperitoneal sepsis was noted in 78(31.2%) cases, , ileus due to ileal gangrene in 18(7.2%), volvulus in 48(19.2%), tumours in 32(12.8%), hernias in 28(11.2%), Ileal stricture in 17(6.8%), feacal impaction in 16(6.4%) and adhesion in 9(3.6%) patients. No definite cause was found in 4(1.6%) cases. Adynamic obstruction due to intraperitoneal sepsis has come out to be the most common cause of intestinal obstruction. Volvulus and tumour were not uncommon, but hernias and adhesions were seen less frequently
Conclusion: Adynamic obstruction caused by different pathologies like intraperitoneal sepsis and paralytic ileus due to unknown cause are causing intestinal obstruction in many more number of cases. Volvulus and tumors are also common but hernias and adhesions have been found relatively less frequently.
Keywords: Intestinal obstruction, ileal gangrene, volvulus, intraperitoneal sepsis

INTRODUCTION

Intestinal obstruction is defined as any hindrance to the passage of intestinal contents.It is one of the most common conditions resulting into hospital admissions. The clinical features of intestinal obstruction include abdominal pain, vomiting, distention and absolute constipation. Intestinal obstruction may be of acute or chronic onset. It may be classified as dynamic (mechanical) and adynamic obstruction (paralytic ileus and pseudo-obstruction). It may also be classified as small and large bowel obstruction.

The etiology of small bowel obstruction varies with different geographical locations. In the developing world, external hernias account for more than half of all cases of small bowel obstruction, whereas in the UK and USA the most common cause of small bowel obstruction is adhesions resulting from previous surgery.

Other causes of small bowel obstruction include neoplasms, inflammatory bowel disease, internal hernias, volvulus and a variety of small bowel strictures.Large bowel obstruction may be caused by cancer, diverticulitis, volvulus or feacal impaction.

The purpose of this study was to find out the most common cause of the conditions leading to acute small bowel and large bowel obstruction in the given setting. This will highlight the commonest causes of intestinal obstruction in the geographical location of the study which will suggest measures for prevention and treatment of the condition.

MATERIAL AND METHOD

The study was conducted in Surgical Unit 1, University Teaching Hospital ,Gujranwala Medical College ,Gujranwala from January 2014 to June 202015. Patients admitted with acute intestinal obstruction were included in the study. Detailed history, physical examination and necessary investigations (baseline, and x-ray abdomen erect and supine in all cases and ultrasound and CT scan in selected cases) were carried out. Informed written consent was taken from every patient and was counseled about his or her condition and prognosis. After resuscitation all patients were explored through

---

Department of Surgery, University Teaching Hospital ,Gujranwala Medical College Gujranwala
Correspondence to Dr Liaqat Ali Zia,Associate Professor Email: liaqataliz@yahoo.com cell no 03018742901

midline laparotomy incision. Operative information of every case was recorded on proforma. Frequency and pattern of different causes of intestinal obstruction were recorded and analyzed.

RESULTS

In this study a total of 250 patients with acute intestinal obstruction were received. Male patients were 148(59.2%) while female were 102(40.8%). Male to female ratio was 1:1.45 as shown in fig.1. A total of 82 patients belonged to 20 years or less age group, 56 patients were from 21-30 years, 38 patients from 31-40 years age group, 24 from 41-50 years and 50 were of above 50 years age group as shown in fig.2

Patients with dynamic obstruction were 168and with adynamic obstruction were 82.In 4 patients no definite cause was established because either death or relief of obstruction. Among those who had dynamic obstruction, 102 patients were found to have small bowel obstruction (25cases of inguinal hernias, 10 cases of para-umbilical hernia,30cases of ileal strictures, 12 cases of small bowel tumors and 25 cases of ileal bands adhesion) and 66 had large bowel obstruction (30cases of sigmoid volvulus, 10 of cecal volvulus, 29 of large bowel tumor, 7 of faecal impaction).

Out of those 82 patients with adynamic obstruction there were 69cases of intraperitoneal sepsis (30perforated duodenal ulcers, 25 cases of peritonitis due to perforation in ileum, 10 cases of post-operative pelvic collection or abscess and 4 case of intraperitoneal sepsis due to retained gauze) and 9 cases of gangrene of ileum and in 4 cases no obvious cause of paralytic ileus was found.

Fig. 1: Gender wise distribution in intestinal obstruction

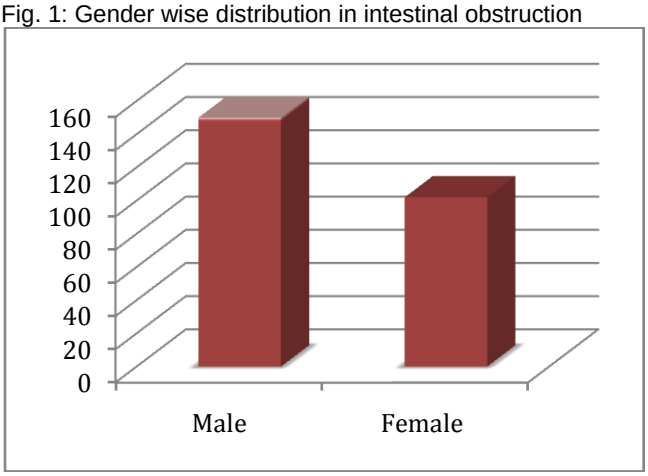
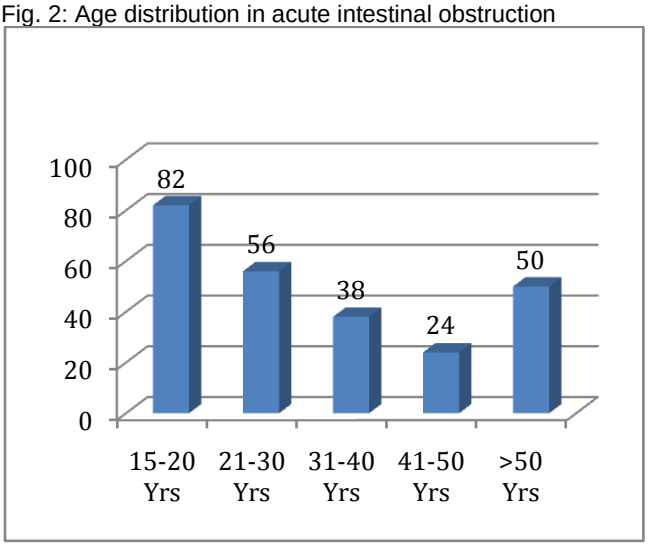


Fig. 2: Age distribution in acute intestinal obstruction



Dynamic obstruction		Adynnamic obstruction	
Diagnosis	**n**	**Diagnosis**	**n**
Sigmoid colon	30(17.85%)	Ileal perforation	25 (30.48%)
Large gut tumors	29(17.26%	Duodenal perforation	30(36.58%)
Ileal stricture	25(14.88%)	Pelvic abscess	10(12.19%)
Fecalimpaction	7(4.16%)	Post op retained gauze	4(4.87%)
Paraumblical hernia	10(5.95%)	Ileal gangrene	9(10.97%)
Caecal volvulus	10(5.95%)	Paralytic ileus (unknown cause)	4(4.87)
Small gut tumors	12(7.14%)		
Inguinal hernia	15(8.92%)		

DISCUSSION

The spectrum of etiology of acute intestinal obstruction has been an issue of research in many developed and developing countries. Review of the available literature shows that the spectrum of causes of intestinal obstruction varies demographically[10,11]. According to Muyembe[12] five leading causes of intestinal obstruction in Nyeri, Kenya, are: sigmoid volvulus, external herniae, adhesions and bands, ileocolic intussusception and small bowel volvulus. Another study[13] from a developing country has described adhesions (75%) and neoplasms (11%) to be the most common causes. Another study[15] from Greece has described Adhesions, hernias, and large bowel cancer to be the most common causes of intestinal obstruction. However this study considered only the mechanical

causes. A study carried out in Poland has described hernias and adhesions to be most common cause[16]. A study[17]done in Chandi Gharh India has described adhesions and hernias to be the most common and second most common cause of intestinal obstruction respectively. The local studies done in Pakistan have different stories to tell. According to Mehmood Z[18], Ismail[19], Zahra T[20]. Tuberculosis is the most common cause of intestinal obstruction. Others[21,22,23] have considered only mechanical bowel obstruction in their studies and they have found adhesions, and tuberculosis to be the most common causes in their studies respectively. According to Jehandgir et al[24] hernias followed by adhesions were the most common cause of obstruction.

In the present study a spectrum of etiology of acute intestinal obstruction was observed which is quite different from both trends. The most common cause of acute intestinal obstruction observed in the present study came out to be adynamic obstruction caused by different pathologies like intraperitoneal sepsis due to viscus perforation and paralytic ileus due to unknown cause etc. Results of the present study show that neither hernias nor the adhesions are common as etiology of intestinal obstruction in our set-up, however tumors are as commonly present in this location as in other areas.

Sigmoid volvulus also presents here quite commonly as in other areas, though, perhaps a little more frequently than other areas. However the most striking observation of the fact that adynamic obstruction has caused the biggest percentage of cases warrants some attention. This observation might just indicate higher prevalence of infective diseases causing perforation in this location e.g. typhoid fever, tuberculosis etc. It may also indicate that many of the peptic ulcer cases are not being adequately treated pharmacologically leading to higher number of complicated peptic ulcer disease. Does it also mean that hernias are being adequately treated in time, these days?

CONCLUSION

In our set up a different pattern of causes of acute intestinal obstruction has been observed in the present study indicating that adynamic obstruction caused by different pathologies like intraperitoneal sepsis (typhoid perforations, perforated ulcers and abscesses) and paralytic ileus due to unknown cause are causing intestinal obstruction in many more number of cases than showed by most other studies. Volvulus and tumors are also common but hernias and adhesions have been found relatively less frequently.

REFERENCES

1. Archampong EQ, Naaeder SB, Darko R. Changing pattern of intestinal obstruction in Accra, Ghana. Hepatogastroenterol 2000;47(31):185-93.
2. Russel RCG, William NS, Bulstrode CJK. Bailey and Love's Short Practice of Surgery. 24th ed. London; Arrnold; 2004.
3. Cuschieri A, Steele RJC, Moossa AR. Essential Surgical Practice.4th ed. New York: Oxford University Press; 2002.
4. Kirk RM. General Surgical Operations. 4th ed. London: Churchill Livingstone; 2000.
5. Ellis BW, Patterson-Brown S. Hamilton and Bailey's Emergency Surgery.14th ed. London : Arnold; 2003.
6. Klingensmith ME, Amos KD, Green DW, Halpin VJ, Hunt SR. The Washington Manual of Surgery. 5th ed. Philadelphia : Lippincott Williams and Wilkins; 2005.
7. Lopez-Kostner F; Hool GR; Lavery IC. Management and causes of acute large-bowel obstruction. Surg Clin North Am 1997; 77(6):1265-90
8. Nemes R, Vasile I, Curca T, Paraliov T, Pasalega M, Mesina C, et al. Acute bowel obstruction - the main complication of colorectal cancer. Therapeutical options. Rom J Gastroenterol 2004; 13(2):109-12.
9. Espinoza R, BalbontÃ n P, Feuerhake S, PiÃ±era C. Acute abdomen in the elderly. Rev Med Chil 2004; 132(12):1505-12.
10. Ohene-Yeboah M, Adippah E, Gyasi-Sarpong K. Acute intestinal obstruction in adults in Kumasi, Ghana. Ghana Med J 2006;40 (2):50- 4.
11. Lawal OO, Olayinka OS, Bankole JO. Spectrum of causes of intestinal obstruction in adult Nigerian patients. S Afr J Surg 2005;43(2):34-6.
12. De la Garza-Villaseñor L. [Etiology ofintestinal occlusion]. Rev Gastroenterol Mex 2001;66(4):193-6.
13. Muyembe VM, Suleman N. Intestinal obstruction at a provincial hospital in Kenya. East Afr Med J 2000;77(8):440-3.
14. Dervisoglou A, Condilis N, Liveranou S, Pinis S. A causal factors and treatment of obstructive ileus in 369 patients. Ann Ital Chir 2005;76(5):477-80.
15. Markogiannakis H, Messaris E, Dardamanis D, Pararas N, Tzertzemelis D, Giannopoulos P et al. Acute mechanical bowel obstruction: clinical presentation, etiology, management and outcome. World J Gastroenterol 2007;13(3):432-7.
16. Wysocki A, Krzywoñ J. [Causes of intestinal obstruction]. Przegl Lek 2001;58(6):507-8.
17. Sinha S, Kaushik R, Yadav TD, Sharma R, Attri AK. Mechanical bowel obstruction: The Chandigarh experience. Trop Gastroenterol 2002;23(1):13-5.
18. Mehmood Z, Aziz A, Iqbal M, Sattar I, KhanA. Causes of intestinal obstruction: A study of 257 patients. J Surg Pakistan 2005;10(1):17-9.
19. Ismail, Khan M, Shah AN. Pattern of dynamic intestinal obstruction in adults. J Postgrad Med Inst 2005;19(2):157-61.
20. Zahra T, Sultan N. Prevalence of intestinal Tuberculosis amongst cases of bowel obstruction. Pak J Surg 2004;20(2):82-5.
21. Chaudry AK, Azam M. An etiological spectrum of mechanical Intestinal Obstruction: A study at Lahore Garrison. Pak Armed Forces Med J 2004;54(1):
22. Ahmad M, Mahmood TR, Ansari AS, Ahmad I, Ahmad M. Spectrum of Mechanical Intestinal Obstruction in Adults. J Surg Pakistan 2001;6(4):19-21.
23. Baloch NA, Babar KM, Mengal MA, Babar SAA. Spectrum of mechanical Intestinal Obstruction. J Surg Pakistan 2002;7(1):7-9.