Original Article

Small Bowel Obstruction

Current Pattern and Diagnosis of Small Bowel Obstruction in the Patients of Rural Areas

1. Mushtaque Ahmed Abbasi 2. Javeria Farid 3. Rafique Ahmed Sahito 4. Muhammad Saeed

1. Asstt. Prof. of Surgery, PUM&HS, Nawabshah 2. Senior Registrar of Surgery, University Hospital Hyderabad
3. Asstt. Prof. of Surgery, PUM&HS, Nawabshah 4. MBBS, Liaquat University Hospital Hyderabad

ABSTRACT

Objective: Objective of this study to determine the clinical presenting factors including diagnosis and risk factors of the patients those admitted with small bowel obstruction.
Study Design: Observational study
Place and Duration of Study: This study was carried out at the Departments of General Surgery, Peoples Medical University and Health Science Nawabshah and Isra University Hospital Hyderabad from March 2013 to Aug 2013.
Materials and Methods: After admission detailed history, physical examination, ultrasound, X-ray abdomen erect and supine and all routine baseline laboratory investigations were carried out. CT scan was done in the selected patients. Final diagnosis was done by laparotomy which was attempted after thorough initial assessment and investigations.
Results: Total 50 patients were included in the study of the rural areas of the Sindh, from all of them male were in majority. On the clinical presenting features Nausea, Constipation and Abdominal pain were most common with the percentage of 92%, 80% and 78% while other presenting features as; Vomiting, Abdominal tenderness, Abdominal distension, Fever, Epigastrium pain, Rectal bleeding and Rebound tenderness were with the percentage of 40%, 42%, 22%, 38%, 30%, 16%, 10% and 26% respectively. On the diagnosis adhesion was found as most common.
Conclusions: In the conclusion of this study adhesion found as most common and leading cause of small bowel obstruction.
Key Words: Asthma, Triggers, Children

INTRODUCTION

Small bowel obstruction is a very common surgical emergency.[1] It is estimated for 20% of surgical admissions[2] and is a very common cause of morbidity almost the world.[3] Successful treatment contains early and perfect diagnosis.[4] The complete diagnostic methodology regarding history, radiological investigation and physical examination.[5] CT scans are supposed to have superior assessment and the aid treatment of bowel obstruction having newly increased more popularity.[6] While CT has showed very great efficacy in identifying the small bowel obstruction, according to the reports of studies a sensitivity great as 93%, the specificity of equal to 100% and accuracy round about 94% in the diagnosis small bowel obstruction,[7] some reports showed that more significant role of CT scans lies in demonstrate etiology and severity of obstruction slightly than diagnosing of it.[8] CT scans can exactly shows the sits, severity and level of obstruction[9] and also been shown to be sensitive for signs of the strangulation and volvulus.[10,11] According to Etiology the patterns of intestinal obstruction had changed over the years. In 1920s hernias were responsible for 50% intestinal obstruction of the cases and 7% adhesions.[12] Now a day's adhesions are accountable for 65% of the cases.[3] Therefore intestinal obstructions due to adhesion supposed as diagnosis of exclusion till the now.[8] The commonest limitation of the CT scans is its inability to evaluate the adhesions.[7] In the Pakistan, where health care resources are already limited and peoples are the self financed, the CT scan represents a significant undertaking. It is hypothesized that CT scans with the great accuracy at diagnosing mechanical bowel obstruction. Purpose of this to determine the clinical presenting factors along with diagnosis and risk factors of the patients those admitted with small bowel obstruction at surgical unit of Peoples University Hospital Nawabshah.

MATERIALS AND METHODS

This observational study was contains 50 patients and was carried out at peoples medical university and health science Nawabshah and Isra University Hospital Hyderabad. All the patients of rural areas of the sindh were included in the study. Study was carried out with the duration of six month from March 2013 to Aug 2013 at the department of general surgery. All the patients with small bowel obstruction on the basis of singe and symptoms were selected and admitted for the complete diagnosis. After admission detailed history, physical examination, ultrasound, X-ray abdomen erect and supine and all routine baseline laboratory

investigations were carried out. CT scan was done in the selected patients. Final diagnosis was done by laparotomy which was attempted after thorough initial assessment and investigations. A written consent was taken from all the patients and also counseled all the patients from risk of the disease. All presenting features cause and diagnosis were noted on the Performa. Data was analyzed on SPSS program version 16.0.

RESULTS

Total 50 patients were included in the study, from all of them male were in majority 64% as compare to females 36%. Most common age group was 32-45 of the age with 44%; second most common age group was 15-30 years of the age. Table No. 1.

On the clinical presenting features Nausea, Constipation and Abdominal pain were most common with the percentage of 92%, 80% and 78% while other presenting features as; Vomiting, Abdominal tenderness, Abdominal distension, Fever, Epigastrium pain, Rectal bleeding and Rebound tenderness were with the percentage of 40%, 42%, 22%, 38%, 30%, 16%, 10% and 26% respectively. Table No. 2.

On the diagnosis adhesion was found as most common 49% while other diagnosis were as, obstructed hernia, abdominal TB, volvulus, malignancy, Ischaemia, intra abdominal abscess, perforation and ilial stricture with the percentage of 5%,3%,35,10%, 8%,6% and 9% respectively. Figure No.1

Table No.1: Basic characteristics of the patients (n=50)

Characteristics	No of patients/ percentage
Male	32/ (64%)
Females	18/ (36%)
Age groups	
15-30	16/ (32%)
31-45	22/ (44%)
46-60	10/ (20%)
<60	02/ (4%)

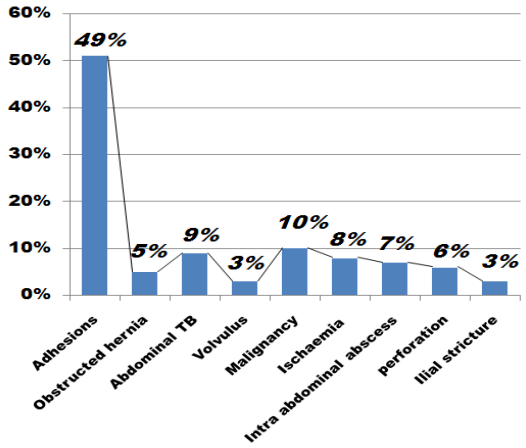

Figure No.1: Diagnosis/ causes of obstruction. N=50

Table No.2: Clinical features of the patients. (n=50)

Features	Frequency	%age
Constipation	40	80%
Vomiting	20	40%
Abdominal pain	39	78%
Abdominal tenderness	21	42%
Abdominal distension	11	22%
Fever	19	38%
Epigastrium pain	15	30%
Rectal bleeding	08	16%
Nausea	05	10%
Rebound tenderness	46	92%
	13	26%

DISCUSSION

Small bowel obstruction is one of the major surgical emergencies. In the present study male were in majority 64% as compare to females 36%. Most common age group was 32-45 of the age with 44%; second most common age group was 15-30 years of the age. Similarly in the study of Naseer Ahmed Baloch et al,[13] reported that male were in the majority and the mean age of the patients was 37.4. Similar results were also found in the study of Safir Ullah et al.[14]

In the above mentioned study of Naseer Ahmed Baloch et al,[13] reported clinical presentation as; abdominal pain, vomiting, constipation, abdominal distension, abdominal tenderness, rebound tenderness, fever, shock, weight loss and bleeding per rectum with the percentage 95.2, 88.9, 84.1, 79.4, 82.1, 82.1, 12.3, 55.2, 39.3 and 23.4 respectively, as well as in the present series nausea, constipation and abdominal pain were most common with the percentage of 92%, 80% and 78% while other presenting features as; vomiting, abdominal tenderness, abdominal distension, Fever, epigastrium pain, Rectal bleeding and Rebound tenderness were with the percentage of 40%, 42%, 22%, 38%, 30%, 16%, 10% and 26% respectively. Clinical features of the Muhammad Saleem Sheikh et al,[15] can be compared with this study.

According to Muyembe[16] 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 from a developing country has described adhesions (75%) and neoplasms (11%) to be the most common causes.[15] From Greece has described Adhesions, hernias, and large bowel cancer to be the most common causes of intestinal obstruction.[17] In the present series adhesion was found as most common 49% while other diagnosis were as, obstructed hernia, abdominal TB, volvulus, malignancy, Ischaemia, intra abdominal abscess, perforation and ilial stricture with the percentage of 5%,3%,35,10%, 8%,6% and 9% respectively. Many local conducted in Pakistan have different reports, according to Mehmood Z et al[18], Ismail et al[19], Zahra T et al,[20] reported that Tuberculosis

is the most common cause of intestinal obstruction. Others [21-23] have mentioned that only mechanical bowel obstruction according to their studies and they have also reported that adhesions and tuberculosis to be the most common causes in their studies respectively. According to Jehandgir et al[24] mentioned that hernias and adhesions were the most common cause of obstruction.

CONCLUSION

In the conclusion of this study adhesion found as most common and leading cause of small bowel obstruction, mostly cases of this study were late diagnosed because they belongs with rural areas where good medical facilities are very short. This should be quick diagnosed to prevent the increased morbidity and mortality, in the condition of delay in the diagnosis of mortality rate can increase.

REFERENCES

1. Miller G, Boman J, Shrier I, Gordon PH. Natural history of patients with adhesive small bowel obstruction. Br J Surg 2000;87:1240-7.
2. Petrovic B, Nikolaidi P, Hammond N, Grant TH, Miller FH. Identification of adhesions on CT in small-bowel obstruction. Emerg Radio 2006;12: 88-93; discussion 94-85, 2006.
3. Markogiannakis H, Messaris E, Dardamanis D, Pararas N, Tzertzemelis D, GiannopoulosP, et al. Acute mechanical bowel obstruction: clinical presentation, etiology, management and outcome. World J Gastroenterol 2007;13:432-7.
4. Cheadle WG, Garr EE, Richardson JD. The importance of early diagnosis of small bowel obstruction. The Am Surg 1988;54: 565-9.
5. Silva AC, Pimenta M, Guimaraes L S. Small bowel obstruction: what to look for. Radio Graphics 2009;29: 423-9.
6. Frager D. Intestinal obstruction role of CT. Gastroenterol Clin North Am 2002;31: 777-9.
7. Torreggiani WC, Harris AC, Lyburn ID, al-Nakshabandi NA, Zwirewich CV, Brenner C, et. al. Computed tomography of acute small bowel obstruction: pictorial essay. Can Assoc Radiol J 2003;54: 93-9.
8. Burkill G, Bell J, Healy J. Small bowel obstruction: the role of computed tomography in its diagnosis and management with reference to other imaging modalities. Eur Radiol 2001;11: 1405-22.
9. Mak SY, Roach SC, Sukumar SA. Small bowel obstruction: computed tomography features and pitfalls. Curr Probl Diagn Radiol 2006; 35: 65-74.
10. Donckier V, Closset J, Van Gansbeke D, Zalcman M, Sy M, Houben JJ, et. al. Contribution of computed tomography to decision making in the management of adhesive small bowel obstruction. Br J Surg 1998; 85: 1071-4.
11. Barbiera F, Ciraulo R, Cusma S, Pardo S, and Lo Casto, A. [Closed loop intestinal obstruction: role of computerized tomography]. Radiol Med 1999; 97: 54-9.
12. Hasnain SQ, Ahmed M. Intestinal obstruction in adults at the Aga Khan University Hospital. J Pak Med Assoc 1994; 44:143-5.
13. Baloch NA, Mohammad D, Qureshi SA. Current Pattern of Mechanical Intestinal Obstruction In Adults. J of Surg Pak (Int) 2011;16;(1);38-40.
14. Shaikh MS, Dholia KR, Soomro SH, Abro AA, et al. Current spectrum of acute intestinal obstruction at CMC Larkana. Med Chanal J 2010;16;2;295-98.
15. Ullah S, Khan M, Mumtaz N, Naseer A. Intestinal obstruction: a spectrum of causes. JPMI 2009; 23(2);188-192.
16. Muyembe VM, Suleman N. Intestinal obstruction at a provincial hospital in Kenya. East Afr Med J 2000;77(8):440-3.
17. 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
18. Mehmood Z, Aziz A, Iqbal M, Sattar I, Khan . A. Causes of intestinal obstruction: A study of patients. J Surg Pak 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 . Anetiological spectrum of mechanical Intestinal Obstruction: A study at Lahore Garrison. Pak Armed Forces Med J 2004;54(1):19-24.
22. Ahmad M, Mahmood TR, Ansari AS, Ahmad I, Ahmad M. Spectrum of Intestinal Obstruction in Adults. J Surg Pak 2001;6(4):19-21.
23. Baloch NA, Babar KM, Mengal MA, Babar SAA. Spectrum of mechanical Intestinal Obstruction. J Surg Pak 2002;7(1):7-9.
24. Khan JS, Alam J, Hassan H, Iqbal M. Pattern of intestinal obstruction a hospital based study. Pak Armed Forces Med J 2007;57(4):295-9.