

Case Report

An unusual cause of sub-acute intestinal obstruction

M. S. Ray, B. S. Deepak*

Department of Surgery, Military Hospital, Jalandhar Cantt, Jalandhar, Punjab, India

Received: 03 August 2016

Accepted: 03 September 2016

***Correspondence:**

Dr. Deepak B.S.,

E-mail: deepaksatyapal@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

SAIO implies incomplete obstruction. It is one of the important causes of morbidity and mortality in the surgical practice. The latter is true in patients presenting as sub-acute intestinal obstruction (SAIO) with atypical features that cause delay in diagnosis. Diagnosis is difficult, and in about 50% of cases it is made intra-operatively. Delayed diagnosis, co-morbidities and advanced age are the causes of the high related mortality rate (7.5-15%).

Keywords: Fistula, Gall stones, Sub-acute intestinal obstruction, Vomiting

INTRODUCTION

Sub-acute intestinal obstruction is an enigma. Intestinal obstruction can be defined as impairment to the abnormal passage of intestinal contents that may be due to either mechanical obstruction or failure of normal intestinal motility in the absence of an obstructing lesion.¹ Intestinal obstruction is the most common surgical disorder of the small intestine.^{2,3} SAIO implies incomplete obstruction. It is one of the important causes of morbidity and mortality in the surgical practice. The latter is true in patients presenting as sub-acute intestinal obstruction (SAIO) with atypical features that cause delay in diagnosis. Diagnosis is difficult, and in about 50% of cases, it is made intra-operatively. Delayed diagnosis, co-morbidities and advanced age are the causes of the high related mortality rate (7.5-15%).

CASE REPORT

A 65-year old diabetic female, presented to the Emergency Department, with complaints of spasmodic upper abdominal pain, large volume bilious vomiting and absolute constipation of 3 days duration. She had no prior history of abdominal surgery or trauma. The patient didn't smoke or drink alcohol. There was no previous history of gallstone disease.

On examination, she was found to be conscious, dehydrated, afebrile, tachycardiac (100 bpm) and

normotensive. Abdominal examination revealed mild tenderness in the epigastrium with succussion splash. There were no visible masses or organomegaly. The hernial sites were free. Rectal examination was normal.

Laboratory examination showed hemoglobin of 14 g/dl, leucocytes of 12000 cells per cubic millimeter, blood urea 0.8 g/dl, and a normal liver function profile. Patient's electrolytes were deranged with features of hypokalemic. An abdominal X-ray showed no small bowel air-fluid levels. A nasogastric tube was placed with return of 2 L bilious fluid.

Ultrasonography of abdomen and pelvis was normal. An upper GI endoscopy revealed severe duodenitis and gastritis. There was no mention of any cause of obstruction such as GOO (gastric outlet obstruction) and duodenal obstruction.

A CEET abdomen was done which revealed dilated stomach, duodenum and 10 cm of proximal jejunum with a water density intraluminal filling defect in the jejunum of size 30x27x47 mm which did not show any enhancement post contrast study (Figure 4 and 5). With a working diagnosis of upper GI obstruction, probably, GIST (gastro-intestinal stromal tumor), polyp. An exploratory laparotomy was planned.

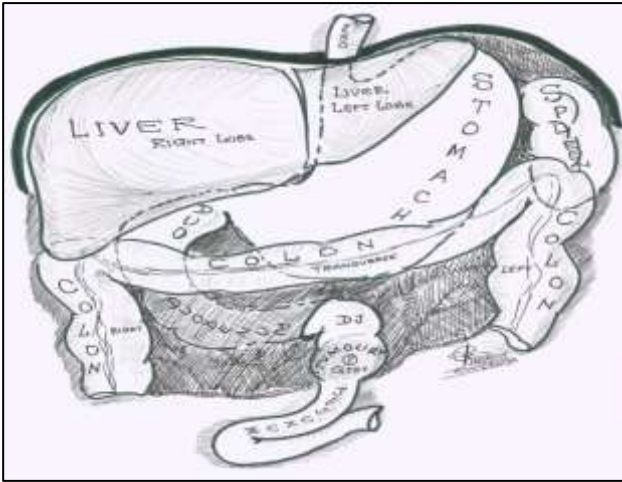


Figure 1: Intra op-view.



Figure 4: Axial view of CECT abdomen showing large mass in the jejunum.

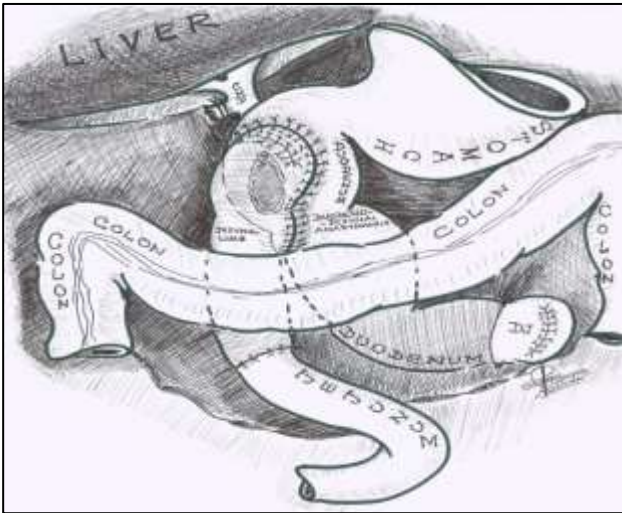


Figure 2: View post corrective surgery.



Figure 5: Sagittal view of CECT abdomen showing large mass in the jejunum.



Figure 3: Cut specimen of dilated jejunum with large gall stone.



Figure 6: Large gall stone.

Operative findings

On exploratory laprotomy

- A grossly dilated stomach and duodenum up to 07 cm distal to the duodeno-jejunal junction (sketch 1).
- Palpable mass about 05 cm diameter- firm to hard in consistency felt 07-08 cm distal to the duodeno-jejunal junction (DJ). The mass was a large gall stone of size 4X6 cm.
- Liver, spleen, para-aortic lymph nodes were normal.
- No ascites, no regional lymph node present.
- Incidentally detected small fibrosed gall bladder buried in dense adhesion in morrison's pouch with cholecysto-duodenal fistula.

Operative procedure

Exploratory laprotomy with resection of jejunum bearing the mass, 07 cm from DJ, excision of cholecysto-duodenal fistula, partial cholecystectomy with duodeno-jejunal side-to-side anastomosis was carried out and abdominal drains were placed (Figure 2). Post-operative specimen revealed a large Gall stone of 04X06 cm size (Figure 3 and 6).

Postoperatively the patient was given broad spectrum antibiotics. The post-operative period was uneventful, wound was healthy and the patient was discharged on 15th post op day.

DISCUSSION

Gallstone ileus (GI) is a mechanical obstruction caused by one or more large gallstone within the bowel. It accounts for 1-4% of all cases of mechanical intestinal obstruction, mainly in the elderly, with a female to male ratio of 3.5-6.0:1.^{4,6}

Recurrent inflammations due to gallstones determine the onset of bilio-enteric fistula.^{7,9} The most common fistulas are between the gallbladder and duodenum (60%-86%), ileum and colon, while a fistulous tract with stomach is very rare.

The terminal ileum and the ileocecal valve are the most frequent sites of impaction (50%-75%), followed by proximal ileum and jejunum (20%-40%), stomach, duodenum (10%). The impaction of a gallstone in the proximal jejunum 07 cm distal to DJ, as occurred in our experience, represents a rare event.^{7,10}

Clinical presentation of GI, due to the intestinal obstruction, depends on the site of impaction and it may be acute, intermittent or chronic.⁸ The most common symptoms include nausea, vomiting and epigastric pain.

Diagnosis of GI is difficult, and in about 50% of cases is intraoperative. Diagnostic accuracy of plain abdominal film is about 50%, although only 10% of gallstones are

sufficiently calcified to be radiographically visualized.¹⁰ Classic findings include: pneumobilia, intestinal obstruction and aberrant gallstone location (Rigler's triad). The presence of at least two of these three signs is considered pathognomonic and is described in 40%-50% of cases.¹⁰

Ultrasound, associated to a plain abdominal film, can be used to confirm the pre-operative diagnosis, showing cholelithiasis, and in some cases also fistula may be suspected.^{11,12}

Computed tomography (CT) scanning has been reported to offer prompt and rapid pre-operative diagnosis of gallstone ileus with a sensitivity of 93%.¹⁸ However, gallstone ileus is more typically diagnosed at laparotomy in a patient undergoing surgery for unexplained small bowel obstruction.²⁰

Moreover contrast enhanced abdominal CT scan is reported to have the highest specificity and sensitivity in diagnosing GI regarding bilio-enteric fistula, its location, the number and size of stones, CT scan may improve diagnostic accuracy.^{10,17,19}

Surgical treatment is still subject of research. Current operative options are: 1) enterolithotomy alone; 2) enterolithotomy with cholecystectomy performed later (two-stage surgery); 3) enterolithotomy, cholecystectomy and fistula repair (one-stage surgery). Several factors should be considered in the choice of the most appropriate surgical approach, related to the patient and other diseases (biliary-enteric fistula). The duration of the bowel obstruction is the most important prognostic factor. In patients with a diagnostic delay, the main goal of the treatment should be the prompt relief of the intestinal obstruction by enterolithotomy alone.

Patient's age and comorbidity may contraindicate a one stage surgery. Thereby, preoperative stabilization is essential, with a special attention to the fluid and electrolytes balance and the management of comorbid conditions. Furthermore, comorbidity is associated with an increased risk of postoperative complications (enteric or biliary leakage after the closure of the fistula).

Enterolithotomy alone remains the most common operative method in the majority of cases, because of its low incidence of complications. A spontaneous closure of the fistulous tract is observed in more than 50% of cases.^{10,13}

Recently, laparoscopy assisted enterolithotomy and endoscopic removal are becoming the preferred approaches for the treatment of GI.^{14,16}

Delayed diagnosis, concomitant comorbidity and advanced age are the causes of a high mortality rate (7.5-15%).¹⁻³

In contrast to gallstone ileus where stone moves distally along peristalsis, bouveret syndrome is characterized by the cephalad or proximal migration of a gallstone into the duodenum resulting in a gastric outlet obstruction.

CONCLUSION

The case presented here is a very unusual presentation with an unclear preoperative diagnosis and to our surprise it was a large gall stone which presented as SAIO. Prompt diagnosis and appropriate intervention does provide a better outcome to limit mortality and morbidity.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Tumage RH, Heldmann M, Cole P. Intestinal Obstruction and Ileus. In: Feldman M, Friedman LS, Brandt LJ eds. Sleisenger and Fordtran's gastrointestinal and liver disease. Philadelphia: Saunders; 2006:2653-75.
2. Shelton AA, Thodore RS, Welton ML. Small Intestine In: Way LW, Doherty GM, editors. Current Surgical Diagnosis and Treatment. New York: Mc Graw Hills; 2003:674-704.
3. Whang EE, Zinner MJ. Small intestine. In: Charles BF, ed Schwartz principles of surgery. New York: McGraw Hill; 2005:1017-54.
4. Avlund TH, Thomsen H. Gallstone ileus of the colon. Ugeskrift Laeger. 2011;173(50):3275.
5. Hermosa RJI, Cazador CA, Vila GJ, Garcia RJ, Francesch FM, Fernandez AD. Gallstone ileus: results of analysis of a series of 40 patients. Gastroenterol Hepato. 2001;24:489-94.
6. Loizides S, Reese GE. Gallstone ileus. Internal Med J. 2011;41(9):705-6.
7. Gleen F, Reed C, Grafe WR. Biliary enteric fistula. Surg Gyne Obst. 1981;153:527-31.
8. Kasahara Y, Umemura H, Shiraha S, Kuyama T, Sakata K, Kubota H. Gallstone ileus review of 112 patients in the Japanese literature. Am J Surg. 1980;140:437-40.
9. Saif A, Kawas FH. Complications of gallstone disease: Mirizzi syndrome, cholecystocholedochal fistula, and gallstone ileus. Am J Gastroenterol. 2002;97:249-54.
10. Clavien PA, Richon J, Burgan S, Rohner A. Gallstone ileus. British J Surg. 1999;77:737-42.
11. Ripolles T, Miguel-Dasit A, Errando J, Morote V, Gomez-Abril SA, Richart J. Gallstone ileus: increased diagnostic sensitivity by combining plain film and ultrasound. Abdominal Imaging. 2001;26:401-5.
12. Lassandro F, Gagliardi N, Scuderi M, Pinto A, Gatta G, Mazzeo R. Gallstone ileus analyses of radiological findings in 27 patients. Eur J Radiol. 2004;50:23-9.
13. Doko M, Zovak M, Kopljar M, Glavan E, Ljubicic N, Hochstadter H. Comparison of surgical treatments of gallstone ileus: preliminary report. World J Surg. 2003;27:400-4.
14. Murray EL, Collie M, Hodges DW. Colonoscopic treatment of gallstone ileus. Endoscopy. 2006;38:197.
15. Moberg AC, Montgomery A. Laparoscopically assisted or open enterolithotomy for gallstone ileus. British J Surg. 2007;94:53-7.
16. Ferraina P, Gancedo MC, Elli F, Nallar M, Ferraro A, Sarotto L, et al. Video-assisted laparoscopic enterolithotomy: new technique in the surgical management of gallstone ileus. Surg Laparo Endo Percutaneous Tech. 2003;13:83-7.
17. Warshaw AL, Bartlett MK. Choice of operation for gallstone intestinal obstruction. Annals Surg. 1966;164:1051-5.
18. Schutte H, Bastias J, Csendes A, Yarmuch J, Cuadra R, Chiong H, et al. Gallstone ileus. Hepato Gastroenterol. 1992;39:562-5.
19. Kim YG, Byeon JS, Lee SK, Yang DH, Kim KJ, Ye BD, et al. Gallstone ileus successfully treated with endoscopic fragmentation by using double-balloon endoscopy. Gastrointes Endoscop. 2011;74(1):228-30.
20. Yu CY, Lin CC, Shyu RY, Hsieh CB, Wu HS. Value of CT in the diagnosis and management of gallstone ileus. World J Gastroenterol. 2005;11:2142-7.

Cite this article as: Ray MS, Deepak BS. An unusual cause of sub-acute intestinal obstruction. Int Surg J 2016;3:2310-3.