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Case Report

Rare case of midgut volvulus with malrotation in an elderly patient

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ABSTRACT

A 70 year old male who was under treatment for lymphoma, presented with a 2 day old history of not passing stool, flatus, associated with vomiting and abdominal distension. Patient was diagnosed as subacute intestinal obstruction and put on conservative management. However since his condition worsen exploratory laparotomy was performed. On laparotomy a midgut volvulus was detected and subsequently de-rotation of small gut was done. Through this paper we would like to stress out the difficulties in diagnosis and the challenges that we faced.

Keywords: Mid gut volvulus, Malrotation, Obstruction, Elderly, X-ray

INTRODUCTION

Midgut volvulus in the elderly population are a rare occurrence, therefore there are no standard treatment protocols or management guidelines. In the pediatric population this is a known recurring problem, hence there are better guidelines with more solid evidences for the pediatric population. If not diagnosed timely a midgut volvulus can lead to devastating complications, with up to 19% requiring major bowel resection and even death.[1] Through this article we would to present our experience and difficulties faced in diagnosis and management.

CASE REPORT

The subject is a 70 year old male patient; four months earlier he was admitted and evaluated for type 2 diabetes, left upper lobe pneumonitis, severe erosive gastritis, esophageal candidiasis, hemorrhoids and benign prostatic hyperplasia. Contrast enhanced computerized tomography (CECT) thorax/abdomen during that admission showed multiple mediastinal, bilateral hilar and multiple mesenteric nodes, with multiple hypodense lesions in both lobes of liver largest 5.7×4.9 cm. The lesions showed enhancement in arterial phase and washout in portal venous delayed phase, biopsy reported diffuse large B cell lymphoma. Upper gastrointestinal endoscopy also revealed an ulcer in the duodenum, biopsy reported as NHL. Immuno histochemistry was positive for CD 20, bcl-6, MUM-1 and Ki-67. Bone marrow biopsy gave a differential diagnosis of chronic lymphocytic leukemia/small lymphocytic lymphoma. Patient was eventually diagnosed as a stage IV diffuse large B cell lymphoma and started on chemotherapy.

After patient had received one cycle of chemotherapy he was brought to the emergency with complaints of not passing stool or flatus, progressive abdominal distension, nausea and vomiting for two days. On examination, abdomen was distended, mildly tender, increased bowel sounds, rectum was empty with ballooning of the anterior wall. Tachycardia and tachynaepnea were noted but patient was afebrile and blood pressures within normal limits.

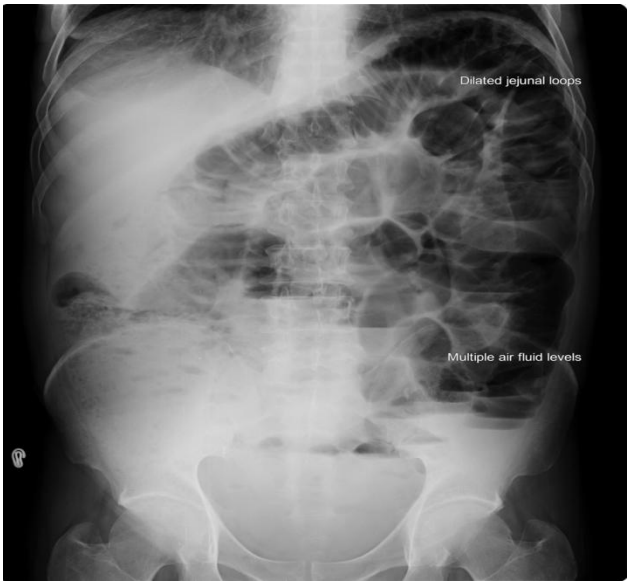

Figure 1: Plain erect abdominal film showing markedly dilated air-filled small bowel loops predominantly in the left abdomen crossing midline; the stomach is not dilated.

Ryles tube was inserted, 500 ml of bile stained gastric fluid drained and patient was put on conservative treatment. X-ray of the abdomen showed grossly dilated small bowel loops (Figure 1), majority of the loops had crossed the midline and were concentrated in the left abdomen. Ultrasound was done but did not give additional information due to the dilated bowel loops. Blood test revealed neutropenia (1,780) so filgrastim injection was started.

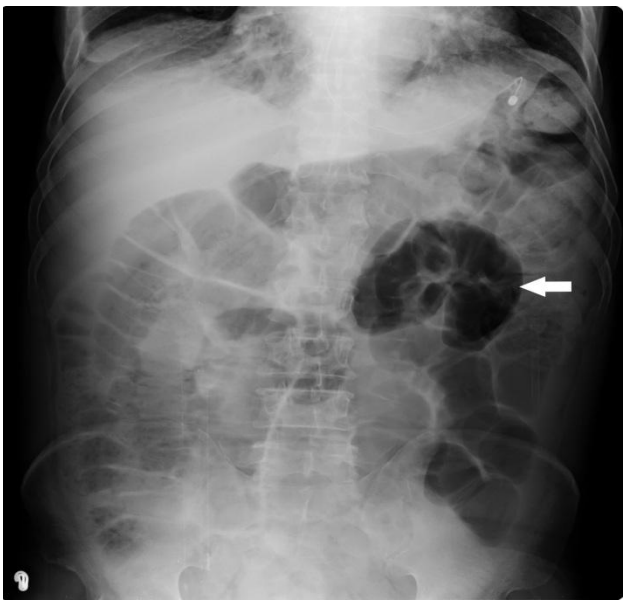

Figure 2: X-ray at 16 hours post admission, showing increase in dilation of small bowel loops; bean shaped loop in left upper abdomen (arrow head), similar to the sign seen in sigmoid volvulus.

CECT abdomen was advised but patient refused due to financial reasons, patient was then planned for a contrast X-ray series, two films could be taken which revealed the following (Figure 2). A lower dose of oral contrast was given, for the X-ray series. The films were taken 12 hours and 16 hours post admission. However he started complaining of increasing abdominal pain and distension, a few hours later he also started developing mild fever, hence he was taken up for emergency laparotomy. This was within 18 hours of his admission.

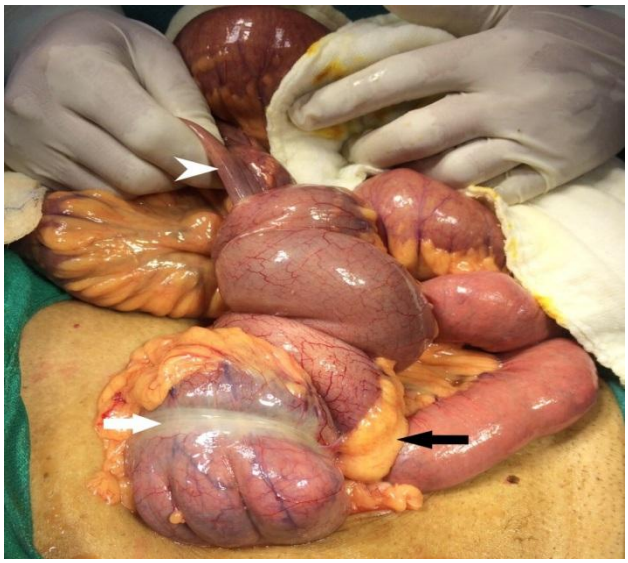

Figure 3: Mobile caecum (white arrow) with loops of small gut twisted around the mesentry, ileo caecal junction (black arrow), strangulated small intestine with dusky changes (white arrow head).

On laparotomy a 360° midgut volvulus was noted along the mesenteric axis, the caecum was highly mobile and had twisted along its axis. Part of the ileum had developed a dusky and purplish hue, whole of ileum and jejunum was grossly distended and edematous (Figure 3). There were no bands or adhesions, the rest of the colon was normally placed. A simple counter clock wise de-rotation with cecopexy was performed; hemicolectomy was not done due to the multiple co-morbidities and poor general condition of the patient. Excess gas and effluents were milked backward and aspirated through the Ryles tube. The small gut after rotation seemed viable, so no resection was done. Patient required supportive inotropes in the post-operative period and was observed in surgical ICU for a day. Patient passed stool on the second day and was discharged on the fifth postoperative day. The patient was referred for chemotherapy and on follow up at three months he was doing well.

DISCUSSION

Presentation of midgut volvulus in old age is rare, the oldest reported patients in literature are a 72 and a 85 years old male patient.[2-4] In infants midgut volvulus usually occurs in the background of a malroated gut and

they are usually associated with developmental abnormalities such as, gastroschisis, omphalocele, diaphragmatic hernia, duodenal or jejunal atresia. But in adults this is not the pattern.

Clinical presentation

Clinically they present with signs of a small bowel obstruction as presented in this case; a partial or complete duodenal obstruction may also be present. The symptoms of distension and pain increases with time because of formation of a close loop obstruction; unless a surgical intervention takes place. Although there are rare reported cases where the volvulus spontaneously resolved with administration of oral contrast, this is generally not the rule.[5]

Sometimes symptoms can present as chronic nonspecific abdominal complaints and occur in the setting of other diseases, symptoms can also be mistaken for IBS or even psychiatric illness.[3,6] In the adult patient with a malrotation, midgut volvulus is the most common cause of bowel obstruction.[7] High index of suspicion with detail clinical examination is mandatory, because a delay in diagnosis can lead to high morbidity and mortality**.**

Diagnostic modalities

Clinical diagnosis is challenging even in experienced hands, because a variety of other common conditions may mimic midgut volvulus. The preferred modality of diagnosis in pediatric population have been a serial contrast x ray study, this can identify the volvulus and also a malrotation if present. Currently in the adult population CT scan with oral contrast can diagnose most of the cases.[8] Upper gastrointestinal series as shown in this case report may also be helpful when CT scan is contraindicated or not possible.[7] In this part of the world health insurance is a luxury and public hospitals are not well equipped, so patients usually end up paying the bills from their own pocket.

Treatment

There is no proven standard surgical procedure for preventing the recurrence of small bowel volvulus, but most patient seems to do well with a simple de-rotation and retroperitoneal fixation of the right colon or a cecopexy.[3,8]

CONCLUSION

On hindsight the plain X-ray taken at admission was suggestive of the diagnosis, but because of the rarity of a midgut volulus in adults the diagnosis was delayed. CECT abdomen would have help in supporting the diagnosis, but due to reasons cited above it was not performed. Fortunately for him early intervention prevented potential fatal complications like gangrene and perforation.

Another point worth mentioning is due to the over reliance on modern diagnostic measures by current surgeons most of us have lost the art of basic X-ray interpretation. In this case, if our X-ray interpretation skills were better the diagnosis could have been clinched earlier.

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