Acute Small Bowel Obstruction due to Unusual Causes; Case Series

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Introduction: In adults, mechanical small intestinal obstruction (MSBO) is a frequent emergency condition that usually necessitates immediate surgery and hospitalization. Most occurrences are caused by common conditions including adhesion bands, and abdominal wall hernias. However, the surgeons may encounter unanticipated problems due to uncommon origins of this condition. Untreated MSBO raises the chance of bowel segment perforation and strangulation, regardless of the underlying reason.

Aim of work: To present unusual causes of acute small bowel obstruction that pose a diagnostic difficulty.

Patients and methods: We presented nine cases who presented with mechanical small intestinal obstruction due to unusual causes. This study looks closely at the challenges that emergency general surgeons encounter when treating patients with rare causes of mechanical small intestinal obstruction.

Conclusion: Emergency surgeons should be knowledgeable of the uncommon or unusual causes of mechanical small intestine obstruction in adults before serious complications arise. Successful outcomes need rapid surgical intervention, clinical suspicion, utilization of suitable radiological investigations and knowledge of the normal anatomy and its deviations.

Key words: Uncommon causes, emergency surgeons, mechanical small intestinal obstruction, hernia**.**

Introduction

Adults who suffer from mechanical small bowel obstruction (MSBO) usually require immediate surgery and hospitalization. It is the cause of 20% of cases requiring immediate surgery and 15% of hospital admissions for acute abdominal pain in the United States.[1,2]

From a practical standpoint, the causes of MSBO in adults can be divided into two main categories: frequent causes and uncommon/rare causes. Adhesive obstruction in patients who have had previous surgeries is the most common cause of MSBO, making up 60–75% of cases. The entrapment of the small bowel (SB) loop in several very common types of abdominal wall/groin hernias, such as inguinal, femoral, epigastric, umbilical/paraumbilical, and incisional, is the second most common cause. About 15–20% of instances are of this sort.[2,3]

The rare and infrequent causes can be further categorized based on where in the affected SB segment they are located anatomically, such as the SB lumen, SB wall, or SB mesentery. Other uncommon causes include other organs compressing the SB externally and unique types of hernias. These unusual or rare conditions account for less than 5 % of adult MSBO cases. Untreated MSBO raises the chance of bowel segment perforation and strangulation, regardless of the underlying reason. Because the research indicates a 30% possibility of SB ischemia, MSBO is generally considered a serious condition with a significant risk of morbidity and mortality.[4]

As long as there are no symptoms of systemic impairment or peritonitis, conservative treatment has been found to be effective in about two-thirds of MSBO patients with adhesions. However, if conservative therapy fails to remove the obstruction within 72 hours, the existing data overwhelmingly favors surgery to avoid serious consequences like single or multiple organ failure, prolonged enteral malnutrition, and strangulation.[5]

In clinical situations where the obstruction is brought on by one of the often-cited causes of MSBO in the literature, the general guidelines for surgical intervention in MSBO patients are followed without serious intraoperative complications. But it's not always possible to put these ideas into practice, particularly in new circumstances caused by rare causes combined with lack of pertinent published data or techniques.[6]

The rare causes of MSBO in adults are presented in this study in order to provide a concise overview of the surgical protocols that surgeons can adhere to in these difficult emergency situations.

Aim of work: To present unusual causes of acute small bowel obstruction that pose a diagnostic difficulty.

Patients and methods

Clinical presentations of cases

Case 1 (Gallstone ileus (GI))

An Emergency Departement (ED) visit was made by a 45-year-old female who had a history of diabetes mellitus and complained of abdominal

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pain, vomiting, and biliary colic over the course of three days. This patient's cholecystolithiasis was treated with antibiotics for a decade. She had constipation, nausea, vomiting and abdominal pain when admitted to our hospital.

She had a somewhat distended abdomen and high-pitched bowel and tympanic sounds. An elevated total leukocyte count. Plain erect abdominal radiographs showed different levels of air-fluid. A 40-mm calculus inside an ileal loop that was producing a small-bowel obstruction was visible on a CT scan of the abdomen and pelvis with oral and IV contrast. She developed pneumobilia, We therefore diagnosed GI.

It was found that the gallbladder and the second part of the duodenum had a big fistula, during the patient's exploratory laparotomy. The small bowel loops proximal to the distal ileum were found to be moderately dilated during exploration. About 50 cm from the terminal ileum, an obstruction was observed. An enterotomy was performed **(Fig. 1)**, and a massive gallstone (4 cm x 3 cm × 3 cm) was discovered. Two layers of sutures were used to close the enterotomy after the gallstone was removed. Hemodynamic stability was maintained in the patient. Therefore, we made the decision to seal the cholecysto-duodenal fistula and execute cholecystectomy simultaneously. The recovery from the surgery went well. Another month of follow-up revealed no complications for the patient.

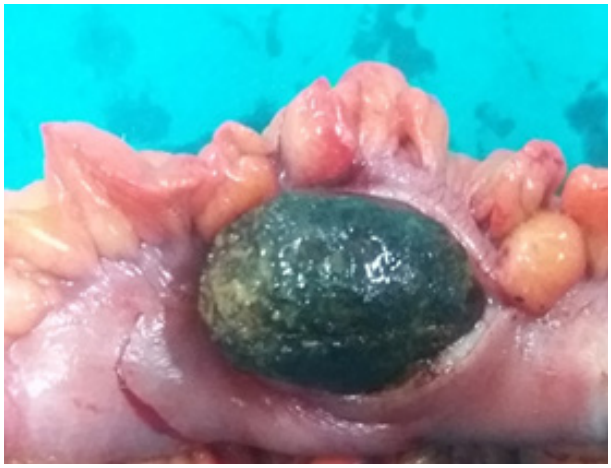

Fig 1: Enterotomy was done for extraction of the stone.

Case 2 (Ileocecal intussusception due to submucous gastrointestinal stromal tumor)

Following four days of sporadic lower abdomen pain and multiple episodes of diarrhea, nausea and vomiting, a 64-year-old man arrived at the ED. He had never had this type of pain before and described it as dull and heavy, getting better when he was on his side and worse when he was on his back.

An appendectomy was part of his prior surgical history. Vital signs at the beginning were within normal ranges. On the initial examination, moderately distended and tender abdomen. There were also high-pitched bowel sounds to be heard. A WBC count of 19,000 cells/L. A CT scan of the pelvis and abdomen with IV and oral contrast showed signs of ileocolic intussusception, A laparotomy was performed.

During exploratory laparotomy, ileoceacal intussusception was found **(Fig. 2)**. The procedure involved a right hemicolectomy followed by a primary ileo-mid-transverse anastomosis. Examining the patient's excised tissue revealed a submucous lesion that was approximately 3 × 3 cm in terminal ileum **(Fig. 3)**. Histologically, the mass was determined to be a gastrointestinal stromal tumor. He recovered from surgery without any complications.

Fig 2: Male pt. aged 64 years with GIST in terminal ileum presented by ileo- ceacal intussusception.

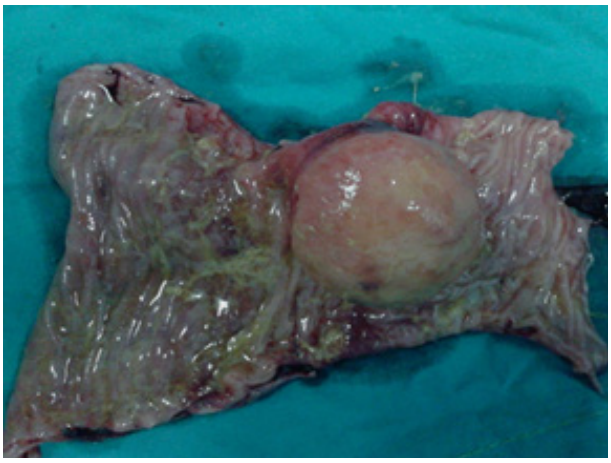

Fig 3: The appearance of submucosal mass (3×3 cm) causing intussusception.

Case 3 (Gossypiboma causing MSBO)

57-year-old woman underwent an urgent open appendectomy seven years ago. She began experiencing intermittent abdominal pain a year following the appendectomy. The pain has been worse during the last year. The patient experienced symptoms of intestinal obstruction for three days.

When examined physically, a distended, tender abdomen was discovered. Dilated small bowel loops, an 8 cm tumor with thicker wall than the surrounding small intestine, and no ascites or dilatation of the large intestine were visible on contrast-enhanced CT scans. The primary tumor content was minimal, scattered, and equivalent to muscle tissue, despite the surrounding capsule having a very high density. Intravenous contrast material only slightly enhanced the surrounding capsule, but it had no effect on the bulk's primary substance. The lesion was inseparable from the nearby ileal loops and was not surrounded by any fat stranding.

To treat this tumor, a laparotomy was thought to be required. The surgical results showed a solid mass that adhered to the small intestine. The tumor was removed along with the adherent part of the small intestine. Primary anastomosis was performed next. The tumor was surrounded by layers of layered gauze and had a robust granulomatous wall. The Gossypiboma was finally found to be caused by the surgical towel that was left over after the open appendectomy seven years before **(Fig. 4)**. The patient had a smooth recovery following the surgery.

Fig 4: Resection of segment of ileum with retained surgical towel inside the mass.

Case 4 (MSBO induced by phytobezoar)

A 64-year-old woman who had been experiencing colicky abdominal pain that had been getting worse over the course of two days, along with vomiting and abdominal distension, was referred to our hospital's ED. Insulin was used to treat the patient's uncontrolled diabetes. Her surgical history included a splenectomy for a traffic accident 20 years ago. She had a distended abdomen and loud bowel movements.

The results of the abdominal ultrasonography and plain X-ray confirmed the clinical diagnosis of sub-acute small bowel obstruction, which is most likely the result of post-operative adhesions. Distended small bowel loops loaded with oral contrast material were seen on CT scans of the abdomen and pelvis using IV and oral contrast. The low-grade partial SBO diagnosis was confirmed. As a result, a conservative management approach was chosen.

Regretfully, following an attempt to feed the patient after 72 hours of conservative treatment, symptoms returned after the first clinical improvement. Another abdominal CT scan with oral and IV contrast was done on the second day of recurring symptoms that showed oval, heterogeneous intraluminal mass with air bubbles at the middle of the ileum. These results provided a full diagnosis of bezoar presence. A palpable mass in the ileum was discovered during the subsequent exploratory laparotomy, as shown on the CT scan. An enterotomy was performed and the results showed a solid, crumbly, and odorous mass that was about five centimeters long and occupied the lumen of the distal ileum. The mass broke apart during extraction **(Fig. 5)**. Histopathological descriptions of the vegetable matter found in the removed bulk led to the establishment of the phytobezoar diagnosis. The postoperative phase went smoothly and without any issues.

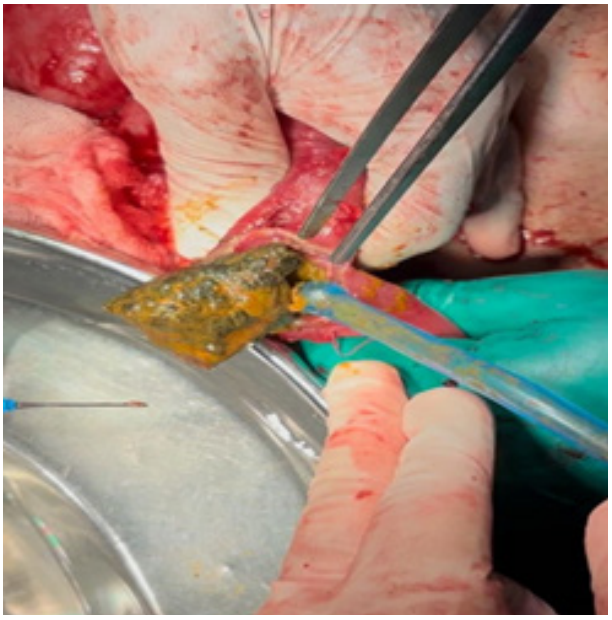

Fig 5: Extraction of phytobezoar.

Case 5 (Ileocecal intussusception due to submucous lipoma)

A male patient, aged 62, had a history of hypertension but no surgical history, arrived at our hospital's ED

two days ago with increasing widespread abdominal pain accompanied by nausea and several episodes of vomiting.

All four abdominal quadrants showed diffuse tenderness during physical examination, and non-distended abdomen showed neither rebound tenderness nor rigidity. The mid-abdomen showed ileoceacal intussusception with small bowel obstruction on a CT scan of the abdomen and pelvis using oral and IV contrast. The lead point was thought to be a tiny intestinal lipoma measuring 3.5 cm.

He then had an emergency laparotomy, ileoceacal intussusception was found, right hemicolectomy was done then a primary ileo transverse anastomosis. Additional pathology examination of the specimen was in line with a submucosal lipoma in terminal ileum **(Fig. 6)**. There were no post-operative problems and the patient recovered well.

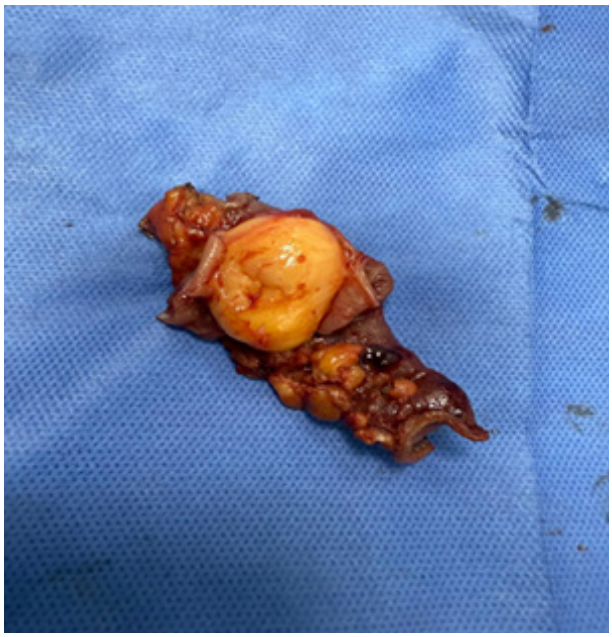

Fig 6: Lipoma (3.5 cm) in small bowel was the cause of intussusception.

Case 6 (MSBO induced by giant ovariam mass)

An ER visit was made by a 51-year-old woman who for five days had been suffering from widespread abdominal pain, anorexia, discomfort and vomiting. Her former medical records were clean, and she had never had surgery. During the physical examination, a sizable palpable mass and abdominal distention was found. Bowel sounds were difficult to perceive because of the mass's size, percussion notes were dull, and the flowing thrill and fluctuating dullness were unpleasant. The only tumor marker that was slightly raised was CA 125 (80, with an average range of 0 to 35).

A massive abdominal tumor (27x17 cm) in contact with the ovaries and uterus caused organ displacement, according to a computed tomography (CT) scan on abdomen and pelvis with IV and oral contrast. The results were ascribed to the left ovary's cystic dense bulk. The patient's symptoms of intestinal obstruction led to an exploratory laparotomy. Together with the left ovary, the mass was extracted without rupturing **(Fig. 7)**. Both a right oophorectomy and a total abdominal hysterectomy (TAH) were performed. The final histological report showed a benign mucinous cystadenoma with a maximal diameter of 25 cm. The patient was released after an uneventful postoperative phase.

Fig 7: Giant cystadenoma of left ovary was removed.

Case 7 (Gallstone Ileus (GI))

For five days, a 47-year-old woman had been experiencing abdominal pain and sporadic vomiting. This patient was treated with antibiotics for four years of cholecystolithiasis. She was sent to our hospital two days ago due to abdominal pain, nausea, vomiting, and constipation. High-pitched tympanic and bowel sounds were heard, and her abdomen was discovered to be distended.

Small-bowel blockage brought on by an ileal loop calculus measuring 40 mm was revealed by CT scans of the abdomen and pelvis using IV and oral contrast. Gallbladder air and adhesions between the thicker gallbladder wall and duodenal wall were visible on CT. Consequently, we diagnosed GI.

Exploration showed obstruction 80 cm from the terminal ileum. Upon performing an enterotomy, a massive gallstone measuring 4 cm by 3 cm by 2 cm was discovered. After the gallstone was removed, **(Fig. 8)** cholecystectomy was done, the fistula was repaired and the enterotomy was sutured in two layers. On the tenth postoperative day, the patient was released home after an uncomplicated surgical course.

Fig 8: Entrotomy of ileum with extraction of large stone.

Case 9 (MSBO caused by iloe-ileal intussusception with submucous lipoma)

The 50-year-old male patient arrived at ED with a history of diffuse abdomenal pain four days ago accompanied by nausea and many episodes of non-bilious vomiting. He had no relevant medical or surgical history. He exhibited nondistended abdominal tenderness without rigidity or rebound tenderness, on physical examination. Using oral and intravenous contrast, an abdominal and pelvic CT scan revealed a long segment small bowel-small bowel intussusception in the middle of the abdomen, as well as a notably enlarged and edematous bowel that was consistent with obstruction. A tiny intestinal lipoma measuring 3 cm was thought to be the lead point.

After that, he underwent a primary anastomosis of the proximal and distal intestine segment following a small bowel resection of the intussuscepted bowel loop. during an emergency laparoscopic exploration **(Fig. 9)**. A submucosal lipoma served as the intussusception's lead point **(Fig. 10)**. There were no complications following surgery, and the patient recovered well.

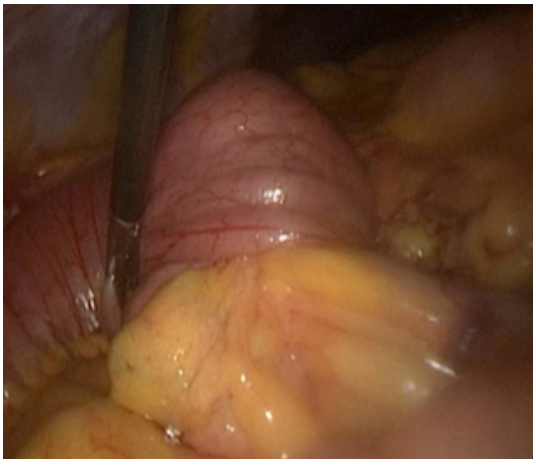

Fig 9: Ileoileal intussusception was discovered by laparoscopic exploration.

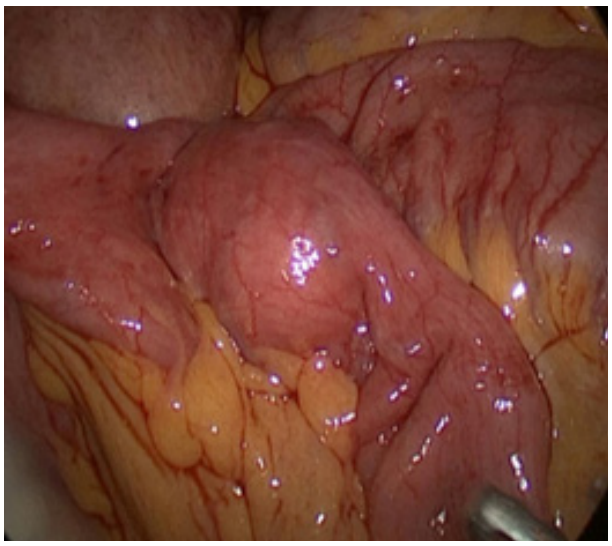

Fig 10: The lead point was appeared as swelling in the ileum.

Case 8 (MSBO caused by irreducible Littre's femoral hernia)

A 50-year-old woman, who had no prior medical or surgical history, sought urgent consultation due to an excruciating, irreducible swelling in her right groin that was linked to vomiting, abdominal colic, distension and absolute constipation three days ago. The physical examination of the patient confirmed the existence of an irreducible right femoral hernia.

Surgery was recommended immediately after an obstructed irreducible femoral hernia was diagnosed. An inguinal approach was used to confirm a right femoral hernia. The sac was mobilised and opened. A congested small bowel segment containing Meckel's diverticulum 3 cm long with a wide base of about 1.5 cm was found in the sac **(Figs. 11,12)**. Hot fomentations were put on the affected bowel segment. Viability of this segment and its strength of peristalsis were confirmed. Then the bowel segment was reduced to peritoneal cavity. The femoral hernia was routinely repaired using polypropylene mesh plug. On the fourth postoperative day, the patient was released, and the postoperative phase went smoothly.

Fig 11: Contents of hernial sac was small bowel segment with Meckel's diverticulum.

Fig 12: Congested intestinal segment was treated with hot fomentations.

Discussion

The most frequent surgical disorder involving the small intestine is small bowel obstruction (SBO), and intestinal obstruction continues to rank among the most frequent surgical emergencies worldwide.[7] Research indicates that SBO is responsible for as much as 80% of intestinal obstruction.[8]

Four concepts are typically applied by general surgeons while making intraoperative decisions. These include identifying pathologies, following rules, comparing and creativeness. However, in some situations, such as emergency situations involving rare pathologies and a lack of published evidence-based guidelines, such as rare causes of MSBO in adults, the practical implementation of these principles is not always feasible.[9]

Experience is crucial in determining the cause of SBO, a prevalent clinical entity. Although obstructed hernias and adhesions are the most frequent causes of SBO, a variety of unusual and uncommon diseases can also result in SBO. By being aware of these conditions, emergency surgeons can quickly triage patients with SBO and enable proper care.

We discussed in our study some rare causes of MSBO. We presented two cases with gallstone ileus (GI) and managed them well. For GI, we reported effective surgical treatment. It was a one-step operation. We closed the fistula, did cholecystectomy, and performed enterolithotomy. Acute cholecystitis typically occurs before GI, which is an uncommon occurrence. Fistula formation can result from gallbladder wall erosion caused by inflammation of the gallbladder and surrounding structures, as well as the pressure effect of the gallstone. The duodenum is frequently the site of fistulas between the gallbladder and the gastrointestinal tract due to their close proximity.[10, 11]

In a rare instance, the gallstone may also go via the common bile duct or a dilated papilla of Vater to the duodenum. The terminal ileum and the ileocaecal valve are the most frequent sites of GI occurrence because of their limited lumen. SBO is typically caused by gallstones that are larger than 2.5 cm.[12,13] In our cases, GI occurred in the terminal ileum due to the large size of the gallstone (4 cm).

For GI diagnosis, CT scans are quite sensitive and specific.[14] Due to an abnormally positioned gallstone, the classic findings include pneumobilia and picture of SBO.[15] Our cases were diagnosed as GI by history taking, clinically and radiologically with CT abdomen and pelvis with IV and oral contrast.

GI surgery management is not voluntary. Laparotomy is typically the preferred technique. There are two surgical options: a one-stage surgery that includes fistula closure, cholecystectomy, and enterolithotomy, or a two-stage technique that consists of enterolithotomy, then cholecystectomy, and fistula closure afterward. In our instance, we used a one stage surgery that has the potential to prevent 8–33% of GI recurrences. Nevertheless, the one-stage technique is technically challenging and linked to increased morbidity and mortality in patients with comorbidities who are typically elderly. The surgical strategy should be tailored to the patient's overall health, hemodynamic status, local, circumsances and the surgeon's expertise.[10]

One to five percent of intestinal obstruction in adults is caused by intussusception, a rare cause of abdominal pain.[16] Three examples of adult intussusception resulting in MSBO were presented in our study.

Children have been the main victims of the intussusception presenting with traditional trio, which consists of palpable painful mass, bloody diarrhea, and intermittent abdominal pain. However, the more prevalent, nonspecific symptoms of intussusception in adults consist of abdominal distension, bowel habit changes, nausea, vomiting, and gastrointestinal hemorrhage.[17–21]

Secondary intussusception is linked to a pathological disease involving a lead point and is more prevalent in the adult population. Lead points are lesions that are extraluminal, such adhesions, lipomas, lymphomas, and metastases, or intraluminal, like polyps, Meckel's diverticulum, and inflammatory lesions.[18,22,23] In our study, we presented two cases of iloeceacal intussusception, with submucous GIST in one case and submucous lipoma in the other, both lead points were in terminal ileum. Also, we presented a case of iloe-ileal intussusception with submucous lipama was the lead point.

As seen in our instances, the physical examination results and presenting symptoms were not specific to intussusception. Changes in bowel motions and abdominal pain and distention are symptoms linked to a vast number of differential diagnosis.

The ultrasound shows the "pseudo kidney" or "hay-fork" sign in the longitudinal view and a "target" or "doughnut" sign in the transverse view. (24–27) The most often used diagnostic technique is CT, which has a 58–100% diagnosis accuracy rate. CT identifies the location, type, and connection of the lesion to surrounding tissues in addition to displaying lesions with a "target" or "sausage" shape.[17, 28-32]

In the adult population, because the lead point may be a malignancy that could spread and disrupt blood flow, causing necrosis of the affected bowel, surgical resection of the damaged bowel segments is the recommended treatment.[19]

Also, we presented a rare case of MSBO induced by Gossypiboma in our study. Two different kinds of reactions may happen if the gauze is left inside the body. The first type is an inflammatory response causing formation of an abscess that typically results in early identification. The second kind involves granuloma formation and an aseptic reaction to cotton material, which can result in long asymptomatic periods.[33–36] The retained gauze is surrounded and attempted to be encapsulated by intestinal loops and omentum in the abdominal cavity. As a result, the gauze may migrate into the intestinal lumen and put pressure on the intestinal wall, which may result in necrosis. A fistula and obstruction may follow.[35,36]

The likelihood of a retained foreign body should be considered in any postoperative patient who presents with a palpable mass, pain or infection. When seen on CT scans, a retained sponge usually appears as a distinct soft tissue mass with gas bubbles and a whorled or spongiform pattern.[37,38]

Because the mass's characteristics resembled those of GIST, our patient was scheduled for surgical tumor excision. Emergency surgery was also necessary since the tumor had intestinal obstruction. Since gossypibomas have been reported to induce intestinal obstruction in two different studies,[37,39] we thought our case was somewhat uncommon. In patients who have had prior surgery, gossypiboma should be taken into consideration in the differential diagnosis of acute mechanical intestinal obstruction, notwithstanding its rarity in ordinary clinical practice.

A careful count of surgical materials, a thorough examination of surgical sites after procedures, and the application of surgical textiles that have been radio-opaque marker-impregnated that can be detected by routine x-rays are the best ways to prevent this condition.[40]

An aetiological component that is infrequently recorded phytobezoar accounts for 0.4–4% of all MSBO.[41-45] Phytobezoars are collections of inadequately digested fruit and/or vegetable fibers that are mostly made of cellulose, tannin, and lignin and are present in the alimentary tract.[46] Phytobezoars are typically found in the stomach, although they can also enter the small bowel.[43]

Since the clinical presentation of SBO caused by phytobezoar is similar to that of other obstructive factors, it is challenging to identify the underlying cause.[47] Due to post-operative adhesions, the clinical diagnosis of sub-acute SBO was proposed in our study.

Our patient's abdominal ultrasound and X-ray both displayed signs of SBO, but they were unable to identify the obstructive reason. By identifying a mass in a blocked portion of the ileum, CT made the diagnosis simple. Contrast material was used to outline the mass, which was mottled because of trapped air. Phytobezoar, commonly referred to as the "small-bowel feces sign," has been identified as a particular finding for SBO, and the CT appearance of this mottled mass was consistent with it.[48]

For SBO caused by phytobezoar, surgery is the preferred treatment. The majority of small bowel bezoars are located 50–70 cm from the ileocaecal valve. This is likely because the bezoar is hardened

by the narrow caliper at this location, sluggish intestinal motility, and high-water absorption, which causes it to lose its mobility. One surgical method is to manually break up phytobezoar and push it in the direction of the caecum. The phytobezoar should be removed by enterotomy otherwise. If problems like gangrene of the intestine are present, segmental bowel resection and anastomosis may be necessary.[47] In our instance, phytobezoir-induced MSBO was treated with enterotomy and phytobezoir extraction. The most effective preventative strategy for recurrence appears to be diet modification.[47]

Another MSBO case we documented was due to a massive ovarian cystadenoma, and it was treated with bilateral salpingo-oophorectomy and TAH. In gynecology, adnexal tumors that originate from the ovaries, fallopian tubes, or adjacent connective tissues are rather prevalent. There are many different kinds of masses, and they can impact women of all ages, from pregnant women to elderly women.[49]

One type of benign adnexal mass that is frequently found is mucinous cystadenomas. Although uncommon occurrences have been documented in younger and older women, During the third and fifth decades of life, mucinous cystadenoma incidence peaks. In their early stages, ovarian cystic formations are typically asymptomatic. However, when they enlarge, they can cause a variety of compression symptoms, including distention, nausea, vomiting, increased urination, abdominal pain, and even partial MSBO.[49,50]

Pelvic ultrasonography (US) is the first diagnostic tool because it is less costly than other imaging methods while having a comparable level of diagnostic accuracy. For the majority of patients, a transvaginal (greater resolution) and a transabdominal (better tolerated) US should be used. While computed tomography (CT) is a component of noninvasive staging, magnetic resonance imaging (MRI) is utilized as a secondary method to assess whether a surgical evaluation is required. The most commonly utilized tumor marker for postmenopausal women's initial evaluation and follow-up is CA 125 (sensitivity: 69–87%, specificity: 89–93%). Even though mucinous ovarian masses are a benign tumor that repel adjacent organs laterally without penetrating, they have the potential to expand to enormous sizes if left untreated.[49]

The final option for treating a big ovarian tumor is still surgical excision. In cases of particularly big tumors or those suspected of being malignant, the majority of surgeons chose laparotomy. In order to reduce the chance of recurrence, the ovary should be properly removed without spilling.[50] In women who have gone through menopause, a total hysterectomy and bilateral salpingo-oophorectomy are generally recommended to lower the risk of additional cancers, irrespective of the histology.[51]

We also presented another case of rare cause of MSBO, which is irreducible littre's hernia. When an isolated Meckel's diverticulum (MD) protrudes through an abdominal wall orifice, it is known as a Littre's hernia (LH). Littre was the first to describe it in 1700. LH is an uncommon variation of Meckel's diverticulum. Littre hernias typically occur at the right inguinal (50% of cases), umbilical (20%), and femoral (20%) sites. In our case of LH, we discovered an imprisoned MD in the sac of the right femoral hernia.[52,53]

Femoral hernias are always acquired. It could include the appendix, bladder, colon, small bowel, stomach, omentum, fallopian tube, or other organs.[54] The form of herniation known as LH occurs when the contents of the hernia sac are an MD.[55,56]

For a number of years, there has been debate over whether MD, which was found during a laparotomy, should be removed. Meckel's diverticulectomy has an extremely low post-operative morbidity and mortality rate in asymptomatic patients.[57,58] A Meckel's diverticulum discovered by accident should be removed, according to certain writers.[57,58,59] while others vehemently disagree, arguing that resection is not warranted because the likelihood of symptoms resulting from Meckel's diverticulum declines noticeably with age.[60,61,62] in our case, we did not perform diverticulectomy because the MD did not cause any symptoms to the patient during her life, and to avoid morbidity of diverticulectomy.

Conclusion

Mechanical small intestine obstruction in adults is a common surgical condition with a high risk of morbidity and death. Emergency general surgeons should be aware of the uncommon or rare causes of this serious condition, even though common hernias or bands of adhesions are usually the cause. This is especially important for patients who have any relevant past medical history, no prior abdominal surgery history, or common abdominal wall hernia symptoms. Successful clinical outcomes in these circumstances require high clinical suspicion, familiarity with standard anatomy and its variations, whenever possible, a second opinion from knowledgeable colleagues, the use of appropriate radiological investigations (e.g., a computerized tomography scan), and timely surgical intervention.

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