Internal Herniation, A Rare Presentation

Shahid Mahmood¹, Sosan Shahid², Ahmad Raza³

A B S T R A C T

We present a case of internal herniation of small bowel. 29 years old female presented to us with intestinal obstruction. There was history of C-Section in a local hospital 3 years prior to date of presentation. Plain X-ray abdomen showed massively dilated loops of small bowel and straight artery forceps. After resuscitation, exploratory laparotomy was performed. A Loop of small bowel was found strangulated after passing through the eye of artery forceps. Different types of internal hernias and their complications are also discussed here.

Key Words: Internal hernia, foreign body, acute abdomen.

Introduction

As far as small bowel obstruction is concerned, internal herniation is a rare cause. The incidence is only 0.2–0.9 %. Internal hernia may be congenital or acquired. If it is present, risk of strangulation of bowel loops is very high. That is why, the internal hernia is considered as very dangerous and lethal condition.¹ Internal hernias are associated with a mortality rate of 50 % when strangulation is present.² An internal hernia can be congenital or acquired. A Congenital Internal Hernia (CIH) results from congenital anomalies of intestinal rotation and peritoneal attachment.³⁻⁶ Small bowel obstruction occurs usually in later life although it is a congenital condition.⁷ The probable reason is because length of bowel loops and size of sac increase with age. Ct scan has the accuracy of 73–95 % in determining the site and nature of CIH.⁸ Types of CIH include hiatus, paraduodenal, transmesenteric, intersigmoid, paravesical, femoral or an obturator hernia. Even a small CIH is dangerous because of increased risk of bowel entrapment within the hernial sac resulting in acute strangulation and bowel infarction. Awareness of the condition with early diagnosis and treatment is mandatory. Commonest type of internal hernias are Esophageal hiatal hernias.⁹ Other rare types of hernias reported in literature are transomental¹⁰, Ureteric sciatic hernias (part of ureter going in sciatic foramen)¹¹, herniation of the appendix through a femoral hernia (called de Garengeot Hernia)¹², supravesical¹³ and intrapericardial diaphragmatic hernia (contents of abdominal cavity going in pericardial cavity through rent in the diaphragm)¹⁴, and so on and so forth.

Commonest types of acquired hernias are after intra-abdominal surgery like parastomal hernias¹⁵ and post-traumatic hernias. A post-operative internal hernia is a recognized cause of closed loop bowel obstruction, where the bowel is at risk of strangulation.¹⁶ A transmesenteric hernia following Roux-en-Y anastomosis often accompanies small bowel volvulus and ischemia.¹⁷⁻¹⁹ Very interestingly, the incident of internal hernias is higher in laparoscopic gastric bypass (LGB) than in the open procedure. Some have theorized that this occurs because of decreased adhesion formation.²⁰ Keeping in view this fact, author of the above article suggested rubbing of gauze piece after operation on the mesentery as a cause of adhesions.

Case Report

A 29 years old female patient presented to the emergency department of District Headquarters Hospital Rawalpindi with a history of abdominal pain, vomiting, constipation and abdominal distension for the last 3 days. There was a history of C-section 3 years ago. On examination, she was tachypnic with a heart rate of 110 beats per minute. The abdomen was distended and bowel sounds were absent. Scar of previous C-section was present. X-ray erect abdomen showed a shadow of straight artery forceps in the abdomen. Routine blood and urine tests
were done. The patient was resuscitated in a usual way and prepared for laparotomy. The abdomen was opened by a midline incision. Loops of small bowel were massively distended. A loop of small intestine was found to be stuck in one of the eye of artery forceps resulting in its obstruction followed by strangulation. Resection of the non-viable part, retrieval of artery forceps and end to end anastomosis was done. The post-operative period was stormy. The patient went into septicemia and ARDS. She remained on a ventilator for few days and died later on.

![Image 1](image1.png)

**Figure 1.** X-Ray abdomen erect of patient showing air fluid levels with artery forceps in abdomen

**Discussion**

Retained surgical foreign bodies (RSFB) following operative procedures have been reported.\(^{21-23}\) The exact incidence rate may be difficult to ascertain for reasons which may include but are not limited to the fear of litigation.\(^{24}\) There are various complications associated with RSFB which range from abdominal pains\(^{21}\) to death.\(^{20}\) Intra-abdominal foreign bodies have been associated with erosion into luminal or hollow structures creating different forms of internal and external fistulae with various presentations depending on the structures involved. There have been reports of aortoenteric fistulae from RSFB manifesting as gastrointestinal hemorrhages.\(^{25}\) Entero- or colocutaneous fistulae have also resulted from RSFB.\(^{26}\) The term "gossypiboma" refers to a textile matrix surrounded by foreign body reaction. Small cotton gauze piece when used in laparotomy for absorption of blood or body fluid are the most commonly retained materials after laparotomy. Most of the time doctors do not report retained gauze piece due to the legal implications but also because many patients remain asymptomatic. Patients present with a wide variety of symptoms depends on the location of the foreign body and on the type of inflammatory reaction presented by the host.\(^{27}\)

A rare but potentially serious complication of IUCD use is a uterine perforation, with an incidence of 0.12 to 0.68 per 1000 insertions.\(^{28}\) The clinical presentation following perforation and migration is highly variable; many patients are asymptomatic and present with pregnancy or "missing strings." A smaller number of patients present with acute symptoms of bowel obstruction or perforation.\(^{29}\) Orthopedic implants\(^{30}\) and ingested foreign bodies can also transmigrate into the abdominal cavity and become symptomatic.\(^{31}\)

We suspected that the artery forceps was used to tag the tail of abdominal pack and possibly, instead of being kept outside the abdominal cavity, it was not or in the heat of the difficult operation it got thrown into the abdominal cavity and not retrieved at the end of the operation. In this case, maybe the operation was a difficult one which lasted for several hours, requiring the invitation of more experienced hands and a change of guards by the perioperative nurses. Such a scenario has at least three risk factors described by Stawickiet al.\(^{32}\) in their comprehensive review of risks and preventive strategies of retained surgical foreign bodies. These risk factors are (i) involvement of more than one surgical team, (ii) prolonged surgical procedures, and (iii) complex surgical procedures. Proper preoperative planning usually will dictate that the more experienced hands are to be present at the beginning of an anticipated difficult operation. An important point to remember in a patient who has had three previous C-sections is that surgeon should have suggested a difficult operation. Having the more experienced hands at the beginning of the operation would probably have reduced the operation time and the need to have a change of scrub nurses. It cannot be overemphasized that scrub nurses should always pay meticulous attention to instrument and material counts, especially when there is a prolonged procedure which may require additional instruments.
Conclusion

The surgical operation should always be given the best shot the first time and strict operation room standards and guidelines should always be followed. Since RSFB cannot be completely avoided in surgical practice, it should be given considerations in the list of differential diagnoses in order to make early diagnosis and treatment. This is because it has been a cause of untold suffering, morbidity, and mortality, especially when diagnosed late. Swab and instrument must be counted before closure of abdomen and reported loudly by the scrub nurse.

References

27. Silva SM1, Sousa JB. Gossypiboma after abdominal surgery is a challenging clinical problem and a serious medicolegal issue. Arq Bras Cir Dig. 2013 Jun;26(2):140-3.