



Case Report

Spontaneous Transmural Migration of a Retained Surgical Mop into the Small Intestinal Lumen Causing Sub-Acute Intestinal Obstruction : A Case Report

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Abstract

A case of sub-acute intestinal obstruction due to spontaneous complete transmural migration of a retained surgical mop into the small intestinal lumen has been treated surgically in surgery department of Rajshahi Medical College Hospital. The patient presented with colicky abdominal pain, nausea, occasional abdominal distention and vomiting. She had history of abdominal operation twice previously. Abdominal examination revealed a mobile lump in the right side of abdomen. Diagnosis could be made only at laparotomy.

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Introduction

The retained surgical mop is one of the unfortunate complications of abdominal surgery, especially when the surgery is performed in a non-ideal environment and there is negligence on part of the surgical team. Such patients are rarely documented, owing to medico legal and other reasons¹. Literature search shows that reported various foreign bodies retained in the abdominal cavity include surgical sponges, towels, haemostatic forceps, pieces of broken instruments or irrigation sets, rubber tubes, etc^{2,3}. Among retained foreign bodies, a surgical sponge constitutes the most frequent encountered object because of its common usage, small size, and amorphous structure⁴. The presentations that may occur following retention of laparotomy pads and surgical sponges are pain, abdominal mass⁵, obstruction⁶, peritonitis⁷, adhesion⁸, fistulas,

abscess formation⁶, erosion into gastrointestinal tract or extrusion of laparotomy pad via the rectum⁸⁻¹⁰. Transmural migration of the retained surgical mop is a rare phenomenon. More unusual occurrences, such as the migration of a sponge into the urinary bladder following inguinal herniorrhaphy have also been reported¹¹. We report a case of a retained surgical mop causing sub-acute intestinal obstruction due to its spontaneous complete transmural migration into the small bowel.

Case report

A 35-year-old woman was admitted into surgery department of Rajshahi Medical College Hospital in December, 2005 with the complaints of colicky abdominal pain, intermittent abdominal distention, nausea and vomiting. On physical examination a lump was found in the right side of abdomen below the level of umbilicus.

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Fig-1: Resected ileal mass suspected of neoplasm

The lump was intra-abdominal, elongated, about 10 x 4 cm, soft and mobile in all directions. Liver, spleen or kidneys were not palpable. No ascites was noted.

She had history of caesarean section performed through right lower para-median incision nine and half months back at a private clinic at Mohonpur, Rajshahi. She described a short febrile post-operative period, abdominal pain and occasional per-rectal mucous discharge following caesarean section. She also noticed gradual appearance of a lump in the left side of her abdomen, which became easily palpable and also visible seven months after initial operation. Eight months later, she was re-operated on through left para-median incision at another private clinic at Rajshahi city, to remove the lump but it was found inoperable and only biopsy from the lump was taken. The histopathology report was suggestive of angio-fibrolipoma. But surprisingly this lump disappeared spontaneously one month after her second operation.



Fig-2: Revealed surgical mop on incision over the resected ileal mass.

In Rajshahi Medical College Hospital investigations were done and all laboratory findings were within normal limits. Plain radiography of abdomen was unremarkable and did not show any sign of radio-opaque marker in the abdomen. Ultrasonography of whole abdomen was normal. At laparotomy through right mid paramedian incision an elongated mass was found in the proximal ileum, which was about 10 x 4 cm, soft and free from other rgans.

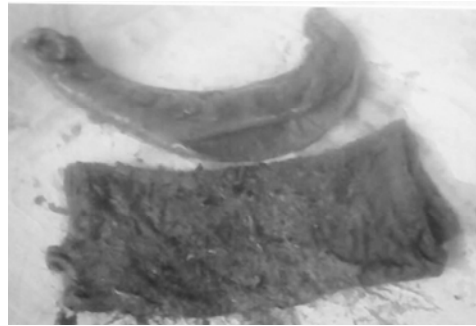


Fig-3: Relative dimension of the migrated retained surgical mop in the ileum

Overlying gut wall was congested. Jejunum could not be followed upto D-J flexure due to dense adhesion in the left side of abdominal cavity. A segmental resection of ileum with mass was carried out with an end to end anastomosis. The resected gut was removed from the operating table and opened by an incision on the anti-mesenteric border. We were astonished that a surgical mop came out surrounded by dietary fibers, initially it looked like a phytobezoar but after cleaning of dietary fibers surgical mop could easily be identified. Size of the mop was 26 x 22 cm. The post operative period was uneventful and the patient was discharged on 8th post operative day. She has been free of symptoms during the last six months on follow up.

Discussion

A common cause of small bowel obstruction in adult is post-operative adhesions. Spontaneous transmural migration of a retained laparotomy towel into the intestinal lumen is a rare cause of intestinal obstruction but still has been reported. Although it is an uncommon condition, it is the dread of every surgeon.

The operation during which the surgical mop or gauze is left behind is usually abdominal and often pelvic, where the deepness of the region facilitates the disappearance of blood soaked pieces of gauze under the bowel or retractors. In this case there was history of pelvic and abdominal operations twice previously.

The presentation may be acute or relatively delayed and pathologically two types of foreign body reactions can be induced. One is an aseptic fibrinous response that creates adhesions and encapsulation, resulting in a foreign body granuloma. This occurrence usually follows a rather silent clinical course. The other response is an exudative type that leads to abscess formation with or without secondary bacterial infection¹². The development of an abscess represents the body's attempt to extrude the foreign material either externally or internally into hollow viscus⁶. The most unusual sequela is the erosion of the sponge into the intestine⁷. The retained sponge may lie partially or entirely within the bowel lumen, or it may eventually pass per rectum. Elimination of the sponge may occur as early as two weeks following laparotomy or it may be delayed as long as several years^{3,9}. Silva CS et al¹³ reported a case of complete migration of retained surgical sponge into the ileum without sign of open intestinal wall. In our case the similar pathological process was involved.

The left out surgical sponge evokes an inflammatory response and is surrounded by omentum, intestinal mesentery, and/or nearby organs. Sooner or later, the foreign body exerts pressure and forces an opening into a hollow organ, and a fold of sponge then penetrates into the lumen of bowel. Peristaltic activity of the bowel helps propulsion of the foreign body^{3,7}. The patient reported in this paper developed sub-acute intestinal obstruction and at laparotomy a surgical mop was found in the lumen of proximal ileum. Neither an intra-abdominal abscess nor a chronic fistula had appeared after the previous operations.

Plain abdominal radiograph can help diagnosis, when a radio opaque marker is seen. However, this imaging method is not helpful when these markers

are disintegrated or fragmented over time¹⁴. Ultrasonography and CT appearances of retained surgical sponges may be widely diverse. Sonographically, retained surgical sponges are echogenic and they create an intensive and sharply delineated acoustic shadow. This acoustic shadow can be present even in the absence of air and calcification¹⁵. On CT scans, in addition to spongioform gas bubble, a low density mass with prominent and prolonged rim enhancement may suggest a retained surgical sponge granuloma¹⁶. The surgical mop retained in our patient lacked a radio opaque marker; thus, the diagnosis was not possible with plain radiograph. Ultrasonography was also normal, possibly because the retained surgical mop was present completely within the lumen of small bowel. CT scans was not done in this case because the patient could not afford to do it.

Though, the diagnosis of left out foreign body can be made by taking careful history, clinical examinations and by doing some necessary investigations, yet some patients are diagnosed on the operating table during relaparotomy. Surgical exploration is the answer to the problem¹⁴.

In 2003, Gawande and colleagues¹⁷ described the most common risk factors associated with "retained foreign bodies" are- emergency operations, unplanned changes in operating procedures and higher body mass index of operating patients. The prevention of this condition can be achieved by meticulous count of surgical materials in addition to thorough exploration of surgical site at the conclusion of operations and also by routine use of surgical textile materials impregnated with a radio opaque marker that are easily detected by intraoperative radiological screening when the count is suspicious.

Conclusion

Although very rare in our daily clinical practice, spontaneous transmural migration of a retained laparotomy towel into the intestinal lumen should be considered in differential diagnosis of intestinal obstruction, if the patient had history of

laparotomy previously. The embarrassment faced by the surgeon and the medico legal implications of this iatrogenic complication are tremendous and all preventive measures should be taken to avoid this as no excuse is justifiable.

References

1. Jason RS, Chisolm A, Lubetaky HW. Retained surgical sponge simulating a pancreatic mass. *J Natl Med Assoc* 1979; 71: 501-503.
2. Gupta NM, Chaudhary A, Nanda V, Malik AK. Retained surgical sponge after laparotomy, unusual presentation. *Dis Colon Rectum* 1985; 28: 451-453.
3. Fair GL. Foreign bodies in abdomen causing obstruction. *Am J Surgery* 1953; 86: 472-475.
4. Williams RG, Bragg DG, Nelson JA. Gossypiboma- the problem of the retained surgical sponge. *Radiology* 1978; 129:323-326.
5. Syed SA, Ahmed R, Ahmed S, Ahmed A. Gossypiboma: case reports and literature review. *Profess Med J* 2000; 7: 270-275.
6. Hyslop J, Maull K. Natural history of the retained surgical sponge. *South Med J* 1982; 75: 657-660.
7. Robinson KB, Levin EJ. Erosion of retained surgical sponges into the intestine. *Am J Roentgenol* 1966; 96: 339-343.
8. Mason LB. Migration of surgical sponge into small intestine. *JAMA* 1968; 205: 122-123.
9. Crossen HS, Crossen DF. Foreign bodies left in the abdomen. St. Louis: CV Mosby, 1940: 762-770.
10. Klein J, Farman J, Burrel M, Demeter E, Frosina C. The forgotten surgical foreign body. *Gastrointest Radiol* 1988; 13: 173-176.
11. Leppaniemi AK. Intravesical foreign body after inguinal herniorrhaphy. *Scand J Urol Nephrol* 1991; 25: 87-88.
12. Hayman J, Huygens H. Angiosarcoma developing around a foreign body. *J Clin Pathol* 1983; 36: 515-518.
13. Silva CS, Caetano MR, Silva EA, Falco L, Murta EF. Complete migration of retained surgical sponge into ileum without sign of open intestinal wall. *Arch Gynecol Obstet* 2001; 265: 103-104.
14. Zbar AP, Agrawal A, Saeedi IT, Utidjian MRA. Gossypiboma revisited: a case report and review of the literature. *J R Coll Surg Edinb* 1998; 43: 417-418.
15. Chau WK, Lai KH, Lo KJ. Sonographic findings of intraabdominal foreign bodies due to retained gauze. *Gastrointest Radiol* 1984; 9: 61-63.
16. Buy JN, Hubert C, Ghossain MA, Malbec L, Bethoux JP, Ecoiffier J. Computed tomography of retained abdominal sponges and towels. *Gastrointest Radiol* 1989; 14: 41-45.
- Gawande AA, Studdert DM, Orav EJ, Brennan TA, Zinner MJ. Risk factor for retained instruments and sponges after surgery. *N Engl J Med* 2003; 348: 229-235.

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