

# Spontaneous Transmural Migration and Impaction of Gossypiboma: A Rare Cause of Acute Intestinal Obstruction

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## ABSTRACT

Retained surgical sponge is not uncommon yet an under-reported event. Spontaneous transmural migration into hollow viscera is further rare but reported occurrence. We present a case of 49-year-old male who apparently had undergone exploratory laparotomy and splenectomy for

trauma 4 years back, presented to Emergency Department with features of small intestinal obstruction. On exploration laparotomy a bezoar-like intraluminal foreign body impacted at 20cm from ileocaecal junction which on per enterotomy retrieval was a surgical sponge.

**Keywords:** Intestinal obstruction, Retained surgical sponge, Textiloma

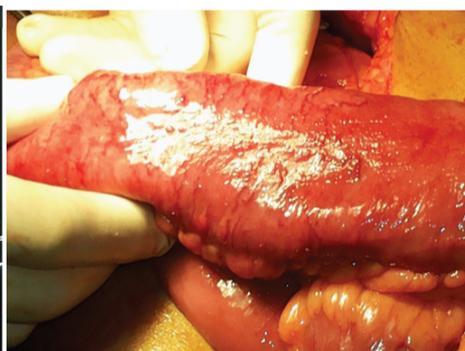
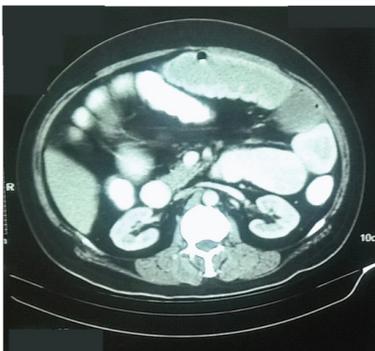
## CASE REPORT

A 49-year-old male patient presented to the Emergency Department with history of multiple episodes of bilious vomiting and abdominal distension since 2 days. Patient gave a history of exploratory laparotomy and splenectomy for blunt trauma abdomen 4 years ago at another hospital. Patient had experienced 3 similar episodes of sub acute intestinal obstruction following surgery managed conservatively. Per abdominal examination revealed previous midline scar and central abdominal distension. Abdominal X- ray had multiple air fluid levels. CECT abdomen suggested dilated jejunal and ileal loops with multiple air fluid levels. A zone of transition was seen in right side of pelvis with abrupt change in calibre and collapsed ileal loops distally and a differential diagnosis of adhesions or ileal stricture was suggested [Table/Fig-1]. Patient underwent exploratory laparotomy and was found to have dilated small bowel till 20cm from ileocaecal junction

and no adhesions. An intraluminal bezoar measuring 20x15cm was found impacted at this site and enterotomy to our surprise revealed a surgical sponge [Table/Fig-2,3]. A thorough gut exploration could not suggest a probable site of entry. Thus, an inference was made that sponge could be from the previous surgery but its presence intraluminally could only be explained spontaneous transmural migration. The postoperative period was unremarkable.

## DISCUSSION

'Gossypiboma' meaning retained surgical sponge is derived from the Latin-"gossypium" (cotton) and the Swahili-"boma" (place of concealment) [1,2]. Varied incidence has been reported but the data is rendered unreliable due to under reporting. Many factors like emergency surgery, long duration, high BMI of the patient, laxity on the part of operating team, etc., play a role [3]. More than 50% of cases are associated



**[Table/Fig-1]:** CT-scan image showing acute cut off in ileum. **[Table/Fig-2]:** Peroperative image showing site of impacted gossypiboma. **[Table/Fig-3]:** Postoperative image showing gossypiboma.

with gynaecologic surgery [1]. Clinical presentation of a retained sponge depends on its size, location and nature of reaction by body. Commonly a gossypiboma can have either an aseptic fibrinous response that can create adhesions and encapsulation resulting in a foreign body granuloma or an exudative reaction leading to formation of an abscess [4]. A very rare sequelae is partial or complete erosion of the sponge into viscera. Complete transmural migration without demonstration of the site of entry into small bowel, stomach and even into urinary bladder following hernia surgery have been reported [4]. Penetration of viscera can be from inflammation progressing into necrosis. A complete intraluminally migrated sponge presents commonly as intestinal obstruction and uncommonly with haemorrhage or malabsorption. Migrated sponge advances further intraluminally by peristaltic activity and is commonly impacted in ileum or colon [5]. Zantvoord et al., review of 65 published cases revealed most frequent site of impaction to be small intestine (75%) and most cases (95.3%) required laparotomy for sponge retrieval [6]. Also no fistulous or intestinal wall opening was found in previous literature reporting of complete transmural migration [3,5,6].

Radiology often points to the diagnosis but was elusive in the present case. A plain radiograph may point to sponge labelled with a radio-opaque marker [2,7]. Ultrasonography study helps in the diagnosis by revealing cystic masses with central echogenic wavy stripes with acoustic shadows [7,8]. A CECT shows air trapped non-enhancing mass calcification of the cavity wall as well as contrast enhancement of the rim [8]. So, even on radiology gossypiboma certainly poses as a diagnostic dilemma as it may mimics an abscess or a tumour.

Precise sponge scoring is paramount to minimize what is after all a human error. Minimum of 3 counts should be performed pre procedure, and also before and after closure of abdomen [5]. This should be accompanied by a meticulous

search of abdominal cavity. To exercise mandatory use of radio-opaque marker labelled sponges. Authors suggest continuous surveillance with surprise inspections by teams in especially high risk cases i.e. prolonged duration of procedure, emergency procedure, etc. Electronic article surveillance system which uses a tagged surgical sponge can be beneficial [4].

## CONCLUSION

Retained surgical sponge is a persistent yet poorly understood event due to infrequent reporting as it is affiliate with a taboo of defamation and of course medico-legal implications. An urgent surgical intervention should be sought in these cases without delay. Thus, in patients with previous abdominal surgery presenting as small intestinal obstruction is mostly likely to be adhesive etiology but gossypiboma although rare cause should be aforesought as a differential diagnosis.

## REFERENCES

- [1] Chopra S, Suri V, Sikka P, Aggarwal N. A case series on gossypiboma - varied clinical presentations and their management. *J Clin Diagn Res.* 2015;9(12):QR01-03.
- [2] Aminian A. Gossypiboma-a case report. *Cases Journal.* 2008;(1):220.
- [3] Gawande AA, Studdert DM, Orav EJ, Brennan TA and Zinner MJ. Risk factors for retained instruments and sponges after surgery. *N Engl J Med.* 2003;348:229-35.
- [4] Sozutek A, Yormaz S, Kupeli H and Saban B. Transgastric migration of gossypiboma remedied with endoscopic removal: a case report. *BMC Research Notes.* 2013;6:413.
- [5] Ogundiran T, Ayandipo O, Adeniji-Sofoluwe A, Ogun G, Oyewole O, Ademola A. Gossypiboma: complete transmural migration of retained surgical sponge causing small bowel obstruction. *BMJ Case Reports.* 2011;10.1136/bcr.04.2011.4073.
- [6] Zantvoord Y, van der Weiden RM, van Hooff MH. Transmural migration of retained surgical sponges: a systemic review. *Obstet Gynecol Surv.* 2008; 63: 465-71.
- [7] Gencosmanoglu R and Inceoglu R. An unusual cause of small bowel obstruction: Gossypiboma – case report. *BMC Surgery.* 2003;3:6.
- [8] Manzella A, Filho PB, Albuquerque B, Fabiana F, Kaercher J. Imaging of gossypibomas. *Pictorial Review AJR.* 2009;193:S94-01.

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