

Transmural Migration of Gossypiboma Presenting as Small Bowel Obstruction: A Rare Case.

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Abstract: *Gossypiboma, an infrequent surgical complication, is a mass lesion due to a retained surgical sponge surrounded by foreign-body reaction. It usually has varied presentation and is difficult to detect on radiological investigations. The time of presentation may range from early post-operative period to several decades later. A correct diagnosis can be made in only one-third of the cases. The most common differential diagnosis is a new-onset or recurrent tumor. This may lead to patient's anxiety as well as several unnecessary attempts at biopsy or surgery. We report a case of a 37 year-old lady presenting with palpable abdominal mass five months after emergency caesarean section. Retained foreign body was diagnosed radiologically and confirmed intraoperatively. Though rare, gossypiboma should be kept in mind as a differential diagnosis in postoperative cases presenting as vague pain, chronic lump, obstruction or fistula even years after the operation.*

Keywords: *Gossypiboma, retained foreign body, obstruction, fistula.*

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I. Introduction

The term Gossypiboma also known as textiloma; is used to describe a surgical pad left involuntarily in the body after a surgical procedure. It is derived from a combination of Latin words “*Gossypium*” (cotton) and Swahili word “*boma*” (place of concealment) [1]. A surgical sponge is the most common type of retained foreign body (RFB) [2]. It is a rare surgical complication but can cause significant morbidity and mortality. Most gossypiboma cases are discovered during the first few days after surgery; however, they may remain undetected for many years.

II. Case Report

A 37 year old lady presented to our surgical emergency with discomfort in periumbilical area since one month along with the history of vomiting and non passage of flatus/stools for the last 3 days. The only positive point in her previous history was an emergency caesarean section five months back. Vital signs were normal. On abdominal examination, a mass was palpable in the umbilical and hypogastric area of size 10 x 8 cms with well defined margins, smooth surface, firm in consistency and limited mobility (Figure 1). All routine investigations were within the normal limits. Abdominal X-ray (Standing) was suggestive of multiple air fluid levels on left side with ground glass appearance over right side (Figure 2). CT scan was suggestive of small bowel obstruction with transition point at mid jejunum, multiple intra-luminal air foci giving mottled appearance at distal jejunum with prominent dilated jejunal loops proximal to it (Figure 3a, 3b). Exploratory laparotomy revealed a densely adherent intraluminal sponge at distal jejunum with pregangrenous changes of the involving gut wall, resection anastomosis of the involved gut was done along with removal of the sponge (Figure 4a, 4b). Postoperative course was uneventful.

III. Discussion

The reported incidence is between 1 in 1000–1500 abdominal operations [3]. However, the actual number is difficult to ascertain because of low reporting rate due to medico-legal implications [4]. Gossypiboma is most commonly seen in cases of an emergency surgery, unexpected change in the surgical procedure, disorganization (e.g., poor communication), change in surgical team or scrub nurses, hurried sponge counts, long operations, unstable patient, inexperienced staff, inadequate staff numbers, and obesity [5].

Gossypiboma may present as either of the following syndromes - pseudotumoral, occlusive or septic entity and the risk of fistulisation increases with time. The retained surgical sponge triggers two biological responses: aseptic fibrinous response due to foreign body granuloma or exudative reaction leading to abscess formation [6]. The symptoms depend upon the location, size of swab and the type of reaction that occurs. Gossypiboma may present early with pain with or without lump formation or may remain asymptomatic for a long time with only vague symptoms. Patients may present with abdominal mass or subacute intestinal obstruction. Patients may rarely also present with fistula, perforation, or even extrusion per anus. In our case the gossypiboma caused vague symptoms for quite some time before ultimately resulting in a chronic lump formation.

Imaging modalities including plain radiography, ultrasonography (USG), computed tomography (CT), may help to have exact diagnosis [7]. CT is the main modality for diagnosis (61%), followed by radiography (35%), and USG (34%) [8]. The CT findings of a sponge usually describe a rounded mass with a dense central part and an enhancing wall. Other features of retained sponges or towels include a whorl-like appearance with trapped air foci and cystic masses with infolded densities. Although radiological investigations are quite sensitive in picking up gossypiboma, they are limited in scope if the sponge does not have any radiological marker on itself. This is because the cotton can simulate hematoma, granulomatous process, abscess formation, cystic masses, or neoplasm [9]. MRI features can also be confusing because the radiopaque marker is not magnetic or paramagnetic so is not visible. In our case differential diagnosis of mesenteric mass was kept. However surgery ruled out the same.

Surgery is the recommended treatment option in these cases. Gossypiboma is best removed by open surgery even though laparoscopic and percutaneous removal has been reported in a few selected cases. Due to chronicity of this disease and intense foreign body reaction, dense adhesion usually forms around the gossypiboma. As seen in our case, the gossypiboma had migrated transmurally into the small bowel forming a chronic lump, it was densely adherent to the bowel wall causing pre gangrenous changes that resection and anastomosis had to be done for removal of the retained sponge.

IV. Conclusion

RFB should be considered in the differential diagnosis of any postoperative patient who presents with pain, obstruction, infection or palpable mass. Identifying a sponge on an intraoperative radiograph is difficult. The best diagnostic modality to rule out a RFB should be a CT scan. Prevention of gossypiboma is very important and can be done by placing radiologically detectable sponges and towels in the surgical site, carefully considering the use of small sponges in large cavities, and performing a methodical wound examination each and every time before closing the wound [8]. Newer technologies are being developed to decrease the incidence of gossypiboma, like radiofrequency chip identification by barcode scanner [10]. Delayed or inappropriate management can lead to significant physical and psychological morbidity.

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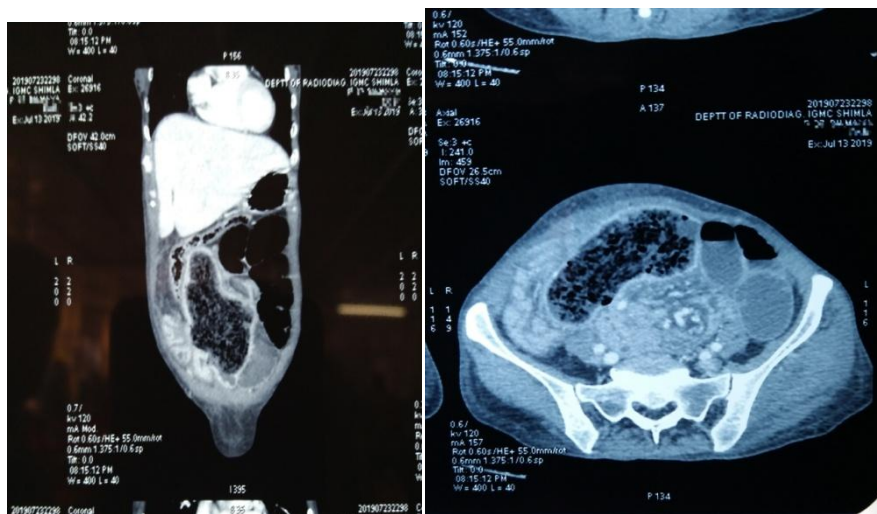
FIGURES



Figure 1- Lump abdomen (Pre-Operative)



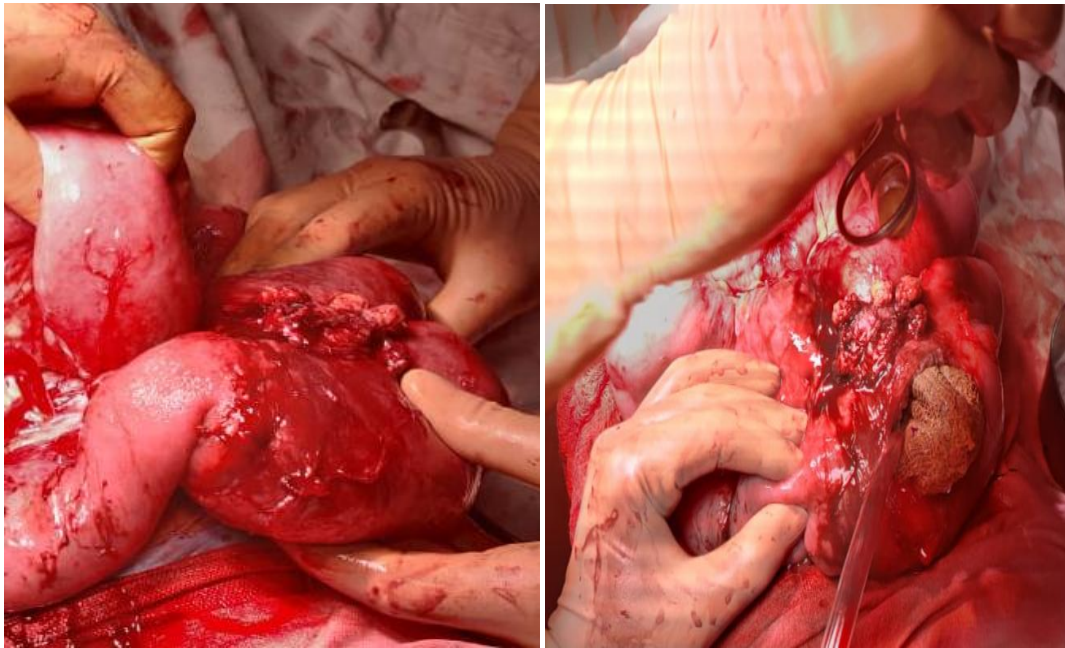
Figure 2- X-Ray Abdomen (Standing) showing Multiple air fluid levels.



(a) sagittal view

(b) coronal view

Figure 3- CT evaluation suggestive of small bowel obstruction with transition point at mid jejunum, multiple intra-luminal air foci giving mottled appearance at distal jejunum with prominent dilated jejunal loops proximal to it.



(a) **(b)**
Figure 4- Intra-operative pictures of densely adherent intraluminal gossypiboma.

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