

CASE REPORT**Gossypiboma: A Case Series and Literature Review****Berhanu N. Alemu^{1*}, Abraham G. Tiruneh¹****OPEN ACCESS**

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ABSTRACT

BACKGROUND: *Gossypiboma (retained surgical sponge) is a rare medical event. It could cause a serious complication that can threaten patients' life. Its diagnosis is usually difficult because the clinical symptoms are nonspecific and the imaging findings are often inconclusive.*

CASE PRESENTATIONS: *We present two cases, a 32 years old woman who passed a retained surgical sponge via rectum 5 months after cesarean section and a 30 years old lady presented with an acute abdomen that later found to have localized right lower quadrant abscess with a retained surgical sponge.*

CONCLUSION: *The most important approach to reduce the incidence of gossypiboma is prevention. At the end of the surgery, a correct count is always the gold standard safeguard against it. Although errors are not to be completely avoided, continuous CPD and strict adherence to rules of the operating room will reduce its incidence to a minimum.*

KEYWORDS: *Gossypiboma, retained surgical sponge, abdominal abscess, foreign body*

INTRODUCTION

Gossypiboma is a mass of cotton (sponge or gauze) within the body left accidentally during a surgical procedure. It can be asymptomatic or can have variable presentations. When it is symptomatic, it will present with obstruction, peritonitis, adhesions, fistula, abscess formations, erosion into the gastrointestinal tract to present as intestinal obstruction or even pass via the rectum (1).

The exact incidence of gossypiboma is not known. This may be due to a general reluctance to publish matters that can lead to medico-legal implications or because it may initiate widespread critical press coverage. The current estimate of retained surgical items is 1 in 10,000. Surgical sponge accounts for the majority of foreign bodies retained. It is commonly found in the abdomen (56%), pelvis (18%) and thorax (11%) (2). In this report, we present two cases of young women who, following cesarean section, had forgotten gauze and presented with an acute abdomen. In the first lady, the gauze underwent trans-mural migration and later expelled via the rectum. And, the second woman developed localized abdominal abscess following perforated caecum because of the retained gauze.

CASE 1

A 32 years old para II who delivered 4 months before with C/S presented to ER with lower abdominal pain, vomiting, and nausea, without distention, failure to pass feces or flatus. Vital signs were B/P: 130/70mmHg, PR: 116/min, RR: 22/min, T: 36.90°. Abdominal examination showed minimal periumbilical tenderness. Her WBC was 13.2K (83% neutrophil), Hematocrit 40%, and platelet count 348K. A plain abdominal X-ray was normal. Abdominal U/S and CT-Scan showed left lower quadrant localized complex lesion measuring 6 X 2.6cm with central shadowing gas bubbles. While castor oil was given for bowel preparation before colonoscopy, a 10 X 8cm surgical sponge came out through rectum after 5 months from the index surgery. Colonoscopy was deferred. The patient was observed for 11 days in the ward and was discharged advised to be followed up at the surgical referral clinic.

Two months after discharge, she came again to the ER with a similar abdominal pain complaint that later became generalized with associated bilious vomiting. The vital sign showed BP 120/70mmHg, PR 118/min, RR 24/min, and T 36.7°c. There was direct and rebound tenderness all over the abdomen. A Chest X-ray showed air under the diaphragm. Laparotomy was done and about 50 centimeters from the ligament of Treitz, a Jejunal perforation was found on the anti-mesenteric border (fig. 1). About 250ml thin non-offensive pus in the general peritoneum evacuated. There were also adhesions between jejunum, sigmoid colon, and anterior abdominal wall. The edges of the perforation were refashioned and repaired. Biopsy from the edges was normal. Post-operatively, she got improved and discharged after 9 days of inpatient observation.

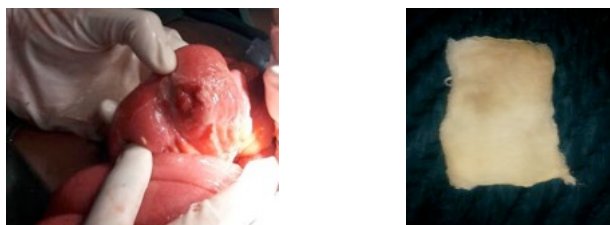


Figure 1: (a) Jejunal perforation on the antimesenteric border (b) The expelled gauze [washed]

CASE 2

A 30 years old Para IV mother who delivered by C/S came to ER a year later with two weeks of worsening abdominal pain, fever, nausea, and vomiting. On presentation, vital signs were stable, and the abdominal exam showed right lower quadrant tender mass. WBC and HGB were normal. Ultrasound showed a 7cmx6cm intra-abdominal abscess. CT-scan showed RLQ heterogeneous mass measuring 10cmx8cmx7.5cm with internal air bubbles and enhancing periphery. Laparotomy done through midline incision showed huge mass complex walled with cecum, omentum, right ovary, and uterus (fig. 2). Gentle dissection revealed pus and a huge pack within the cavity. Further exploration showed a perforated cecum with fecal matter trickling into the abscess cavity. The pack was removed and right hemi-colectomy with ileotransverse anastomosis done. A biopsy report showed chronic active colitis. Postoperatively, the patient was stable and discharged after 7 days of inpatient observation.

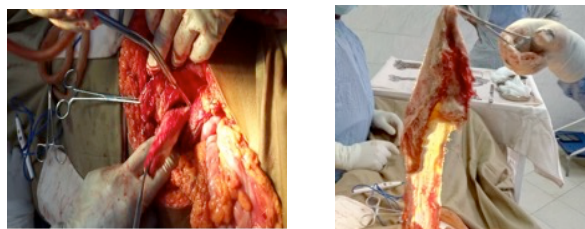


Figure 2: (a) View of the opened abdomen as the gossypiboma was identified (b) Gossypiboma after taken out

DISCUSSION

Gossypiboma is mentioned as one of the surgical never events in the literature. It is a rare but universal event, which is usually underreported for medico-legal reasons. The reported estimate of retained surgical items is 1.32 per 10, 000 procedures and 0.3 to 1% of abdominal operations. The retained sponge can cause an exudative or fibrinous response. As a result of local inflammation, the exudative pattern presents early in the postoperative period. The fibrinous response occurs later due to capsulation of the retained foreign object within scar tissue (1).

The clinical presentation is extremely variable. Patients could present in a few days to more than 40 years from index surgery. In a systematic review of 254 case reports of retained surgical items, the most common sites affected were abdomen (56%), pelvis (18%) and thorax (11%). Pain and mass were the most common presenting symptoms. Adhesion, abscess and fistula formation complicated 31, 24 and 20% of patients respectively (2).

Gossypiboma can only be treated by surgical removal. However, a systematic approach to reduce its incidence is essential. There are many techniques available to prevent this problem. The association of registered nurse of USA recommends that counts should be performed at various phases during surgery. This includes a count performed prior to the start of any procedure, at the time of addition of a new item, prior to closure of a cavity within a cavity, at the time of closure of incision and at skin closure. If any discrepancy is found, it is the duty of the entire surgical team to look for the missing item (3). The American college of surgeons endorses the same view and emphasizes that the optimal environment inside the operating room should allow for focused performance of operative tasks (4). A simple and effective surgical safety protocol like the WHO checklist can be also used as part of the institutional policies that help to improve surgical safety and patient care (5). The curriculum of the surgical residency program and training of operating room staff should also incorporate proper operating room guideline training that includes proper methods of counting surgical sponge/gauze and instruments.

In conclusion, gossypiboma should always be prevented at all costs. The National Quality Forum of the USA and the patient safety guidelines issued by the Health Department of the United Kingdom have declared that the presence of a retained surgical sponge to be a “never event” (4,5). However when it happens, it can cause significant morbidity for the patient. It causes additional costs and has serious medico-legal implications. Shaming the surgeon alone is not an acceptable solution. It is the collective responsibility of the surgical team, the anesthetic team, the nursing

team, and the operating room technicians to ensure the safety of any patient who is brought in to the operating room

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