

CASE REPORT

Gossypiboma (Textiloma) in the Abdominal Preperitoneal Space Following Cesarean Section: A Case Report with Literature Review

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ABSTRACT

Retention of surgical items is a preventable complication. The foreign body may be symptomless or migrate in and around the abdomen causing fistula formation, bowel obstruction and perforation. Some major causes responsible for this complication are emergency, prolonged, difficult surgeries associated with obesity, poor communication with an error in sponge and instrument counting. Frequency being 1/1000 to 1/32672 surgeries in the recent review of the literature. Definitive treatment for this condition is surgical removal either by laparotomy or laparoscopically. We report a case whose cesarean section was done in a secondary care hospital for brow presentation and later referred to us after two months with complaints of pain and swelling in the abdomen. Entrapment of a surgical sponge in the preperitoneal space of the abdomen was noted and later removed surgically. This case highlights the need for all health care professionals to be vigilant and cautious intraoperatively as any lapse in mop and instrument counting may be disastrous for both the patient as well as the healthcare team. There is a growing need for patient safety hospital initiation to avoid such errors by surgical teams. The aim of presenting and reporting this case is to increase awareness among healthcare workers to avoid such lapses causing great medical morbidity with medicolegal complications.

Keywords: Cesarean, Fistula, Gossypiboma, Migrating sponge, Retained foreign body, Textiloma.

How to cite this article: Dhar H, Sashidharan P, Razek YA. Gossypiboma (Textiloma) in the Abdominal Preperitoneal Space Following Cesarean Section: A Case Report with Literature Review. *J South Asian Feder Obst Gynae* 2019;11(1):77-80.

Source of support: Nil

Conflict of interest: None

Date of received: 13-04-2018

Date of acceptance: 11-09-2018

Date of publication: March 2019

INTRODUCTION

Gossypiboma (textiloma) refers to a mass of cotton matrix left accidentally in the body after surgery. Gossypiboma (*Gossypium* means cotton in Latin and *boma* place of concealment in Swahili) is the term used for the retained surgical sponge which may remain undiagnosed for many years.¹ Frequency being 1/1000 to 1/32672 surgeries in the recent review of literature.² The retained foreign body (RFB) can incite an aseptic granuloma formation initially followed by an inflammatory reaction resulting in an abscess formation.² Retained foreign body is a major problem which can be easily avoided by awareness and following strict patient safety measures and checklist in the operation theaters. Retention of surgical items like needles, instruments, surgical towels, swabs and sponges can lead to unfavorable consequences for the patient with serious medicolegal concerns. Most common sites for migration of the sponge are abdomen, pelvis, and thorax.³ The most common symptoms may be unexplained fever, pain, discomfort, palpable mass, wound suppuration, the formation of a fistulous tract or may be asymptomatic till years.⁴ RFB can manifest as abscess formation and granuloma around the sponge with or without bacterial invasion or may lead to adhesion or encapsulation months or years after surgery. In some case may end up with bowel perforation, infection or even death. Extreme care and caution are mandatory while handling and counting surgical items. Sponges without radiological markers may not be visualized, thereby highlighting the importance of using the correct mops even in difficult situations. Implementation of policies for counting all surgical items in operating rooms and communication among surgical teams is mandatory. Prevention of this complication is the best option to avoid patient morbidity and legal issues. Fear of litigation prevents many from reporting. Reporting and emphasizing such incidents may improve the knowledge among health workers as of now such mistakes and lapses have not been abolished completely even in the best medical centers. We present a case of retained surgical sponge which was retrieved from the preperitoneal space of the abdomen after cesarean section.

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CASE REPORT

Thirty-three years para three with previous spontaneous vaginal delivery underwent cesarean section in a peripheral secondary hospital for brow presentation and was referred to our tertiary hospital two months after the surgery with complaints of pain abdomen and a firm palpable mass in the left upper abdomen. She had a history of laparotomy for left ovarian cystectomy for benign serous adenofibroma four years back. On examination she was vitally stable, no scar tenderness and no evidence of any vaginal bleeding or foul smelling discharge. A firm mass 10 × 10 cm, tender on palpation was noted above and to the left of the umbilicus.

An X-ray revealed a coiled metallic linear structure at the level of L4–L5 vertebra. Ultrasonography reported a left paraumbilical large echogenic structure just beneath the anterior abdominal wall with extensive posterior shadowing surrounded by a local inflammatory reaction.

Computed tomography (CT) scan abdomen and pelvis reported a large foreign body in the left paramidline position measuring 91 × 99 × 68 mm with soft tissue reaction, containing internal radiodense linear structures and multiple air foci. It appeared anterior to the small bowel, posterior to the left rectus abdominus muscle and superior to the level of the umbilicus. No associated pneumoperitoneum was observed (Figs 1 to 4). Rest abdominal viscera showed mild hepatomegaly with gall bladder stone, spleen, pancreas, kidneys, stomach, small bowel and urinary bladder were normal appearances with minimal free fluid in the pelvis. There was no iliac lymph node enlargement.

After a thorough counseling session and explanation regarding the need for surgical intervention, complications, and anticipated risks the couple and family consented for exploratory laparotomy. The operation steps included a left paramedian incision across the palpable

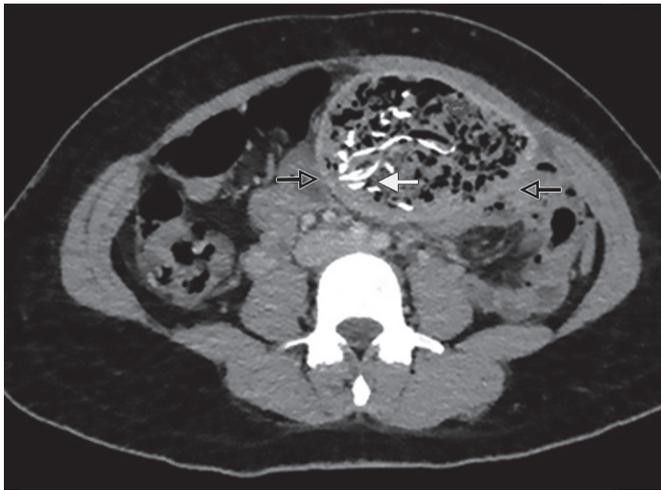


Fig. 1: CECT abdomen, axial view, shows an intra-abdominal extraperitoneal oval mass containing hyperdense threads (yellow arrow) and air density bubbles (red arrows). It has enhanced smooth capsule (black arrow) displaying bowel laterally and posteriorly

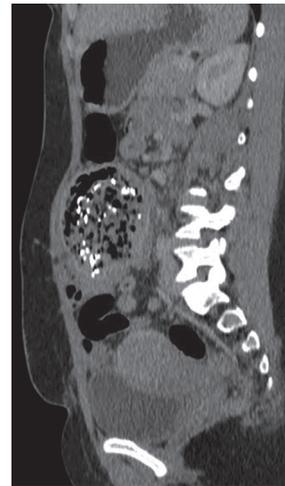


Fig. 2: CECT of abdomen, left parasagittal view, showed the mass (textiloma), abutting posterior surface of the anterior abdominal wall with no bowel loops in between or sinus tract

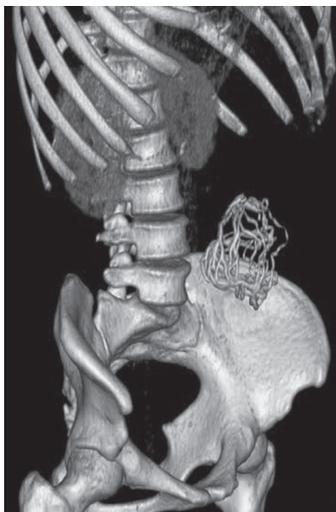


Fig. 3: Volume rendering 3D images of the entire abdomen and pelvis showed the hyperdense threads of textiloma

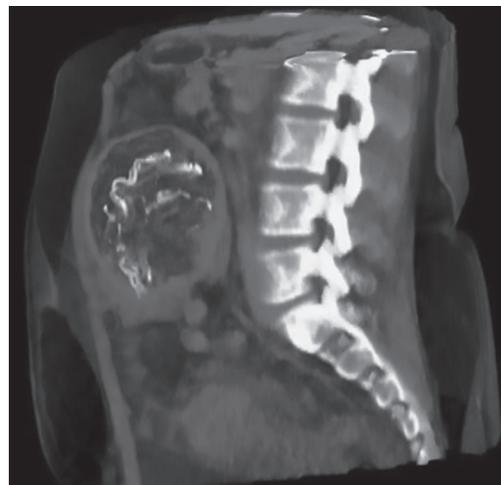


Fig. 4: Volume rendering 3D images, left parasagittal thick slab of the lower abdomen and pelvis showed the textiloma and related bowel loops

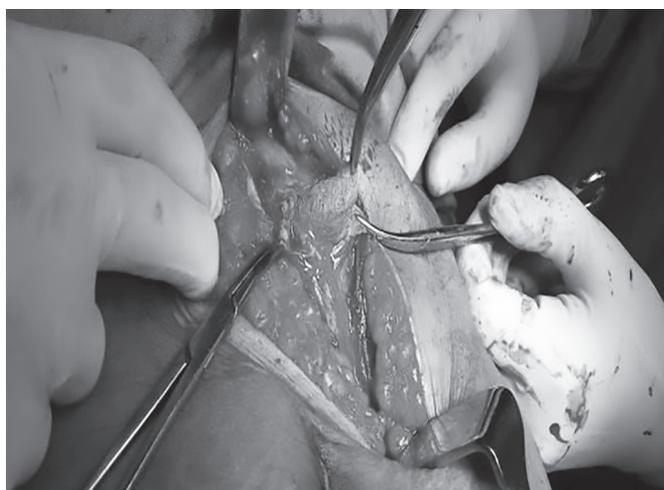


Fig. 5: Gossypiboma (surgical sponge) being extracted through the laparotomy wound

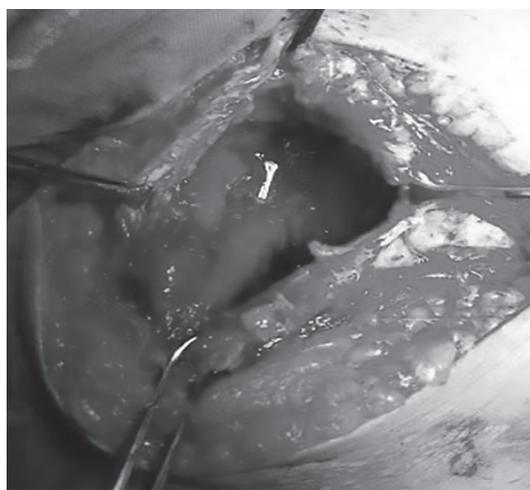


Fig. 6: Preperitoneal cyst wall after evacuation of pus and the surgical gauze

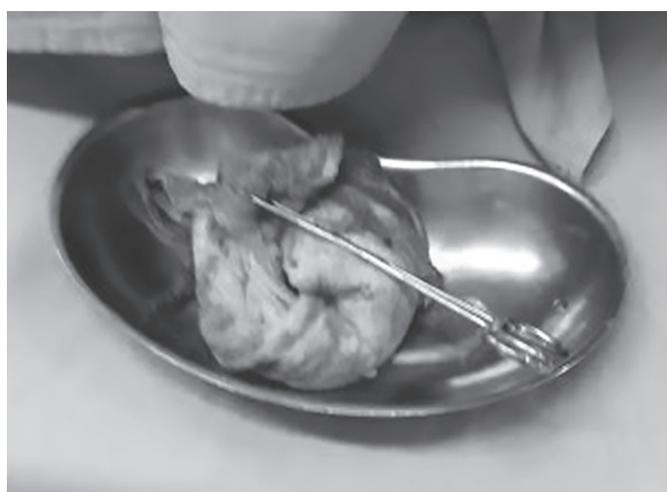


Fig. 7: Surgical gauze after its removal

mass which was deepened. Anterior rectus sheath was opened and rectus muscle split. Posterior rectus sheath was also opened and it entered a large preperitoneal thick walled abscess cavity 10 × 10 cm above and to the left of the umbilicus with no breach of the peritoneum. Enclosed in this was a rolled up large intact surgical abdominal sponge 40 × 40 cm. Swabs for culture and gram staining were taken from this foul smelling abscess and then the sponge was removed (Figs 5 to 7).

The cavity was thoroughly washed out with hydrogen peroxide and saline and then closed. The postoperative course was uneventful, and she was discharged on the 5th day in good condition. Wound swab culture showed heavy growth of *E. coli* sensitive to penicillin and cephalosporin. No MRSA or MDR *Acinetobacter* spp. was isolated from abscess, throat, groin or nasopharyngeal swabs. High vaginal Gram stain and culture swabs were negative. C-reactive protein 19.40 (0–5), coagulation, renal, and liver function tests within normal limits. She had moderate anemia with Hb 8.6g/dL with normal white cell count and platelets.

DISCUSSION

The retained sponge is a rare avoidable event causing significant patient morbidity and often present clinically or radiologically similar to tumors and abscesses, thus making diagnosis difficult.⁵ Sometimes intrabdominal leftover gauzes can migrate into gastrointestinal lumen without any obvious opening to cause complete or partial obstruction at the level of ileocecum.⁶ The retained foreign body can incite an aseptic granuloma formation initially followed by an inflammatory reaction resulting in an abscess formation.² Most common sites for migration of the sponge are abdomen, pelvis, and thorax.³ The most common symptoms may be unexplained fever, pain, discomfort, palpable mass, wound suppuration, the formation of a fistulous tract or may be asymptomatic till years.⁴ Forgotten sponge migrated into the intestinal lumen were reported by Gencosmangulu² and Mavioglu⁷ reported two unusual cases of paracardiac gossypiboma. In our case, the sponge was removed from the preperitoneal space of the abdomen.

Various diagnostic measures to detect RFB are plain abdominal radiography, sonography, CT scan, and magnetic resonance imaging (MRI). CT scan is very accurate in diagnosis and localizing abdominal textilomas.⁸ In our case, the CT scan was diagnostic and very accurately detected the hidden surgical sponge. The typical appearance is a spongiform pattern with mottled lucencies and gas bubbles.

Various contributory factors responsible for this complication may be a technically difficult surgical procedure, long operating time with a frequent change of surgical teams with poor communication between the teams, use of small-sized sponges and obesity. The use of radiopaque impregnated markers is the latest trend in all health institutions and this has reduced the incidence of forgotten surgical items to a large extent. In the absence

of a radiopaque marker, the foreign body may mimic radiographic patterns of hematoma, neoplasm, abscess, cystic masses or calcification.⁹ As a good practice communication, among all surgical teams should be appropriately updated. Systemic count of all surgical items is mandatory and best to avoid the use of small surgical swabs and peanuts. It is recommended that mop count should be done at least four times. First when instruments and sponges are unpacked and set up. Second before the beginning of the procedure, third as closure begins and final count during skin closure. Barcode and radiofrequency detection systems are the latest technologies used for sponge-tracking.³

Surgical removal of the sponge is possible laparoscopically where there are no complications otherwise laparotomy is undertaken to prevent severe morbidity and mortality. A direct incision over the encapsulated swelling as was done in our case is recommended rather a conventional laparotomy¹⁰ to accomplish the surgery successfully.

CONCLUSION

Prevention of retained surgical items should be of utmost priority. A retained foreign body should be removed as soon as diagnosed. Tactful counseling regarding this complication and the need for surgical removal is necessary. Irrespective of the surgical emergency and technical difficulties, strict sponge and instrument count should be the rule and practice in all health care institutions. Textiloma (gossypiboma) should always be considered in the

differential diagnosis of a postoperative case presenting as incidental mass. Even today the mishap of retained sponges has not been eliminated.

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