

Gossypiboma — A Surgeon's Nightmare

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Abstract

Surgical material most commonly made of cotton called gossypiboma are sometimes inadvertently left behind in the body at the time of surgical closure. The implications are grave for both the patient and the surgeons. There are some risk factors and conditions of surgery which contributes to the occurrence of this mishap and those conditions are potentially preventable. Through this case report we aim to re-emphasize the phenomenon of gossypiboma and highlight its consequences and stress on its possible prevention.

Introduction

Gossypiboma or textiloma is used to denote specifically a mass of cotton material, usually gauze, sponges and towels left in the body cavity at the end of an operation. The word gossypiboma derives from two sources: the Latin word "gossypium" meaning textile or cotton, and the Swahili word "boma" meaning place of concealment.^{1,2} Gossypiboma has virtually been reported after all kinds of operations including intrathoracic, orthopaedics, intraspinal, and neurological and even after breast surgeries, but most common after an abdominal or gynaecological surgery. Emergency surgery, sudden change in plan of an operation on the table, obesity, missing proper preoperative and post operative sponge count, profuse bleeding when large number of gauze and swabs are to be used to achieve haemostasis and provide a clear field view.

Prevalence of gossypiboma is difficult to document accurately due to under reporting of cases probably attributed to the fear of litigation.⁷ Though both sexes are affected, women are at increased risk especially during obstetric and gynaecological operations.

Diagnosis of gossypiboma is often delayed because of its nonspecific presenting features and it may take even years to appear. Often it's associated with severe morbidity and rarely mortality.^{7,8}

When a patient with history of previous surgery presents with complains in form of abdominal pains, nausea, vomiting, diarrhoea, abdominal mass, weight loss, malnutrition and features of intestinal obstruction or malabsorption syndrome, a suspicion of gossypiboma should always be kept in mind.

Diagnosis is often by computerised tomography, though X-rays and ultrasound have also helped in detection where the cotton mass carries radio opaque marker.

Case Presentation

An emaciated lady, 33 yrs P3+0 (previous 2 Lscs) presented to our Gynaecology emergency of B R Singh Hospital, Kolkata with complaints fever and

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profuse foul smelling discharge from a opening in her recent midline laparotomy incision And vaginal discharge as well.

Past History

She had elective caesarean section on 02/08/2019 at Suburban Nursing Home at (37 weeks+) and was discharged on the 7th day after stitch removal.

At the time of discharge she reported to her doctor that she was not feeling well and had felt a swelling in her abdomen. She returned after 2 days with several bouts of vomiting, fever and a swollen and tender lower abdominal scar of LSCS and copious purulent vaginal pus discharge. She was admitted and 2 units of whole blood was transfused by her obstetrician. The abdominal scar was explored at bedside to drain out pus and daily wound dressing were done for the next 10 days. She also gave history of some instrumental vaginal manipulation to drain out pus vaginally. No ultrasound or radiological imaging of abdomen was done at this point. When she did not recuperate with conservative management she was advised to attend a Govt Medical College in Kolkata. Meanwhile she visited another private practitioner who advised a CT scan of abdomen. She did a CT scan of abdomen & got admitted to a Medical College & Hospital in Kolkata on 30/08/2019. Her CT scan report (28/08/2019) showed a bulky uterus and ovaries were not visualised, lower abdomen showed a heterogeneous lesion with thick capsule with entrapped air within in the right side of the pelvis and right Lumbar region with surrounding mildly distended gut. Hence Gossypiboma could not be ruled out. Her attending doctors did an exploratory laparotomy with a midline incision under general anaesthesia on 30/08/2019.

Operative Notes

There was dense adhesion present in abdomen and pelvis. Adhesiolysis was done and several pus pockets were seen around intestine. Pus was drained and sent for culture sensitivity. Gut was examined & found to be normal. An abdominal drain was kept in situ. The midline longitudinal incision was sutured with PDS (p-dioxanone) & skin closed with Ethilon (Nylon sutures).

In her post op period she had nausea, weakness with no sense of general wellbeing. She could eat only small portions of normal diet daily with severe loss

of appetite. Post operatively dressing of her previous LSCS wound was done daily until it healed (without secondary sutures). She was discharged on 24/09/2019 (25 days after Laparotomy). First post-operative follow-up on 10/10/19 was uneventful apart from the fact that she complained of generalised weakness. At her second follow-up on 07/11/19 she complained of pus discharge from laparotomy wound. On examination purulent discharge from two points of midline vertical laparotomy incision was noted. Wound dressing done, & pus sent for culture and she was prescribed oral antibiotics. At her third follow-up on 28/11/19 she was still found to have purulent discharge from wound and now from vagina as well (Almost 3 months after Laparotomy). The patient at this point had lost faith in the course of treatment and did not appear for further follow up. She had continued dressing of wound at home throughout the month of December 2019. She was prostrated, grossly emaciated and unable to perform any household chores to the point that her mother in law used to take care of the children/ new born. Finally on exacerbation of her symptoms and appearance of fever again she got herself admitted to B R Singh Hospital, Kolkata on 04/01/2020 at 7pm (Saturday).

On admission patient had a very poor general condition, was pale, weak and had a foul smell emanating from her. Her BMI was 18, pulse rate 86/min, blood pressure was 90/60. Investigations showed Hb 7.4 gm%, TC 9900, RFT and LFT were within normal range. On local examination of abdomen the transverse (LSCS) incision was healthy. There were two small openings in the longitudinal (Laparotomy) incision were from there was discharge of copious foul smelling pus, also copious discharge of pus from Vagina.

Dressing was done and pus was sent for culture sensitivity. We put her on Injection Meropenem & Injection Metronidazole along with other supportive medications. She was posted for ultrasound of whole abdomen the following day. Pus Culture sensitivity report shows heavy growth of E. coli highly sensitive to Meropenem. On the next day during bedside dressing of the wound, gaping of midline longitudinal incision was stretched with an artery forceps to facilitate drainage of pus. A whitish structure was seen & was gently pulled out by the artery forceps. The structure turned out to be an intact mop trying to make its

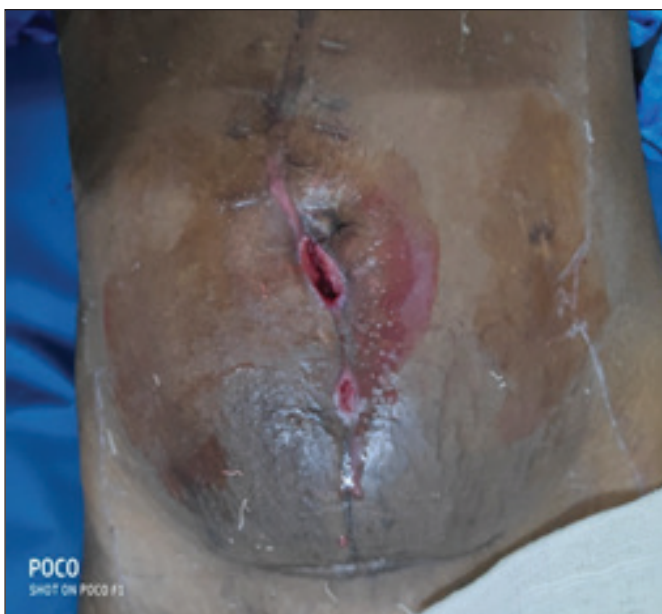


Fig 1: Small pus point was extended to facilitate drainage of pus



Fig 2: After a few dressings a piece of foreign body seen. Artery forceps was used to pull it out



Fig 3: Entire mop came out through the small rent



Fig 4: Wound healed after a few dressings

way out through the abdominal layers. The wound dressing done with betadine lotion and antibiotic ointment. Dressing was continued daily.

Further two units blood were transfused along with injection MVI, probiotics. Betadine vaginal pessary were given per vaginally daily. After 5 days the wound healed completely. She regained her appetite was visibly well. Before discharge her TC was 7400 & Hb 12.2gm%. She came for follow up after 4 weeks and was found to be doing very well.

Discussion

Gossypiboma is a condition rarely chanced upon.^{1,6} This rarity may also reflect under reporting due to

fear of litigation^{4,7} The technical competence, skills and awareness of the surgeon and the theatre nursing staff are important. Emergency surgeries are at risk of Gossypiboma.

Gossypiboma has the potential to harm the patient profusely as a retained piece of cotton material evokes two different types of reaction in body. There is an exudative reaction which leads to the formation of abscesses, and there is also a fibrotic reaction which leads to adhesions and mass lesions.³ This leads to severe morbidity as well as mortality. A history of previous surgery is mandatory for the diagnosis of gossypiboma at whatever site.¹¹ However the symptoms may be non-specific and mild and may be

overlooked for months or even for years.⁸ The interval between originating surgery and manifestations may range from 11 days to 28 yrs in a study by Garry and Agarwal.⁷

Diagnosis is by CT scan which shows brightly echogenic, well defined structure in a cystic mass.⁹ Air bubbles and calcifications may be seen, leading to confusion with an abscess.^{12,13} Diagnosis will be enhanced by plain X-rays only if the gauze or towel has radio-opaque marker. Ultrasonography, magnetic resonance imaging and upper gastrointestinal contrast radiographs have been valuable. Treatment for gossypiboma is surgical exploration, though always not required. Spontaneous migration of intraluminal retained gauzes can occur leading to expulsion of the mass during defecation. Intra uterine masses may be extruded through vagina, cervix. Laparoscopic methods may be used to

remove left over intra-abdominal gauze.^{5,15} The legal implications of gossypiboma are high. Gossypiboma may be misdiagnosed as a malignant tumour leading to unnecessary invasive investigations and extirpative surgery which may be disabling.¹⁰

Laparotomy in the midst of adhesions, abscesses, intestinal fistulae and intestinal obstruction can lead to morbidities and even death.⁷

Conclusion

Gossypiboma is a dangerous but easily preventable surgical condition. A properly ensured preoperative and post operative mop count should be done and doubly checked. Mops with radiopaque markers should be preferred. Avoid using small swab inside abdomen. When in don't hesitate getting a postoperative X-ray or CT scan.

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