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Case Report
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Gossypiboma - A Surgeon's Legacy

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Abstract

Gossypiboma or textiloma is a term used to describe a retained surgical swab in the body after a surgery. Inadvertent retention of a foreign body in the abdomen is frequently misdiagnosed and often requires unnecessary radical surgical procedures. This increases morbidity and mortality of the patient, cost of treatment, and medicolegal problems.

We are reporting case of a 46-year-old lady who presented to casualty with chief complaints of abdominal pain and discomfort. She underwent laparoscopic converted to open cholecystectomy 8 months back at another hospital. After clinical examination and investigations patient was admitted with a working diagnosis of subacute intestinal obstruction due to? foreign body in sigmoid colon.

During exploratory laparotomy, enterotomy was performed over the sigmoid colon and retained surgical sponge was retrieved.

Keywords: Complication; Gossypiboma; Retained foreign body; Textiloma

Background

Gossypiboma, term is derived from the combination of Latin words "*Gossypium*" (cotton) and the Swahilli "boma" (place of concealment) [1]. Retained surgical sponge is a ubiquitous medical error that is avoidable. It can cause serious morbidity and possibly even mortality. It should be suspected in the differential diagnosis of any unresolved postoperative case with unusual problems.

Usually, the body shows two responses towards a retained surgical sponge which may lead to its detection, that is: Acute and chronic. The acute type is an exudative inflammatory reaction with the formation of an abscess which leads to early detection and surgical removal, however the chronic type is an aseptic and fibrinous reaction to the cotton material and development of a mass which may lead to a diagnostic dilemma [2].

In the abdomen the sponge is usually surrounded by omentum and intestines, which attempt to encapsulate it. The exerted pressure and irritation on the bowel loop lead to necrosis of the intestinal wall and the sponge can erode partially or entirely into the lumen of the bowel. This process can lead to obstruction or fistula formation. Patients may develop symptoms of abdominal pain, nausea, vomiting, anorexia, and weight loss resulting from obstruction or a malabsorption type syndrome which develops either by multiple intestinal fistulae formation or intraluminal bacterial overgrowth [2,3].

Case Presentation

A 46-year-old female patient presented to casualty with complains of abdominal pain and distention in the past 5 days. She is a treated case of pulmonary tuberculosis 20 years ago. She underwent laparoscopic converted to open cholecystectomy around 8 months ago, at another hospital. She was stable in the postoperative period till 5 days prior to presentation. Her general physical examination was within normal limits. On abdominal examination, right subcostal and infraumbilical surgical scars were present; abdomen was distended with generalized tenderness; bowel sounds were heard and digital rectal examination showed normal anal tone with stool staining over examining finger. Abdominal ultrasonography showed multiple dilated gas and fluid filled bowel loops. X-ray abdomen showed a visible radio-opaque marker in rectosigmoid region. A Computerized Tomography (CT) scan of the abdomen showed, Intraluminal heterodense mottled contents within sigmoid colon along with hyperdense linear structure casting streak artefacts with associated significant inflammatory changes, free fluid and mural wall thickening of sigmoid colon and upstream dilatation of large bowel loops; features concerning for possibility of gossypiboma with large bowel obstruction and superadded infection. She was taken up for exploratory laparotomy. A sigmoidoscopy done preoperatively revealed normal rectal mucosa but the sigmoidoscope could not

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Figure 1: Plain abdominal radiograph showing radio-opaque marker.

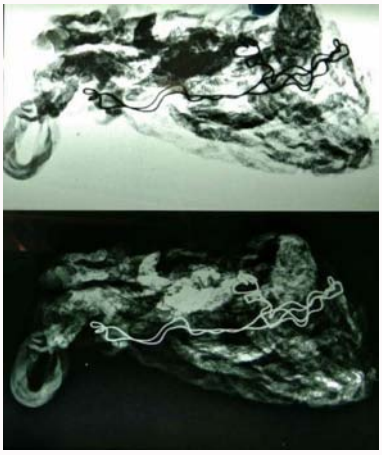

Figure 2: Postoperative radiograph of excised foreign body showing radio-opaque marker.

be negotiated into the sigmoid colon. Abdomen was opened with a low midline incision. After entering the peritoneum, an edematous and congested sigmoid colon was identified and mobilized, an enterotomy was made and a stool-stained surgical mop of approximately 25 cm × 25 cm was retrieved. A diversion loop ileostomy was made after which a peritoneal lavage was done. The abdomen was closed with all precautions and counts of sponges and instruments. Postoperative course was uneventful and patient was on regular follow up in the out-patient services. Three months postoperatively a stoma reversal was done which was uneventful and currently the patient is doing well (Figures 1-3).

Discussion

An acute surgical abdomen is one of those cases in which a patient needs urgent evaluation and treatment which may likely require emergent surgical intervention. The causes of an acute surgical abdomen can be mesenteric ischemia, appendicitis, cholecystitis, diverticulitis, bowel obstruction etc. Intra-abdominal gossypiboma cases generally a have subacute or chronic presentation that is different from rest of the cases of acute abdomen. It is an uncommon misadventure and is rarely reported as gossypiboma cases can lead to embarrassment, humiliation, job loss, and law suits worldwide. Data concerning the actual incidence is difficult to estimate because of a low reporting rate due to its medicolegal implication [4].

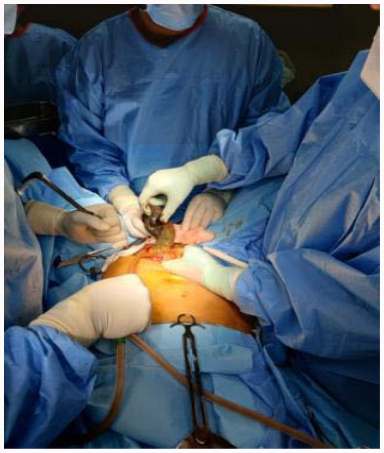

Figure 3: Intraoperative image of surgical sponge being retrieved from sigmoid colon.

It is difficult to recognize a gossypiboma by using radiological screening if the sponge does not have any radiological marker on itself, because the cotton can simulate a hematoma, granulomatous process, abscess formation, cystic masses or neoplasm. They are discovered either a few weeks after surgery or may be discovered several years later. The first diagnostic modality to rule out a RFB should be a CT scan and often it will be the only test needed.

The clinical presentation of gossypiboma is variable and depends on the location of the sponge and the type of reaction to the retained surgical sponge. In acute reactions, the exudative inflammatory response caused due to bacterial overgrowth leads to formation of an abscess which may lead to an early detection and removal of the sponge, whereas in chronic reactions, an aseptic fibrinous response to the cotton material leads to the formation of a mass which usually remains asymptomatic or presents with a pseudotumor syndrome. In the abdomen the sponge is usually surrounded by the omentum and intestine which attempt to encapsulate it. This exerts pressure and irritation on the bowel loops and leads to necrosis of the intestinal wall and the sponge can erode partially or entirely into the lumen of the bowel, leading to obstruction or fistula formation. These intra-abdominal gossypibomas can migrate into the ileum, stomach, colon or bladder without any apparent opening in the wall of these luminal organs [5].

Common symptoms and signs of gossypiboma are abdominal distension and pain, ileus, tenesmus, palpable mass, diarrhea, nausea, vomiting, anorexia, and weight loss. Intraabdominal gossypibomas may lead to serious consequences, such as bowel or visceral perforation, obstruction or fistula formation with sepsis and even death caused by the multiple intestinal fistulas and intraluminal bacterial overgrowth [2,3].

The possible risk factors for a retained surgical sponge are: Emergency surgery, unexpected change in the surgical procedure, disorganization, hurried sponge counts, long operations, unstable patient condition, inexperienced staff, inadequate staff numbers, and patient with high Body Mass Index (BMI) [6].

Prevention of gossypiboma can be done by simple precaution like keeping a thorough pack count and tagging the packs with markers and postoperative simple abdominal radiographs. Furthermore, newer technologies are being developed that will hopefully decrease

the incidence of retained foreign body, like Radiofrequency Identification (RFID). The overall objective of this system would be to eliminate errors in the sponge count by removing the human error factor.

Conclusion

Present case is an important pearl that one must be aware of the risk factors that could lead to a gossypiboma and take measures to prevent it. Gossypibomas are uncommon, mostly asymptomatic, and hard to diagnose particularly, chronic cases which do not show specific clinical and radiological signs for differential diagnosis. It should be included in the differential diagnosis of soft tissue masses detected in patients with a history of a prior surgery.

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