



CASE REPORT

GOSSYPIBOMA

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Abstract:

Foreign bodies forgotten in the abdomen include towels, artery forceps, pieces of broken instruments or irrigation sets and rubber tubes. The most common surgically retained foreign body is the surgical sponge. Such materials (textilomas or gossypibomas) cause foreign body reaction in the surrounding tissue and present as a mass or with subacute intestinal obstruction, although rarely they may result in fistula, free perforation or even extrusion. This is a case report on retained surgical sponge after caesarian section.

Keywords: gossypiboma, surgical sponge

INTRODUCTION

Gossypiboma, term is derived from the combination of Latin words “gossypium” (cotton) and the Swahili “boma” (place of concealment).^[1] Two usual responses lead to the detection of a retained sponge. The first type is an exudative inflammatory reaction with the formation of an abscess and usually leads to early detection and surgical removal. The second type is aseptic with a fibrotic reaction to the cotton material and development of a mass^[2].

In the abdomen the sponge can be surrounded by omentum and intestines, which attempt to encapsulate it. The exerted pressure and irritation on the bowel loops can lead to necrosis of the intestinal wall and the sponge erodes partially or entirely into the lumen of the bowel. This process can lead to obstruction or fistula. Patients develop symptoms of abdominal pain, nausea, vomiting, anorexia, and weight loss resulting from obstruction or a malabsorption type syndrome caused by the multiple intestinal fistulas or intraluminal bacterial overgrowth^[2]

CASE REPORT:

A 24yrs old female third gravida with previous history of two lower segment Caesarian section(LSCS) underwent thirs LSCS. During the post operative period she was afebrile throughout, but developed pain abdomen from 12th post operative day. There were features of subacute intestinal obstruction like vomitings and unable to pass flatus and stool since then. On examination abdomen was soft with tenderness in epigastrium and umbilicus with palpable mass



in left hypochondrium upto umbilicus which simulated splenomegaly. Apart from routine haematological and biochemical investigations, USG abdomen , X ray erect abdomen , CT abdomen were done. Ultrasound (USG) abdomen showed features of ileal obstruction with a foreign body with cavity of mixed echogenisity(fig 1,2).



FIGURE 1



FIGURE 2

On X ray erect abdomen the findings are as shown in figure 3 and CT abdomen showed foreign body (mop) below transverse colon with cavity and obstruction at proximal ileum as shown in (figure 4,5). Patient was re operated and the findings of exploratory laparotomy were

1. loops of ileum coiled 30cm from ileocaecal junction
2. Omentum rolled up with ileum loops adherent
3. Tail of mop seen, on tracing it 9*9" mop in a cavity filled with pus noted. (FIG 6 , 7)



FIGURE 3

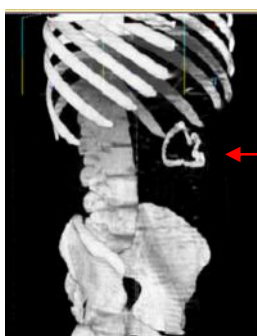


FIGURE 4

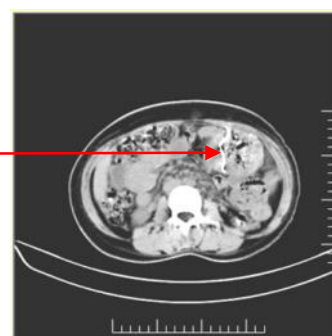


FIGURE 5



FIGURE 6



FIGURE 7

Adhesions were lysed and peritoneal toilet done and abdominal drains placed. Pus was sent for culture and was found sterile. Post operative period was uneventful, afebrile throughout with no other complaints and sutures removed on 7th post operative day and patient was discharged.

DISCUSSION:

An acute surgical abdomen is one of those cases in which a patient needs emergent evaluation, treatment and likely requires emergent operative treatment. The causes can be mesenteric ischemia, appendicitis, cholecystitis, diverticulitis, bowel obstruction etc. An adult patient with an acute abdomen generally appears ill and has abnormal findings on physical examination. There can be upper and lower gastrointestinal (GI) signs and symptoms with signs of peritonitis. Management includes conservative treatment to surgical removal of definitive cause. Gossypiboma cases generally have subacute or chronic presentation that is different from rest of the cases of acute abdomen.

Data concerning the actual incidence is difficult to estimate because of a low reporting rate due to medicolegal implication^[3]. It varies between 1 out of 1,000–1,500 intra-abdominal operations and 1 out of 300–1,000 of all operations^[4]. 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 hematoma, granulomatous process, abscess formation, cystic masses or neoplasm.

Gossypiboma most commonly occurs after gynecological and upper abdominal emergency surgical procedures, but it may also follow thoracic, orthopedic, urological, and neurosurgical procedures^[5]. Because the symptoms of gossypiboma are usually nonspecific and may appear years after surgery, the diagnosis of gossypiboma usually comes from imaging studies and a high index of suspicion.

The possible causes of sponge retention are emergency surgery, unexpected change in the surgical procedure, disorganization (e.g. poor communication), hurried sponge counts, long operations, inexperienced staff, inadequate staff numbers, and obesity. Most cases occurred when the sponge count was falsely pronounced correct at the end of surgery^[6].

Two unusual responses of a retained surgical sponge are, the first type is an exudative acute inflammatory reaction with formation of abscess in close proximity to the retained sponge. This



usually occurs in the early postoperative period and may involve secondary bacterial contamination. Leading signs and symptoms include pain or irritation, palpable mass and fever. The second type or response is aseptic with a fibrotic reaction to the cotton material and mass development.

The most common symptoms of retained surgical sponge are pain, palpable mass, vomiting, weight loss, diarrhea, abdominal distention, ileus and tenesmus. The main complications include obstruction, peritonitis, adhesion, abscess development, fistula, erosion of urinary or GI tissues and migration of sponge into lumens of these systems^[2].

The most impressive imaging finding of gossypiboma is the curved or banded radio-opaque lines on plain radiograph. The ultrasound feature is usually a well-defined mass containing wavy internal echogenic focus with a hypoechoic rim and a strong posterior shadow^[7]. On CT, a gossypiboma may manifest as a cystic lesion with internal spongiform appearance with mottled shadows as bubbles, hyper dense capsule, concentric layering, and mottled shadows as bubbles or mottled mural calcifications^[8]. Magnetic resonance imaging (MRI) features of gossypiboma in the abdomen and pelvis, which include the delineation of a well-defined mass with a peripheral wall of low signal intensity on T1- and T2-weighted imaging, with whorled stripes seen in the central portion and peripheral wall enhancement after intravenous gadolinium administration on T1-weighted imaging^[9].

Prevention of gossypiboma can be done by simple precaution like keeping a thorough pack count at least thrice (preoperative, intra operative and postoperative), especially during emergency operation; and complete exploration of abdominal cavity by the surgeon before closure if there is any doubt in the counts. Immediate intra operative X-rays should be done if there is suspicion in count. Newer technologies for detection include two-dimensional bar code, radiofrequency detector, and radiofrequency identification^[10]. The two-dimensional bar code system was the first technological approach. It incorporates a specific code to each sponge, which prevents double count. The second technological approach was radiofrequency detector where sponges are identified by radiofrequency beacons. These beacons cause base station to produce a beep when they remain underneath. Radiofrequency identification is a modification of radiofrequency detector where a tag is attached to each sponge. The surgical sponge is incorporated with radiopaque markers (density equivalent to 0.1 g/cm sup BaSO₄) in between layers or strips or outside fibres, magneto-mechanical tag, electronic tags, coloured fibres. They can be identified intra operatively with help of X-ray films, magnets, and specific colours.

The medicolegal consequences of gossypiboma are significant. Patients may be inadvertently informed that masses might be malignant and may undergo unnecessarily invasive investigations such as angiography and unnecessarily radical extirpative surgery.

CONCLUSION:

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 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 operation.

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