

Case Report

Intraluminal Migration of Gossypiboma and Rectal Expulsion - Case Report

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Abstract

Retained surgical sponge (Gossypiboma) in the abdominal cavity following surgery is a serious complication that can be avoided. The incidence is variable and underreported, because of medico-legal consequences, but also patient remains asymptomatic. Retained sponge can erode the bowel leading to partial or complete bowel obstruction. Transmural migration of the surgical sponge is a rare entity. We present a case of intraluminal migration of gossypiboma that spontaneously expelled through rectum with favorable recovery.

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Introduction:

The term Retained Surgical Item refers to any tool, instrument, device or surgical sponge left inadvertently in the patient's body during surgery.¹ Most common retained surgical item is cotton surgical sponge termed as Gossypiboma derived from Latin word Gossypium meaning cotton and Boma meaning concealment.² Its incidence is variable and underreported, as Gossypiboma occurring in 1 out of every 300-1000 surgeries with majority being intra-abdominal procedures.³ Clinical presentation is also variable depending upon the location of the foreign body and on kind of inflammatory reaction which may be exudative resulting in abscess formation or fibrinous leading to granuloma formation. It may remain asymptomatic for years or may present with symptoms of abdominal pain, constipation, vomiting, anorexia and palpable mass.⁴ Removal of the foreign body is the suggested course of treatment, which can be carried out endoscopically, laparoscopically, or by an open procedure with the goal of preventing the complications that result in death rates of 11–35%.⁵ Here, we present a rare case of transmural migration of sponge

that expelled through rectum spontaneously and patient recovered.

Case Summary:

A 23-year-old female presented in Emergency department with generalized abdominal pain, which was constant and colicky in nature along with non-bilious vomiting for last 10 days. She also had relative constipation for four days. Upon further inquiry, she gave history of abdominal distention since one month which was not painful. There was no history of fever, cough, rash or arthralgia and any urinary or gynaecology related symptoms. She had three elective lower segment cesarean sections. Last was done at another hospital six months ago. Her past medical history revealed gestational hypertension and after two months of her last lower segment cesarean section, she developed deep venous thrombosis for which she was put on warfarin therapy. She did not have any allergy or addiction.

Examination revealed a young lady, slightly distressed, fully conscious and well-oriented with Pulse was 92/min, Blood Pressure (BP) 110/70 mmHg, respiratory rate 20/min and temperature 98.6° F. She appeared dehy-

drated with sunken eyes, dry tongue and capillary refill time of three seconds. Abdominal examination revealed a scar of Pfannenstiel incision. Her abdomen was mildly distended with inverted umbilicus and a 3×4 cms reducible umbilical swelling with positive cough impulse. There was no visceromegaly and had increased bowel sounds. Digital rectal examination was normal and her chest, cardiovascular and CNS examination was unremarkable. Clinical diagnosis of subacute intestinal obstruction was made and she was retained in the Emergency Department and managed conservatively during the time her workup was being done. She was kept nil per oral and intravenous fluids administration along with electrolytes replacement was initiated. Nasogastric tube was passed to decompress gastrointestinal tract.

Initial investigations showed hemoglobin 9.1 g/dL (normal = 12-15.5 g/dL), Total Leucocyte Count 8.8×10^9 /L (normal= $4-11 \times 10^9$ /L), platelets 443×10^9 /L (normal = $150-450 \times 10^9$ /L), Hematocrit 31.2% (normal= 34.5-44.5%). Her LFTs, RFTs and Serum electrolytes were normal. Her INR was 1.9 (normal= 0-1). Ultrasound of abdomen showed dilated gut loops with hyperperistalsis. It also revealed a defect measuring 8.5 cm in the supra-umbilical region of anterior abdominal wall through which fat content was seen protruding giving the diagnosis of sub acute intestinal obstruction and paraumbilical hernia with fat content in hernia sac. Plain abdominal radiographs revealed multiple air fluid levels, dilated gut loops and a radio-opaque string in small intestine. (Figure 1)



Figure 1: Dilated gut Loops and a Radio-Opaque String in Small Intestine

During her stay in hospital, she was advised contrast

enhanced CT abdomen, but on the same day she developed diarrhea and later on expelled the surgical sponge per rectally. (Figure 2) After passage of surgical sponge, condition of patient improved and symptoms resolved. She was allowed oral intake and kept under observation for a day before being discharged.



Figure 2: Expelled Surgical Sponge

Discussion:

Gossypiboma is a surgical event which if not diagnosed in time can lead to grave consequences both for patient and the surgeon in terms of morbidity, mortality, humiliation, lawsuit and loss of job. The reported cases represent only tip of iceberg as large portion of problem is kept hidden due to medico-legal reasons. Emergency surgeries, too many people involved in surgery, female gender, obesity and change in staff of theatre during operation are some of the risk factors involved in Gossypiboma.⁶

It presents itself non-specifically however pain is the most common presenting symptom. Other symptoms include nausea, anorexia, vomiting, constipation and a palpable mass. Gossypiboma can cause two types of foreign body reactions; acute form which is exudative in nature and can lead to abscess and fistula formation. It can also present chronically as adhesions or granuloma formation. The granuloma can also result in acute or chronic inflammation due to pressure necrosis which leads to fistula formation and is expressed clinically as subacute intestinal obstruction, pseudotumour, peritonitis and fistula.⁷ It may migrate externally through fistula or undergo a natural course and migrate internally into a hollow viscus like vagina and rectum. Such was

the case in our patient where the sponge was expelled naturally through rectum which is a rare entity.

Gossypiboma is a diagnostic dilemma due to its vague spectrum of presentation and so radiographic investigations play a substantial role in workup. It can be detected on radiographs if impregnated with radio-contrast material. On Ultrasound it is seen as a hyper-reflective lesion casting posterior acoustic shadow whereas CT findings include a whorl-like spongiform mass with gas bubbles.^{8,9}

The recommended treatment is the surgical removal. Erosion of foreign body into the gastrointestinal tract followed by endoscopic removal has been reported.¹⁰ Early diagnosis and removal favours low morbidity and mortality rates.¹¹

Diligent efforts are required to prevent this human error by ensuring meticulous sponge count, use of radio-opaque sponges, adjunctive use of WHO safety checklist, improving quality of communication between team members and introduction of new advancements like tagging system in our healthcare system.

Conclusion:

Gossypiboma is a sentinel event that is under-reported due to reluctance of institutions to report it to governing body and sometimes patient remains asymptomatic. Surgical removal is the treatment of choice, but rarely sponge erodes the bowel or passes through rectum spontaneously as happened in this case. Reporting of such dreadful complications of surgery and analysis of their root cause should be done to prevent such events from happening.

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