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## Case Report

# Small Bowel Obstruction Due to a Gossypiboma: A Rare and Dreaded Sequel of a Trauma Laparotomy

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### ABSTRACT

This is a case report of a 23-year-old male who presented to a hospital in Aleppo with a few months' history of abdominal pain and diarrhea associated with progressive weight loss and ultimate cachexia. Patient's history is significant for a trauma laparotomy due to a blast injury with management of a colonic and orthopedic injuries. Three months later he underwent a second laparotomy for reversal of the stoma after which his symptoms started and gradually became worse. The abdominal pain attacks were so severe unresponsive to analgesics and he had lost around 30 kg. He underwent CT scan on presentation which showed small bowel obstruction and was taken down to the operating room (OR) for exploration. In the operating room a hard mass was palpated in the small bowel and a small enterotomy was done overlying the mass with retrieval of a large surgical pad, gossypiboma, from the lumen. The enterotomy was closed primarily and the patient did well postoperatively and was discharged home.

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## Introduction

Small bowel obstruction (SBO) is a common cause of admission to the surgical wards and the incidence of small bowel obstruction due to adhesive bands is up to 3% after laparotomies [1]. The most common cause of SBO is due to adhesions in up to 74% of cases and the second most common cause are tumors, mainly metastatic, in up to 20% [2, 3]. The incidence of retained surgical pads also known as gossypiboma or textiloma is reported to be around 1 in 1000-1500 cases and they can have a spectrum of presentations [4]. They can present as intra-abdominal abscesses or intestinal fistulae or can remain asymptomatic for years and present later mimicking tumors or causing perforation or obstruction [5-7]. Here is a case of a gossypiboma with intraluminal migration into the small bowel causing obstruction in a young male after a trauma laparotomy in the war-laden zone of Syria.

## Case Presentation

This is a case of a 23-year-old male, previously healthy who presented to a tertiary care hospital in Aleppo on March of 2016 with a few months' history of crampy abdominal pain worsening over time. The pain was severe and diffuse in nature and non-responsive to high doses of analgesics. The pain increased in severity postprandially and was associated with intractable non-bloody diarrhea and weight loss of around 30 kg since the onset of his symptoms, but he had no fever or chills. The patient's history is significant for a trauma laparotomy in April 2015 done in a field hospital for a blast injury that occurred in Syria. The patient suffered from multiple penetrating shrapnel that resulted in injury to the splenic flexure for which he underwent segmental resection and construction of a stoma, as well as an injury to the right lower extremity which resulted in a femur fracture that was stabilized using an external fixator device. The patient did well

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postoperatively and he underwent a re-laparotomy in July for stoma reversal. It was after the stoma reversal that the patient started developing the aforementioned symptoms that kept worsening until the time of presentation.

On presentation, the patient was noted to be weak and emaciated with basic investigations revealing anemia requiring blood products transfusion. As part of his work up a colonoscopy was done which revealed the healed anastomosis at 20 cm from the anal verge with the rest of the colonoscopy being normal. In view of the non-revealing colonoscopy a CT scan was done which showed dilated small bowel loops with dense heterogeneous material in the distal small bowel (Figure 1) raising the suspicion of a mass.



**Figure 1:** Axial cut CT scan with IV contrast showing small bowel dilatation and dense material in the lumen of the small bowel.



**Figure 2:** Intraoperative image showing a hard mass obstructing the small bowel.



**Figure 3:** Intraoperative image showing the Gossypiboma after the small bowel enterotomy was done.

The patient was taken to the operating room and he underwent an exploratory laparotomy with extensive release of adhesions. The small bowel was noted to have a hard mass within its lumen (Figure 2) therefore a small enterotomy was made overlying the mass (Figure 3) and a large pad was retrieved from the lumen (Figure 4). The enterotomy was closed primarily. The patient did well postoperatively, he was

supported with peripheral nutrition until he regained normal bowel function by day 5 and was tolerating regular diet upon discharge. On follow up the patient was doing well and started regaining weight.



**Figure 4:** Intraoperative image showing the gossypiboma after complete retrieval from the small bowel.

## Discussion

Retained surgical items (RSI) by definition is any item that was not intended to remain in a patient and is found after surgery, they can be surgical instruments, needles or sponges [8]. The likelihood of RSI was shown to be higher in rural hospitals compared to urban hospitals yet others associate emergency surgery and obesity with higher rates of RSI [9, 10]. The incidence of retained surgical pads also known as gossypiboma or textiloma is reported to be around 1 in 1000-1500 cases and they can have a spectrum of presentations [4]. They can present as intra-abdominal abscesses or intestinal fistulae or can remain asymptomatic for years and present later mimicking tumors or causing perforation or obstruction [5-7]. The natural history of a retained surgical pad is along the path of least resistance be it through the wound, or by forming a fistulous tract or by eroding into the lumen of a hollow viscous [11]. The possibility of intraluminal erosion as part of the body's defense mechanism to isolate and extrude the foreign object is rare yet reported. It has been reported after C-section, hysterectomy and surgeries for acute abdomen and perforation [4, 12, 13].

The patients can initially have vague symptoms including malaise, abdominal cramps, fever or even incidental findings. This often leads to a delay in diagnosis ranging from 6 months up to 14 years in some chronic cases [14]. Our patient had initially vague symptoms that included crampy abdominal pain and diarrhea and the diagnosis was pinned few months after the onset when he had cachexia and the pain became more severe. Furthermore, it is crucial to highlight the fact that the incident occurred in a region that has been inflicted with war since 2011. The austere conditions under which the surgical staff in Syria and other war zones need to operate is often plagued with limited resources and minimal infrastructure [15]. Moreover, the indications to operate often include combat related and noncombat related indications with extreme constraints on follow up which can indirectly affect timely diagnosis, management and outcomes [15].

One outcome, RSI, as presented earlier can be reflective of the complex and intricate relationship that the patient has with a fragmented healthcare system and its implications. Notably, a higher incident of RSI has been reported during the Croatia war which presented mainly as

intraabdominal masses [14]. To our knowledge our case is the first to report on small intestine intraluminal migration of a gossypiboma in trauma. The key is prevention of RSIs by meticulous surgical counts and the use of radiopaque surgical pads. Unfortunately, the surgical count was reported to be correct in 88% of cases of retained surgical instruments [10]. It is imperative to re-examine the abdominal cavity in select high risk operations even if the count was declared to be correct.

## Conclusion

We conclude that the surgeon should be aware of the possibility of a retained surgical pad as part of the differential diagnosis of small bowel obstruction on a background of trauma laparotomy or major surgical procedures.

## Consent

Consent to publish the case report was obtained from the patient. The consent was obtained over the phone since the patient resides in a different country. The report contains radiology image as well as intra-operative images without patient identifiers.

## Funding

None.

## Conflicts of Interest

None.

## Abbreviations

**Kg:** Kilogram

**CT:** Computed Tomography

**OR:** Operating Room

**SBO:** Small Bowel Obstruction

**POD:** Postoperative Day

**RSI:** Retained Surgical Item

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