



# Complete Transmural Migration of Retained Surgical Sponge Causing Small Bowel Obstruction: A Case Presentation

Jerzy Jabłeczki<sup>1,2\*</sup> and Dominika Pupka<sup>1,3</sup>

<sup>1</sup>Hedwig's of Silesia Hospital in Trzebnica, Poland

<sup>2</sup>University of Opole, Poland

<sup>3</sup>Wrocław Medical University, Poland

## Abstract

Despite meticulous counting of surgical material, using the WHO Surgical Safety Checklist gauze sponges and surgical instruments continue to be left inside patients after the operation. It is an important issue for surgeons, operating room nurses and the entire medical team. Retained foreign bodies may cause many disorders and result in potentially serious consequences for the patient, including death; also, further procedures are needed to remove them and treat the subsequent. The presence of a retained foreign body is rare, but intraluminal migration of the foreign body should be considered extraordinary. Very few cases have been reported so far.

**Keywords:** Retained surgical foreign bodies; Iatrogenic complications; Transmural Migration

## Case Presentation

A 28-year-old female was admitted to the General Surgery Ward in the Saint Hedwig's of Silesia Hospital in Trzebnica presenting with complete faecal and gas obstruction with accompanying colicky abdominal pain and feculent vomits. She was afebrile, and complained of abdominal pain, initially moderate for several months, which worsened in the three weeks prior to admission. Laboratory tests revealed marginally elevated indicators of inflammation (CRP 21.1 mg/dL; WBC  $12.13 \times 10^9$  /L).

The patient had been examined few times by her general physician, none image diagnostics was performed. The patient did not have any chronic diseases and did not take daily medications. The patient had undergone two cesarean sections - the last one in November of 2017 (two years prior to admission). She denied having any other surgeries.

The X-ray of the abdomen revealed few intestinal air-fluid levels and radiopaque in the left mesogastrium (Figure 1). The computed tomography scan confirmed the presence of a foreign body in the abdomen. The uncharacteristic linear metallic filaments were described in the lumen of the jejunum on the left side with the thickening of its wall up to 85 mm. The rest of the jejunum wall was thickened up to 38 mm.

The patient was qualified for emergency laparotomy. After the abdominal cavity was opened by performing a medial incision of the abdominal wall extending from the xiphoid process of the sternum to the pubic symphysis, the distended loops of small bowel and adhesions of the omentum majus to the parietal peritoneum and small intestine loops on the left side were found. After releasing the adhesions, the conglomerate of small bowels was revealed. It was attached to the parietal peritoneum over the length of 10 cm and also adhered to the sigmoid colon and the left appendages. Afterward the attempt was made to release the connection between the conglomerate and the anterior abdominal wall. Because of the tight adhesion the decision was made to remove the fragment of the peritoneal wall attached to the conglomerate.

The conglomerate of four loops was exposed with dilated afferent loop and collapsed efferent loop (Figure 2). It was localized 120 cm from the ligament of Treitz. The intestine was filled with spongy material with visible dark ribbons. Because of the inability to dissect the loops, the decision was made to excise the whole conglomerate. After the clamps were placed over the afferent and efferent loops, the intestine was sectioned, and the radiopaque gauze pigmented with bile salts was

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### \*Correspondence:

Jerzy Jabłeczki, Hedwig's of Silesia Hospital in Trzebnica, Poland,  
E-mail: jerzy.jablnecki@interia.pl

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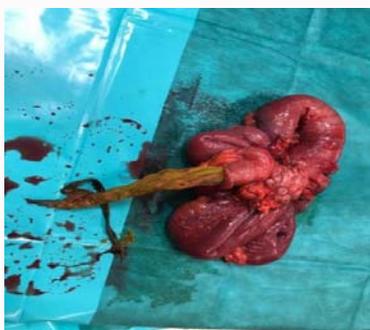
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**Figure 1:** The computed tomography scan confirmed the presence of a foreign body in the abdomen.



**Figure 2:** The conglomerate of four loops was exposed with dilated afferent loop and collapsed efferent loop.



**Figure 3:** The clamps were placed over the afferent and efferent loops, the intestine was sectioned, and the radiopaque gauze pigmented with bile salts was revealed.

revealed (Figure 3).

Both ends had satisfying blood supply and the isoperistaltic anastomosis was performed using Schmieden technique. There were no signs of any abscesses or fistulas. The postoperative course was uncomplicated. The patient was discharged on postoperative day 12 in good general and local conditions.

## Discussion

Retained surgical foreign bodies lead to serious iatrogenic complications and are most often left in patients subjected to abdominal surgeries [1-3]. In order to avoid situations such as

described above it is mandatory to count all the surgical materials both during the procedure and after the closure of the abdomen. During the operation it is advisable to use radiopaque materials which significantly ease their retrieval.

It takes on average 9 months to diagnose a retained foreign body [3]. However, in some instances the diagnosis may be made as late as 32 years after the unfortunate implementation [4]; luckily in the described case it took modest 2 years to discover it. The literature reports on surgical foreign bodies retained for several dozen years without symptoms. One may thus assume that some patients with retained surgical foreign bodies are completely free of any complaints. Most of all, the transmural migration of the surgical material into the intestine or any other organ in the body cavity, called 'gossypiboma' is absolutely rare and seldom described in the literature [5-8].

The patient was admitted to the hospital presenting signs of intestinal obstruction. She denied any surgeries on her digestive tract. The only complication in her medical history was a severe bleeding during one of the caesarian sections.

## Conclusion

For a couple of weeks, she was treated by her general practitioner; despite her chronic abdominal pain of several months' duration no image diagnostics was ordered, presumably because of the lack of acute symptoms. Any kind of chronic pain should be alerting, especially if the patient had undergone surgeries.

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