Case Report
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Laparoscopic resolution of textilomes (gossypibomas)

Abstract

Background and objectives: Inadvertent retention of surgical material is a mistake with potentially serious repercussions for the patient and a cause of legal conflicts. It requires high suspicion; the variety of presentations and long period of latency can easily mislead the diagnosis. The purpose of this paper is to report two cases of textiloma (surgical towels) found incidentally resolved by laparoscopy.

Methods: We report two cases in which incidentally textilomas were found and removed by laparoscopy.

Conclusion: The laparoscopic approach enables safe removal of a foreign body in the peritoneal cavity.

Keywords: textiloma, surgery, laparoscopy, incidentaloma, gossypiboma

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Introduction

Inadvertent retention of surgical material is an error with potentially serious repercussions for the patient and a cause of legal conflicts. It requires high suspicion; the variety of presentations and long period of latency can easily mislead the diagnosis. We report two cases of textiloma (surgical towels) found incidentally resolved by laparoscopy.

Clinical case 1

A 24-year-old female patient who underwent an apparently uncomplicated caesarean operation at a different hospital; the product delivered without apparent pathology. On the second postoperative day, she presented biliary pancreatitis. Because of this, she was admitted to the intensive care unit. She referred the hospital stay was thirty days; and she was discharged with the diagnosis of lithiasic cholecystitis. Two weeks after this event, she was attended by our group, because abdominal pain of 48 hours earlier in the right upper quadrant, nausea and vomit. On physical examination, her vital signs were HR 100X', RR20X', BP 135/90, T 38.0ºC and SO2 93%. Hemoglobin level 13 gm/dL and WBC 12,000 per mm^3. Rest of laboratory test including liver and pancreatic function within normal. Physical examination revealed abdominal distension and generalized abdominal pain, signs of peritoneal irritation and positive Murphy's sign. The abdominal ultrasound reported multiple gallstones, thickening of the vesicular wall and perivesicular edema. She was taken to surgery to resolve the gallbladder problem by laparoscopy. With the anesthetic relaxation, the presence of a hard, non-mobile abdominal mass in the hypogastrium was noted. Pneumoperitoneum was induced with Veress's needle and cholecystectomy was performed as usual without complications. The inspection of the lower abdominal cavity revealed a 15cmX15cm mass constituted by firm adhesions of small bowel loops and omentum in the hypogastrium. Figure 1 Separating the intestinal loops and the omentum we discovered a surgical towel with pus. Careful dissection of the foreign body was performed, separating the surgical mop, taking care not to injure the bowel loops. The cavity left by the textiloma was copiously irrigated. The umbilical wound was enlarged 2cm to extract the gallbladder and the surgical swab. Figures 2,3 The postoperative course was uneventful, tolerating the oral route at 24 hours, being discharged without complications on the second postoperative day.

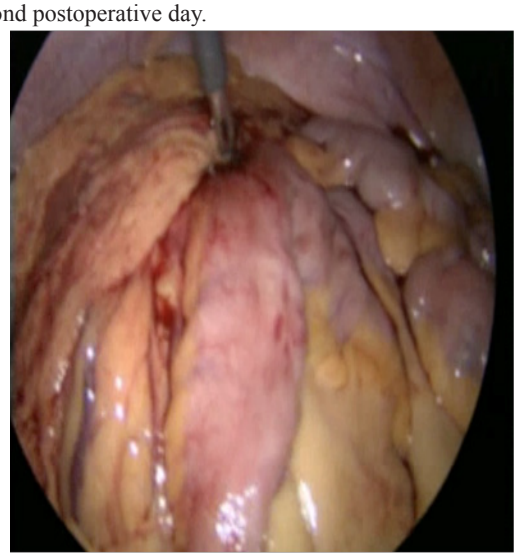
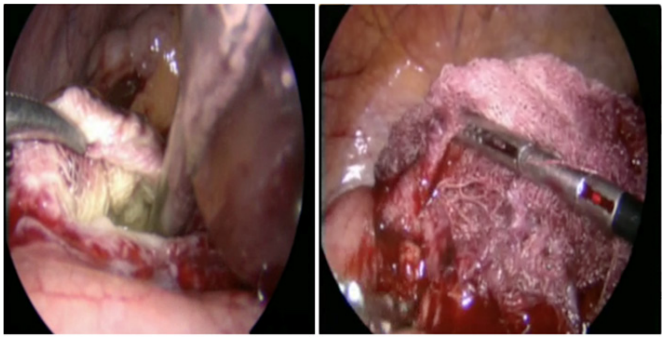


Figure 1 Encapsulated textile surrounded by intestinal loops and omentum.



Figures 2,3 Adherenciolysis and extraction of the textilome.

Clinical case 2

A 50-year-old female patient with a history of emergency laparotomy because of severe abdominal trauma and liver rupture 15 years earlier; apparently evolving without complications. She came with our group because a 3-day history of acute progressive and disabling pain, nausea, vomit and fever. On physical examination, her vital signs were HR 110X', RR20X'. BP 130/90, T 38.5º and SO2 90%. She had severe pain on palpation, with generalized rebound and a palpable abdominal mass in the mesogastrium with sign of peritoneal irritation. The ultrasound showed the presence of a mass, compatible with gossypiboma and the abdominal plain X-ray confirmed the presence of mass and gas around it. Emergency laparoscopy was performed, finding a firm mass composed of loops of the sigmoid colon and omentum with copious amounts of pus and a surgical towel in the center, with fetid odor. The textiloma was dissected from the intestinal loops with copious irrigation of saline solution, pus drained, and tissue debris extracted. Thorough washing of the abscess cavity was carried out, but it was preferred not to perform a major dissection due to the possibility of making greater damage to the bowel loops. Assuming that the origin of the patient's acute abdominal condition was due to an erosion of the involved colon loops, although it was not seen any leak point, a suction drain was left in place. At 48 hours the leakage of fecaloid material through the drain was noted but the patient clinical condition was uneventful with no signs of sepsis despite the fecaloid drainage, the patient was managed the first days with double antibiotic therapy and nutrition, being discharged after 5 days on oral diet. Fecaloid drainage progressively decreased, and the drainage tube was removed after a month without further complications.

Discussion

Retention of surgical material after laparotomy is an error with potentially serious repercussions for the patient, the surgical team, and the hospital. Gossypiboma also called textiloma, refers to a mass composed of non–absorbable surgical material with a cotton matrix due to inadvertent retention in the body following surgery.[1] Approximately 80% of foreign bodies correspond to gauze, surgical mops and other materials that contain textile fibers not digestible by the human body.[2] The reported frequency of this entity is variable; it must be taken into account that many patients can be asymptomatic; but due to possible legal problems and criticism from public and medical professionals there is an underreport of these cases.[3] Most of textilomas have the history of emergency surgeries, usually with reported huge intra-operative bleeding as in the case of our second patient, or when multiple surgical teams were involved, even after introduction of check lists and other precautions, it happens.[4,5]

The diagnosis at a glaze is difficult, since the surgical history can last from weeks to several years, and a high percentage of patients remain asymptomatic during long periods, occasionally referring only the presence of a mass. The longest reported interval between primary surgery and exploration is 34 years.[6] Intraluminal migration has been described, although it is relatively unusual. Some cases may present gastrointestinal complications such as bowel obstruction, perforation, fistula formation, abscesses or symptoms of peritonitis as the case of the second patient reported. The silent course may lead to treat this condition until complications occur. Early recognition of this problem will ensure prompt institution of appropriate treatment, reducing morbidity and mortality. Once detected, its removal is necessary as early as possible. In the case of the first patient, the acute symptomatology corresponded to an exacerbation of the gallbladder problem, and allowed us to extract the unsuspected gossypiboma before complications occurred.[7] Among the proposed theories of why most of these patients are asymptomatic for a long time, the most widely accepted is that the sterile cotton fibers are biochemically inert. This material generally does not cause any but an aseptic fibrotic reaction, adhesions, granulomas and a fibrotic capsule around it. However, as in the second case we present here, it can eventually erode the bowel.[8,9]

The diagnosis of the textiloma requires a high index of suspicion, since its variety of presentations can be easily confused and they are usually diagnosed as tumors, cysts or abscesses.[10] The previous surgical history should be taken into account and examination for recurrent abdominal discomfort. The surgical procedures in which this problem occurs the most are: abdominal and thoracic surgery (56%), gynecological (22%), urology (10%), vascular (10%), orthopedic (6%) and neurosurgery (6%)[2,11] Image studies may confirm the diagnosis. The study of choice is computed tomography (CT), which shows a spongiform pattern sometimes with air bubbles, especially when there is intestinal perforation as in the second case presented in this report.[12] Abdominal plain X rays has limited value as it may not detect surgical materials unless they are made of metal, or have a radiopaque marker. If radiological and laboratory studies cannot determine the diagnosis, the next step is to perform the surgical exploration. Once the diagnosis of textiloma has been made, it can be removed by conventional or by laparoscopic surgery. The laparoscopic approach is a good option reported years ago for the resolution of this problem.[13] Although in recent years, the use of this technique has gained strength to resolve this problem, literature reports about laparoscopic resolution are still scarce. But conversion to open surgery if laparoscopy is considered unsafe because long time of evolution or the size of the material retained, is always available.[14,15] Several reports mention the advantages of laparoscopy in these cases such as agile adhesion lysis, less visceral damage, and reduced risk of bleeding, in addition to all the advantages that minimally invasive surgery provides at the time of recovery.[14,16] Some authors such as Childers et al.,[7] recommend that if laparoscopy is to be used, the procedure must be performed within the first week after the first intervention in order to be able to remove the foreign body before it is encapsulated by the inflammatory reaction. Retained surgical material is a preventable surgical complication. According to the WHO recommendation, standard protocols must be carried out always in operation theatres. The counting of gauze pads should always be done separately in a consistent sequence by two similar people out of the operating table, with their names noted on the count sheet or nursing record. Methodical exploration of the surgical area by the operating surgeon decreases the likelihood of leaving surgical foreign bodies, although is a task and responsibility of the whole surgical team.[17]

Conclusion

Textilomas should be avoided by following strict protocols in operating theatres. But if this complication happens, laparoscopic approach is a good option for the resolution of this problem because of the advantages of the minimally invasive procedures. Conversion to open surgery is always present if it is considered unsafe.

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Conflicts of interest

The authors declare that there have no conflicts of interest.

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