

Endoscopic removal of gossypiboma with gastric penetration

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ABSTRACT

Retained surgical material is a potentially dangerous medico-legal problem. Gossypiboma may cause abscess-like complications in the early postoperative period, as well as a long-term asymptomatic pseudotumor. The preoperative diagnosis may be difficult. Presently described is a case that mimicked an intra-abdominal malignancy that had created a fistula in the stomach. A 54-year-old man presented with a history of laparoscopic cholecystectomy performed 1 year prior. Subsequent continued pain and swelling in the epigastric region led the patient to seek care at several health institutions. The patient brought abdominal tomography results from one of these presentations revealing a heterogeneous, high-density mass 5x4x5 cm in size located between the liver and the stomach. Gastroscopy revealed a foreign body near the pylorus at the level of the gastric antrum. The tomography image revealed that the mass was a gossypiboma and had penetrated the pylorus. The foreign body was removed endoscopically in 5 parts with the help of endoscopic forceps and a snare. The postoperative recovery was uneventful. Gossypiboma should be included in the differential diagnosis of tumoral masses detected in patients with a surgical history. Gossypiboma with gastric fistulization can be removed endoscopically.

Keywords: Gastric penetration; gossypiboma; intra-abdominal mass.

Introduction

Retained surgical materials following surgery is a potentially dangerous medico-legal problem. Gossypiboma is a non-absorbable surgical material that is forgotten in operation. This can cause serious complications both for the surgeon and the patient.^[1] Gossypiboma is mostly found in the abdomen (56%) then pelvis (18%) according to the study by Wan et al.^[2] It may cause abscess-like complications in the early postoperative period, as well as a long-term asymptomatic pseudotumor. Transmural migration of gossypiboma is a rare condition that may

lead to visceral obstruction, fistula formation or perforation.

Here we present a case mimicking intraabdominal malignancy and fistulae of the gastric antrum.

Case Report

A 54-year-old man presented with a history of laparoscopic cholecystectomy performed one year ago. After the complaints of pain and swelling in the epigastric region were continuing in the following periods, he was applying



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to the health institutions repeatedly. Abdominal tomography taken from one of these applications revealed a heterogeneous mass with a high density of 5x4x5 cm between the liver and the stomach (Fig. 1a). He applied to our clinic with these findings.

In physical examination findings; right upper quadrant tenderness was available. The patient's biochemical parameters were normal. Gastroscopy revealed a foreign body near the pylorus at the level of the gastric antrum (Fig. 1b). On the tomography, it was understood that the mass mentioned above was gossypiboma and was penetration in gastric. The patient was then presented to the general surgery council to determine the operative method. The council decided to exclude foreign body endoscopically. After the procedure, the patient was planned to undergo an emergency operation in case of an acute abdomen. After the informed consent was obtained, the foreign body in the stomach antrum was removed endoscopically in five parts with the help of endoscopic forceps and snare (Fig. 1c). On the 1st day after the procedure, oral food was started. Laboratory values and examination findings were normal. On the second procedure day, the patient was discharged with full recovery.

Discussion

Accidentally left surgical sponges are a serious medico-legal problem. In spite of a published incidence of 1: 1000 to 1: 1500 after intra-abdominal surgery, it is more common than reported because clinicians conceal some of them.^[3] Gossypiboma causes two types of reactions. The first is an aseptic fibrin response that produces adhesions and encapsulation, and the second is an exudative reaction leading to an inflammatory reaction with abscess formation.^[4,5]

Patients then present with symptoms of pseudotumor syndrome such as abdominal pain, dyspepsia, palpable mass,

vomiting, abdominal distension, and weight loss, similar to our case. Yildirim et al.^[6] reported 14 gossypiboma patients; 10 patients had an aseptic fibrous reaction and the interval between initial surgery and the onset of symptoms ranged from 12 months to 40 years in the series.

In one study, obesity, unexpected changes in the operation and urgent surgical interventions were found to be risk factors for gossypiboma.^[7] Women are more likely to have gossypiboma due to their obesity, pelvic structure, and gynecological procedures. Unlike the literature, our patient was male and his body mass index was low. In asymptomatic patients, the diagnosis of tumor, tumor recurrence and hydatid cysts is predominantly diagnosed.^[8] Most of the time, most patients are subjected to aggressive surgical intervention with tumor diagnosis. Therefore, gossypiboma should be included in the differential diagnosis of tumor masses detected in patients with a previous surgical history.

Compared with the intestines, the stomach is an unusual site for transmural migration due to its thick wall and higher localization.^[9,10] Until now, this condition has been previously reported in very few cases.^[11] Though open surgery is the most common approach in the treatment of gossypiboma, according to the localization of gossypiboma and skills of the clinician, removal can be easily performed by minimally invasive techniques such as endoscopy or laparoscopy.^[10,11] Although successful removals of surgical sponges by endoscopy have been reported before, the feasibility of endoscopy in the removal of such a multi-part surgical gas compress was unclear. Thus, we emphasize that endoscopy may be a good option in the removal of such a large gas compress located in the stomach. But, surgery should be considered when partial migration has occurred.

It has been suggested that there may be intraabdominal stromal tumors or gossypiboma in the radiological eval-



Figure 1. (a) CT revealed a tumoral mass with smooth borders and cystic, necrotic and hyperdense foci in the center. (b) Endoscopic appearance of gossypiboma. (c) Macroscopic appearance of gossypiboma.

uation light in our case. The endoscopy revealed gossypiboma. the radiopaque filament may not be seen on a plain radiograph due to bending or fragmentation over time. The absence of radiopaque markers in surgical bumpers used in the past, or the increase in calcification surrounding the material over time, makes it difficult to diagnosis. This may lead to the interpretation of the mass as a soft tissue tumor, abscess or hydatid cyst in the imaging method. Surgery is the recommended treatment option. but the prevention of gossypiboma is more important than diagnosis and treatment.^[1] Gossypiboma involves a wavy hyperechoic area and intense posterior acoustic shadowing on the ultrasound.^[12] Contrast-enhanced computed tomography (CT) scan is typical for a lesion with properly limited mass, thick-walled mass with curvilinear hypodense and hyperdense areas.^[13] Soft tissue sensitivity can be used for MRI (magnetic resonance imaging) because of its high sensitivity.

The prevention of gossypiboma is more important than diagnosis and treatment. For this reason, only radiopaque sponges should be used during laparotomy or laparoscopy. All surgical materials should be counted before and after the operation. The surgical site should be re-examined before the operation is terminated. If there is doubt about the count, the operation site should be checked again. Intraoperative x-rays should be taken if necessary.

Conclusion

As a result, gossypiboma is a preventable, unwanted, and life-threatening complication. In a patient with previous surgery and an intraabdominal mass, the differential diagnosis should be considered. Prevention of gossypiboma is more important to avoid medical and legal problems.

Disclosures

Informed Consent: Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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