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Case report

Giant gossypiboma presenting as a pelvic mass ☆

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ABSTRACT

Gossypiboma is a foreign object, such as a mass of cotton matrix or a sponge, that is left behind in a body cavity during surgery. It is uncommon, mostly asymptomatic, and hard to diagnose. It may be incorrectly diagnosed preoperatively, which can lead to unnecessary invasive diagnostic procedures and operations. It should be included in the differential diagnosis of soft-tissue masses detected in patients with a history of a prior operation. We present a case of 36-year-old female who referred to emergency room with severe abdominal pain and distension. Imaging revealed a giant intra-abdominal mass resembling a soft tissue tumor, but revealed to be a giant gossypiboma caused by a sponge that was forgotten during previous ectopic pregnancy surgery. This case differs from others with the absence of findings supporting gossypiboma such as calcification or trapped gas bubbles and emphasizes the importance of this potentially life-threatening complication of surgery.

Gossypiboma is a foreign object, such as a mass of cotton matrix or a sponge, that is left behind in a body cavity during surgery. This word is derived from gossypium (Latin for "cotton") and boma (Swahili for "place of concealment"). Its synonyms; retained surgical sponge, textiloma and cottonoid, are still used [1]. The exact incidence of intra-abdominal foreign bodies is hard to determine mainly due to medico-legal implications. [2,3]. Patients with gossypiboma can remain asymptomatic for years [1]. The manifestations and complications vary widely; thus, diagnosis tends to be difficult, and some cases involve significant patient morbidity. The clinical manifestations of gossypiboma depends on the extent of bacterial contamination and the location of the material within the body cavity [4]. In this case report, we present a case resembling a soft tissue tumor, but revealed to be a giant intra-abdominal gossypiboma caused by a sponge that was forgotten during previous ectopic pregnancy surgery. We aimed to present this case because it differs from other typical cases with the absence of findings supporting gossypiboma such as calcification or trapped gas bubbles.

Case report

A-36-year-old female patient was referred to emergency room in our hospital with severe abdominal pain and distension.

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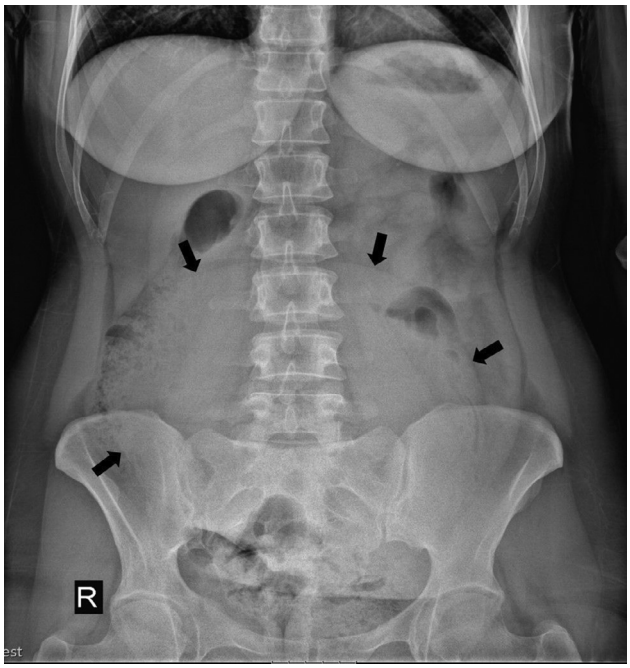

Fig. 1 – Abdominal radiograph shows a barely perceptible, centrally located soft tissue mass.

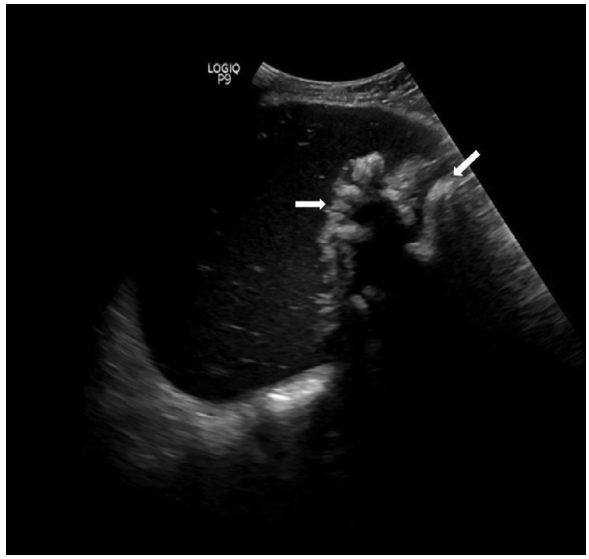

Fig. 2 – Transabdominal ultrasound demonstrates a well-defined cystic mass with distinct hyperechoic wavy structures (arrows) causing intense posterior acoustic shadowing.

Fig. 3 – Contrast enhanced coronal CT image shows (or demonstrates) a mass with a thin, enhancing capsule in the umbilical region containing wavy striped high-density areas (arrows).

The pain was constant and localized into whole abdominal quadrants. Physical examination revealed marked tenderness in whole abdomen. The patient had a history of ectopic pregnancy operation seven years ago. Her laboratory tests including white blood cell count and C-reactive protein were in normal limits. Abdominal radiograph showed a centrally located soft-tissue mass (Fig.1). US showed a well-defined cystic mass with distinct hyperechoic wavy structures causing intense posterior acoustic shadowing (Fig. 2). An enhanced abdominal CT scan was performed subsequently. CT revealed an ovoid mass measuring 20 cm in diameter with an enhancing capsule in the umbilical region containing wavy striped high-density areas (Fig. 3). Intraabdominal tumor, abscess and gossypiboma were considered in the differential diagnosis. After the surgical consultation, operation was decided. At exploratory laparotomy, a well-circumscribed firm mass was detected with extensive adhesions to a loop of the small bowel posteriorly (Fig. 4). Numerous adhesions were released, and the pelvic mass was excised with the adherent small bowel and its mesentery. In pathology evaluation, the diagnosis of gossypiboma was verified.

Discussion

Wilson reported the first case of a gossypiboma in 1884. Since the beginning of the twentieth century, it has been recommended to use radiopaque sponges to prevent the gossypiboma cases [4]. Theatre 'swab counts' at the end of a procedure before 'closing up' are typically undertaken to prevent retained foreign bodies [5]. Miscounting surgical sponges could be the cause in our patient.

Intra-abdominal gossypibomas are infrequently reported conditions. They can cause serious complications, and they can remain asymptomatic for years. Clinical manifestations of gossypiboma are related to bacterial contamination and location of the sponge within the body cavity.

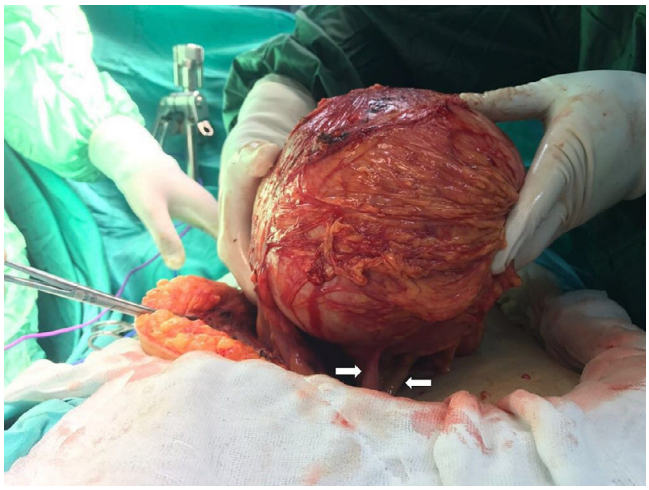

Fig. 4 – At exploratory laparotomy, a well-circumscribed firm mass was found with extensive adhesions to a loop of the small intestine posteriorly (arrows).

Cotton laparotomy sponges can lead to two foreign body reactions when left behind in the human body [6]. The first type is a septic reaction with an exudative response. The human body tries to expel the foreign material either externally or into a hollow viscous creating a fistula or abscess [1]. Patients with this type of reaction are usually symptomatic in the early postoperative phase and require immediate surgical interventions. The second type is an aseptic fibrinous reaction resulting in adhesions, encapsulation and, ultimately, foreign body granuloma formation [6]. This type of reaction is usually clinically silent and may remain inactive for many years after the initial surgery [7].

Gossypiboma may be found incidentally on imaging as a mass or may present with nonspecific complaints mimicking an obstructive pathology, such as abdominal pain, nausea and vomiting [8]. Adhesions and encapsulation are common features of gossypiboma, and the lesion may present as a mass, as in our case. Similarly, the mass in our case was detected as a solid appearance on CT. In such cases, the differential diagnosis typically includes tumors. US findings include well-circumscribed lesion appearance featuring a waved hyperechoic area with a dense acoustic shadowing. On CT scans, gossypiboma has been classically described in the literature as a well-defined soft tissue mass with a whorled texture or a spongiform pattern with trapped gas bubbles [9]. Although gas bubbles are considered a characteristic feature of gossypiboma on CT scans, they are only present in a minority of cases [9]. In our case, we have not seen any gas bubbles trapped in the mass on CT scan. Calcifications of the wall surrounding the mass may be observed as well. Contrast enhancement may be seen in the capsule as in our patient, but it is not a distinctive finding for gossypiboma.

Gossypiboma may produce serious complications. The most commonly reported complications associated with gossypiboma include intestinal obstruction, abscess formation, erosion of the gastrointestinal or genitourinary tract, leading to fistulas, sepsis and death [10]. The mortality rate from gossypiboma is strikingly high; it has been estimated as many as 35% of patients with gossypiboma will die from a related complication [1]. Early recognition of gossypiboma followed by immediate surgical retrieval usually results in excellent prognosis. In case of delayed diagnosis, the morbidity and mortality increase substantially as major operations are often required in these situations [1].

Conclusion

Gossypibomas are uncommon, mostly asymptomatic, and hard to diagnose. Gossypiboma should be included in the differential diagnosis of soft-tissue masses detected in patients with a history of a prior operation.

Ethical approval

Not required.

Patient consent

Written informed consent was obtained from the patient for the publication of this case report.

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