Case report

Small bowel obstruction and ileocolic fistula caused by post-myomectomy Gossypiboma transmural migration: A case report and review of the literature

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ABSTRACT

Introduction: Post-myomectomy Gossypiboma causing ileo-colic fistula is tremendously rare; it may present as a tumor and stand a diagnostic challenge. The duration between the primary procedure and the presentation is unpredictable.

Case presentation: A 37-year-old Sudanese/African woman presented with a 4-month history of left iliac fossa mass, pain, anorexia, and persistent, recurrent vomiting with episodes of diarrhea during the last month PTP. She had two gynecological surgeries. Abdominal X-ray & abdominopelvic CECT showed a left iliac fossa pelvic-abdominal collection, distal small bowel partial obstruction, and contrast passage from the small bowel to the sigmoid colon. Diagnosis retained foreign body with abscess causing distal ileal subacute obstruction and an ileo-sigmoid fistula. Surgical exploration, extraction of Gossypiboma with small bowel resection, primary sigmoid colon repair, and a protective transverse colon stoma were done. Six weeks later, colostomy closed after distal loopogram and flexible-sigmoidoscopy.

Clinical discussion: A missed intraperitoneal gauze is the top differential diagnosis in patients presenting with acute abdomen after recent abdominal surgery. Transmural migration is slow but leads to difficult clinical situations, peritonitis, or fistulas. Our case reflects the light on the importance of the golden rule of perioperative gauze count and documentation. Thus, minimizing the surgical complications and preventing severe post-operative morbidities.

Conclusion: Entero-colic fistula due to transmural migration is not frequently encountered, and its complications can lead to morbidities and even mortality if not promptly diagnosed and treated. Strict adherence to the golden rule of counting and prevent such life-threatening complications and improves patients’ safety.

1. Introduction

Retained intra-abdominal surgical sponges “Gossypiboma” are rare and cause substantial morbidity and even mortality. It may present with odd clinical presentation and can be a diagnostic challenge with an absolute need for intervention to remove it. The duration between the primary procedure and the presentation scenario is unpredictable and cannot anticipate. The true incidence of missed intrabdominal objects and sponges is unknown due to scarce reporting of such a never event.

This work has been reported in line with the SCARE criteria [1].

2. Case presentation

A 37-year-old Sudanese Black African female presented to our department with a 4-month history of left iliac fossa mass, pain, anorexia, and persistent, recurrent vomiting with episodes of diarrhea during the last month PTP. The pain was dull-aching in nature, sometimes with colicky episodes, localized to the left iliac fossa and peri-
umbilical regions, aggravated and increased by eating and partially relieved by analgesia, associated with several febrile episodes but no radiation. Vomiting was moderate amount contains food particles, sometimes bile-stained, and associated with anorexia. Diarrhea was episodic on/off, moderate to large, greenish color, not offensive or blood. She had two gynecological surgeries, laparoscopic ovarian drilling, and laparotomy for uterine fibroid excision for infertility 6-month PTP. She had multiple admissions with the same presentation at the local clinic. However, due to financial issues and transportation difficulties, she could not afford to travel to the district hospital. Her family history was clear; she denied allergy to any drugs and received multiple ABX courses.

On examination, she was fully conscious, oriented, not pale or jaundiced. Her pulse rate was 112 b.m, normal blood pressure of 115/55 mmHg, with mild dehydration. Examination of her abdomen revealed lower abdominal transverse previous laparotomy scar, laparoscopic ovarian drilling scars, and a palpable left iliac fossa mass of 10 × 12 cm, firm to hard, mild to moderate tenderness, and minimal mobility in the transverse axis, but no guarding or rigidity with hypo-active sluggish bowel echoes. No organomegaly was detected, and unremarkable digital rectal exam. Systemic examination was unremarkable, and no abnormality was detected. Blood investigations showed Haemoglobin of 15.6 g/dl, White Blood Cells count of 11,200, mainly neutrophils, and average Platelet count. Urinalysis and blood electrolytes were normal. Abdominal X-Ray & abdominopelvic CECT showed a left iliac fossa pelvic-abdominal collection with intralesional heterogeneous opacity and air bubbles, causing distal small bowel partial obstruction and phlegmon with contrast passage from the distal small bowel to the sigmoid colon. A left iliac fossa foreign body with abscess causing distal ileal subacute obstruction and the ileo-sigmoid fistula was confirmed and planned for emergency exploration after adequate rehydration (Figs. 1-2).

An exploratory laparotomy was performed by colorectal & general surgeons, findings were extensive lower abdominal adhesions and left-sided matted small and large bowel loops. Careful adhesiolysis was performed, collection approached from the right side till reaching the collection pocket. A standard surgical abdominal gauze was identified in the cavity, with antimesenteric transection of the ileal wall and partial intramural migration (Figs. 3-4). Proximal sigmoid full-thickness two perforations identified in the anti-mesenteric border 2 × 1 cm, 1.5 × 0.5 cm, respectively. Extraction of the sponge, drainage of the purulent collection with fluid sample for culture and sensitivity were taken, distal ileal resection of 80 cm segment length and standard two layers 3/0 vicryl inner continuous and outer interrupted anastomosis. Sigmoid

Fig. 1. A: Erect abdominal X-ray showing left iliac fossa opacity with radio-opaque line.
B: CECT Abdomen coronal section showing left iliac fossa Heterogenous mass, air bubbles, Gossypiboma, and trans-mural migration into the small bowel.
adhesions and granulomatous pseudotumor or mass [4,5]. Several triggers an inflammatory reaction to seal and isolate the area, induce from 1/1500 to 1/3000 laparotomies [3]. A retained foreign object on day one; peritoneal collection culture revealed Klebsiella postoperative course was uneventful, and colostomy started to function incidence of serious complications. Studies estimated that it could range tocooccus species, both sensitive to ciprofloxacin and treated accordingly, layer seromuscular stitches using Polydioxanone (PDS) 3/0 and divert perforations refashioning and primary repair with interrupted single version of this article.) (For interpretation of the references to color in this figure legend, the reader is referred to the web of this case report and accompanying images. A copy of the written consent gauze count protocols and documentation can decrease the actual patient with recent surgical intervention. Strict adherence to the patient safety principle and doing no harm. comorbidity and unpredicted surgical recovery course, enhancing the numerous case reports of retained foreign bodies in the literature. Gossypiboma, meaning coverup, were the precursors of Gossypiboma. There are 3. Discussion

Gossypium, a Latin word that means cottonwool, and a Swahili word boma, meaning coverage, were the precursors of Gossypiboma. There are numerous case reports of retained foreign bodies in the literature. However, the actual incidence is thought to be underreported secondary to the possible legal ramifications of this technical oversight [2].

Reporting this case demonstrates why the counting policy is critical and can be life changing for patients and families as it adds unnecessary comorbidity and unpredicted surgical recovery course, enhancing the patient safety principle and doing no harm.

An intra-abdominal gauze must be kept in mind while assessing every patient with recent surgical intervention. Strict adherence to the gauze count protocols and documentation can decrease the actual incidence of serious complications. Studies estimated that it could range from 1/1500 to 1/3000 laparotomies [3]. A retained foreign object triggers an inflammatory reaction to seal and isolate the area, induce adhesions and granulomatous pseudotumor or mass [4,5]. Several intrabdominal and pelvic surgeries connected to gossypibomas, with cholecystectomy being the most frequent and only five reported cases of colonic perforation due to surgical retained sponges [6–10].

Although the missed pack is not a rare condition, it is easy for early diagnosis with advanced diagnostic tools. In our case, several socio-economic circumstances delayed the patient’s diagnosis and presentation to good health services. Early assessment and simple radiological investigations can reveal the diagnosis. The presentation can range from being asymptomatic for a short or long time to severe causes of the acute abdomen like abscess, tumor, obstruction, perforation, ulceration, and bleeding [11]. Abdominal X-rays can demonstrate the radio-opaque marker with or without concurrent calcifications [12]. On the other hand, ultrasonography and advanced modalities like CT scan and Magnetic Resonant imaging are more accurate in diagnosing and localization of foreign bodies and sponges. A contrast-enhanced CT scan was the most appropriate modality after the nonconclusive abdomino-pelvic Us-scan and suspicion of entero-colic fistula presenting as acute abdomen in our reported case [13,14].

All surgical operations can be a nidus for a retained object, especially abdominal and thoracic cavities, leading to life-threatening morbidities with a 10 to 18% [15,16]. More frequently observed in emergency surgical interventions than elective counterparts. Only one case of Gossypiboma after uterine myomectomy was reported in the literature, and our case is the second after reviewing the online databases [11,17].

4. Conclusion

Perioperative gauze counting protocol and double-checking with the surgical team’s signature is crucial, facilitating early recognition and detection of any missed sponge or instrument to decrease this notorious never event incidence. Entero-colic fistula due to trans mural migration is not frequently encountered but severe if not promptly diagnosed and treated. Medicolegal affairs can be minimized with strict adherence to the golden rule of counting, preventing life-threatening complications, and improving patient safety.

5. Patient perspective

The patient was happy and satisfied with the surgical team’s management and level of care, and she expressed her deep gratitude and satisfaction with the results.

Abbreviations

| Abbreviation | Description |
|--------------|-------------|
| PTP          | prior to presentation |
| ABX          | antibiotics |
| CECT Abdomen | contrast-enhanced CT scan (CECT Abdomen) |

Sources of funding

We declare that there was no funding.

Ethical approval

Ethical approval for publishing this case report was obtained from the Fedail Hospital/local hospital ethical committee.

Consent

Written informed consent was obtained from the patient to publish this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

CRediT authorship contribution statement

Study conception and design: Mohamed Eltayeb Abdelrahman

Fig. 2. Sagittal section of the CECT scan shows:

Blue arrow: Intra-abdominal gauze with transmural migration and surrounding contrast.
Red arrow: Contrast in the sigmoid colon and upper rectum.
White arrow: Lack of intra-luminal contrast in the transverse colon.
Yellow arrow: Ileocolic Fistula Trac filled with contrast. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)
Fig. 3. A Abscess cavity and small bowel transected margins. B Small bowel transected wall after adhesiolysis and abscess evacuation.

Fig. 4. Resected ileum specimen and transected margins.

Fig. 5. Extracted retained surgical gauze.
Registration of research studies

Not applicable.

Guarantor

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Provenance and peer review

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Declaration of competing interest

All authors declare that they have no competing interests.

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