

Gossypiboma Masquerading as Calcified Mesenteric Cyst: A Case Report

*Agbonrofo PI, Brotobor O, Odigie VI

ABSTRACT

Retained textile material following surgery (Gossypiboma) occurs rarely, though it causes significant morbidity and mortality. It is usually under-reported for fear of litigation. The clinical course could be subacute or chronic with difficult diagnosis due to non-specific symptoms and inconclusive radiological imaging findings. This report is that of a 55-year-old female who presented 91 months after total abdominal hysterectomy and bilateral salpingo-oophorectomy with an asymptomatic abdominal mass in the umbilical and suprapubic regions. An abdominal computed tomographic scan suggested a calcified mesenteric cyst. However, exploratory laparotomy revealed an abscess cavity with an embedded abdominal mop densely adherent to the small bowel and walled off by omentum. The mop was removed with resection and anastomosis of adherent bowel loops and drainage of the abscess. The postoperative period was uneventful and the patient is doing well after discharge. The diagnosis of gossypiboma should be considered in patients with non-specific symptoms following abdominal surgery. Prompt radiological imaging of the abdomen and a high index of suspicion in such patients could enhance early diagnosis and intervention resulting in reduced morbidity and mortality. Prevention of its occurrence is of utmost importance, with particular attention to thorough swab counts before and during operative procedures.

Keywords: Gossypiboma, Retained foreign body, Mesenteric cyst, Retained Surgical sponge, Textiloma, Swab count

INTRODUCTION

Retained foreign body (RFB) following operative procedure is a rare occurrence. It is of dire consequence in surgical practice as it is a significant cause of morbidity and mortality. The true prevalence of RFB is believed to be higher than reported due to perceived under-reporting for fear of litigation.¹ It accounts for about 50% of medical malpractice claims.² It is a source of distress to the patient (and family), operating team and management of the hospital where it occurs.

The retained foreign body may be textile (gauze, mop), instruments (whole or part), needles, pieces of plastic, etc. Retained textile constitute the majority of retained foreign bodies following operative procedures.³ No form/type of surgery is exempt from this distressing though avoidable clinical quagmire. However,

abdominal surgeries, especially obstetrics and gynaecological surgeries are the most common source of retained textile.³ Gossypiboma (Gossypium (Latin): cotton; boma (Swahili): a place of concealment) is the term used to refer to a retained textile material following an operative procedure.⁴ Synonyms for gossypiboma include gauzeoma, gauzoma, textiloma, cottonoid, cottonballoma and muslinoma.^{2,5} The first reported case was by Wilson in 1884.² Its incidence is 1 in 100-5,000 operative procedures and 1 in 1000-1,500 abdominal operative procedures.² Gossypiboma is an avoidable operative complication. Thorough swab counts before and during the operative procedure would greatly reduce its occurrence. Factors that have been reported to increase the risk of occurrence of gossypiboma include poor communication within the operating team, emergency operation, change of perioperative nurses/doctors in the course of the procedure, change of operative procedure, fatigue, etc.^{6,7}

Pathologically, gossypiboma causes either exudative or aseptic fibrous reaction; exudative reaction leads to abscess formation

Department of Surgery, University of Benin Teaching Hospital, Benin City, Nigeria.

*Corresponding author: pagbonrofo@gmail.com,

peter.agbonrofo@uniben.edu.

Date manuscript was received: 19/10/2021

Date manuscript was accepted: 25/11/2021

with or without bacterial contamination while aseptic fibrous reaction results in tissue adhesions, encapsulation and eventually foreign body granuloma.² The exudative variant is associated with an earlier clinical presentation while the fibrous reaction tends to result in later manifestation.⁸

Gossypiboma may be asymptomatic or symptomatic (often with non-specific symptoms). The clinical course is often subacute or chronic. Complications that may arise from an intra-abdominal gossypiboma include subacute/chronic pain, abdominal mass, intestinal obstruction, fistulation, perforation, haemorrhage.^{7,9} The mop forgotten at surgery, is also frequently forgotten as a likely cause of the clinical presentation of the patient as more common abdominal pathologies (e.g. adhesions, neoplasia) are considered to be the likely aetiology. The aim of reporting this clinical rarity in this 55-year-old female (91 months post-surgery) is to highlight gossypiboma as a potential differential diagnosis of non-specific symptoms, such as an abdominal mass, in patients who had abdominal surgery previously, and to emphasise the importance of preventing its occurrence.

CASE PRESENTATION

The patient is a 55-year-old female trader who presented 3 months earlier at the surgical emergency room with a complaint of vomiting of one-day duration. Her last bowel movement was 4 hours before the presentation. She had no abdominal pains at presentation.

She had a total abdominal hysterectomy with bilateral Salpingo-oophorectomy (TAH+BSO) for symptomatic uterine fibroids, 91 months before the index presentation. The postoperative period following her TAH+BSO was uneventful.

Histological diagnosis of the resected uterine lesion was Adenomyoma.

Abdominal examination revealed an oval-shaped mass occupying the umbilical and suprapubic regions, approximately 18cm by 16cm, firm, non-tender, mobile. Her attention was first drawn to the presence of the abdominal mass by the examining doctor.

An ultrasonographic scan of the abdomen showed a poorly defined heterogeneous mesenteric mass measuring about 8.5cm by 6.2cm overlying the abdominal aorta and underlying the umbilical region.

Abdominal Computed tomographic (CT) scan showed a large well defined heterogeneous mass predominantly hypodense in the mid-abdomen with a near-complete calcified rim and no significant enhancement pattern (Figure 1). All other intra-abdominal organs appeared normal. The considerations from the CT scan were (1) calcified mesenteric cyst (2) calcified hydatid cyst.

She subsequently had an exploratory laparotomy (94 months after TAH+BSO) with operative findings of 500mls of thick pus in the lower central abdominal cavity walled off by omentum and bowel loops with a mop within it; the mop was densely adherent to small bowel loops, which were adherent to the abdominal wall underlying the site of previous operative scar (Figure 2). At laparotomy, the abscess was drained, the mop was removed, and resection and anastomosis of the small bowel to which the mop was densely adherent was done (Figure 3). The postoperative period was uneventful. She was subsequently discharged to surgical outpatient clinic and is presently doing well on follow-up.

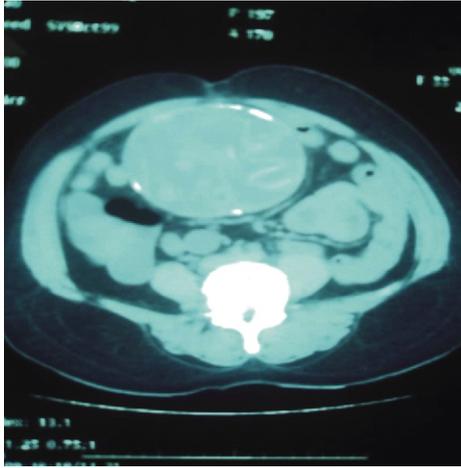


Figure 1: Computed tomographic scan of the abdomen showing a cystic lesion.



Figure 2: Abdominal mop in situ.



Figure 3: Mop retrieved from the abdominal cavity.

DISCUSSION

Gossypiboma occurs rarely after surgery but it is of dire consequence to all involved when it does. Under-reporting is considered to be rife, as it is believed to dent the operating team's image and damage its reputation.¹ Risk factors for Gossypiboma include emergency surgery, unexpected change in operative procedure, change in surgical team/nursing staff, high body mass index, high instrument count, large-volume blood loss and female gender.⁶

The diagnosis of Gossypiboma is difficult because the clinical symptoms are non-specific and the imaging findings are mostly inconclusive, as occurred in this case.⁹ It may present as an acute pathology, non-specific chronic abdominal pain following a clinically silent period or it may be an incidental finding at the surgery for an unrelated pathology. Gossypiboma is more commonly found in females as in the case reported with a mean age at diagnosis of 49 years.¹⁰ The index diagnosis was made at an age of 55 years. The female gender is associated with a higher prevalence of Gossypiboma because the predominant operative procedures associated with this pathology are gynaecological.¹¹

The time from surgery to diagnosis of Gossypiboma has a wide variation from days to many years. The index diagnosis was made after almost 8 years following the initial surgery. The patient was relatively asymptomatic hence the long-time-interval (91 months) from the initial surgery to the identification of a clinical feature of the Gossypiboma (abdominal mass). Sozutek *et al.* reported a case of Gossypiboma in a 22-year-old lady, 14 days after caesarean section while Rajkovic *et al.* reported a case of Gossypiboma in a 66-year-old man, 40 years after laparotomy for knife stab injury.^{12,13} It may simulate other intra-abdominal pathologies such as mesenteric cyst, hydatid cyst, tumour, etc. Both mesenteric cyst and hydatid cyst were considered differentials in the index case.

Gossypiboma is more common following abdominal surgeries especially

obstetrics and gynaecological surgeries as in the index case (which occurred following a total abdominal hysterectomy and bilateral salpingo-oophorectomy).¹¹

The incidence of gossypiboma may be reduced by a thorough swab count, effective communication among members of the operative team, a thorough search for swabs by the surgeon even when counts have been declared complete by the perioperative nurse, change of swabs when fully soaked, attachment of long haemostats to the tails of mops (where feasible) when used in cavities and early re-exploration in case of a missing swab.

The main treatment option is the open surgical removal of the retained foreign body.⁴ Resection of densely adherent tissues/organs may be done, as in the case presented.^{5,12} Endoscopic removal may be feasible in cases of gossypiboma that have migrated into a lumen.¹⁴ Gossypiboma could also be removed via a laparoscopic approach.¹⁴ Spontaneous migration with passage of the foreign body to the exterior through a natural orifice may occur.⁴

CONCLUSION

The prevention of gossypiboma occurrence is of utmost importance, with particular attention to swab counts before and during operative procedure. The saying that 'prevention is better than cure' is apt to describe the burden of gossypiboma. Gossypiboma should be included as a differential diagnosis in cases of non-specific abdominal symptoms in patients with previous history of abdominal surgeries. Prompt radiological imaging of the abdomen and a high index of suspicion in such patients could enhance early diagnosis and intervention resulting in reduced morbidity and mortality.

CONFLICT OF INTEREST

The authors declare no conflict of interest

ETHICAL CONSIDERATION

Informed consent was obtained from the patient for this report and confidentiality

was maintained in keeping with the World Medical Association Declaration of Helsinki.

REFERENCES

1. Ulucay T, Dizdar MG, Sunayyavuz M, Asirdizer M. The importance of Medico-legal evaluation in a case with intra-abdominal gossypiboma. *Forensic Sci* 2010;198:15-8.
2. Manzella A, Filho PB, Albuquerque E, Faria F, Kaercher J. Imaging of gossypibomas: Pictorial review. *AJR* 2009;193:504-10.
3. Hariharan D, Lobo DN. Retained surgical sponges, needles and instruments. *Ann R Coll Surg Engl* 2013;95:87-92.
4. Umunna J.I. Gossypiboma and its implications. *J West Afr Coll Surg* 2012;2:95-105.
5. Kataria S, Garg M, Marwah S, Sethi D. Postoperative adhesive intestinal obstruction from gossypiboma. *Ann Med Health Sci Res* 2012;2:206-8.
6. Gawande AA, Studdert DM, Orav EJ, Brennan TA, Zinner MJ. Risk factors for retained instruments and sponges after surgery. *N Engl J Med* 2003;348:229-35.
7. Lata I, Kapoor D, Sahn S. Gossypiboma, a rare cause of acute abdomen: A case report and review of literature. *Int J Crit Illn Inj Sci* 2011;1:157-60.
8. Gayatri P, Thomas B. A pictorial review of the many faces of gossypiboma- observations in 6 cases. *Pol J Radiol* 2017;82:418-21.
9. Ukwenya AY, Dogo PM, Ahmed A, Nmadu PT. The retained surgical sponge following laparotomy: forgotten at surgery, often forgotten at diagnosis, our experience. *Nigerian Journal of Surgical Research* 2006;8:164-8.
10. Garg MK, Zeya MT, Garg U, Goyal S, Yadav M. Gossypiboma, a diagnostic dilemma or medical negligence: A case report. *Indian Acad Forensic Med* 2014;36:100-3.

11. Naido R, Singh B. Gossypiboma-the retained surgical swab: An enduring clinical challenge. *SAJOG* 2016;22:29-32.
12. Sozutek A, Colak T, Riyhan E, Turkmenoglu O, Akpinar E. Intra-abdominal Gossypiboma Revisited: Various Clinical Presentations and Treatments of this potential Complication. *Indian J Surg* 2015;77:1295-300.
13. Rajkovic Z, Altarac S, Papes D. An unusual cause of chronic lumbar back pain: retained surgical gauze discovered after 40 years. *Pain Medicine* 2010;11:1777-9.
14. Sharma M, Lingampalli R, Jindal S, Somani P. Management of luminal gossypiboma with endoscopy and laparoscopy. *VideoGIE* 2017;2:174-5.