

GOSSYPIDOMA: TWELVE YEARS THERE-AFTER:

A case report

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Abstract

Gossypiboma is used to describe a retained surgical swab in the body after an operation. Retained intra-abdominal surgical sponge is an uncommon surgical error. Among retained foreign bodies, a surgical gauze or sponge constitutes the most frequently encountered object because of its common usage, small size and amorphous structure. We are reporting a case in which a 32 year old woman presented 12 years after an exploratory laparotomy for a left sided abdominal mass. The policy that prevention is far more important than cure coupled with use of several adjunct technologies which accounts for sponge use will help reduce the incidence of retained surgical sponges.

KEY WORDS: *Surgical sponges, laparotomy, foreign bodies, prevention and control.*

Introduction

Gossypiboma, an iatrogenic but avoidable complication of surgery refers to a **retained cotton matrix surgical material** after surgery.

Incidence of retained surgical sponge occurs at a one per **100 and one in 3000 operations**(1,2). It leads to considerable **morbidity** and at times even mortality. It may be associated with a bowel perforation and or penetration by the foreign body which can be diagnosed preoperatively by a CT scan **(3)**. We are reporting the case to present gossypiboma as a cause of unresolved postsurgical pain and that the surgical policy of prevention is far more important than cure.

Case Report

A 32 years old woman first presented with one week history of low back pain with suprapubic pain associated with whitish vaginal discharge. She underwent an exploratory laparotomy for left sided adnexal mass performed at another medical facility in year 2000. Vital signs were normal. Colposcopic examination reveals a caseous discharge around an open cervix and bimanual palpation revealed a bulky uterus resembling an 18-week gestational size and a solitary firm mass posterior to the uterus measuring 5cm by 4cm. An exploratory laparotomy for left sided adnexal mass was performed. Intra operative findings included numerous adhesions between intestinal loops and an encapsulated surgical gauze measuring 5cm by 5cm by 4cm (Figures 1 and 2). Histological sections showed well formed granulomas surrounded by rim of lymphocytes; eosinophilic materials and numerous foreign body giant cells in keeping with

foreign body associated chronic granulomatous inflammatory reaction (Figure 3). Patient responded well to post-operative management. The hospital where the original surgery was done was informed to facilitate initiation of preventive steps.

Discussion

A surgical sponge is the most common type of retained foreign body(4) because of its common usage, small size and amorphous structure. It derived its name **gossypiboma** from Latin “gossypium” (cotton) and Swahili “boma” (place of concealment).

The true incidence of this condition may not be known as surgeons may not report these events for fear of litigation and adverse publicity.

Reported age range for patients with this condition was 6-92years (4). Our patient age was 32 years. Average discovery time equaled 6.9 years (SD 10. 2 years) with a median (quartiles) of 2.2 years (0.3-84 years). This patient presented after 12 years. Abdomen (56%) in most cases accounted for the site of retained

surgical sponge, followed by pelvic (18%), and thorax (11%). This present case was discovered in the abdomen.

Pain/irritation (42%), palpable mass (27%) and fever (12%) were leading signs and symptoms(5). The patient presented with abdominal pain with a bulky 18 weeks abdominal size.

The possibility of a retained foreign body should be in the differential diagnosis of any post operative patient who present with pain, infection or palpable mass(4). The first diagnostic modality to rule it out should be a CT scan. MRI features can be confusing because the radiopaque marker is not magnetic or paramagnetic(4,6). Correctly identifying a sponge on an intraoperative radiograph can be difficult. The surgical markers may become twisted or folded and present an unusual image(7). Also radiopaque markers inside the sponge have been misinterpreted as calcifications, intestinal contrast materials, wire, or surgical clips(6).

Pathologically, two usual responses lead to the detection of a retained sponge. Aseptic fibrinous responses due to foreign body granuloma; or exudative reaction leading to abscess formation(6).

Migration of retained sponge into bowel is rare but do occur when compared to abscess formation and occur as a result of inflammation in the intestinal wall that evolves to necrosis(5,8,9).

Treatment for gossypibioma is removal usually through the previous operative site, but endoscopic or laparoscopic approaches may be attempted(10). One possible complication to bear in mind during surgery for removal of retained foreign body is perforation of adherent bowels, which may be missed.

The hallmark of treatment for gossypibioma is the surgical policy that prevention is better than cure. The universal guidelines as stated by the American College of Surgery(11) in October 2005 should be strictly followed. Only radio-opaque sponges should be used, with accurate sponge counts performed before the procedure and after the procedure. Although human errors cannot be completely avoided(12), several adjunct technologies are under development for supporting surgical teams in performing counts and reducing instances of lost or retained sponges. These include the barcode system, which accounts for sponges based on affixed two -dimensional matrix(13). Two additional technologies embed

electronic chips within sponges: the electronic article surveillance (EAS) system, which uses magneto mechanical technology(14); and radiofrequency identification (RFID) microchips, which receives signals sent by a wand like handheld scanner and respond with unique identification code(15). This newer technologies coupled with continuous medical training and strict adherent to rules of the operation room should reduce the incidence of gossypiboma to a minimum.

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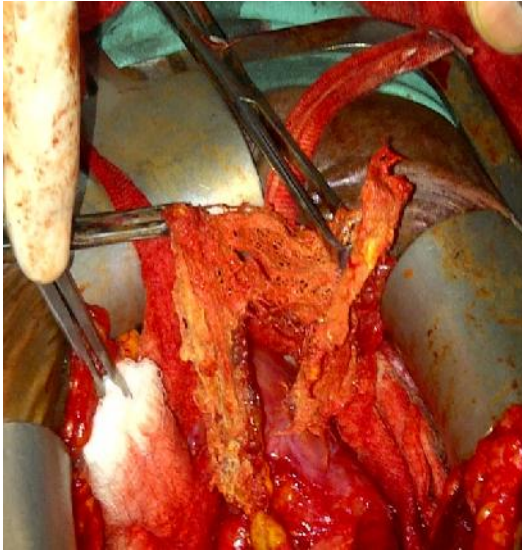


Figure 1: Intraoperative photograph showing the retained surgical sponge being removed.



Figure2: Gossypiboma grasped by clamps.

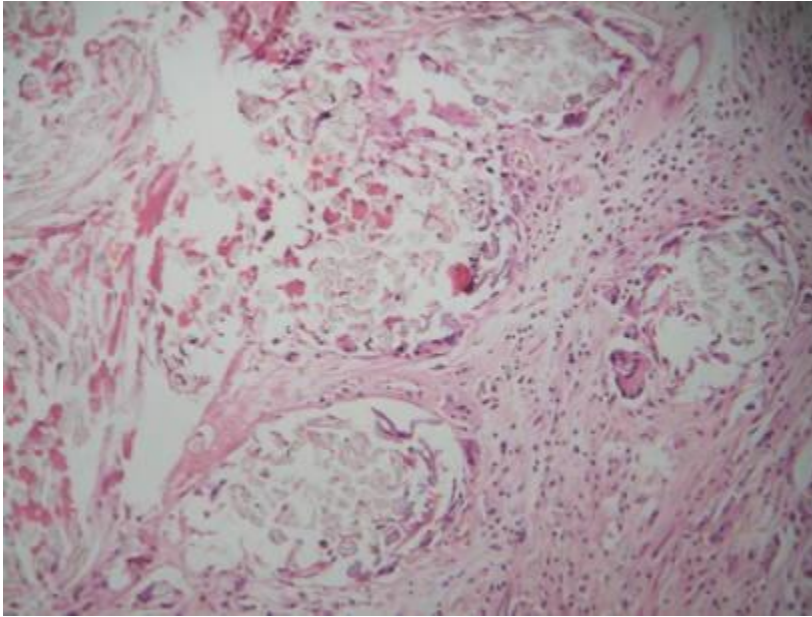


Figure 3: Histologic section showing foreign body granulomatous inflammation (x100)

References

1. Patil KK, Patil SK, Gorad KP, Panchal AH, Arora SS, Gautam RP. Intraluminal migration of surgical sponge: Gossypiboma. Saudi J Gastroenterol 2010;16:221-2
2. Fernando Ferraz de Campos, Fabio Franco, Linda Ferreira Maximiano, João Augusto Santos Martinês, Aloisio Souza Felipe-Silva, et al. An iron deficiency anemia of unknown cause: a case report involving gossypiboma. Clinics (Sao Paulo). 2010 May; 65(5): 555–558.
3. Abdul HM. Quraishi. Beyond a Gossypiboma. Case Reports in Surgery. 2012; 2012: 1-2.

4. Ali Aminiam. "Gossypiboma: a case report". *Case J.* 2008; 1(1):220.
5. Mohinder K. Malhotra. Migratory surgical Gossypiboma- cause of iatrogenic perforation: case report with review of literature. *Nigeria Journal of Surgery.* 2012;1(18)27-29.
6. Gibbs VC, Coakley FD, Reines HD. Preventable errors in the operating room: retained foreign bodies after surgery. *CurrProbl Surg.* 2007; 44:281-337.
7. Revezs G, Siddiqi TS, Buchheit WA, Bonitatibus M. Detection of retained surgical sponges: Radiology. 1983; 149:411-413.
8. Menten, BB, Yilmaz E, SenM, Kayhan B, Gorgul A, Tatlicioglu E. Transgastric migration of surgical sponge *J. ClinGastroentrol* 1997;24;55-7.
9. Silva CS, Caetano MR, Silva EA, Falco, L, Mutra EF. Complete migration of retained surgical sponge into ileum without sign of open intestinal wall. *Arch GynaecolOstet* 2001; 265:103-4.
10. Karahasanoglu T, Unal F, Meimsoglu K. Sahinler I, Atkavar G. Laparoscopic removal of retained surgical instrument *J. LaparoendoscAdvSurg Tech A.* 2004; 14:241-243.

11. American College of Surgeons. Statement on the prevention of retained foreign bodies after surgery. *Bull Am Coll Surg.* 2005;90:15-6
12. VC Gibbs and A.D. Auerbach, "The retained surgical sponge". in Making Health Care Safer. A Critical Analysis of Patient Safety Practices, Evidence Report/ Technology Assessment, K.G. Shojania, B.W. Duncan, K.M. McDonald, and R.M. Wachter, Eds., Publication no. 01E058, pp.255-257, Agency for Healthcare Research and Quality, Rockville, MD, USA, 2001.
13. C.C. Greenberg R. Diaz-Flores, S.R. Lipsitz et al, "Bar-coding surgical sponge to improve safety: a randomized controlled trial," *Annals of surgery*, 2008; 247(4):612-616.
14. C.E. Fabian "Electronic tagging of surgical sponges to prevent their accidental retention," *Surgery*, 2005; 137(3):298-301.
15. A Macario, D. Morris, and S Morris "Initial clinical evaluation of a handheld device for detecting retained surgical gauze sponges using radiofrequency identification technology," *Archives Surgery*, 2006; 141(7):659-662.

