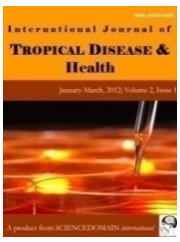

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Gossypiboma: Twelve Years There-After

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Authors' contributions

This work was carried out in collaboration between all authors. Author BAO designed the study, manuscript writing and literature search; author EOU reported the biopsy and wrote the first draft; authors IOI, JCE, TOF performed the operation. Author BMD reviewed the biopsy report, final manuscript writing and literature search; author GTAJ performed the literature search. All authors read and approved the final manuscript.

Case Study

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ABSTRACT

Gossypiboma is used to describe a retained cotton matrix surgical material 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 report a case of a 32-year-old female patient who presented a left sided abdominal mass 12 years after an exploratory laparotomy. The policy of prevention coupled with use of several adjunct technologies which accounts for sponge use will help to reduce the incidence of gossypibomas.

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Keywords: Surgical sponges; laparotomy; foreign bodies; prevention and control.

1. 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]. The authors report a case of gossypiboma as a cause of persistent postsurgical pain highlighting the surgical policy of prevention as being far more important than cure.

2. 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 the 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 (Figs. 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 (Fig. 3). Patient responded well to post-operative management. The hospital where the original surgery was done was informed to facilitate initiation of preventive steps.

Fig. 1. Intraoperative photograph showing the retained surgical sponge being removed

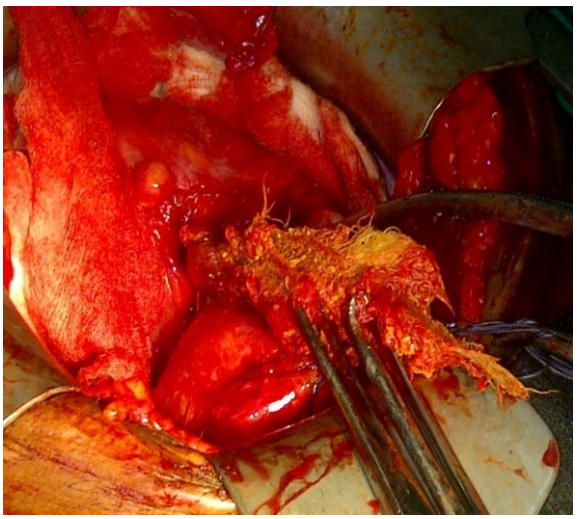

Fig. 2. Gossypiboma grasped by clamps

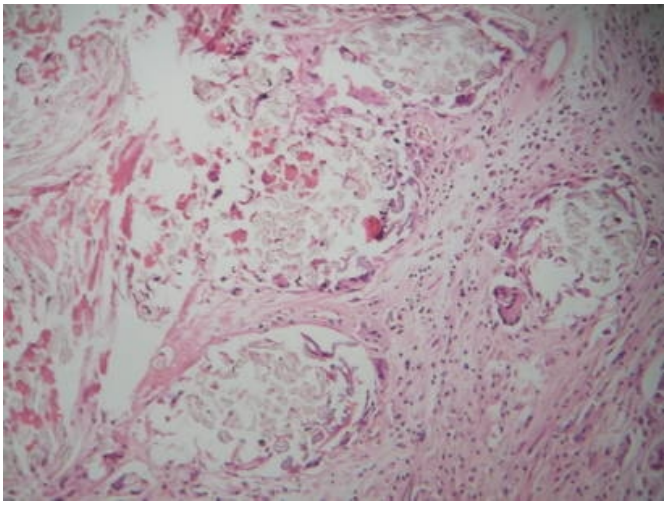

Fig. 3. Histologic section showing foreign body granulomatous inflammation (x100)

3. 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 accurately 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 symptoms 12 years after an

abdominal surgery. The abdominal cavity is the most common site for retained surgical sponge (56%), followed by pelvic (18%), and thorax (11%). This present case “follows the rule” since the Gossypiboma was diagnosed in the abdomen.

Pain/irritation (42%), palpable mass (27%) and fever (12%) were leading signs and symptoms [5]. The patient of this case report presented a painful hypogastric abdominal mass resembling a 18-week- gestational uterus The possibility of a retained foreign body should always be taken into account 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 computed tomography (CT) scan. MRI features can be confusing because the radiopaque marker is not magnetic or paramagnetic [4,6]. The identification of a sponge during the intraoperative period by plain abdominal or thoracic radiography may be difficult. The surgical sponges 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]. Gossypiboma is seen following abdominal, pelvic and thoracic surgeries.

The retained surgical sponge triggers two biological responses, namely: 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 of the intestinal wall that evolves to necrosis [5,8,9].

Treatment of gossypiboma is the surgical removal usually through the previous operative site, but endoscopic or laparoscopic approaches may be attempted [10]. A possible complication, to bear in mind, during surgery for removal of the retained foreign body is bowel perforation, which may be missed.

The leading point in the treatment of gossysbiomas is the surgical policy and prevention. 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 adherence to rules of the operation room should reduce the incidence of gossypiboma.

CONSENT

All authors declare that ‘written informed consent was obtained from the patient for publication of this case report and accompanying images.

ETHICAL APPROVAL

Not applicable.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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