

Research Letter

Retroperitoneal gossypiboma 25 years after abdominal hysterectomy

Huang-Pin Shen ^{a,b,c}, Chih-Jen Tseng ^{a,b,*}, Long-Yau Lin ^{a,b}, Yu-Hsiang Lin ^{a,b}, Huey-Yi Chen ^c,
Tsung-Ho Ying ^{a,b}, Gin-Den Chen ^{a,b}

^aDepartment of Obstetrics and Gynecology, Chung Shan Medical University Hospital, Taichung, Taiwan

^bSchool of Medicine, Chung Shan Medical University, Taichung, Taiwan

^cGraduate Institute of Integrated Medicine, China Medical University, Taichung, Taiwan

Accepted 14 September 2011

Retained surgical gauze following a surgical procedure or endoscopic examination is referred to as a gauzoma, textiloma, or gossypiboma. Such foreign materials can cause foreign body reactions in the surrounding tissues, but do not cause symptoms in most cases. Gossypibomas have been reported in many locations, including the maxillary sinus [1], head [2], thorax [3], frontal bone [4], abdomen [5], groin [6], bronchus [7], abdominal wall [8], pleural cavity [9], spine [10], pelvis [11], spleen [12], and legs [13]. Gossypibomas can occur after surgery in any cavity or organ (abdomen, 56%; pelvis, 18%; thorax, 11%; orthopedic; neurosurgical; and cardiovascular), in patients of all ages and both sexes [14].

Retained intra-abdominal surgical gauze is an uncommon surgical error in daily practice, with the requirement of accurate sponge counts. Surgeons worldwide have reported this incident since the first report by Wilson in 1884. Different terms have been used for retained textile foreign bodies, with gossypiboma the currently preferred term [14]. The incidence of gossypibomas has been reported to be as high as 1 in 1000–15,000 intra-abdominal operations, but the definite incidence is not known exactly because of under-reporting of cases. If not treated carefully, gossypibomas may cause serious morbidity and lead to mortality.

Imaging studies including sonography, plain abdominal X-ray, computed tomography, magnetic resonance imaging, and positron emission tomography, can demonstrate the location of the gossypiboma [15–19], and laparotomy is required for definitive diagnosis. Surgical removal is the preferred treatment [19].

A 68-year-old gravida 1 para 1 (normal spontaneous delivery) complained of abdominal fullness, constipation, and a palpable protruding mass from the rectum for >1 month

(since November 2010). She had undergone a total abdominal hysterectomy and bilateral salpingo-oophorectomy 25 years ago at a local hospital for a uterine malignancy. She had type 2 diabetes for >10 years and was taking glyburide (Euglucon; 5 mg daily). She also had been diagnosed with fatty liver. She sought evaluation in the gastrointestinal outpatient department in our hospital on December 24, 2010. A colonoscopy was

Examination method	Results
Colonoscopy	Intact smooth mucosa, but external compression from the anterior aspect of the rectum.
Abdominal sonography	Gallbladder stones and fatty liver.
Transvaginal sonography	Right adnexal mass, about 10 cm in size; no blood flow was detected.
CA-125	12.5 U/mL
CEA	1.2ng/mL
Frozen section	Not performed; gossypiboma detected (Figure 5)

CA-125 = cancer antigen 125; CEA = carcinoembryonic antigen.

Fig. 1. Preoperative survey results.

* Corresponding author. Department of Obstetrics and Gynecology, Chung Shan Medical University Hospital, No. 110, Section 1, Chien-Kuo North Road, Taichung 402, Taiwan.

E-mail address: 52carboplatin@gmail.com (C.-J. Tseng).

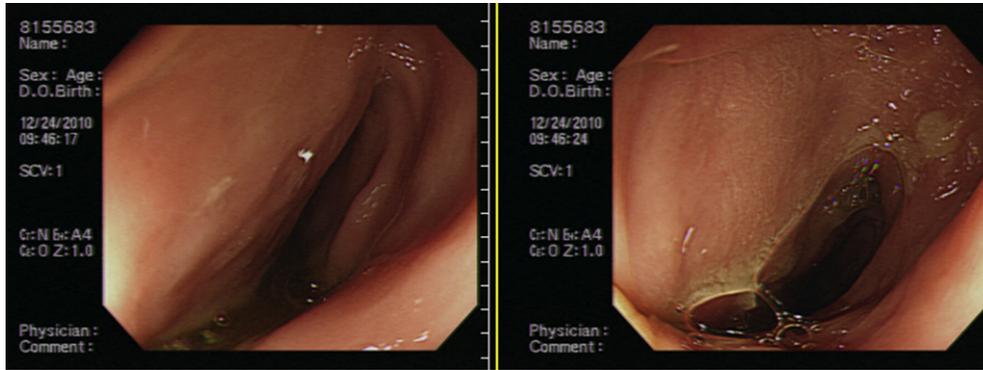


Fig. 2. Colonoscopy: intact smooth colon mucosa, but external compression from the anterior aspect of the rectum was noted.

performed, and revealed intact smooth mucosa, but external compression from the anterior aspect of the rectum was noted (Fig. 1). Abdominal sonography detected gallbladder stones and a fatty liver. Thus, she was transferred to the gynecology outpatient department for evaluation of the pelvic mass. There, pelvic examination revealed a smooth vaginal cuff and a firm pelvic mass. Transvaginal sonography disclosed a right adnexal mass, approximately 10 cm in size (Fig. 2), without blood flow. The cancer antigen 125 and carcinoembryonic antigen levels were normal (12.5 U/mL and 1.2 ng/mL, respectively). There was no weight loss, general malaise, dyspareunia, or dysuria. She also complained of urinary frequency, nocturia (2 times/night), and incontinence while coughing. She was admitted to our ward and underwent surgery for a suspected malignancy. During laparotomy, severe adhesions between the small intestine and colon were found and adhesiolysis was performed. At the same time, a retro-peritoneal mass was found between the bladder and rectum. The mass was removed by excision. The wound healed well, but diffuse ileus occurred 10 days after surgery. The ileus spontaneously improved with intravenous fluids and bowel rest. There were no malignant tissues according to pathological evaluation (Figs. 3–5).

Retained surgical gauze following a surgical procedure or endoscopic examination is referred to as a gauzoma, textiloma or gossypiboma. Such foreign materials can cause foreign body reactions in the surrounding tissue, but do not cause

symptoms in most cases. Surgeons worldwide have reported this incident since the first report by Wilson in 1884. Different terms have been used for retained textile foreign bodies, with gossypiboma the currently preferred term [14]. In the current case, the retained surgical gauze was detected via vaginal sonography during the initial presentation of abdominal fullness and constipation.

The best method for this surgical complication is prevention. In our daily practice in the operating room, accurate sponge and instrument counts are helpful. Surgical sponges should be counted once prior to the incision, once at the time of wound closure, and twice at the end of all surgical procedures. The current patient underwent gynecological oncological surgery at another hospital 25 years ago, but the medical records could not be retrieved. Thus, we do not know the detailed surgical procedures and the definite diagnosis at that time.

Gossypibomas can occur after surgery involving any cavity or organ, with the pelvis the second most frequent location (18%) in all age groups and both sexes [14]. Retained intra-abdominal surgical gauzes are uncommon surgical complications in our daily practice with routine accurate sponge counts. The incidence of gossypibomas has been reported to be as high as 1 in 1000–15,000 of intra-abdominal operations, but the definite incidence is not known exactly because of under-reporting of cases. In our gynecology department, the incidence of gossypibomas was approximately 1 in 8000 during



Fig. 3. Ultrasonography: a solid adnexal tumor, 9.5 cm × 8.9 cm in diameter, was noted, with absent flow and the border demarcated.



Fig. 4. Appearance of total tumor after excision.

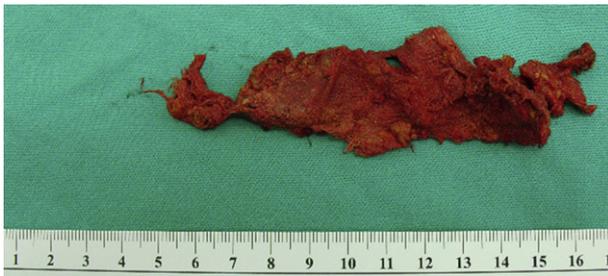


Fig. 5. One piece of the tumor.

the most recent 5 years. There are no official data for the incidence of gossypibomas in Chung Shan Medical University Hospital. There are approximately 2000 operations performed in our Department of Obstetrics and Gynecology annually, including total abdominal hysterectomies, vaginal total hysterectomies, laparoscopic surgery, and cesarean sections. We asked senior nurses, resident physicians, visiting staff, and physician assistants the following question: “Have you ever been involved in a laparotomy for a gossypiboma since the first day you worked in this hospital?” There was only one affirmed case that occurred 3–4 years ago, and the patient underwent enterolysis for pelvic adhesions. On day 1 after surgery, the patient had ileus, nausea and vomiting. A Kidneys, ureters, and bladder x-ray (KUB) was obtained and a gossypiboma was detected. An emergency laparotomy was carried out. If not treated carefully, gauzomas may cause serious morbidity and lead to mortality.

Imaging studies, including sonography, plain abdominal X-ray, computed tomography, magnetic resonance imaging, and positron emission tomography [15–19] can provide valuable information before surgery, but laparotomy still has a role in definitive diagnosis. Surgical removal is the preferred treatment for gossypibomas [19]. In the current case, the presurgical imaging studies included colonoscopy and abdominal and transvaginal sonography. Recurrent cancer was suspected and a frozen section was arranged. After the tumor appearance

was disclosed, we performed tumor excision. A frozen section was not performed in this case.

Although the incidence of retained foreign bodies after surgery is low, we must keep this rare diagnosis in mind. Retained foreign bodies can cause harm to the patient and clinicians potentially face legal problems; thus, accurate sponge counts prior to closing the surgical wound are imperative. If retained foreign bodies occur, surgical excision is the best treatment choice.

References

- [1] Pons Y, Schouman T. Maxillary sinus textiloma: a case report. *J Med Case Reports* 2010;4:288.
- [2] Tan VE, Sethi DS. Gossypiboma: an unusual intracranial complication of endoscopic sinus surgery. *Laryngoscope* 2011;121:879–81.
- [3] Ridene I, Hantous-Zannad S, Zidi A, Smati B, Baccouche I, Kilani T, et al. Imaging of thoracic textiloma. *Eur J Cardiothorac Surg* 2011;39:e22–6.
- [4] Dimitrakopoulos I, Ntomouchtsis A, Lazaridis N. Textiloma of the frontal bone twenty years after craniotomy for Apert syndrome. *J Craniomaxillofac Surg* 2011;39:17–20.
- [5] Sumer A, Carparlar MA, Uslukaya O, Bayrak V, Kotan C, Kemik O, et al. Gossypiboma: retained surgical sponge after a gynecologic procedure. *Case Report Med* 2010. <http://dx.doi.org/10.1155/2010/917626>.
- [6] Ortiz-Mendoza CM. Groin textiloma after saphenectomy: resemblance to neoplasm. *Cir Cir* 2010;78:267–9.
- [7] Kreuter M, Eberhardt R, Wiebel M, Schulz MR, Mueller KM, Herth FJ. A 65-year-old man with an endobronchial gossypiboma after lobectomy for abscessing pneumonia. *Respir Care* 2010;55:933–6.
- [8] Huston TL, Grant RT. Abdominal wall gossypiboma. *J Plast Reconstr Aesthet Surg* 2010;63:e463–4.
- [9] Hammami O, Ammar J, Hamzaoui A. Pleural textiloma discovered after treatment of a persistent arterial channel. *Tunis Med* 2010;88:753–6 [in French].
- [10] Erdem G, Ates O, Kocak A, Alkan A. Lumbar gossypiboma. *Diagn Interv Radiol* 2010;16:10–2.
- [11] Dash BB, Mahey R, Kriplani A, Agarwal N, Bhatla N. Textiloma, a rare pelvic tumor. *Arch Gynecol Obstet* 2010;282:707–9.
- [12] Ivica M, Ledinsky M, Radic B, Savic A, Tomas D, Vidovic D, et al. After 40 years gossypiboma caused spleen abscess. *Coll Antropol* 2009;33:973–5.
- [13] Patel AC, Kulkarni GS, Kulkarni SG. Textiloma in the leg. *Indian J Orthop* 2007;41:237–8.
- [14] Andronic D, Lupascu C, Tarcoveanu E, Georgescu S. Gossypiboma—retained textile foreign body. *Chirurgia (Bucur)* 2010;105:767–77 [in Romanian].
- [15] Kim CK, Park BK, Ha H. Gossypiboma in abdomen and pelvis: MRI findings in four patients. *AJR Am J Roentgenol* 2007;189:814–7.
- [16] Cheng TC, Chou AS, Jeng CM, Chang PY, Lee CC. Computed tomography findings of gossypiboma. *J Chin Med Assoc* 2007;70:565–9.
- [17] Yuh-Feng T, Chin-Chu W, Cheng-Tau S, Min-Tsung T. FDG PET CT features of an intraabdominal gossypiboma. *Clin Nucl Med* 2005;30:561–3.
- [18] Salman M, Ahmed N, Mansoor MA. Gossypiboma in the early post-operative period: computed tomography appearance. *J Coll Physicians Surg Pak* 2005;15:435–6.
- [19] Lu YY, Cheung YC, Ko SF, Ng SH. Calcified reticulate rind sign: a characteristic feature of gossypiboma on computed tomography. *World J Gastroenterol* 2005;11:4927–9.