

## Research Letter

## Pelvic floor abscess secondary to gossypiboma following a total Prolift procedure

Chung-Yu Chang<sup>a</sup>, Eing-Mei Tsai<sup>a,b</sup>, Chin-Hu Wu<sup>a</sup>, Chiu-Lin Wang<sup>c</sup>, Cheng-Min Liu<sup>b</sup>,  
Cheng-Yu Long<sup>b,c,\*</sup><sup>a</sup>Department of Obstetrics and Gynecology, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan<sup>b</sup>Graduate Institute of Medicine, Center of Excellence for Environmental Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan<sup>c</sup>Department of Obstetrics and Gynecology, Kaohsiung Municipal Hsiao-Kang Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan

Accepted 10 June 2011

Gossypiboma, which is derived from the Latin term “gossypium” (cotton), is retention of cotton material, where usually a gauze or abdominal sponge frequently causes morbidity and may result in death. Nonresorbable hemostatic aides include various forms of cotton and rayon-based hemostats (cottonoids and kites). Histologic examination typically shows a core of degenerating hemostatic agent surrounded by an inflammatory reaction. If the foreign body cannot be extruded, it remains in the abscess cavity and creates multiple fistulae. In such a case, the patient who is recovering well after surgery becomes chronically unwell and complains of multiple symptoms.

Pelvic organ prolapse (POP) is a growing gynecologic problem because of the increased life expectancy of women and the many available medical resources in our country. Women now have a lifetime risk of 11% for surgery intervention for POP [1]. Surgical therapy for POP has been a proliferation in techniques and materials that are intended to improve prolapse reduction. Therefore, surgery with implantation of mesh or graft materials has become increasingly popular over the past decade due to the excellent short-term cure rate [2].

Although synthetic mesh has the advantage of strength and durability, it has a drawback of graft encapsulation with subsequent infection and erosion. In addition, estrogen deficiency in menopause alters vaginal vascularization [3] and pH, which causes symptoms of urogenital atrophy, including pruritus, dryness, and dyspareunia. Consequently, these changes may contribute to poor healing of a vaginal wound following transvaginal mesh surgery, making the exposure of

mesh more likely. Foreign body insertion has been previously reported as a complication of laparotomy. However, we are not aware of any reports of gossypiboma as a complication of vaginal mesh surgery. We report a case with mesh erosion resulting from gossypiboma after transvaginal POP repair with total Prolift (Gynecare Prolift; Ethicon, Inc., Piscataway, NJ, USA) device.

A 67-year-old, para 4 postmenopausal female presented with stress urinary incontinence and stage 4 vault prolapse. She denied tobacco use or any medical disease, such as diabetes and hypertension. Preoperative urodynamic testing was compatible with urodynamic stress incontinence without detrusor overactivity. Therefore, this woman was scheduled for concomitant TVT-O (Gynecare TVT-Obturator System; Ethicon, Inc.) with the total Prolift device. After these two procedures, vaginal mucosa was closed with 3–0 polyglactin sutures using the “through to through” technique. The skin incisions were closed using Dermabond and vaginal packing was placed for 24–48 hours.

However, she reported intermittent vaginal discharge and fever during the first postoperative follow-up (postoperative day 12). Pelvic examination showed 1–1.5 cm of mesh erosion in the midline of the anterior vagina incision without POP recurrence. No voiding dysfunction, urinary retention, or pelvic pain symptoms were noted. Blood routine revealed white count of 11,200/μL and C-reactive protein values of 36 mg/L. The urinalysis did not reveal pyuria or bacteriuria.

Although vaginal douche with gentamicin (80 mg) (gentamicin sulfate; Standard Chem. & Pharm., Sinying, Taiwan) in the outpatient department and three combinations of antibiotics [Flagyl, 250 mg (metronidazole; Shionogi, Keelung, Taiwan); Unasyn, 375 g (sulbactam sodium/ampicillin sodium; Pfizer, Chita, Japan); Cravit, 500 mg (levofloxacin; Aventis, Bad Soden, Germany)] were used, malodor of vaginal discharge persisted for 7 days. Finally, we just

\* Corresponding author. Department of Obstetrics and Gynecology, Kaohsiung Municipal Hsiao-Kang Hospital, 482 Shan-Ming Road, Hsiao-Kang District 812, Kaohsiung, Taiwan.

E-mail address: [urolong@yahoo.com.tw](mailto:urolong@yahoo.com.tw) (C.-Y. Long).

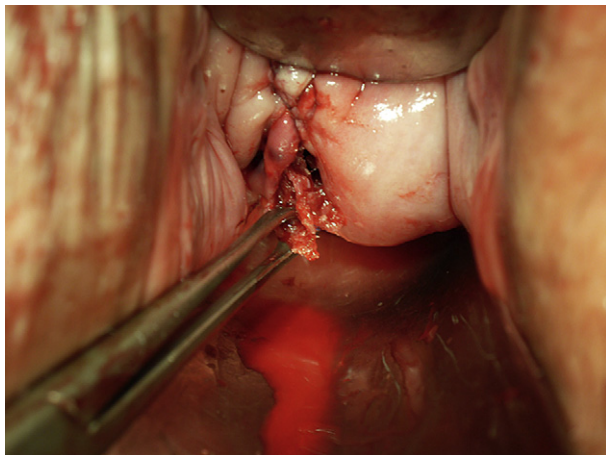


Fig. 1. One gauze was located over paravesical space.



Fig. 2. The gauze has been compressed and removed from paravesical space.

trimmed the exposed mesh and resutured the vaginal mucosa due to the limited exposure area. Much pus was drained spontaneously, and cultured medium showed *Escherichia coli* colonization.

After 2 weeks of alleviation from fever, she reported some discharge coming out of the vagina again. Thus, we planned to remove the entire mesh. After incision and dissection of the vaginal wound, an unexpected finding was that one piece of gauze was seen in the paravesical space (Fig. 1). We took out the gauze and excised part of the mesh (Fig. 2). After debridement, no further fever and malodorous discharge was noted. Fortunately, she has remained continent and free of POP for over 1 year at the time of writing.

Mesh erosion may be the result of wound infection, poor vascularity, or wound dehiscence. In dealing with aseptic mesh erosion, partial or total excision of mesh may have to be done. In our infected case, vaginal douche and oral antibiotics had to be used before we removed the exposed part of mesh. However, failures of treatment concerning infection reminded us of reintervention. It was fortunate for us to find one piece of gauze placed over the paravesical space. There is no doubt that a retained gauze contributed to poor healing of the vaginal wound following mesh surgery, making the exposure of mesh more likely.

The term “gossypiboma” denotes a cotton foreign body that is retained inside the patient during surgery. The incidence of gossypiboma varies between 1/1000 and 1/1500 for intra-abdominal operations [4], with the interval between primary surgery and diagnosis varying from 10 weeks to 35 years, with a mean interval of 93.5 months. However, gossypiboma was diagnosed about 6 weeks after initial surgery in this woman. A possibility was that infectious discharge is easier to find in women undergoing transvaginal surgery. Gossypiboma has been reported to occur following a diversity of surgical procedures such as abdominal, thoracic, orthopedic, and even neurosurgical operations. Risks for retained surgical

instruments remains poorly understood. Gawande et al [5] identified risk factors for this type of error as emergency surgery, unplanned change in the operation, and body mass index.

Many nonspecific symptoms of Gossypiboma have been reported, such as abdominal pain, nausea, vomiting, anorexia, constipation, and weight loss. Prognosis is excellent if the retained surgical sponge is removed through transmural migration. Imaging findings have been described in ultrasonography, computed tomography scan, and even positron emission tomography scan. A case report of retained surgical instruments of TVT-Secur (Ethicon, Inc.) during surgery was also reported recently [6]. Gossypiboma is rarely reported in a vaginal minimally invasive surgery because the peritoneum is not entered. Therefore, no radiological examination was arranged because we never considered this possibility. Since this event, it has been our practice to emphasize that gauze counting should be done routinely, regardless of whether surgery is intraperitoneal or via vaginal approach.

## References

- [1] Olsen AL, Smith VJ, Bergstrom JO, Colling JC, Clark AL. Epidemiology of surgically managed pelvic organ prolapsed and urinary incontinence. *Obstet Gynecol* 1997;89:501–6.
- [2] Feiner B, Jelovsek JE, Maher C. Efficacy and safety of transvaginal mesh kits in the treatment of prolapse of the vaginal apex: a systematic review. *BJOG* 2009;116:15–24.
- [3] Long CY, Liu CM, Hsu SC, Wu CH, Wang CL, Tsai EM. A randomized comparative study of the effects of oral and topical estrogen therapy on the vaginal vascularization and sexual function in hysterectomized postmenopausal women. *Menopause* 2006;13:737–43.
- [4] Bani-Hani KE, Gharaibeh KA, Yaghan RJ. Retained surgical sponges: gossypiboma. *Asian J Surg* 2005;28:109–15.
- [5] 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.
- [6] Roth TEDM. An unexpected cause of dyspareunia and partner dyspareunia following TVT-Secur. *Int Urogynecol J* 2009;20:1391–2.