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Case Report

Ureterovaginal fistula: A complication of a vaginal foreign body

Tsia-Shu Lo ^{a, b, c, d, *}, Sukanda Bin Jaili ^{e, f}, Rami Ibrahim ^{f, g}, Chuan Chi Kao ^a,
Ma Clarissa Uy-Patrimonio ^{f, h}^a Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Keelung Medical Center, Keelung, Taiwan, Republic of China^b Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Taipei Medical Center, Taipei, Taiwan, Republic of China^c Division of Urogynecology, Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Linkou Medical Center, Taoyuan, Taiwan, Republic of China^d Chang Gung University, School of Medicine, Taoyuan, Taiwan, Republic of China^e Department of Obstetrics and Gynecology, Hospital Umum, Sarawak, Malaysia^f Fellow of the Division of Urogynecology, Department of Obstetrics & Gynecology, Chang Gung Memorial Hospital, Linkou, Taoyuan, Taiwan, Republic of China^g Department of Obstetrics and Gynecology, Al-Bashir Hospital, Amman, Jordan^h Department of Obstetrics and Gynecology, Dr. Pablo O. Torre Memorial Hospital, Bacolod City, Philippines

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ABSTRACT

Objective: To know the diagnostic tools and proper management of ureterovaginal fistula following neglected vaginal foreign body in order to achieve optimal outcome.**Case report:** A case of ureterovaginal fistula associated with a neglected vaginal foreign body. The patient was complaining of a foul-smelling vaginal discharge and lower abdominal pain. On vaginal examination, a hard and large foreign body was found. Examination under anesthesia was performed, and an aerosol cap was removed from her vagina. The patient developed urinary incontinence after removal of the foreign body. Subsequent work-up demonstrated the presence of a right ureterovaginal fistula. The patient underwent an abdominal ureteroneocystostomy. At one year follow up, the patient had fully recovered.**Conclusion:** Ureterovaginal fistula following neglected vaginal foreign body is a serious condition. Early diagnosis, treatment of infection and proper surgical management can improve the outcome and decrease complications.© 2018 Taiwan Association of Obstetrics & Gynecology. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Urogenital fistula is an abnormal communications between the female genital tract and the bladder, urethra or ureters resulting in constant urine leakage/incontinence [1]. It accounted for 31 of 303 cases, with the vast majority resulting from hysterectomy [2]. Risk factors for the development of ureteral fistulas also include endometriosis, obesity, pelvic inflammatory disease, radiation therapy and pelvic malignant disease [3]. There are many reported cases of vesicovaginal fistula following neglected foreign body in the vagina but only few reported cases of ureterovaginal fistula [4]. We report a case of ureterovaginal fistula following vaginal aerosol cap insertion in young woman.

Case report

A 20-year-old single, sexually active nulliparous woman presenting with complaints of profuse foul smelly vaginal discharge and bleeding, which was associated with lower abdominal pain for five days. Her last normal menstrual period was 35 days prior to the consultation. Speculum and bimanual examinations revealed a large hollow foreign object partially embedded in the inner vaginal cavity that covered the entire anterior and posterior vaginal walls. The patient claimed that an aerosol cap was inserted vaginally by her friend two weeks back as a contraceptive. On complete blood count patient was normal. Urine pregnancy test was negative.

Careful removal of an intact vaginal foreign body, a thin wall Polypropylene cylindrical lid 6 cm in diameter and 7 cm in height, was done under general anesthesia due to severe tissue inflammation and necrosis (Fig. 1a–c). The patient received intravenous antibiotic (Cefazolin 500 mg every 6 h for 3 days) then discharged

* Corresponding author. Department of Obstetrics and Gynaecology, Chang Gung Memorial Hospital Keelung, Keelung Medical Centre, 222, Majjin Road, Keelung, 204, Taiwan. Fax+: 886 3 3288252.

E-mail address: 2378@cgmh.org.tw (T.-S. Lo).

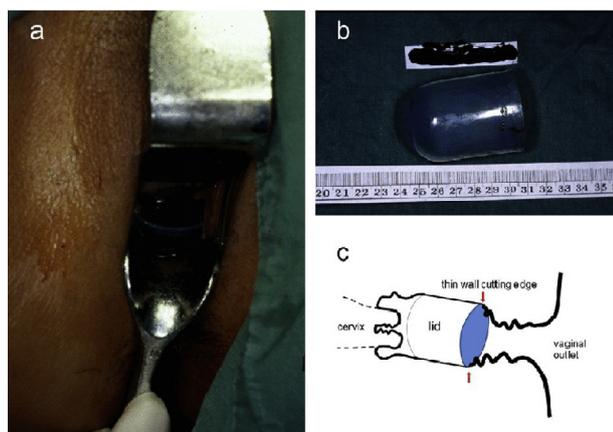


Fig. 1. (a) A neglected thin wall Polypropylene cylinder lid in vagina. (b) 6 cm in diameter and 7 cm in height. (c) The thin wall cutting edge.

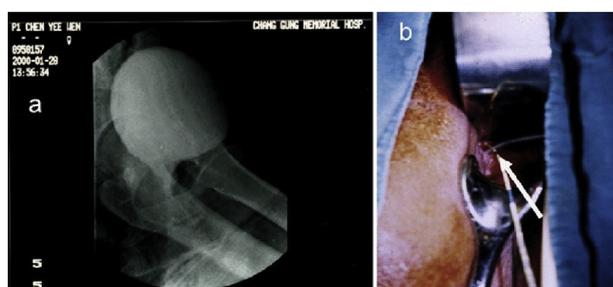


Fig. 2. (a) An intravenous pyelogram (IVP) showing a normal urinary system with an extravasation of contrast media into vaginal cavity was seen. (b) A ureteral stent through right ureter orifice in a retrograde fashion confirmed and localized the ureterovaginal fistula.

home on oral antibiotic (Cefuroxime 500 mg every 12 h for 5 days). She came back 4 days after discharge complaining of continuous vaginal discharge with ammoniacal odor resulting to embarrassing wetness which was noticed 2 days after her discharge. A detailed pelvic examination revealed clear fluid pooling at the apex of the vagina. Endoscopic camera was used to examine the vaginal wall closely which revealed one tiny hole, located on the right posterior fornix which was consistent of urogenital fistula. Cystoscopic examination was performed with no obvious bladder mucosal defect. An intravenous pyelogram (IVP) was done and a normal urinary system with an extravasation of contrast media into vaginal cavity was seen (Fig. 2a). An attempt to pass the ureteral stent through the right ureteral orifice in a retrograde fashion confirmed and localized the ureterovaginal fistula (Fig. 2b). She was then discharged home on oral antibiotic (Ciprofloxacin 500 mg every 12 h for 10 days). Ten days later, she was admitted for fistula repair.

Trans-abdominal approach surgery with an intraoperative finding of a fistula at 1.5 cm from ureterovesical (UV) junction (Fig. 3). A ureteroneocystostomy with anti-reflux procedure was performed. Intraoperative blood loss was 150 ml with operating time of 105 min. Intravenous antibiotic, Cefazolin 500 mg, was used before and after operation then continue every 6 h for 5 days. Abdominal vacuum ball drain and Foley catheter were kept for 5 days. The patient was discharged 9 days after the operation without complications. Double J stent was removed 3 weeks after the surgery by office flexible cystoscopy. Postoperative intravenous pyelography at 6 month revealed no evidence of contrast media leakage. One year post-operatively, no urinary incontinence was noted. The vaginal depth and axis were normal according POP-Q measurements [5] (Aa-3, Ba-3, C-12, D-11, Ap-3, Bp-3, GH 3.5, PB

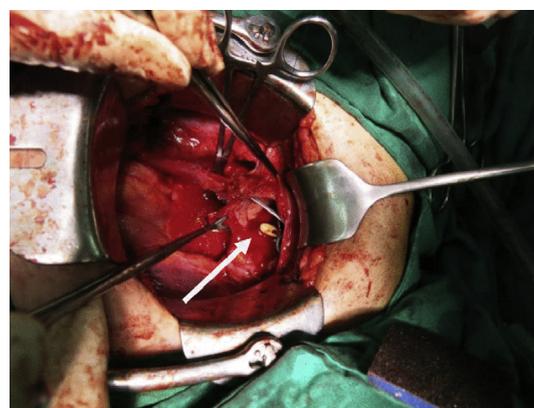


Fig. 3. Trans-abdominal approach surgery observed a fistula at 1.5 cm from ureterovesical (UV) junction. A ureteroneocystostomy with anti-reflux procedure was performed.

4, TVL 13). Sexual function was satisfactory. The result of urodynamic study was normal.

Discussion

Neglected foreign body in the vagina leads to persistent infection, vaginal discharge and tissue fibrosis [6]. In the majority of the cases, delayed diagnosis was made due to denial and embarrassment [7]. This may lead to the development of fistula. Embarrassment and fear of recrimination make diagnosis challenging including exploratory and consensual sexual behavior, sexual abuse, and other psychiatric disorders like genital self harm which is extremely rare but possible [8]. Genital fistula is not life threatening, but affects the quality of life, personal relationship and psychological burden of women. Inadequate knowledge, inaccessibility for contraceptive services and advice led to the use of aerosol cap as mode of barrier contraception as in our case. Most cases of fistula following foreign body in the vagina occur in young woman. Majority of cases complicated with vesicovaginal fistula [3]. Ureterovaginal fistula is rare complication of neglected foreign body in the vagina. We believe that the etiology of the present fistula could be pressure necrosis and inflammation related to the foreign body or trauma during removal through the inflamed vaginal wall. Removal of the foreign body after cutting it into pieces might be associated with less trauma especially when inflammation and necrosis exist.

Generally up to 100% success rate can be achieved following fistula repair, which ranges from 91% (vagina approach) to 97% (abdominal approach) - regardless type of fistula, in non-radiated patient [9]. The choice between abdominal and vaginal approach depends on the surgeon's experience and training [10]. Abdominal approach may be reserved for more complicated cases and may allow treatment of concomitant pelvic diseases [1]. As in our case, the choice of the operative repair was also determined by the location of the injury to the ureter and its relation to the bladder. The ureterovaginal fistula near the bladder is preferred to be approached through an open technique or ureteroneocystostomy. Literature review from 1980 to 2014 showed that only 3 reported cases of ureterovaginal fistula following aerosol cap were repaired with ureteroneocystostomy [11–13]. Obviously, the management of ureterovaginal fistula is challenging, where complete preoperative evaluation and assessment is imperative before fistula repair. Large areas of fibrosis lead to large fistula and increase the difficulty of repair [11]. Donaldson et al. (2014) advocated few recommendations for complicated fistula: urine diversion in cases

associated with renal impairment, stage removal of foreign body with upper urinary tract imaging and examination under anesthesia (EUA) [14]. First repair of fistulas has a significantly better outcome than repeated repairs [15]. The recurrence can be due to chronic infection and malnutrition [14]. In our case the surgical approach was successful with excellent outcome. The patient was asymptomatic, no incontinence and gynecological complaints 1 year post-operatively.

Authors' contribution

TS Lo: Protocol/Project development, Data collection, Manuscript writing, Manuscript editing.

SB Jaili: Manuscript writing and Manuscript editing.

R Ibrahim: Manuscript writing and Manuscript editing.

CC Kao: Data collection.

MC Uy-Patrimonio: Manuscript editing.

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