

Urinary catheterization as a successful treatment option for post-cesarean section vesicouterine fistula

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Summary

Surgery, the usual treatment option for vesicouterine fistula (VUF), is often delayed to allow involution of the uterus. The authors report a case of successful treatment with urinary catheterization. A 39-year-old, gravida 7, para 6, woman presented at term with obstructed labor. She had one previous cesarean section followed by a vaginal birth before. She underwent emergency cesarean section. She was readmitted after one week because of pelvic collection. Aspiration revealed pus and urine. Retrograde cystogram and pelvic MRI confirmed the presence of VUF. Urinary bladder catheterization for six weeks resulted in the successful treatment of the fistula. Urinary catheterization in the early postpartum period can result in resolution of post-cesarean section VUF, without delaying surgical intervention if it becomes necessary.

Key words: Urinary catheterization; Vesicouterine fistula.

Introduction

Vesicouterine fistula (VUF) is the least common genitourinary fistula, and has been reported to account for 7% to 25% of fistula cases [1, 2]. The incidence appears to be increasing with the increase in cesarean section. Surgical repair is the standard treatment. However, conservative management by inducing amenorrhea with continuous combined oral contraception has been reported as a valid option in selected cases [3]. The authors report a case of post-cesarean section VUF successfully treated with urinary catheterization only.

Case Report

A 39-year-old unregistered Somali woman gravida 7, para 6 presented to the emergency room at King Abdulaziz University Hospital, Jeddah, Saudi Arabia in labor at 40 weeks gestation. Her membranes ruptured 14 hours prior to presentation. Fetal movement had been absent for the previous two days. She had a cesarean section three years prior because of severe preeclampsia, which was followed by one successful vaginal delivery. Vaginal examination showed a five-cm dilated but edematous cervix, vertex at -2 station with marked caput, and molding. Fetal heart sounds were absent. She underwent an uneventful emergency cesarean section and delivered a male stillborn of 3.68 kg. Her postoperative course was satisfactory, and she was discharged home on the third postoperative day. One week later, she presented to the emergency room with fever and difficulty voiding. Pelvic ultrasound showed 10 x 6 cm pelvic collection behind the urinary bladder. The patient was admitted and she was started on ampicillin, gentamycin, and clindamycin. She underwent CT-guided aspiration of the pelvic collection. Pus and urine were drained.

Retrograde cystogram showed leaking of dye from the bladder and a fistulous communication between the urinary bladder and the endometrial cavity (Figure 1). Pelvic MRI confirmed the diagnosis of VUF (Figure 2). Intravenous pyelography showed a normal upper renal tract. The fistula was treated conservatively by inserting a 16 Fr Foley catheter in the urinary bladder and leaving it in situ for six weeks. A repeat retrograde cystogram showed no leakage of the dye and absence of the vesicouterine fistula.

Discussion

Due to its infrequent occurrence, case reports and limited case series provide guidance on managing VUF. Cesarean section is the most common cause of VUF, contributing to the perceived increasing incidence concomitant with the increasing rate of cesarean section [4]. A history of multiple cesarean sections is frequently observed, and other cases with a history of successful or failed vaginal birth after cesarean have been reported. Surgery is considered the mainstay for repair of VUF, and many authors restrict a conservative approach to cases that are diagnosed early during the postoperative period [5, 6]. The involution of the uterus may promote healing during this interval. Reports of failure predominate over successes following conservative management with catheterization, and surely contribute to the acceptance of surgery as the gold standard treatment. For example, two cases managed conservatively for four and six weeks required subsequent surgical repair, which was performed laparoscopically [7]. In a series of 22 patients with VUF, seven women were first treated conservatively, with closed bladder catheterization for three weeks

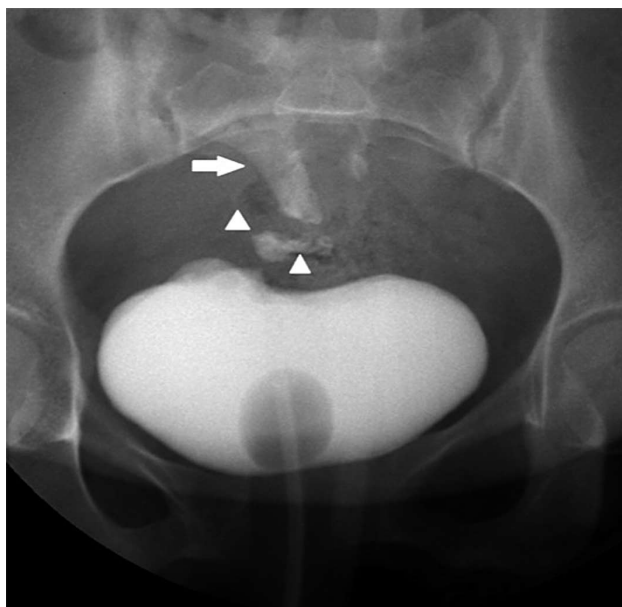


Figure 1. — Anteroposterior fluoroscopic spot image demonstrating a round filling defect in the contrast filled urinary bladder representing a Foley's catheter inflated balloon. A fistulous communication (arrowheads) is seen between the urinary bladder and the endometrial cavity (arrow).



Figure 2. — Sagittal T2 weighted MRI of the pelvis showing a tiny residual vesicouterine fistula. The persistant cesarean section scar defect (arrowhead), connects the endometrial cavity to the fluid collection seen between the uterus and bladder. The fluid collection is also connected through a tiny residual one-mm fistulous tract (arrow), to the trigone of the urinary bladder that appears tethered posteriorly at that region.

and treatment of urinary infection [8]. These patients were diagnosed “early” after cesarean section, which was defined as within the first six months postoperatively. The conservative approach was not successful, and the women subsequently underwent successful surgical repair of the fistulae, comprising open transabdominal surgery with omental flap interposition that was also used successfully in the remaining patients. Hormonal treatment, which may be combined with catheterization, has been reported to be effective in resolving VUF [3]. Healthcare practitioners should be diligent in monitoring possible signs and symptoms of VUF that may allow early diagnosis and conservative treatment. The initial evaluations in the present patient led to a high suspicion of VUF; however, even subtle presentations should arouse a suspicion of VUF in high-risk women. Symptomatic patients who are diagnosed with VUF within the postpartum window conducive to conservative management, but who did not present for medical care until symptoms became intolerable, may choose to have surgery if they are challenged by having to endure catheterization and continuing leakage while waiting for an uncertain resolution.

Using a surgical approach to repair VUF is often recommended to be delayed until at least three to six months postoperatively; however, some reports advocate early surgical intervention. Therefore, unless conditions indicate a conservative approach is contraindicated, the authors believe

that catheterization is a valid option for patients during the early postoperative period. High-risk patients should be educated about symptoms of fistula and counseled to return for medical attention when they occur, to increase opportunities to follow early conservative management. While the probability of success following catheter-only management remains unclear, it is important to encourage reports of resolution following this conservative approach that includes adequate case information to help define in which patients success is most likely.

In conclusion, a trial of conservative catheter-only management of VUF presenting one-week postpartum was successful at resolving the fistula. Educating high-risk mothers about VUF symptoms promotes early diagnosis and allows a trial of conservative intervention prior to maturation of the fistulous tract.

References

- [1] Rajamaheswari N., Chhikara A.B.: “Vesicouterine fistulae: our experience of 17 cases and literature review”. *Int. Urogynecol. J.*, 2013, 24, 275.
- [2] Perveen K., Al-Shaikh G., Al-Moazin M., Ross S., Al-Badr A.: “Urogenital fistula in a Saudi Arabian referral center”. *Arch. Gynecol. Obstet.*, 2013, 287, 261.
- [3] Eogan M., McKenna P.: “Conservative management of a traumatic uterovesical fistula (‘Youssef’s syndrome’)”. *Eur. J. Obstet. Gynecol. Reprod. Bio.*, 2003, 110, 114.

- [4] Jozwik M., Jozwik M., Lotocki W.: "Vesicouterine fistula - an analysis of 24 cases from Poland". *Int. J. Gynecol. Obstet.*, 1997, 57, 169.
- [5] Bettez M., Breault G., Carr L., Tu L.M.: "Early versus delayed repair of vesicouterine fistula". *Can. Urol. Assoc. J.*, 2011, 5, e52. doi: 10.5489/cuaj.10065.
- [6] Porcaro A.B., Zicari M., Zecchini Antoniolli S., Pianon R., Monaco C., Migliorini F., *et al.*: "Vesicouterine fistulas following cesarean section: report on a case, review and update of the literature". *Int. Urol. Nephrol.*, 2002, 34, 335.
- [7] Aminsharifi A., Afsar F., Shirazi M.K.: "A retrovesical approach for the laparoscopic repair of vesicouterine fistulas". *Int. J. Gynaecol. Obstet.*, 2014, 124, 148. doi: 10.1016/j.ijgo.2013.07.032. Epub 2013 Nov 1.
- [8] Ali-El-Dein B., El-Tabey N., El-Hefnawy A., Osman Y., Soliman S., Shaaban A.A.: "Diagnosis, treatment and need for hysterectomy in management of postcaesarean section vesicouterine fistula". *Scand. J. Urol.*, 2014, 48, 460. doi: 10.3109/21681805.2014.903511. Epub 2014 Apr 3.

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