CASE REPORT

A Sparse Phenomenon of Vesico-uterine Fistula Post-lower-segment Cesarean Section – A Case Report

Soumya Pamnani[1], Mayank Kumar[2], Arnav Goel[3], Akash Pathak[4], Mayur Wanjari[5]

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Abstract

An extremely uncommon lower cesarean section complication is a vesico-uterine fistula (VUF). Patients typically experience persistent urine incontinence in the early postoperative period. Rarely, the presenting complaint might be recurrent urinary tract infection, recurrent gross painless hematuria, or secondary infertility linked to secondary amenorrhea. A 32-year-old female patient with a VUF after a previous lower-segment cesarean section (LSCS) surgery suffered from complaints of painless gross hematuria. The case was further evaluated and treated surgically. Occurrence of the VUF after the LSCS is a scare phenomenon.

Keywords: Adhesions, Cesarean section, Cystogram, Hysterosalpingography, Vesico-uterine fistula.

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Introduction

The least frequent urogenital fistula is the vesico-uterine fistula (VUF), which can range from one to four percent in most series. Urinary incontinence is a common early postoperative symptom in patients with VUFs.[1] A small percentage of women, nevertheless, may experience repeated cyclical painless gross hematuria, secondary infertility, recurrent urinary tract infections, or amenorrhea months or years after their cesarean.[2] The diagnosis may be delayed as a result of their rarity, which can have catastrophic health consequences for women during their reproductive years.[3,4] These fistulas have a primarily iatrogenic etiology and develop following cesarean birth or uterine wall weakening as a result of past procedures. The clinical condition known as Youssef's syndrome can cause menouria, amenorrhea, and urinary incontinence.[5] Additionally, to incontinence, women with VUFs may also have trouble getting pregnant.[6] Vesico-uterine fistula can be treated with conservative, medicinal, or surgical methods. In most circumstances, surgery is the preferred form of therapy.[7]

Case Report

This is a case of a 32-year-old female patient with a past medical history of an emergency lower-segment cesarean section (LSCS) 3 months prior to the presentation at the hospital for the first time with complaints of secondary amenorrhea. Upon detailed evaluation, it was known that the previous LSCS surgery was rather uneventful, but following the surgery, she experienced issues with gastrointestinal atony associated with fever and severe hematuria. She had 6 days of conservative treatment with oral antibiotics before being given the all-clear to go home. Upon clinical examination of the patient, no notable findings were concluded, after which a dilatation and curettage was done; the findings were normal, along with the histology of the endometrium showing no abnormal changes. Conservative management was advised to the patient at this point.

She experienced her first episode of gross painless hematuria, 4 months after receiving the LSCS, and presented to the hospital for the second time. At this point, an intravenous urogram was advised, which showed normal upper tracts (Fig. 1), and a flexible cystoscopy revealed extensive cystitis. To further determine the cause, a urine culture was done, which showed significant growth

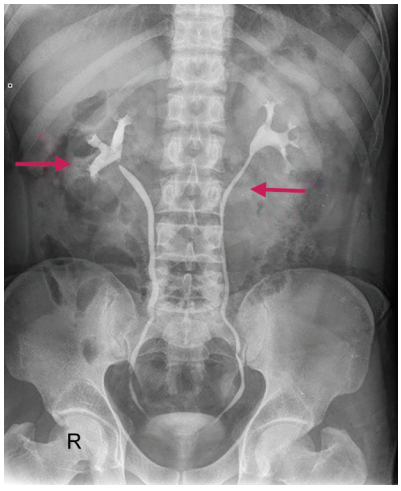

Fig. 1: A presentation of a normal intravenous urogram

[1–4]Department of Obstetrics and Gynecology, Datta Meghe Institute of Higher Education and Research, Wardha, Maharashtra, India [5]Department of Research Cell, Datta Meghe Institute of Higher Education and Research, Wardha, Maharashtra, India

Corresponding Author: Soumya Pamnani, Department of Obstetrics and Gynecology, Datta Meghe Institute of Higher Education and Research, Wardha, Maharashtra, India, Phone: +91 9755502652, e-mail: saumyapamnani2004@gmail.com

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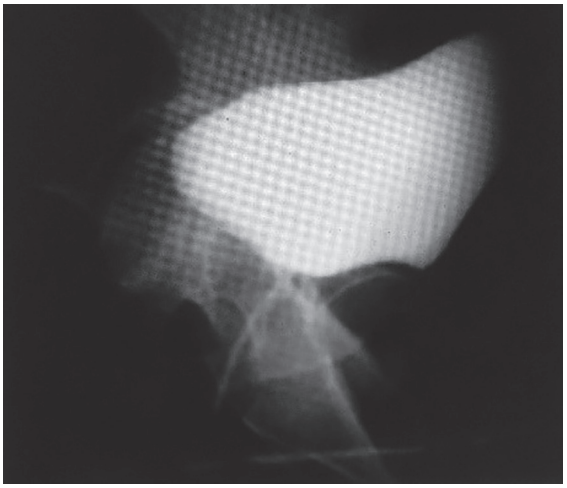

Fig. 2: Cystogram depicting normal findings

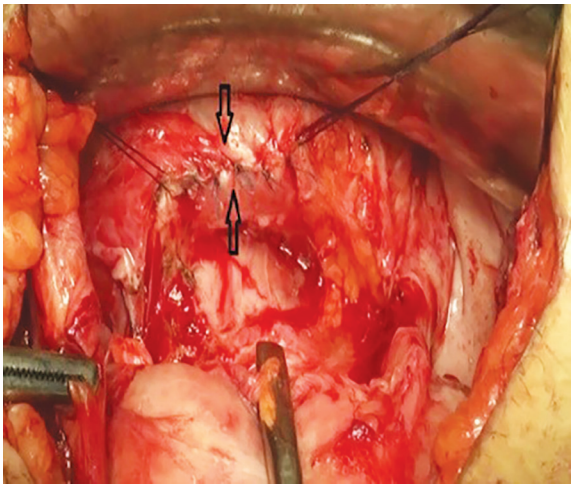

Fig. 4: Absorbable sutures used to patch the uterine defect

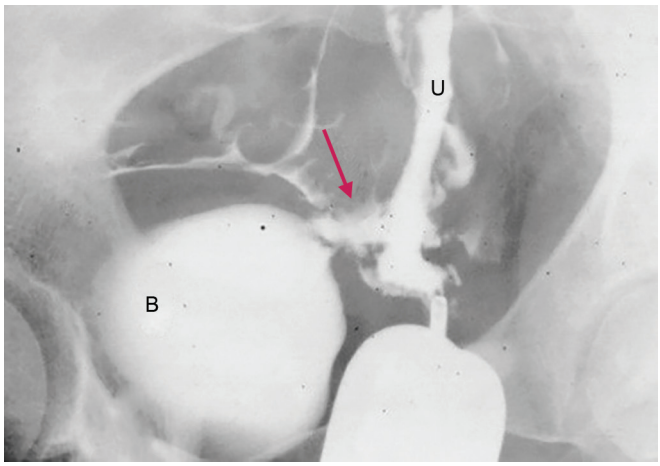

Fig. 3: Hysterosalpingogram showing a fistula between the bladder and the uterus (VUF)

of *Escherichia coli* bacteria. She received cystitis-specific treatment and was managed with the appropriate treatment regimen of Trimethoprim-sulfamethoxazole and ofloxacin with a combined dosage of cephalosporins.

Eight months following the LSCS surgery, the patient returned to the hospital with a recurring complaint of large hematuria and blockages. A fistula was identified at the junction of the bladder's posterior wall and trigone after an adequate bladder cleansing. At this juncture, the patient underwent additional testing due to the suspicion of a VUF. A second intravenous urogram demonstrated a normal renal collecting system and no evidence of hydronephrosis or a bladder lesion. The subsequent appointment was for a cystogram, which did not reveal any discernible fistula (Fig. 2). Conversely, a VUF was identified during a hysterogram (Fig. 3).

Laparotomy surgery was performed on the patient through a lower abdominal midline incision. The vesico-uterine fossa was completely destroyed by thick adhesions, while the fundus and posterior surface of the uterus and appendages were normal. The posterior wall was vertically cut down to the fistula, which was subsequently surrounded and excised. The bladder dome was opened between two holding sutures. The lower uterine segment incision seemed to be where the uterine end of the fistula was located. This was taken out of the bladder's back, and the original uterine incision was made visible. The internal os of the cervix was subsequently discovered to be blocked by granulations on the posterior uterine wall that were adhering to the fistula location anteriorly. Sharp dissection was used to release the adhering granulations, and absorbable sutures were used posteriorly to seal the uterine wound (Fig. 4). Two layers of absorbable sutures were then used to seal the bladder. The patient was eventually released from the hospital on the sixth postoperative day after a smooth postoperative recovery. Upon assessment 2 years following the procedure, the patient's menses and excessive hematuria had not returned.

Discussion

Lower-segment cesarean section complications like VUF are rare but well-known.[2,8] Urinary incontinence often develops immediately after LSCS or within a few days; however, this did not happen in our patient, highlighting how difficult it may be to diagnose a urinary fistula.[9] It is intriguing to imagine what could have happened to cause the fistula. Without a doubt, this occurred during the cesarean birth in our patient, and it may have been caused by additional haemostatic sutures that were placed in the lower uterine region.[10,11] Some urine leakage into the peritoneal cavity was observed in the early postoperative phase, which may have contributed to the paralytic ileus that was observed in our patient. When the presentation is delayed, amenorrhoea and cyclic hematuria without urinary incontinence have been reported as pathognomonic of VUF.[12] In a study of the literature, Birge et al. hypothesized that the prevalence of VUF has increased due to the rising usage of the abdominal route as opposed to risky vaginal birth and the predominance of lower-segment uterine incisions as opposed to the traditional upper-segment uterine incisions.[13] Dubuisson and Associates collected 11 cases reported in the international literature in 1979, whereas Abou-El-Ghar et al. identified only 18 published cases in addition to their own cases that were detailed in the English literature.[14] Cesarean sections have been the most prevalent cause in nearly all cases, despite the occasional occurrence of other causes, including the perforation of the lower uterine segment and bladder during difficult labor, bladder tuberculosis, and a case caused by an

intra-uterine contraceptive device. Some instances of spontaneous fistula closure have been documented when a VUF is diagnosed in the early postoperative phase, and the patient is administered continuous urethral catheter drainage for 2 weeks while also receiving antibiotics. Fenkci et al. documented a successful case of cystoscopic fulguration in response to ineffective conservative urethral drainage.[15] However, surgery is typically the acknowledged course of therapy for this uncommon illness. Due to the difficulty of assessing VUF vaginally, an abdominal approach is advised. After a cesarean section, surgical repair should be postponed for at least 2–3 months to allow edema and inflammation time to go down.[16] The fistulous tube between the uterus and the bladder is excised, and each organ is then multi-layered closed with absorbable sutures. The treatment is finished with a suprapubic bladder drainage.

Conclusion

It is critical to keep a uro-genital fistula in mind while treating urine incontinence following a cesarean section. Vesico-uterine fistula is usually pathognomonic for hematuria associated with amenorrhea. A cystogram or hysterogram should be performed when there is any ambiguity following a cystoscopy, since they may serve as diagnostic tests for this uncommon illness.

Declarations

Patient Consent for Publication

Written informed consent was obtained from the patient for publication of clinical details and images.

Ethics Approval/Waiver

Ethical approval was waived as this is a single case report in accordance with institutional guidelines.

Conflict of Interest

The authors declare no conflict of interest.

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AI Use Declaration

No AI tools were used in the preparation of this manuscript.

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Authors' Contributions

All authors contributed equally to this work.

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