Vesicouterine Fistula Laparoscopic Repair: A Case Report

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ABSTRACT

Vesicouterine fistula (VUF) is a rare variety of female genito-urinary fistula. It comprises 1–4% of all urogenital fistulas. Most of these fistulas are due to complications of the lower segment cesarean section (LSCS). The incidence of this fistula is increasing all over the world because of the increasing prevalence of cesarean section. Patients may present with urinary incontinence, hematuria, cyclic menouria, amenorrhea and also first trimester abortions. Two early diagnosis and repair of VUF has become the need of the hour. Different approaches for surgical repair of VUF include transabdominal (including transvesical and transperitoneal); transvaginal approach; laparoscopic and robotic. Laparoscopic VUF repair results in reduced patient morbidity and shorter hospital stay without compromising the results. So laparoscopic repair may be a more attractive treatment option for patients with postcesarean VUF.

Keywords: Cyclic menouria, Laparoscopic approach, Vesicouterine fistula.

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Introduction

Vesicouterine fistula (VUF), an abnormal communication between bladder and uterus; is a rare variety of urogenital fistula. It occurs mostly due to iatrogenic causes, most common being cesarean section done in cases of obstructed labor.¹ Excessive bleeding during cesarean section or inadequate bladder dissection may also add on to the etiology of vesicouterine fistula being formed. The incidence of vesicouterine fistula being 1–4% is currently on the rise due to the rise in cesarean section rates worldwide. Patients may present with urinary incontinence, hematuria, cyclic menouria, amenorrhea and also first trimester abortions.² Early diagnosis and repair of VUF has become the need of the hour.

CASE PRESENTATION

A 31-year-old P2L² female presented to gynae outpatient department (OPD) with complaints of passing of blood in urine since last 20 days and watery discharge per vaginum since then. She gave a history of cesarean section done at a district hospital in v/o non-progress of labor with h/o excessive bleeding during surgery. The patient was managed with uterotonics and blood transfusions. She had had a history of one previous normal vaginal delivery 8 years back. Since the last 20 days, she gave a history of hematuria and fever for which she was catheterized at a private hospital and also managed on iv antibiotics was then referred to the higher center for management. USG and Contrast MRI was done at our center which showed 1.7 cm vesicouterine fistula in the lower uterine segment with a urinary bladder full of blood clots (Figs 1 and 2).

The patient was counseled and admitted for surgical repair. The decision for surgery was taken as the patient had persistent fever and hematuria. All relevant and necessary investigations and pre-anesthetic workup done. Under combined anesthesia, the fistulous tract was identified via cystoscopy, and the ureteric catheter was passed from the bladder into the uterine cavity coming out through cervix. Cystoscopy showed that the fistula was supratrigonal. Laparoscope introduced with two accessory ports. Adhesiolysis and cystotomy done (Figs 3 and 4).

Placental tissues and membranes were found in the bladder (Fig. 5). Bladder repair was done in 2 layers. Also, the uterine defect was repaired in layers. The integrity of bladder repair was checked with the filling of the bladder with 200 mL of normal saline mixed with methylene blue (Figs 6 and 7).

Post-op period was uneventful. The patient was discharged with a catheter-in-situ. The patient was followed up after a month when her catheter was removed and ultrasound done again which showed no rent.

DISCUSSION

A VUF is a rare variety of urogynaecological fistula and a rare complication of second stage LSCS or cesarean increased blood loss or inappropriate bladder dissection. According to history, the first case of VUF was reported in 1908. Patients of VUF may present with urinary

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Figs 1 and 2: CT findings of vesicouterine fistula

Fig. 3: Identification of fistulous tract

Fig. 4: Fistulous tract

Fig. 5: Placenta and tissues found in bladder

Fig. 6: Bladder repaired in 2 layers of vesicouterine fistula

Fig. 7: Bladder after VUF repair

incontinence which may or may not be associated with hematuria; cyclic menouria, amenorrhea and also first trimester abortions. Depending upon menstrual flow VUF can be classified as type 1 with menouria, type 2 with menouria and vaginal flow, type 3-with normal vaginal menses. Most patients present early with post-operative complications. Some may present late with

urinary incontinence; recurrent UTI, secondary infertility and amenorrhea. The variant of VUF associated with urinary continence is called Youssef syndrome in which uterine cervix become competent, and the opening of the fistulous tract is above the cervical OS.³

Diagnostic modalities include ultrasound, cystoscopy, cystography, and CT/MRI. Conservative management including continuous bladder drainage with antibiotics and anticholinergics is usually recommended if the patient is in the early postpartum phase or small fistulae. However success rates of conservative management being only 5%. Also, the usual recommendation is to delay surgery up to 3 months to allow spontaneous closure of fistula, involution of uterus likely rates of inflammation. Currently, successful VUF cases have been reported with early surgical management. Different approaches for surgical repair of VUF include vaginal approach, transvesical, transperitoneal, laparoscopic and robotic. Nowadays, modern minimally invasive techniques are stealing the show, and therefore laparoscopic repair of VUF has become popular. The laparoscopic technique of VUF repair offers advantages as quicker convalescence, shorter hospital stay and better

cosmetics with similar success rates to open surgery. The credit for better visualization and magnification also goes to the laparoscopic repair of VUF.

CONCLUSION

A vesicouterine fistula is an uncommon complication of second stage cesarean sections. Patients may present early or late with urinary incontinence, hematuria, cyclical menouria, amenorrhea. Diagnostic modalities being USG, CT/MRI, cystoscopy. Early and laparoscopic repair of VUF is advocated with advantages of quicker recovery, and a shorter hospital stay; less morbidity and better cosmesis for the patient.⁴

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