

Ureterovesical Fistula Post Vaginal Hysterectomy - Managed by Laparoscopic Ureteroneocystostomy with Psoas Hitch

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Abstract: Middle-aged women with ureterovaginal fistula (UVF) after hysterectomy represent a painful condition for the patients in the community. Accurate diagnosis and proper planning before surgery are essential for effective outcomes. The highest risk of intraoperative ureteral trauma is associated with hysterectomy, performed most frequently in postmenopausal women. The overall incidence of ureteral injuries varies in different studies between 0.5% and 10%. CT urography is the modality of choice in diagnosing ureterovaginal fistula. CT urography helps in evaluating the fistula as well the associated renal complications following the condition. Here we present a case of ureterovaginal fistula reported with a history of total vaginal hysterectomy in September 2025.

Keywords: ureterovaginal fistula, hysterectomy complications, CT urography, ureteral injury, postoperative diagnosis

1. Introduction

Ureterovaginal fistula (UVF) is an abnormal communication between the ureter and the vagina, leading to continuous leakage of urine per vaginam while the patient remains continent per urethra. It is a rare but distressing complication, most commonly following pelvic surgeries such as hysterectomy. Prompt diagnosis and appropriate surgical repair are essential to restore urinary continence and preserve renal function.

Since a urogenital fistula form after gynecological conditions or obstetric surgery, treating urinary incontinence is a difficult undertaking. It is a terrible condition, and clinical problems are made worse by social and psychological elements. Vesicovaginal fistula is the most common urogenital fistula. The ureteral fistula often joins the vagina but sporadically may also connect to the uterus or fallopian tube.

Endometriosis, obesity, pelvic inflammatory disease, radiation therapy, and malignant illness of the pelvis are some conditions that increase the risk of developing ureteral fistulas. The symptoms of ureteric damage can manifest either suddenly or more gradually, depending on the type of injury, and they are particularly difficult to detect during laparoscopic procedures. The incidence of ureterovaginal fistula (UVF) has been increasing due to the growing use of the laparoscopic surgical technique.

2. Case Presentation

A 55 yr female patient was taken transfer from Gynecology with chief complaints of Continuous leakage of urine per vagina since 8 days, history of dysuria present, No h/o hematuria/ foul discharge. Patient had a history of **Total vaginal hysterectomy** 18 days back. Patient was a k/c/o diabetes. L/E Perineum and vulva are Leakage of urine seen through vagina. No prolapse / scar present.

CECT(KUB) suggestive of 6x2x2 cm collection in vaginal vault suspected urinoma possibly from Right Uretero-Vaginal Fistula.

Cystoscopic Intraoperative findings identified as Normal ureteric orifices No e/o fistulous opening in bladder, 3 swab test was performed, No swabs stained, possibility of ureterovaginal fistula was suspected.

Lap ureteroneocystostomy with Psoas Hitch was planned.

Extravesical Lich-Gregoir technique used. DJ Stent kept into Rt ureter. Procedure went uneventful.

3. Discussion

Fistulous tracts between the vagina and ureter are rare, occurring primarily as complications of obstetric and gynaecologic procedures such as low transverse cesarean section or uterine curettage for elective abortion [1]

Pelvic adhesions due to repeated surgery significantly enlarged uterus during abdominal surgery and heavy bleeding that obscures the surgical site during surgery were the main causes of ureteral injury [2]

Ureterovaginal fistula commonly occurs due to inadvertent ureteric injury during hysterectomy. It results in continuous urinary leakage per vagina.

Diagnosis is based on clinical presentation, three-swab test, cystoscopy, and imaging (CT urogram/CECT-KUB).

Definitive management involves ureteral reimplantation into the bladder.

When the ureter is short, Psoas hitch or Boari flap techniques are employed to bridge the gap between ureter and bladder.

Uterovaginal fistulas can also be a side effect of pelvic procedures, most commonly hysterectomy.

Due to its potential to result in incontinence, infection, and renal failure, the ureterovaginal fistula is the most dangerous of the urovaginal fistulas.[3]

Despite the regular act of micturition, the primary ureterovaginal fistula presentation is an incontinence disease.[4]

Incontinence usually develops 1 to 4 weeks after surgery. Affected women will present with urinary outflow from the vagina, and pelvic examination can demonstrate urine leakage at the cervical os.

Prevention of renal impairment requires early diagnosis.

The diagnosis is made using various imaging techniques, which include excretory urography, intravenous CT urography, and magnetic resonance imaging (MRI). Vesicovaginal fistula frequently coexists. The diagnosis is confirmed by the evidence of contrast extravasation from the ureter into the vagina, which may be seen on a delayed phase CT scan. Patients with renal failure or conditions where CT is contraindicated can use MRI. [5]

In this case, laparoscopic ureteroneocystostomy with Psoas hitch was chosen, providing minimal invasiveness, faster recovery, and excellent outcomes.

- Patient recovered well without postoperative complications.
- Urinary continence restored.
- Follow-up planned for stent removal and imaging.

Once the ureterovaginal fistula is diagnosed, an immediate ureteral stent or nephrostomy tube placement should be tried. Prompt urine drainage is necessary to maintain renal function even if surgery is subsequently required. [6,7]

4.Conclusion

Uterovaginal fistula is a rare but significant postoperative complication of hysterectomy. Early recognition and timely surgical intervention through laparoscopic ureteroneocystostomy with Psoas hitch ensure excellent functional outcomes and patient satisfaction.

The morbidity linked to ureteral injury may be severe, leading to a protracted hospital stay, a poor surgical outcome, additional invasive procedures, decreased renal function, and a lower quality of life for the patient.

Following a vaginal hysterectomy, the risk of ureteral complications is similar to that of an open laparotomy. The most effective ways to avoid harm are surgical skills, understanding of the anatomy of the pelvic wall, and meticulous identification and mobilization of the ureter.

It's essential to get a diagnosis early to avoid needing long-term care. However, severe ureteral strictures, urogenital

fistulas, and renal insufficiency caused by ureteral injuries necessitate more comprehensive reconstructive surgery.

5.Intra Op images



Image 1



Image 2



Image 3



Image 4

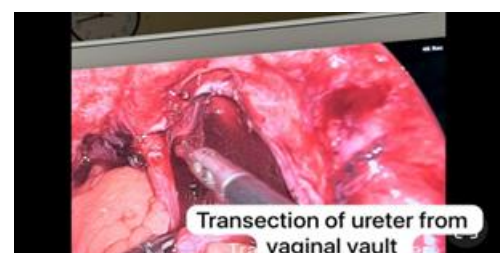


Image 5

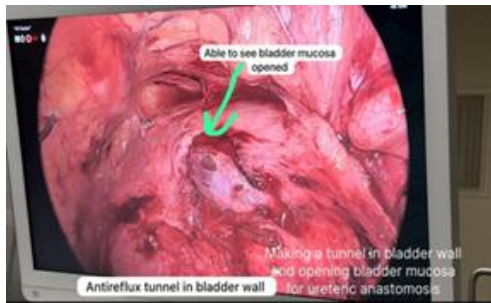


Image 6

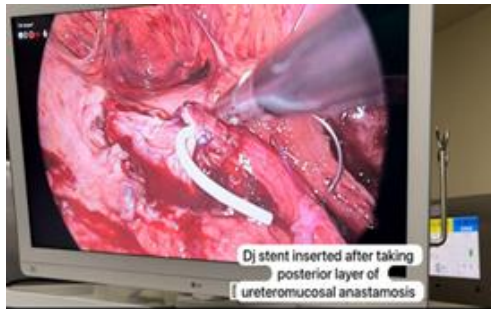


Image 7

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