

Iatrogenic Ureterovaginal Fistulae: Difficulties in Diagnosis and Treatment in Our Case Series

Palmer C, Farhan B and Ghoniem G, Global Journal of Urology, 2019

Introduction

- Ureteral injury is a known complication of pelvic surgeries
- Gynecological surgery remains by far the most common means of injury (75%)
- Ureterovaginal fistula formation is specific to the combination of ureteral injury and hysterectomy where the urine finds its way to the freshly closed vaginal cuff
- It remains one of the most feared complications of pelvic surgery, with lasting emotional damage, risk for infections, infertility, reoperation, and increased hospital stay
- Objective: present difficulties encountered in management of 4 cases and how to rectify them

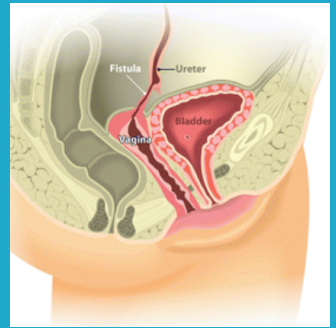


Figure 1: Ureterovaginal fistula involving complete (above) and partial (below) section of ureter

Materials and Methods

- 4 cases of ureterovaginal fistulae were treated in one institution between 2011 and 2017
- Injury aetiology was laparoscopic assist robotic hysterectomy in 3 patients and open radical hysterectomy in 1 patient
- 3 patients presented 4-6 weeks postop with leakage of urine per vagina and were diagnosed with CT urogram
- 1 patient presented 1 month postop with fever, abdominal distention and acute kidney injury, reporting leakage from vagina, and was diagnosed by retrograde pyelogram

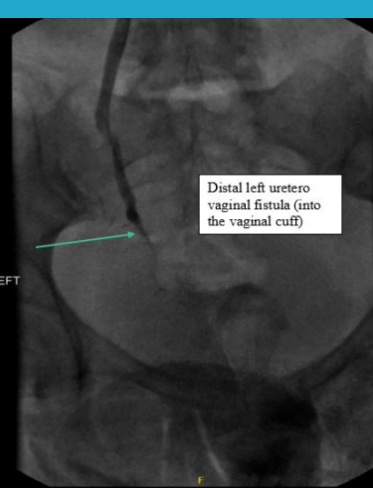
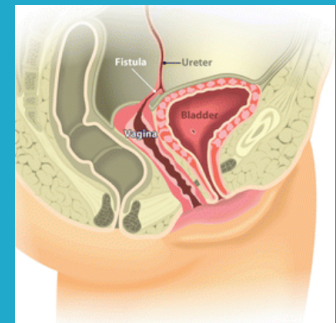


Figure 2: Left antegrade nephrostogram showing distal left ureterovaginal fistula (Palmer et al., 2019)

Results

- 3 patients underwent placement of percutaneous nephrostomy tubes
- 1 was then treated with ureteral stent placement for 4 months and 2 with open neoureterocystotomy with Boari flap and stent placement
- 1 with bilateral ureteral injury was treated with open bilateral neoureterocystotomy, closure of ureterovaginal fistula, and psoas hitch
- All patients had renal preservation
- Stents were removed 2-6 weeks postop
- Follow-up ranged from 2 months to 3 years
- No patient has required re-treatment or intervention to date.
- We strongly advocate for tension-free anastomosis with absorbable sutures, over a stent, as well as use of omental or peritoneal interposition, if possible

Discussion

- Risk factors for ureterovaginal fistula formation: endometriosis, pelvic malignancy, previous radiation therapy, obesity, and pelvic inflammatory disease.
- Fistulae may result from unrecognised intraoperative laceration, thermal injury, obstruction due to ligation, or compromised blood supply leading to ischaemic necrosis
- Meticulous dissection, knowledge of pelvic anatomy, and direct visualisation of the ureter are the most effective methods to avoid ureteral injury
- Ureteral injury is most often diagnosed postop, with 60% requiring re-operation
- Symptoms may include normal voiding patterns with thin, watery vaginal discharge or continuous leakage
- Multidetector computed tomography (MDCT) remains the gold standard for detection of ureteral injuries, especially in delayed diagnoses
- In the cases of failed conservative management, surgical management is dictated

Conclusion

- Ureterovaginal fistulae are uncommon complications of pelvic surgery but have a significant impact on quality of life and patients may be at risk for infection or renal damage
- Recommendation: initial conservative measures for drainage and renoprotection, such as stent or nephrostomy tube placement
- If these are unsuccessful refer to high volume centre for reconstructive surgery



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