Case 16851

Eurorad

Radiological diagnosis and intervention in ureterovaginal fistula - a case report

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Section: Uroradiology & genital male imaging
Area of Interest: Abdomen Interventional non-vascular Kidney Urinary Tract / Bladder
Procedure: Shunts
Imaging Technique: CT
Case Type: Clinical Cases
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Patient: 46 years, female

Clinical History:

We present a 46-year-old female patient presented with complaints of continuous dribbling of urine through vagina. She gave a history of hysterectomy –1 month back – for uterine fibroids. Her immediate post-operative period was uneventful. There was no history of fever.

Imaging Findings:

Computed tomography (CT), in the delayed phase, showed dilated right ureter (Figure 1.a and 1.b) and contrast leak from ureter into the vagina (Figure 2.a, 2.b and 2.c). There was no demonstrable communication between urinary bladder and vagina. Stenting could not be done, either with antegrade or retrograde techniques. Hence, patient was treated with percutaneous nephrostomy and ureteroneocystostomy. Postoperative CT revealed no demonstrable ureteric leakage (Figure 3).

Discussion:

Pelvic fistulas can result from inflammatory bowel disease, pelvic surgery, radiotherapy, traumatic aetiology and pelvic malignancies [1]. Genitourinary fistulas are more common following obstetric surgeries like caesarian section and hysterectomy [1,2,3]. Ureterovaginal fistula is a rare type of genitourinary fistula [2,4] and is commonly seen as a complication of hysterectomy [2,3]. Clinical symptoms include dribbling of urine through the vagina, flank pain, fever and sometimes paralytic ileus [3]. Vaginal dribbling of urine usually occurs 2-4 weeks after surgery [2]. Early diagnosis is crucial to prevent renal dysfunction. Various imaging modalities like excretory urography, intravenous CT urography and magnetic resonance image (MRI) are used for the diagnosis [2]. Coexistence of vesicovaginal fistula is often seen [2]. Delayed phase CT is highly sensitive and the demonstration of contrast extravasation from ureter into the vagina, confirms the diagnosis [2]. MRI can be used in patients with renal failure or contraindications for CT. MRI can be done with non-contrast T2 weighted or contrast-enhanced T1 Weighted image sequences. T2 weighted MR urography is used in cases with renal failure [4]. Treatment depends on the duration and severity of ureteric injury [5,6]. A milder form of ureteric injury can be treated with minimally invasive surgeries like anterograde or retrograde stenting, whereas, the severe form of ureteric injury requires percutaneous nephrostomy and ureteroneocystostomy [5,6]. Some of the patients who are treated with minimally invasive surgeries might develop recurrent stenosis needing balloon re-expansion or ureteroscopic endoureterotomy.

Differential Diagnosis List: Ureterovaginal fistula, Vesicovaginal fistula, Ureteric injury, Ureteric stricture

Final Diagnosis: Ureterovaginal fistula

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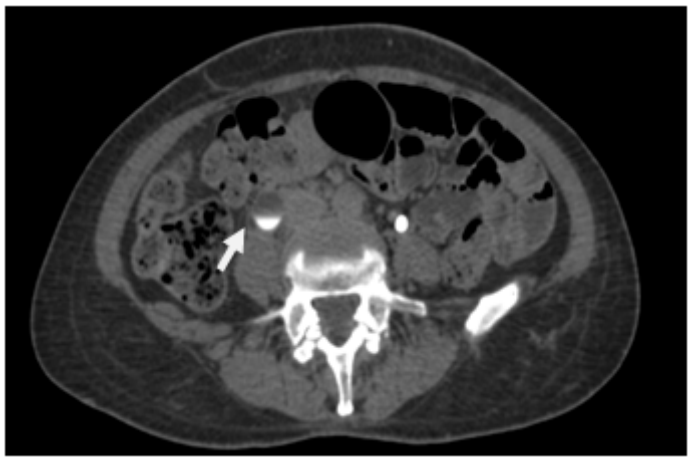
Figure 1

a



Description: Axial contrast enhanced CT (64- slice) of abdomen in the delayed phase demonstrates the dilated right ureter (arrow). **Origin:** Department of Radiology and Imaging Sciences, Meenakshi hospital, Tanjore, India

b

Description: Coronal contrast enhanced CT (64- slice) of abdomen in the delayed phase demonstrates the dilated right ureter (arrow). **Origin:** Department of Radiology and Imaging Sciences, Meenakshi hospital, Tanjore, India

Figure 2

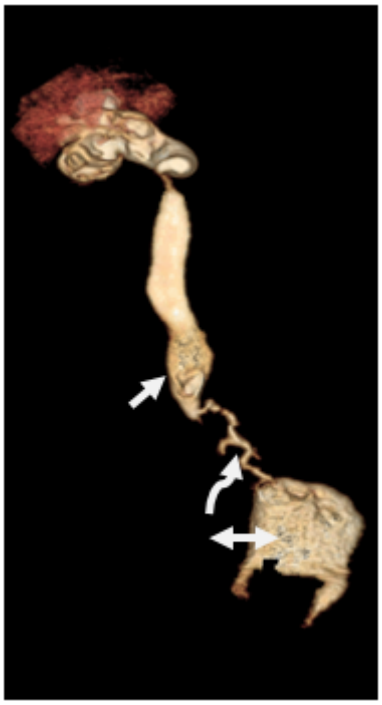
a

Description: Coronal contrast enhanced CT (64- slice) of abdomen in the delayed phase demonstrates the contrast leakage from the right ureter (arrow). **Origin:** Department of Radiology and Imaging Sciences, Meenakshi hospital, Tanjore, India

b

Description: Sagittal contrast enhanced CT (64- slice) of abdomen in the delayed phase demonstrates the filling of vagina with contrast (arrow). No demonstrable communication between urinary bladder and vagina **Origin:** Department of Radiology and Imaging Sciences, Meenakshi hospital, Tanjore, India

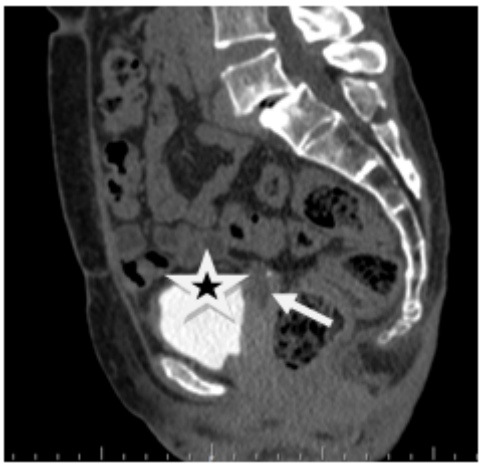
c



Description: Volume reconstruction (VR) image shows dilated right ureter (single headed arrow) with the fistulous tract (curved arrow) communicating with vagina (double headed arrow). **Origin:** Department of Radiology and Imaging Sciences, Meenakshi hospital, Tanjore, India

Figure 3

a



Description: Post operative follow up - Sagittal contrast enhanced CT (64- slice) of abdomen in the delayed phase demonstrates the absence of contrast filling into vagina (arrow) with normal filling of urinary bladder (*). **Origin:** Department of Radiology and Imaging Sciences, Meenakshi hospital, Tanjore, India