

Uretero-Iliac Artery Fistula

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Submitted: 13 Sep 2022; Accepted: 16 Sep 2022; Published: 11 Oct 2022

Citation: Yu-Chuan Lu, M.D., Ph. D, Yu-Hsiang Yang, (2022). Uretero-Iliac Artery Fistula, World J Clin Med Img, 1(1), 72-73.

Abstract

Uretero-Iliac Artery Fistula: a rare cause of haematuria A 90-year-old male presented to our hospital with a one-month history of intermittent gross hematuria. He had stage II rectal cancer and received neo-adjuvant concurrent chemoradiotherapy and low anterior resection 5 years ago. Additionally, he was under regular bilateral ureteral catheter replacement due to radiation related ureteral stricture for two years. During examination, there was no abdominal tenderness or flank pain. Urine analysis showed pyuria and hematuria. Abdominal and pelvic computed tomography without contrast medium revealed only bilateral hydronephrosis. After admission, several hematuria episodes that required blood transfusions and bladder irrigation occurred at an interval of 3 days and resolved spontaneously. Cystoscopy was unremarkable except bleeding from right ureteral orifice during ureteral stent replacement. Concerns for a ureteral arterial fistula prompted an angiogram, which later on proved the existence of a fistula with pseudoaneurysm (Figure 1) between external iliac and distal right ureter (Figure 1). A stent graft was placed from the common iliac into the right external iliac artery. After stent-graft deployment, the aneurysm is no longer opacified. At the 2-month follow-up, no hematuria recurrence was detected.

Keywords: hematuria, ureteroarteriofistula, pseudoaneurysm Conflict of interest: The authors declare that they have no conflict of interest.

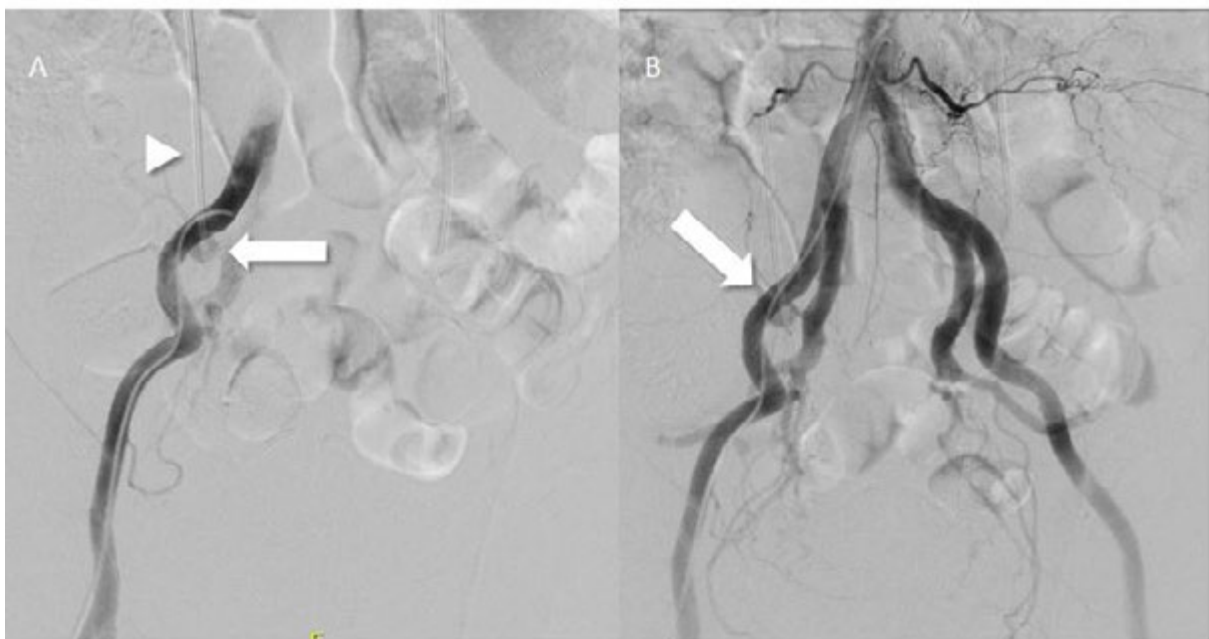


Figure 1: Digital subtraction angiogram shows a pseudoaneurysm (arrow) arising from right external iliac artery at site of ureteric crossing. An indwelling ureter stent (arrowhead) showed the path of ureter.

Figure legend

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During examination, there was no abdominal tenderness or flank pain. Urine analysis showed pyuria and hematuria. Abdominal and pelvic computed tomography without contrast medium revealed only bilateral hydronephrosis. After admission, several hematuria episodes that required blood transfusions and bladder irrigation occurred at an interval of 3 days and resolved spontaneously. Cystoscopy was unremarkable except bleeding from right ureteral orifice during ureteral stent replacement. Concerns for a ureteral arterial fistula prompted an angiogram, which later on proved the existence of a fistula with pseudoaneurysm (Figure 1) between external iliac and distal right ureter (Figure 1). A stent

graft was placed from the common iliac into the right external iliac artery. After stent-graft deployment, the aneurysm is no longer opacified. At the 2-month follow-up, no hematuria recurrence was detected.

Ureteroarterial fistula (UAF) is an uncommon type fistula between the ureter and the aorta or the iliac artery. Risk factors include having a history of abdominal surgery, radiation, or both and have a chronic indwelling ureteric stent. Clinical presentation of UAF can vary from intermittent bleeding to life-threatening hemorrhagic shock. The diagnosis of UAF is often delayed because of the lack of awareness of this entity as a cause of hematuria, thus leading to serious clinical consequences. Digital subtraction angiography is the best modality for the diagnosis of UAF, with finding of pseudoaneurysm to a subtle irregularity or intimal defect and a diagnosis rate of 69%. Endovascular treatment with stent-graft placement across the fistula is the current treatment of choice.

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