



# Hematuria originating from one ureter in a 80-year old female

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## Case part 1

A 80-year old female presents on the emergency room with intermittent macroscopic hematuria. Ultrasound of the kidney showed bilateral hydronephrosis. During cystoscopy and ureteral stent exchange a pulsatile bleeding from the right ureteral orifice was seen. The hemoglobin value was 3,4 mmol/L (norm > 7,5 mmol/L). The right ureteral stent was quickly changed and the bleeding subsided.

At the radiology interventional department computed tomography angiography (CTA) was performed showing suspicion of active hemorrhage possibly originating from the right pyelum.

## Case part 2:

Day after the CTA an embolisation of the right kidney was performed because of extensive hematuria (fig. 1).

## Case part 3:

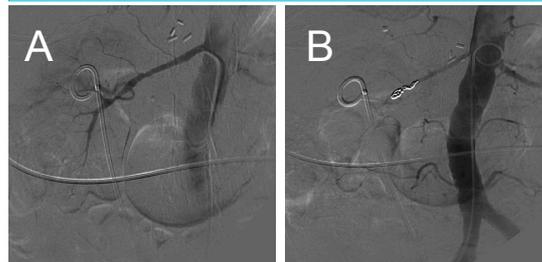
After embolisation of the right kidney the left stent had to be repositioned because of possible wrong positioning. Retrograde ureterography was performed visualising a large uretero-ileal fistula originating from the left ureter (fig. 2).

## Case part 4

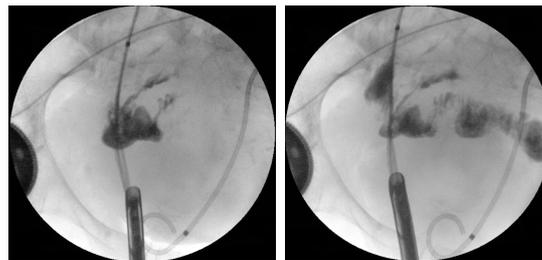
Within 24 hours after embolisation massive hematuria recurred and the primary diagnosis of bleeding of the right pyelum was questioned. A fistula between the (common) iliac artery and the right ureter was now highly suspected on clinical grounds, the patients' history and findings at the left ureter. However, additional diagnostics did not show an uretero-iliac fistula. On clinical basis an endovascular approach was performed. Here the uretero-iliacal fistula was visualised and a stent graft was placed (fig. 3).

## History

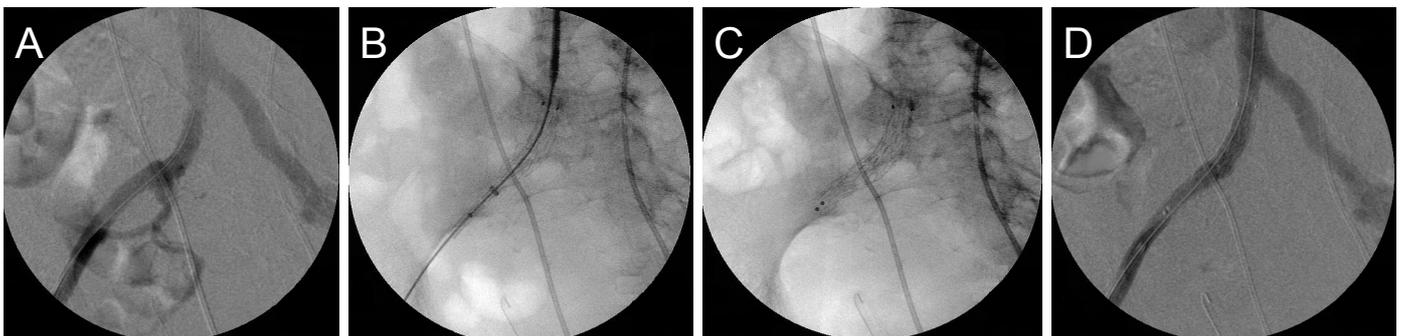
- 2008 Hartmann's procedure with intra operative radiation therapy (IORT)
- 2009 JJ-stent placing with for ureteral stricture
- 2010 Extensive abscess drainage from the Douglas Cavity after ureteral stent occlusion with *Candida glabrata*



**Fig. 1:**  
**arteriography**  
A: right arteria renalis pre-embolisation  
B: right arteria renalis after embolisation. Notice the coils.



**Fig. 2:** retrograde ureterography left  
Left ureter showing leakage of contrast in the intestines



A: pre stent placement

B: endovascular stent placement over guidewire

C: endovascular stent placement after removing the guidewire

D: control after stent placement

## Conclusion

Uretero-arterial fistulas are an uncommon cause of hematuria. In this case radiation, major abdominal surgery and the presence of bilateral double-J stents are predisposing for the right uretero-iliac fistula and the left uretero-ileal fistula. Treatment by endovascular stent graft repair was successfully performed in the previous case.