

## Pyogenic spondylodiscitis due to uretero-vertebral fistula in an elderly patient with left ovarian vein syndrome

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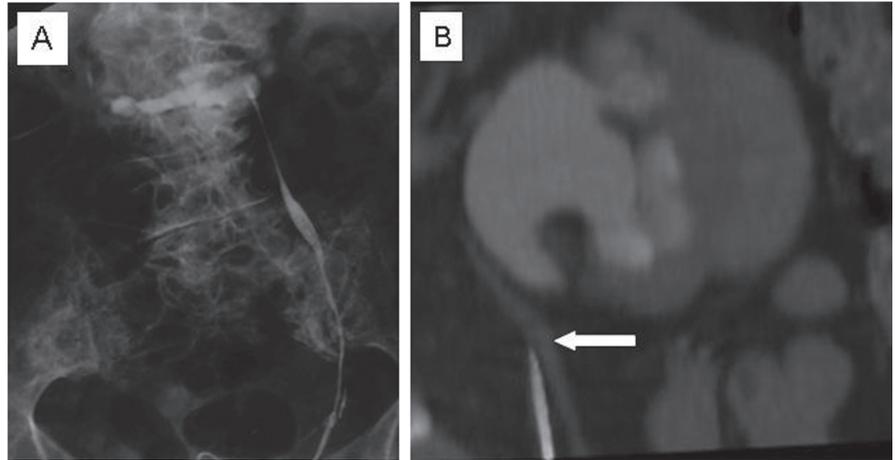
Urinary tract fistula secondary to surgery and radiotherapy for gynecological cancers have been described in medical literature. We present here a unique case of an elderly patient with a fistula formed between the ureter and the intervertebral disc ten years after surgery and radiotherapy. The pathogenic mechanisms are highlighted.

Case report: An 82-year-old woman was admitted to the Urology Department to evaluate the etiology of persistent gross hematuria. Her relevant medical history included: endometrium carcinoma treated with radical surgery, chemotherapy and local radiotherapy ten years ago, two recent pyelonephritic infections and an obstructive uropathy of the left kidney diagnosed four months ago.

Consequently, a urinary tract infection caused by an *E. coli* strain with a wide spectrum of antibiotic resistance was diagnosed. Physical examination was unremarkable. Laboratory findings showed: white cell count: 6,040/mm<sup>3</sup>; hemoglobin: 13.7 g/dl; platelet count: 198,000/mm<sup>3</sup>; erythrocyte sedimentation rate (ESR): 108 mm/h; C-reactive protein (CRP): 17.1 mg/dl (reference range 0-0.8); urea 35 mg/dl (10-50) and creatinine 0.7 mg/dl (0.5-1.3). The tuberculin skin test and the booster effect were negative and repetitive blood and urine cultures (including inoculation into Löwenstein-Jensen media) were all negative.

The retrograde pyelogram (Fig. 1A) and a subsequent abdominal Computed Tomography (CT) scan (Fig. 1B) revealed marked hydronephrosis of the left kidney, extrinsic compression of the left ovarian vein to the ureter and the creation of a fistula between the left ureter and the L2-L3 intervertebral disc. Surgery was denied due to her advanced age and multiple comorbidities. After an unsuccessful attempt to insert a double J catheter, she was transferred to the Rheumatology Department.

Conservative therapy with parenteral imipenem and immobilization was initiated but, after two weeks of antibiotic treatment, the uretero-vertebral fistula remained in a new pyelogram performed. A second attempt to implant a double J ureteral stent failed and, therefore, an eight-week course of parenteral antibiotic was completed followed by prophylactic oral ciprofloxacin. The patient remained afebrile and asymptomatic with a mild improvement as reflected the ESR (36 mm/h) and CRP (0.8 mg/dl). After strict bed rest for four weeks, she began daily physiotherapy with a thoracic-lumbar orthosis. Three months later, the patient died due to an urological septic shock.



**Fig. 1A.** Retrograde pyelogram with contrast showed compression and tortuosity of the upper ureter and the creation of a fistula between the left opaque ureter and the prolapsed disc at L2-L3 level.

**Fig. 1B.** Abdominal CT scan after retrograde pyelogram with coronal multiplanar reconstruction revealed marked hydronephrosis of the left kidney and an extrinsic compression of the left ovarian vein to the ureter (white arrow).

Infectious spondylodiscitis is usually the result of hematogenous spread, although it can be due to the extension of a contiguous infection or the complication of iatrogenic procedures (1, 2). Gram-negative species, such as *E. coli*, are the most common microorganisms isolated following urinary tract infections or surgical procedures (3-5). Nevertheless, due to the wide spectrum of pathogens potentially involved and their increasing resistance to antibiotics especially in immunocompromised hosts, microbiological confirmation is required when possible. Moreover, *M. tuberculosis* must always be ruled out in the differential diagnosis.

Exceptional findings in this case may be explained by a combination of several pathogenic mechanisms: the presence of large anterior osteophytes at the lumbar spine could explain intra-abdominal symptoms due to the compression of the ureter or bowel (6); the periureteral fibrosis secondary to previous radiotherapy (7, 8) and the external compression of the ureter by the left ovarian vein. Anatomically, the ovarian veins cross over the anterior aspect of the ureter at the L3 level to flow into the inferior vena cava on the right side and the left renal vein on the left side and exceptionally, they can cause extrinsic compression of the ureters (9, 10). Due to its anatomical disposition, the right side is more frequently affected. All these circumstances might have facilitated the creation of a fistula between the left ureter and the intervertebral disc. Additionally, recurrent urinary tract infections might have predisposed the patient to septic spondylodiscitis.

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