

CLINICAL PRESENTATION

A 20-year-old woman was evaluated after the detection of microscopic hematuria. Physical examination was unremarkable. Urinalysis showed microscopic hematuria and 24-hour protein ex-

cretion of 670 mg/d. Her renal function was within the normal range (clearance creatinine, 102 mL/min [1.70 mL/s]). On questioning, she also reported dyspareunia. Renal and endovaginal ul-

trasonography showed normal-sized kidneys (right, 10.7 cm; left, 11.8 cm in length) and pelvic varicocele. An abdominal computer tomographic (CT) scan was performed.

■ What do you observe on this CT scan of the patient's renal vessels?

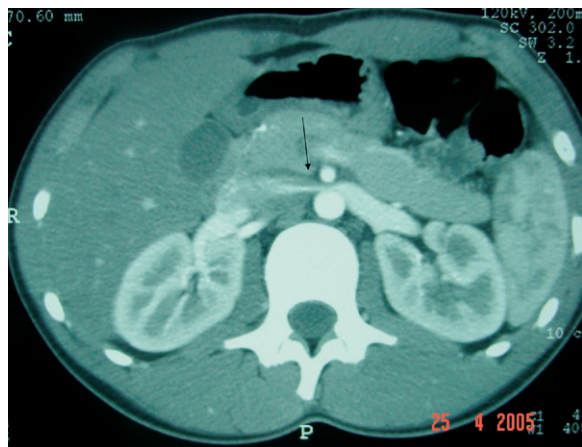


Figure 1. Abdominal CT scan.

■ What do you observe on this flebographic image of the patient's left renal vein?

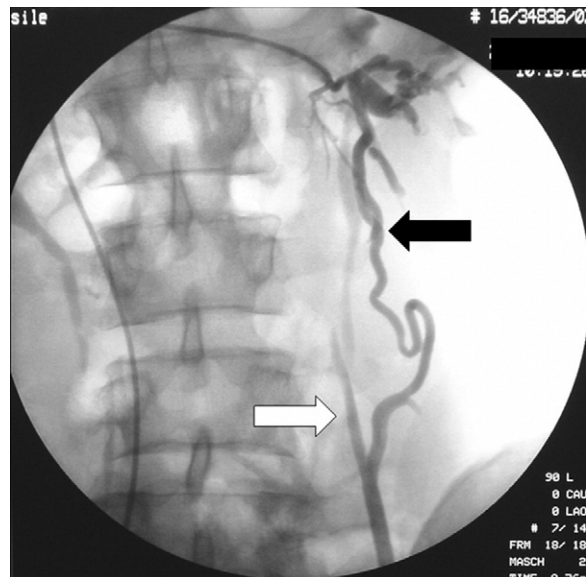


Figure 2. Flebographic image of left renal vein.

■ What is the cause of this woman's dyspareunia?

DISCUSSION

■ What do you observe on this CT scan of the patient's renal vessels?

The contrast-enhanced CT scan in Fig 1 shows a stenotic left renal vein with jet of contrast through the lumen (arrow).

■ What do you observe on this flebographic image of the patient's left renal vein?

As seen in Fig 2, venography showed the presence of left renal capsular varices (black arrow) feeding the ovarian vein (aberrant varicocele; white arrow). The pressure gradient between the left renal vein and inferior vena cava at the level between the aorta and superior mesenteric artery was 6 mm Hg.

■ What is the cause of this woman's dyspareunia?

The clinical syndrome caused by impingement of the left renal vein between the superior mesenteric artery and abdominal aorta has been termed nutcracker syndrome. Although often asymptomatic, en-

trapment of the left renal vein is a rare, but acknowledged, cause of ovarian vein syndrome, varicocele, pelviureteral and peripelvic varices, left renal vein hypertension, hematuria, orthostatic proteinuria, and unexplained left flank or abdominal pain. The syndrome can occur in males or females and is classified on the basis of the site of the bypassed competent valves as a lumbar or pelvic varicocele. In male patients, varicocele causes disorders of spermatogenesis and scrotal pain, whereas female patients may present with pelvic congestion syndrome, best characterized by postcoital ache and ovarian point tenderness. Diagnostic imaging may involve Doppler ultrasound, computed tomography, or magnetic resonance angiography, but phlebography with renal vein and inferior vena cava manometry is definitive.

Surgical approaches for nutcracker syndrome include nephrectomy, nephropexy, renocaval reimplantation, or autotransplantation. In our case, a 14 × 40-mm nitinol self-expandable stent was inserted where the left renal vein nar-

rowed. Postprocedure venography showed normal flow through the renal vein with no pressure gradient between the left renal vein and inferior vena cava. After 4 months, 24-hour protein excretion was within normal range (121 mg/d).

FINAL DIAGNOSIS

Nutcracker syndrome.

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FINANCIAL DISCLOSURE: None.

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