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An unusual cause of gross hematuria, improved by recumbency

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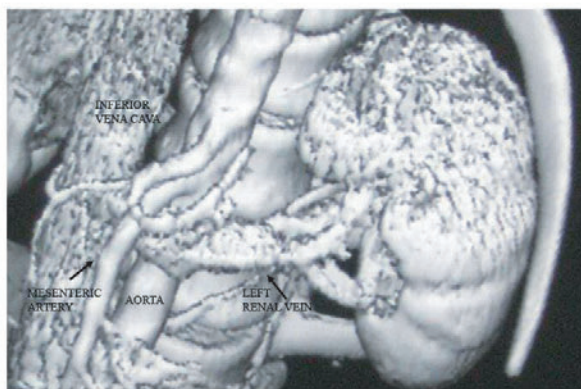


Figure 1 | Three-dimensional spiral helical computed tomography scan reconstruction shows left renal vein entrapment at aortomesenteric passage.

A 16-year-old Italian male was admitted after 3 months of persistent gross hematuria. Past history and physical examination were unremarkable. Renal function and 24-hour proteinuria were within the normal range; autoimmunity tests and urine cytology were negative. Urinary tract infection and tuberculosis were excluded. Computed tomography scan revealed left renal pelvic dilation. After 3 days of recumbency, hematuria spontaneously disappeared. Enhanced computed tomography scan demonstrated left renal vein ectasia, suggesting nutcracker syndrome (Figures 1 and 2). This syndrome is caused by compression of the left renal vein between the aorta and the superior mesenteric



Figure 2 | Computed tomography scan, axial, and coronal sections. (Left) Axial section, shows dilation of the left renal vein (white arrow) after the aortomesenteric passage (black arrow); left hydronephrosis is also demonstrated. (Right) Coronal maximum-intensity projection, shows dilation of collateral vessels, particularly the spermatic vein.

artery, at their bifurcation, resulting in left renal venous hypertension and in ureteral and renal pelvic varicosities with subsequent hematuria. The main symptoms are recurrent episodes of gross hematuria, decreasing with recumbency, with or without left loin pain. The disorder may be missed by the usual work-up for nonglomerular hematuria; hence its incidence is probably underestimated. Angiographic computed tomography scan (or magnetic resonance imaging) is the most reliable way to diagnose this condition. Treatment remains controversial; mild cases may be treated conservatively. However, recurrent gross hematuria and/or severe loin pain may require surgery.