A 29-year-old female was referred to our hospital because of a 4-year history of intermittent gross haematuria. Physical examination was unremarkable. Urinalysis showed gross haematuria. The urine red blood cells are isomorphic. Cystoscopy revealed bloody urine from the left ureter. A computed tomography angiography of renal vascular revealed a compression of the left renal vein (LRV) between the abdominal aorta (AA) and the superior mesenteric artery (SMA, Figure 1). A diagnosis of nutcracker syndrome was made. The haematuria disappeared 2 weeks after an endovascular stent implantation of the LRV.

Nutcracker syndrome, a rare cause of haematuria, is caused by a compression of the LRV between the AA and the SMA.1,2 Clinically, this entity can be silent or embraces a spectrum symptom, including gross or microscopic haematuria, orthostatic proteinuria, flank pain, pelvic congestion, varicocele and chronic fatigue.1,3 Because these symptoms are non-pathognomonic, the diagnosis is difficult to make using routine methods.1,3 This condition should be always considered in the workup of haematuria. Various non-invasive tests are used for the diagnosis of nutcracker syndrome, such as ultrasonography, CT imaging and magnetic resonance imaging. The most reliable method is CT angiography.1

Depending on the severity of haematuria and associated pain, treatment of this entity varies between conservative management and surgical interventions for correcting the anatomical abnormality, such as endovascular stenting, nephropexy, LRV transposition, bypass of the LRV and autologous transplantation.1,4,5

Figure 1. A computed tomography angiography of renal vascular revealed a compression of the LRV between the AA and the SMA.
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Conflict of interest: None declared.

References