

VASCULAR IMAGES

A new variant of the posterior nutcracker phenomenon

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The term “posterior nutcracker phenomenon” refers to the compression of the retroaortic left renal vein between the aorta (A and B, *arrowhead*) and the vertebral column (A and B, *arrow*). This entity is better known through its anterior variant, the “anterior nutcracker phenomenon,” where the anterior left renal vein is compressed between the aorta and the superior mesenteric artery.

A retroaortic renal vein is a rare anomaly, with an incidence of 1% to 2.4%. Fewer than 20 cases of a posterior nutcracker phenomenon have been reported.^{1,2} The resulting venous hypertension in the left renal vein is manifested by recurrent, intermittent left flank or abdominal pain, or both, and intermittent unilateral hematuria. The nutcracker phenomenon occurs in relatively young, healthy patients.

This disorder is easily overlooked if routine diagnostic procedures are used alone. The natural history of this disease is characterized by repeated diagnostic procedures and delayed treatments. With the advent of multidetector computed tomography (MDCT), however, the precise anatomy of the renal vessels and the aorta can be delineated as well as the compression of the left renal vein and its delayed emptying into the vena cava (Cover). Contributing factors have been suggested, such as ptosis of the left kidney with the subsequent stretching of the vein, the presence of an abdominal aortic aneurysm, or pregnancy, but these factors are absent in most patients.²

This 52-year-old man presented with flank pain and microscopic hematuria on urine analysis. The diagnosis was pointed out after MDCT: It revealed a posterior nutcracker phenomenon owing to the compression of his left retroaortic renal vein between the aorta and osteophytes bulging anteriorly out of the vertebral body (C). This patient had spontaneous resolution of flank pain and hematuria within 10 days and was treated conservatively. During a 12-month follow-up, he reported another isolated episode of flank pain that lasted for 5 days. To our knowledge, this is the first case of nutcracker phenomenon involving vertebral osteophytes. Osteophytes are extremely frequent in elderly individuals, and with the liberal use of multislice CT, these images may be more frequently encountered in older patients.

REFERENCES

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