Left varicocele revealing a nutcracker syndrome

Clinical History:

A 37-year-old man, with an intermittent left flank pain for 3 years and increasing volume of the left testicle for 6 months.

Imaging Findings:

Axial contrast-enhanced CT of the abdomen shows compression of the left renal vein between the superior mesenteric artery (SMA) and the aorta (Ao) as the left renal vein (LRV) crosses the midline (Fig. 1). A coronal reconstruction shows varicocele and distended collateral vessels (arrowhead) secondary to left renal vein compression (arrow) (Fig. 2).

Discussion:

Nutcracker syndrome refers to the compression of the left renal vein between the aorta and the superior mesenteric artery. This results in elevated left renal vein pressure and possible collateral vein development, which leads to a left varicocele because of the direct drainage of spermatic veins in the left renal vein [1]. Nutcracker syndrome can have several clinical manifestations. The most common presentation is haematuria. It can also cause mild to moderate proteinuria. Other presentations that are rare include varicocele which was the case in our patient. Prominent collateral vessels may develop, and the gonadal, ascending lumbar, adrenal, periureteral, and capsular veins are major potential collateral veins that can develop from left renal vein compression or obstruction [2]. Angio-MR computed tomography and selective left renal vein phlebography are helpful for establishing the diagnosis [3]. For asymptomatic patients, with no haematuria, the treatment is conservative. For patients with considerable haematuria, various surgical treatments including left renal vein transposition, left renal auto-transplantation or endovascular stenting of the left renal vein have been described [4].

Our patient subsequently underwent laparoscopic varicocelectomy and conservative treatment was adopted for the left renal vein compression.

Differential Diagnosis List: Nutcracker syndrome, Varicocele, Nutcracker syndrome
**Final Diagnosis:** Nutcracker syndrome

**References:**


Figure 1

Description: Varicocele and distended collateral vessels (arrowhead) secondary to left renal vein compression (arrow). **Origin:** department of radiology
Description: Compression of the left renal vein between the superior mesenteric artery (SMA) and the aorta (Ao) as the left renal vein (LRV) crosses the midline. **Origin:** department of radiology