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## Left Renal Vein Compression as Cause for Varicocele: Prevalence and Associated Findings on Contrast-Enhanced CT

DS Lewis et al. Abdom Imaging 40 (8), 3147-3151. 10 2015. [more](#)

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**PURPOSE:** The purpose of this study is to determine the prevalence of left renal vein compression in patients with varicoceles.

**METHODS:** Abdominal and pelvis contrast-enhanced CT images from 100 male patients with varicoceles (mean age 50.6 years) and 100 matched control patients (mean age 49.8 years) were retrospectively reviewed. The diameter of the left renal vein was measured as it crosses between the aorta and superior mesenteric artery and was classified as compressed if there was greater than 50% narrowing. The diameter of the left gonadal vein was measured at the origin. Comparison of the prevalence of left renal vein compression was made via a Chi-squared test and the gonadal vein diameter via a t test.

**RESULTS:** The distribution of varicoceles was 68 on the left, 24 bilateral, and 8 on the right. Compression of the left renal vein was significantly more common in the left varicocele (78%,

53/68) than in the bilateral varicocele (42%, 10/24,  $p = 0.002$ ), right varicocele (13%, 1/8,  $p < 0.001$ ), or control group (10%, 10/100,  $p < 0.001$ ). In the subgroup analysis, the gonadal vein diameter was significantly greater in the left varicocele (mean 5.6 mm) than in the bilateral varicocele (mean 4.6 mm,  $p = 0.018$ ), right varicocele (mean 3.2 mm,  $p < 0.001$ ), and control group (mean 3.1 mm,  $p < 0.001$ ).

**CONCLUSION:** Left renal vein compression by the superior mesenteric artery is a major contributor to left-sided varicoceles.

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