Duplication of inferior vena cava: a rare but clinically significant anatomical variation
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Clinical—A 64-year-old Caucasian male was admitted with 2 days history of abdominal pain. An abdominal CT scan showed acute pancreatitis and an incidental finding of double inferior vena cava (IVC), with left-sided IVC draining to the left renal vein. See Figures 1 and 2.

Figure 1. Coronal section of abdominal CT showing normal right-sided IVC (blue arrow), abdominal aorta (red arrow), and left-sided IVC (yellow arrow)
Discussion—Duplication of the IVC is estimated to affect 0.2 to 3% of the population. The embryogenesis of the IVC is complex and is usually complete by the 10th week of gestation. Duplication of the infra-renal portion of the IVC occurs when the left supracardinal vein fails to regress. This asymptomatic congenital variation is usually diagnosed incidentally on abdominal imaging performed for another reason.¹⁻⁵

It is important to recognise this rare entity because it:

- Can be associated with other renal anomalies like horseshoe kidney;
- Can be confused with abdominal aortic aneurysm or lymph node enlargement;
- Can impose a significant operative challenge to the surgeon during multi-visceral recovery operation on a deceased organ donor; and
- Can be a concealed source of recurrent pulmonary thromboembolism in patients with lower extremity deep venous thrombosis who already have had IVC filters in their right sided IVC. (Some authors believe that IVC duplication itself is a risk factor for venous thromboembolism.)
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References:


