A 50-year-old female prospective renal donor was referred for preoperative angiography. Intravenous urogram and Technetium Tc-99m Diethylenetriamine Pentaacetic Acid (DTPA) renal scan were unremarkable. Abdominal aortogram and bilateral selective renal angiogram showed normal arterial anatomy. The right kidney was drained by a single renal vein. However, the left kidney was drained by two renal veins that opened into the inferior vena cava (Figure 1). Circumaortic renal vein collar was suspected. Computerised tomographic (CT) scan and CT angiography of abdomen were performed to further delineate the spatial relationship of the left renal veins to the aorta. One of the left renal veins passed anterior to the aorta and posterior to the superior mesenteric artery (Figure 2), and another one i.e. the posterior division coursed inferiorly and medially behind the aorta (Figure 3) to reach the inferior vena cava forming the left renal vein collar around the aorta (Figure 4).

**Discussion**

Circumaortic renal collar is a rare anomaly involving the left renal vein which has two components, one anterior and another posterior to the aorta. The reported incidence is 2%-17% in autopsy studies 1 and 1%-11% in imaging literature.1 It is a potentially hazardous anomaly as failure to recognise the dorsal component during surgery may lead to haemorrhage.2 There have been reports of accidental disruption of the posterior component of the left renal vein leading to haemorrhage and death.2

The occurrence of the circumaortic renal collar can be explained on the basis of embryological development. The primary venous drainage prior to the sixth week is through the posterior cardinal veins.3 These are replaced by the eighth week at the renal level by four longitudinal channels, the paired supracardinal veins which lie on a plane posterior to the aorta and the paired subcardinal veins which lie at a plane anterior to the aorta.3 There are rich anastomotic communications between the supracardinal-subcardinal, intersupracardinal and intersubcardinal channels which form a plexus or a collar of veins around the aorta. Paired embryonic vessels on each side unite the kidneys with the right and left suprasubcardinal anastomoses.3 The retroaortic components normally atrophy leaving a preaortic left renal vein. When the reverse occurs, the left renal vein is retroaortic. With the persistence of the entire ring, permanent channels will be found both anterior and pos-

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**Figure 1:** Venous phase of the left renal angiogram shows double renal veins (arrows) draining in the inferior vena cava

**Figure 2:** Contrast-enhanced CT abdomen reveals one renal vein passing between the aorta and the superior mesenteric artery (white arrow)
Multidetector CT angiography is highly accurate for detecting vascular anomalies and providing anatomical information for laparoscopic living donor nephrectomy.\textsuperscript{5} MR angiography is another important modality for the preoperative evaluation of living kidney donors.\textsuperscript{3} Recent studies of gadolinium-enhanced MR angiography have shown that it has high rates of accuracy and is comparable to conventional angiography and CT angiography in the evaluation of living kidney donors for nephrectomy.\textsuperscript{5} MR imaging has the additional advantage of avoiding ionizing radiation and potentially nephrotoxic contrast agents.\textsuperscript{5}