Although renal vein invasion and/or inferior vena cava extension occurs in 4%-10% of patients with renal cell carcinoma, involvement of the gonadal vein is uncommon. We present a case of a patient with unresectable metastatic renal cell carcinoma invading the gonadal vein, who was initially treated with targeted molecular therapy.

A 64-year-old woman initially presented with gross hematuria, lower back pain, and a 50-lb weight loss during the previous 3 months. Computed tomography demonstrated a 13.8-cm left renal mass replacing the kidney, along with multiple bilateral pulmonary metastases, consistent with extensive metastatic renal cell carcinoma (RCC). The renal tumor extended into the renal vein, with the tumor thrombus traversing through the inferior vena cava to the distal aspect of the right atrium (Fig. 1). The enhancing tumor thrombus also extended caudally 13 cm within the left gonadal vein to the pelvic brim. The patient was deemed an unsuitable candidate for primary resection because of the large burden of metastatic disease and the encasement of the renal hilum and high-level inferior vena cava thrombus. Percutaneous biopsy of the renal mass confirmed clear cell RCC, and the patient elected to undergo targeted molecular therapy with sunitinib as the primary therapeutic approach.

One of the unique features of RCC is its tendency to invade the venous system with renal vein involvement and/or inferior vena cava extension in 4%-10% of patients. Furthermore, multiphase contrast-enhanced imaging can help differentiate bland thrombus (nonenhancing) from an enhancing tumor thrombus. Gonadal vein involvement by RCC is quite rare, but it is important...
to recognize because it could contribute to residual disease after nephrectomy if not diagnosed and managed appropriately.

References


