

Answer to Medical Quiz: Images

Answer:

This sagittal section of CT abdomen with contrast shows an irregular right renal mass with dilated right renal vein and inferior vena cava with thrombus within. Thrombus is extending from right renal vein upto right atrium

Diagnosis:

Right renal cell carcinoma with thrombus extending from right renal vein to right atrium.

Review: Renal cell carcinoma with local invasion to Venous System

Renal Cell Carcinoma (RCC) is a highly vascular malignancy with a tendency to invade the venous system and create a tumor thrombus either in the renal vein or the inferior vena cava (IVC). It can grow intravascularly, extending sometimes into the right cardiac chambers. Tumor invasion of inferior vena cava by renal cell carcinoma is reported to be relatively frequent. Usually the tumor grows intraluminally into

the renal vein and inferior vena cava as an extension of primary tumor. The incidence of inferior vena cava tumor thrombus is 4 - 10% in patients with renal cell carcinoma. The staging of IVC thrombus is done depending on the level of the thrombus: I, adjacent to the ostium of the renal vein; II, extending up to the lower aspect of the liver; III, involving the intrahepatic portion of the IVC but below the diaphragm; and IV, extending above the diaphragm. Survival of patients with level IV tumor thrombus is believed to be poorer. Preoperative transesophageal echocardiography can accurately assess tumor extent and guide surgical therapy. Long term survival following the surgical treatment is probable in individuals with localized RCC extending into the right atrium. Performance of complete radical nephrectomy along with vena caval thrombectomy under circulatory arrest is a safe procedure without significant morbidity.

(Ref: Wotkowicz C, Wszolek F. Resection of Renal Tumors Invading the Vena Cava. Urol Clin N Am 2006; 35:657-71.)