# **Case Report**

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# Renal artery aneurysm misdiagnosed as renal cell carcinoma

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#### **ABSTRACT**

Renal tumors are best diagnosed by contrast-enhanced computed tomography (CECT) abdomen along with history and physical examination. In case of suspicious lesions in respect to location like lesion arising from the bifurcation of renal artery and close to major vessels with all features suggesting of tumor with absent contrast enhancement and absent color flow on Doppler study should be further investigated keeping other possibility of Renal artery aneurysm with thrombus mimicking as renal tumor. CT angiography should be done in every case of suspicious lesion because this will change the further management protocol from Nephrectomy in case of renal tumor to kidney preserving minimally invasive procedure for renal artery aneurysm. Like in this case diagnosis of Renal cell carcinoma was made on the basis of CECT abdomen findings and managed further as per the management protocol for renal tumor but intraoperatively found renal artery aneurysm. On conclusion every suspicious lesion of kidney should be further investigated for renal artery aneurysm so that kidney preserving procedure could be planned preoperatively.

Keywords: Renal artery aneurysm, Renal cell carcinoma, Kidney preserving

#### **INTRODUCTION**

Renal artery aneurysm is defined as a dilated segment of renal artery that exceeds twice the diameter of a renal artery. Symptomatic renal artery aneurysms can cause hypertension, pain, hematuria and renal infarction. Asymptomatic renal artery aneurysms can be electively repaired but symptomatic aneurysms should be further investigated followed by some surgical intervention.

#### **CASE REPORT**

A 40 years old male presented in surgery OPD with complaints of pain in right flank for 5 months. General physical and systemic examination was normal. On ultrasonography (USG) of abdomen, right kidney was normal in size, position and altered echotexture. A solid round mass with non-homogenous echo texture

measuring 32×35 mm was present near pelviureteric junction. Left kidney and rest of the visualized organs were normal.

### On contrast-enhanced computed tomography abdomen

An ovoid well defined hypo dense lesion was present in the medial aspect of right kidney measuring 42×35 mm and seen to displace the pelviureteric junction anteriorly.

Patient underwent laparoscopic exploration with provisional diagnosis of renal cell carcinoma Intraoperatively the renal vein was found to be stretched over the mass. The mass was full of necrotic material which was removed. During removal of the necrotic material from the mass there was sudden arterial bleeding. A right nephrectomy was performed after conversion.

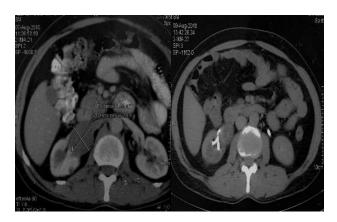


Figure 1: Contrast-enhanced computed tomography abdomen showing lesion anteriorly to right renal artery.

#### Histopathological report

Confirmed the diagnosis of aneurysm. Patient is being followed up yearly with contrast-enhanced computed tomography abdomen for any other intra-abdominal aneurysm.

#### **DISCUSSION**

Renal artery aneurysms comprise 22% of all visceral artery aneurysms. Incidence in general population is 0.01-0.1 %.3 These are of 2 types: extraparenchymal (90%) includes-true involving all 3 layers mostly idiopathic causes include fibromuscular dysplasia and Ehlers-Danlos syndrome, false neursyms mostly iatrogenic and other causes include- blunt trauma abdomen, anastomotic, spontaneous, mycotic, dissection, kawasaki disease.4-7 Intrarenal aneurysms (10%) causes include-polyarteritis nodosa, tuberculosis neurofibromataosis of the extraparenchymal types roughly 70% are saccular, 20% are fusiform and 10 % are dissecting.<sup>8</sup> Diagnosis made by USG doppler and CT angiography or MRI. Aymptomatic aneurysm with no associated risk factors should be managed either by Medical treatment or Endovascular stenting or coil embolization. If the aneurysm size is <2 cm- managed conservatively with regular follow up. If size is >2 cm endovascular stenting or coil embolization and if above management fails - surgical management includes venous grafting and autotransplantation if single functioning kidney.

#### **CONCLUSION**

Like in our case suspected lesions arising from the bifurcation of artery must be investigated further for possibility of renal artery aneurysm with CT angiography even with the absent color flow. If aneurysm diagnosed kidney preserving procedure should be considered.

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