Case Report

- Age: 63 years-old
- Gender: male
- Date of admission:2000/1/14

Chief complaint

Incidental finding of a abdominal mass at the right renal area by sonography in the physical check-up.

Present illness

- This 63 y/o patient was admitted for workup of a right abdominal mass which discovered in sonography incidentally during a **health** check-up.
- There was no other significant abnormal physical findings, and his blood pressure remained at 160/70mmHg

Past history

- Old CVA with lateral weakness in 1982
- Hyperlipidemia for years with regular medication
- BPH diagnosed in Nov.1999

Personal history

- HTN:(+) for more than 10 years
- DM: (+)
- Smoking : (+) 1 ppd for years
- Alcohol : (+) herbal wines 30 cc for years
- Allergy : (-)

Physical examinations

- Vital sign : body temperature: 36.6 C
  pulse: 80/min
  respiratory rate:14/ min
  blood pressure:160/70 mmHg

No other special findings in routine PE

Lab data

- Hb:15.1
- Hct:44.3
- RBC:9970
- Na:144
- K:3.9
- Epinephrine:4.52
- Norepinephrine:62.18
- Dopamine:312.08
- Cortisol:8.31/3.57

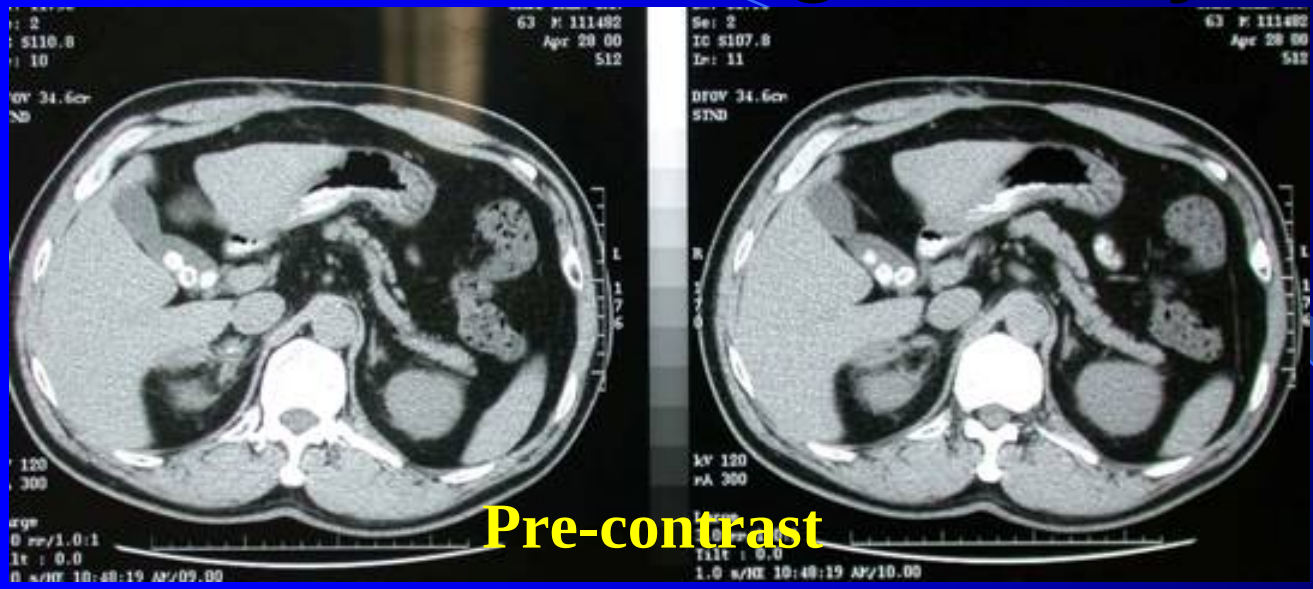
Image study

Abdominal sonography showing a huge hyper-echogenic mass above the right kidney

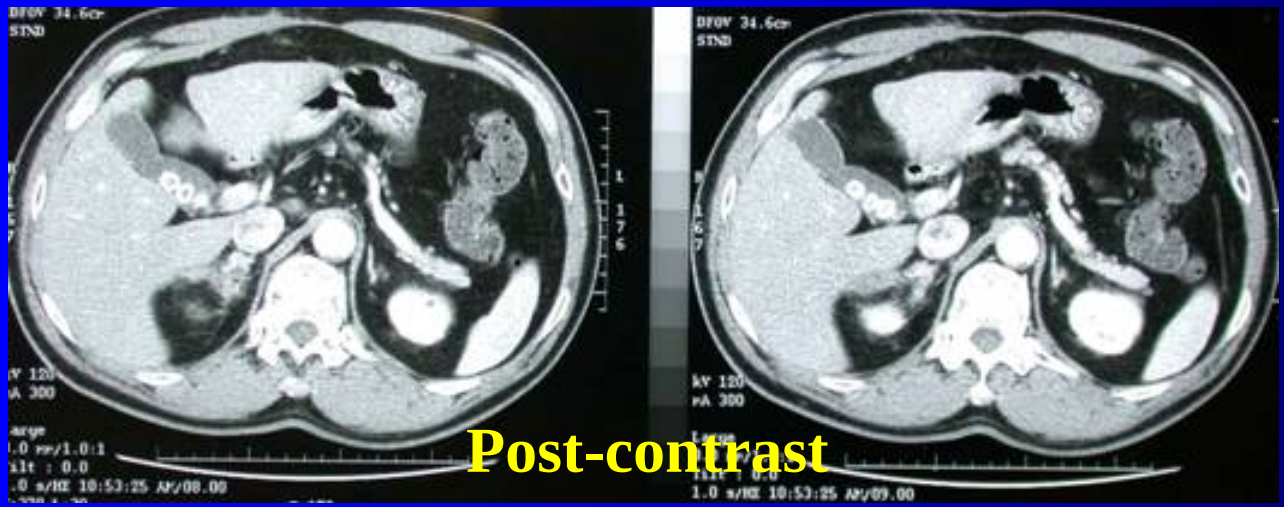
Image study

- KUB: there are well visualization of the bilateral psoas line with no other particular findings

Image study



Pre-contrast



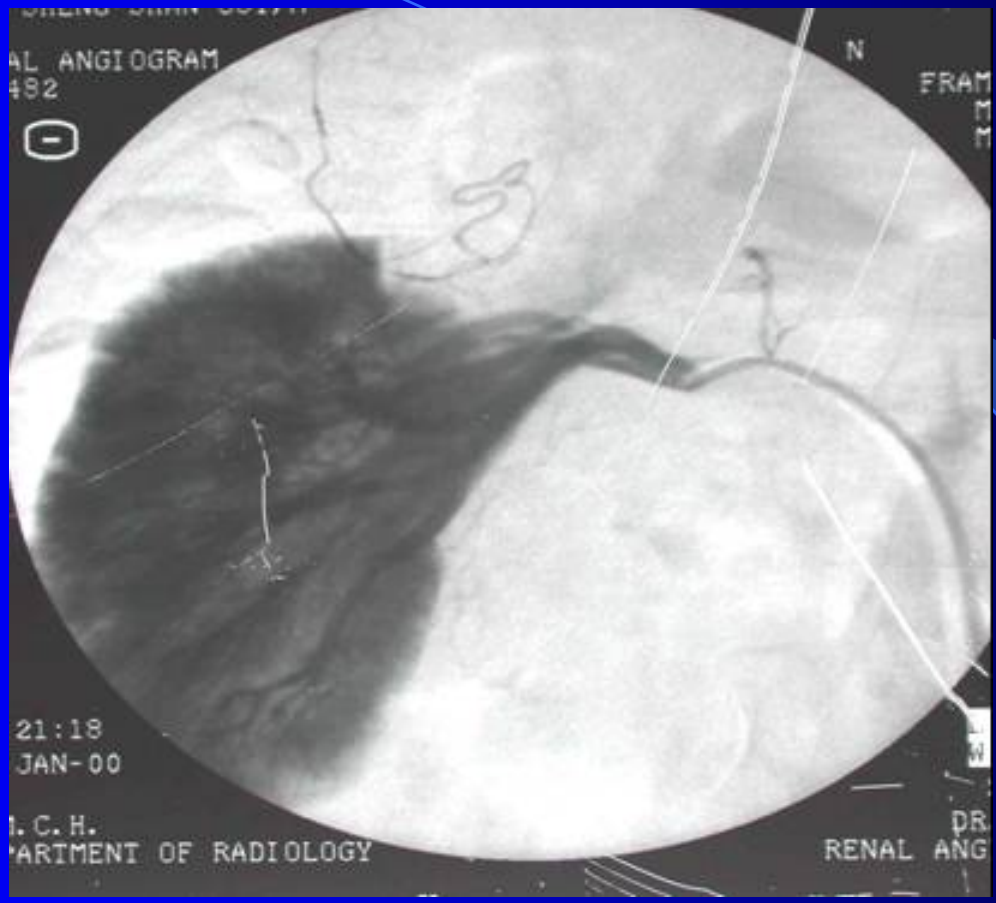
Post-contrast

Abdomen CT

>a large, well defined, fatty density mass at the right suprarenal region

>No definite contrast enhancement

Image study



Right renal angiography showed an avascular tumor above the right kidney with thin branched vessels

Differential diagnosis

- Myelolipoma
- Pheochromocytoma
- Adenoma
- Adenocarcinoma

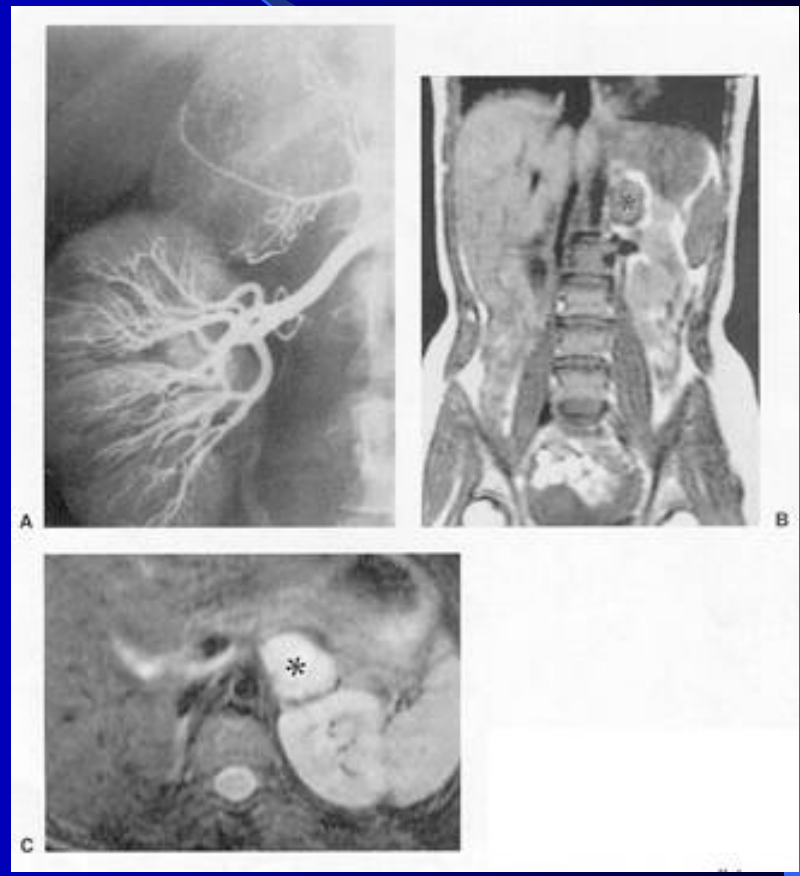
Myelolipoma

- The essential criteria for diagnosis of myelolipoma

1. Hyperechogenic mass:
   well demarcated inhomogeneous low-attenuation (-30 to -115HU) mass on CT
2. Relatively hypovascular tumor on angiography
3. Detection and diagnosis of these lesions are based on identification of fat density (CT)

pheochromocytoma

- **Pheochromocytoma is usually a very vascular tumor with arteriovenous lakes and early venous filling**
- **Angiography usually demonstrates a hypervascular mass with an intense capillary stain**



Adenoma and carcinoma

- **Nonfunctioning cortical adenomas and carcinomas also appear as solid masses on CT.**
- **Adenomas are usually small (less than 3 cm in diameter) and are unilateral. Because of high lipid content, adenomas often have density measurements that approach that of water . This high lipid content can help distinguish adenomas from adrenal malignancies, which lack this material.**
- **In particular, unenhanced CT or CT obtained approximately 1 hour after contrast injection appears useful to help differentiate adenomas from malignancies.**
- **An unenhanced CT attenuation value of less than 18 HU and a 1-hour postcontrast value of less than 30 HU are strong predictors of adenomas.**
- **Carcinomas are usually larger than adenomas**

Impression:
Myelolipoma of right adrenal gland

Operative findings

- An well capsulated mass between right kidney and liver was noted , adrenal gland was compressed
- The tumor was excised carefully
- Measured 11.0*9.5*10cm
- Yellowish-red , fragile

Pathologic diagnosis

Benign myelolipoma

Final diagnosis

- Giant adrenal myelolipoma

Discussions

- Adrenal myelolipomas are rare, benign tumors consisting of mature fat and bone marrow elements
- Giant adrenal myelolipomas as in our case are extremely rare
- But have to be differentiated from more malignant entities, such as retroperitoneal liposarcomas or tumors arising from kidney

Treatment

- Usually require no treatment
- If symptomatic or diagnosis in doubt, surgery is required
- Dieckmann et al.

1. small tumors-3 months interval follow-up
2. larger than 6 cm- surgical resection was recommended for risks of spontaneous hemorrhage