Information

- Birthday: 66.04.01
- Age: 27 y/o
- Admission: 93.08.02 - 93.08.04

Chief Complaints

- Abdominal vague pain for 1 week

Present Illness

- Left flank soreness in recent 3-4 months
- Abdominal vague pain for 1 week
- Abdominal sono at LMD: a cystic mass in retroperitoneal space
- Abdominal CT at 恩主公: a huge retroperitoneal cystic mass
- Visit our GS OPD on 93.07.29

Present Illness

- Abdominal sono on 93.07.29
  - A huge cystic lesion in the retroperitoneal space between left kidney, pancreas, and spleen
  - Size: 8.7 x 9.6 cm
  - Impression: retroperitoneal mass, cause unknown. MRI is indicated

Lab. Finding

- WBC: 6240 /uL
- Hb.: 12.6 g/dL
- Plt.: 217000 /uL
- Hct.: 38.2 %
- MCV: 72.6 fL (↓) [80-99 fL]
- MCH: 23.9 pg (↓) [27-31 pg]
- MCHC: 32.9 g/dL (↓) [33-37 g/dL]

Image Finding

- Smooth airway, well expansion of lung
- No thoracic cage or bone deformity
- Normal cardiac shadow, diaphragm
- Normal costophrenic angles, bil. Normal position of hilum, bil.
- No active lung lesion

Image Finding

- A huge well-defined T1W low intensity mass, size: 10x8x8 cm
- No enhancement on the post-Gd images
- The left adrenal gland is poor identified
- The right kidney appears normal

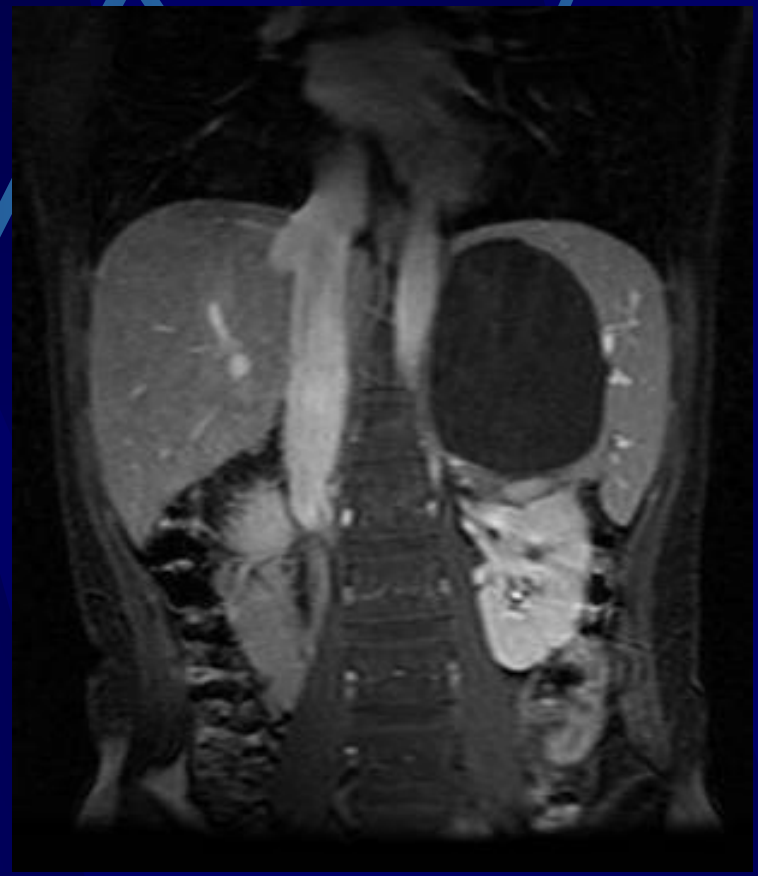

Image Finding

- A huge well-defined T2W high intensity mass
- Upward to the left diaphragm
- Push the pancreas anteriorly and the left kidney downwardly

Image D/D

	Chest PA 93.08.02	MRI-T1+C 93.08.03	MRI-T2 93.08.03
D/D 1	No active lung lesion	Renal cyst	
D/D 2		Adrenal carcinoma	
D/D 3		Lymphoma of kidney	
D/D 4		Adrenal cyst	

Renal Cyst

- Simple cyst walls occasionally calcify
- CT scan criteria
  1. Sharply demarcated cyst with a smooth thin wall
  2. Homogenous fluid within the cyst (typically with density <20 HU, although higher measurements may be found with a benign proteinaceous cyst or if hemorrhage is present in a benign cyst)
  3. No contrast enhancement. Enlargement of the cyst can raise concern of malignancy, although the natural history of benign renal cysts does show progressive, slow enlargement.

Adrenal Carcinoma

- X-ray
  - Since adrenal carcinomas often are large at presentation, radiographs of the abdomen may demonstrate mass effect from the tumor.
  - The calcifications observed in more than 30% of patients on CT often are more difficult to detect with abdominal radiographs.
  - On excretory urography, adrenal carcinoma often causes mass effect on the ipsilateral superior pole of the kidney, usually displacing the upper pole of the kidney laterally and, when large enough, inferiorly.

Adrenal Carcinoma

- MRI
  - MRI often demonstrates a large mass with lower signal intensity than the liver on T1-weighted images and higher signal intensity than the liver on T2-weighted images.
  - Since the mass usually does not contain any significant intracellular lipid, it will not lose signal on out-of-phase imaging.
  - Coronal and sagittal images may be helpful in determining adrenal origin of the mass, thus differentiating it from renal cell carcinoma or hepatocellular carcinoma, especially if CT is equivocal.

Lymphoma of Kidney

- X-ray
  - Plain radiographs are limited
  - Intravenous urograms of renal lymphoma can demonstrate normal or near-normal findings

Lymphoma of Kidney

- MRI
  - Low signal intensity on T1-weighted images
  - Isointense or moderately hyperintense on T2-weighted images
  - Lymphomatous tissue may be minimally enhancing, but it does not enhance as much as normal renal parenchyma; therefore, it remains hypointense relative to the kidney on contrast-enhanced T1-weighted MRIs

Adrenal Cyst

- MRI
  - Usually markedly hypointense on **T1**-weighted images
  - Markedly hyperintense on **T2**-weighted images
  - the presence of proteinaceous material, infectious debris or hemorrhage within the cyst can cause increased signal intensity on T1-weighted images

Image Impression

- Left retroperitoneal huge cyst, left renal cyst is likely

Surgical Final Dx.

- Pre-operation Dx.
  - Retroperitoneal tumor, r/o adrenal cyst
- Post-operation Dx.
  - Adrenal cyst
- Finding
  - Well-encapsulated cyst in retroperitoneal space, about 10cm in diameter, adhesion to pancreas, stomach, spleen, and adrenal gland, with 400 cc. fluid inside

Pathologic Final Dx.

- Cyst
  - Soft tissue, retroperitoneal, left, exsion, adrenal cyst
- Fluid cytology
  - Benign non-specific cellular change
  - Some macrophages and foamy cells present in hemorrhagic background and with necrotic debris

Final Dx.

- Left adrenal cyst

Adrenal Cyst

Discussion

Clinical

- Relatively uncommon
  - Generally incidental to diagnostic imaging or autopsy
  - Occur more often in women than in men
- Most: asymptomatic, small, unilateral
- The larger cysts may produce an abdominal mass and flank pain
- May be fatal if they hemorrhage and are not rapidly diagnosed

Image Work up

- Abdominal echo
  - Hypoechogenesis
  - Well-defined margin
  - Acoustic enhancement
- Abdominal CT
  - No enhancement after IV injection of contrast medium
  - Calcification: 15% (often curvilinear)

Image Work up

- MRI
  - Usually markedly hypointense on **T1**-weighted images
  - Markedly hyperintense on **T2**-weighted images
  - the presence of proteinaceous material, infectious debris or hemorrhage within the cyst can cause increased signal intensity on T1-weighted images

Treatment

- Excision
  - Traditional (to rule out malignancy)
  - Exploratory laparotomy
  - Laparoscopic excision

Treatment

- Aspiration
  - If the suspicion of malignancy is low, and the lesion is nonfunctional, the adrenal cyst may be managed by aspiration alone.
  - If the cyst recurs and is asymptomatic, it may be observed.
  - If a symptomatic cyst recurs, it may be reaspirated or excised.

Figure-1

- Contrast-enhanced CT showing the typical appearance of a cyst (open arrow) within the left adrenal gland.

Figure-2

- T1-weighted spin-echo images shows the low signal intensity of a simple cyst (open arrow).

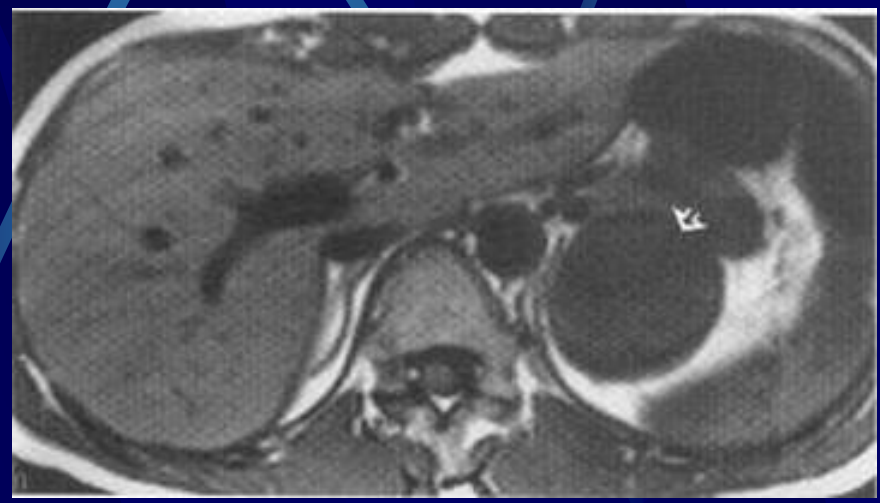

Figure-3

- T2-weighted fast spin-echo images shows the uniformly high signal intensity of a fluid-filled lesion (open arrow).

- Thanks for Your Attention!!