General history

- General data

  gender: ♀
  age: 56 y/o

Chief complaint

* Gross hematuria for 2 months
* Left flank soreness within recent 1 week

Present illness 1

* This 56 y/o female patient had suffered from intermittent hematuria for 7 months (since Dec. 2001).
* The condition of hematuria got worse over the past 2 months.
* she also suffered from left flank soreness and radiation to left back at the same spinal level.

Present illness 2

- the color of the urine was fresh-red, no blood clot 、cloudy contain were noted.
- She denied urinary frequency, urgency, dysuria,colic pain, burning sensation during micturation.
- no obvious relation between the hematuria and MC was noted.

Present illness 3

* she went to 馬偕醫院 for help at first. IVP was performed and showed left ureteral partial obstruction and hydronephrosis.

Present illness 4

* the patient went to Dr’江漢聲 OPD for help 2 days later on 2002/05/09. The sonography revealed left hydronephrosis and abdominal CT showed an ovoid mass lesion occupied left renal sinus.

* under the impression of left renal tumor, she was admitted to our ward for further management.

Past history

* DM: denied
* Hypertension: denied
* Heart disease: denied
* Asthma: denied
* TB: denied
* HBsAg: denied

Personal history

- drinking: denied
- smoking: denied
- drug allergy: denied
- food allergy: denied

family history

- Not contributory
- Denied urinary systemic disease history

Physical examination

- Conjunctiva : pale
- No other positive finding

Lab data

- WBC: 3.32 (4.8-10.8)
- RBC: 3.48 (4.2-6.1)
- HGB: 6.8 (12-18)
- HCT: 24.1 (37-52)
- MCV: 69.3 (80-99)
- MCH: 19.6 (27-31)
- BUN: 17 (7-18)
- Creatinine: 1.1 (0.5-1.3)

IVP 2002-03-21 馬偕醫院

1. left ureteral partial obstruction and hydronephrosis
2. Suspect a intra-calyceal mass

RP 2002-05-14

1. RP showed irregular filling defect.
2. The calyceal system was obstructed and couldn’t showed the imaging.

CT-1(pre-contrast) 2002-05-15

1. An ovoid mass lesion occupied left renal sinus
2. High density on the pre-contrast scan (hematoma)

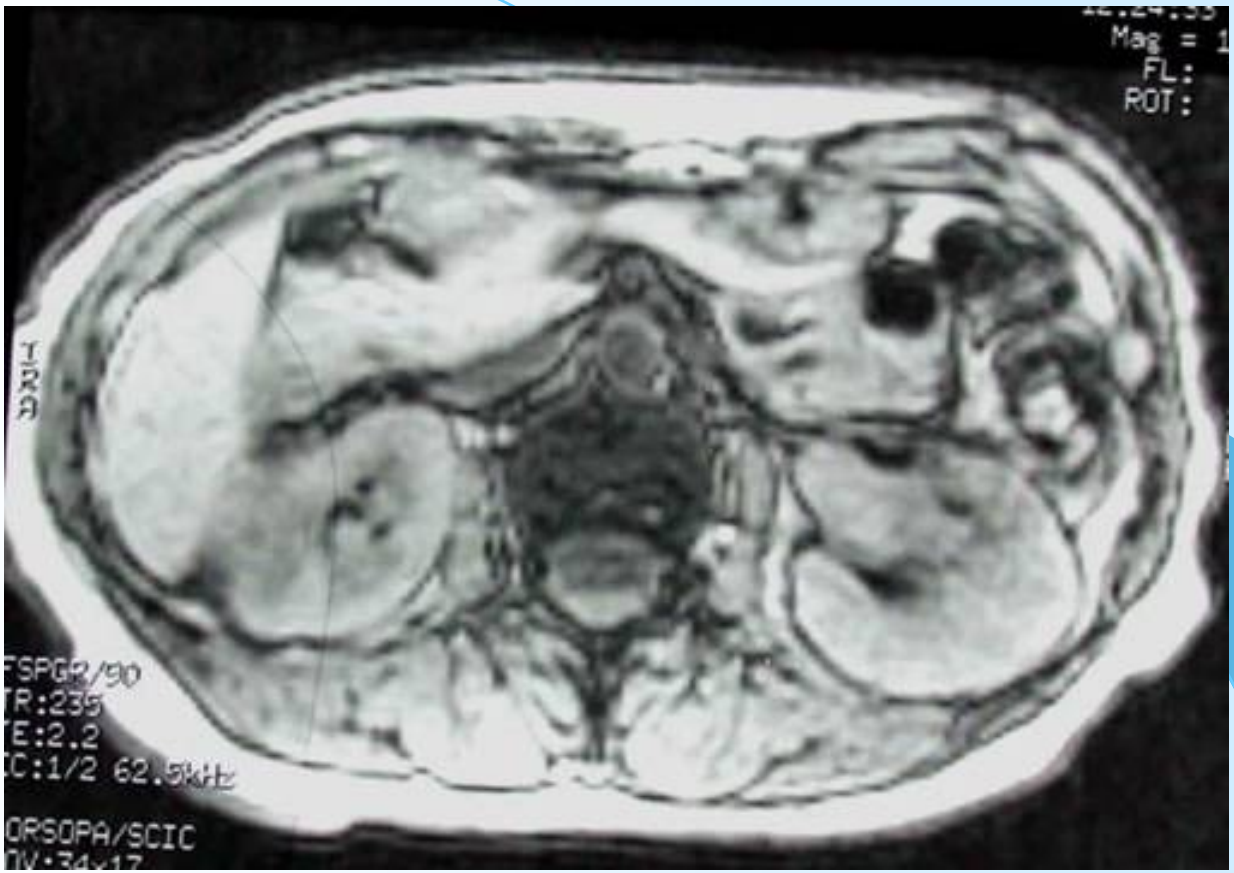
CT-2+c (arterial phase) 2002-05-15

Minimal enhancement on the post-contrast scan

CT-3+c (venous phase) 2002-05-15

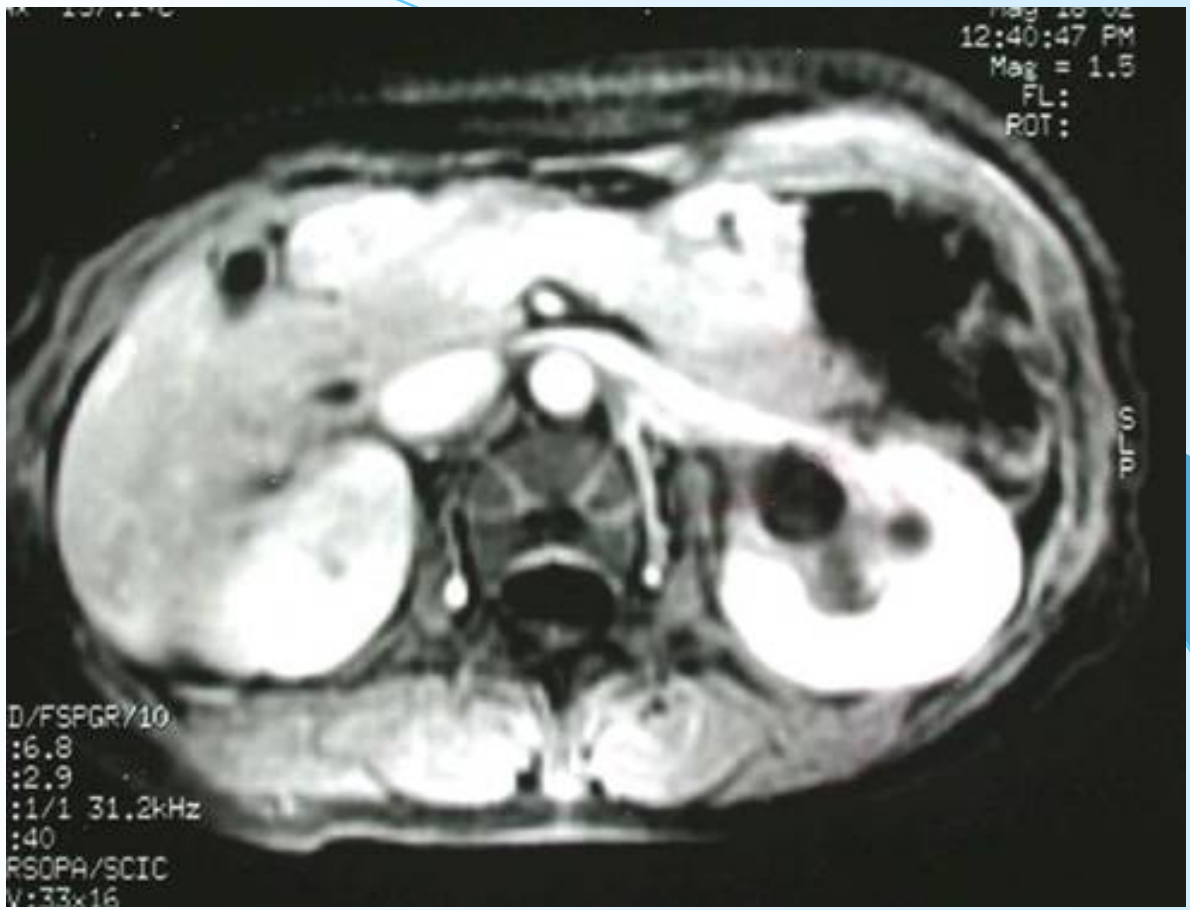
1. An intra-calyceal mass with no enhancement
2. Tumor hemorrhage (hematoma)

MRI-2 (T1WI) 2002-05-18



1. The mass show iso-signal to the renal parenchyma
2. No obvious fat signal

MRI-1 (T1WI + C) 2002-05-18



The intra-calyceal mass showed low-signal after I.V. the contrast.

MRI-3 (T2WI) 2002-05-18

1. Hemosiderin deposition (old hematoma)
2. The tumor mass located between 2 calyces showed low signal

Angio-1 (arterial phase) 2002-06-07

1. homogeneous opacification of the renal cortex
2. no definite notching、protrusion or filling defects
3. Sparse vessels and fine tumor vessels.

Angio-2 (venous phase) 2002-06-07

1. No definite tumor stains within the left renal parenchyma
2. No “spoke wheel” pattern , no aneurysms noted.

IVP 2002-06-13

1. faint nephrogram of left kidney at 10 and 30 min radiographs
2. the left renal calyces and left ureter are not visualized

Characteristics of the imagings

- an lobulated mass (1.2×3.0cm) originate from the lateral aspect of Lt middle and lower renal pelvis with tumor hemorrhage.
- no internal fat .
- no or minimal enhancement on post-contrast scan and no definite tumor stain.
- hypovascular mass lesion
- intraluminal filling defects and obliterated calyceal system.

Differential diagosis

* angiomyolipoma
* oncocytoma
* renal abscess
* RCC
* SCC
* TCC

Angiomyolipoma

- 80% in adult (usually women), aged 30~50
- 20% in patient with tuberous sclerosis
- Intern Fat, even small amount, diagnostic with CT
- Neovascularity with aneurysms on arteriography
- Unlikely to bleed if < 4cm

Oncocytoma

- Solid exophytic renal mass
- Homogenous enhancement with CT
- Pseudocapsule
- Central scar typical
- Spoke wheel arteriographic pattern

Renal abecess

- Clinical evidence of infection
- Thick wall rim enhancement on CT
- Neovascularity in wall on arteriogram
- Gas

Renal cell carcinoma

- RCC originated from renal tubule epithelium and usually develops in the cortex of the kidney.
- Exophytic, soft tissue renal mass
- lacks internal fat
- indistinct mass-kidney interface and frequently calcification
- hypervascular mass lesion and enhances with intravascular contrast media

Squamous cell carcinoma

- Originated from the renal collecting system. (10%)
- Ill-defined, soft tissue mass centered within the renal sinus, sometimes infiltrate the parenchyma and are uaually indistinguishable with TCC.
- Very aggressive, fast-growing tumor
- > 50% SCC patients have a coxistent renal calculus.

Transitional cell carcinoma - 1

- Age : 50~60
- Clinical symptoms:
  painless gross hematuria, flank pain or soreness
- Originated from the renal collecting system (90%)
- IVP、RP finding:
  1. intraluminal filling defects attributed to tumor or blood
  2. amputated or obliterated calyces or blood clot result in hydronephrosis

Transitional cell carcinoma - 2

- Angiography:
  arterial phase– sparse vessels, fine tumor vessels
  venous phase—faint tumor stains
- CT:
  1. soft tissue mass (30~50 HU)
  2. minimal enhancement on the post-contrast scan
  3. hypovascular mass lesion (different from RCC)

Operation 2002-07-08

- Pre-op diagnosis: left renal pelvis TCC
- Operation:
  1. left laparoscopic nephroureterectomy
  2. bladder cuff dissection
- Post-op diagnosis: left renal pelvis TCC