Admission

- 黃○○
- 51 y/o
- Female
- ER

- Chief complaint

  -Abdominal pain for 2-3 days

- Present illness

  -Chest pain with shortness of breath initially

  -progressive, diffuse abdominal pain for 3 days

  -anorexia

  -HBV carrier

- Personal history

  -HBV carrier without regular f/u

- Physical examination

  -Abdomen: diffusely distended, rebounding pain, muscle guarding, local heat

- Lab data
  1. CBC/DC

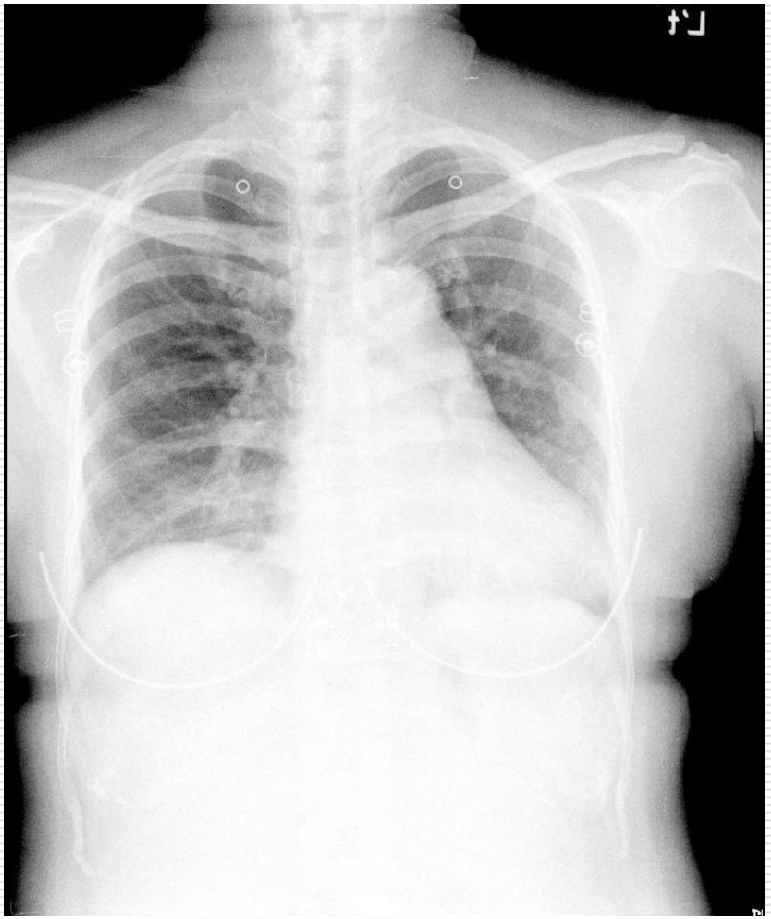
     WBC: 18.97, Neu: 81.8%, RBC: 3.70, Hb: 7.2, Hct: 23.8, MCV: 64.3, aPTT: 44.40
  2. ABG

     PH: 7.476, PCO2: 33.5
  3. SMA

     BUN/Cr: 20/1.4, GOT/GPT: 72/72, CRP: 33.20, Na/K: 132/2.8

- Images
  1. Chest x-ray
  2. KUB
  3. Abdominal CT

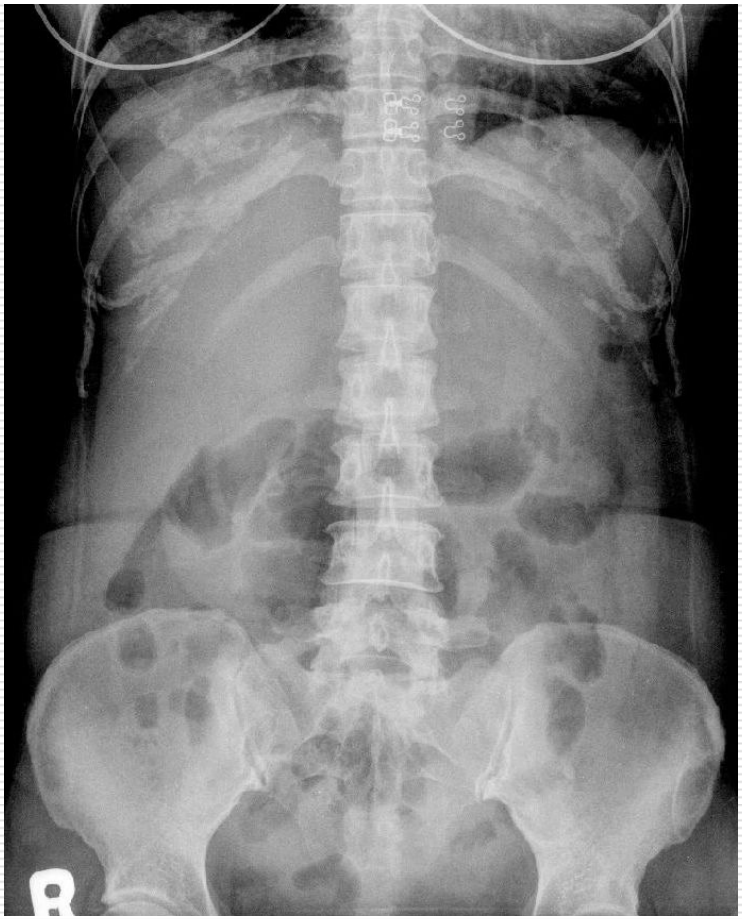
- Chest x-ray
  - -Enlarged cardiac silhouette and tortuous aorta
  - -Infiltration in bil. lower lung fields



- KUB

  -bowel gas accumulation

  -bilateral psoas outline invisible



- Abdominal CT (non-enhanced)

  -enlarged left lobe

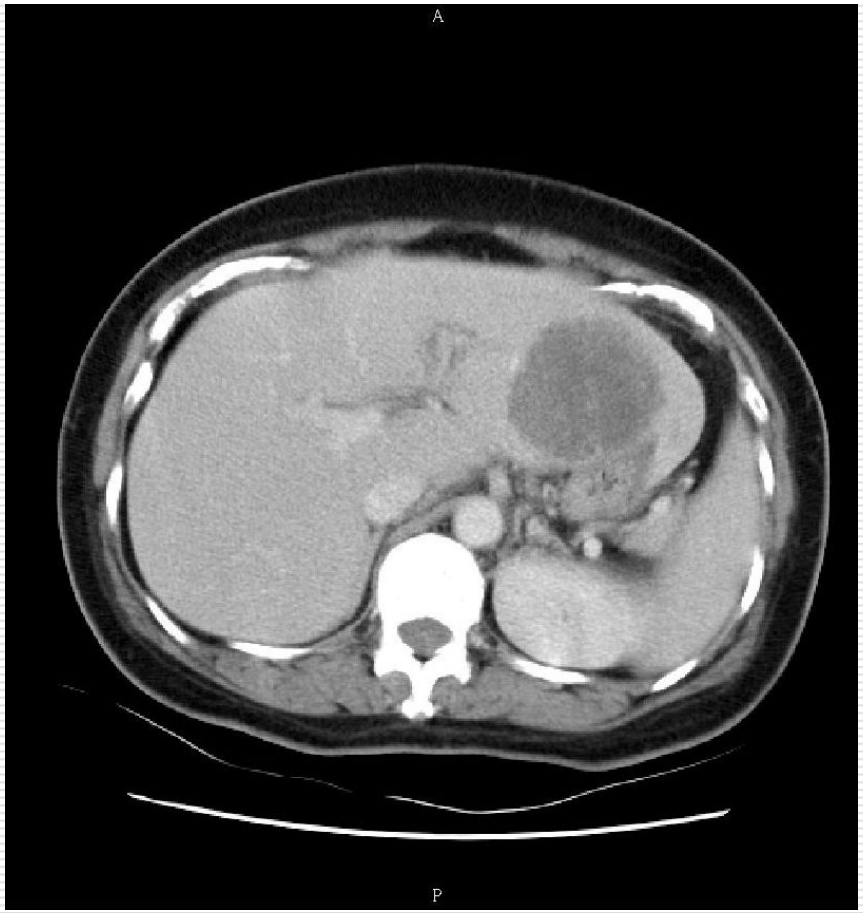
  -hypodense lesion of left lobe?

- Abdominal CT (contrast-enhanced)

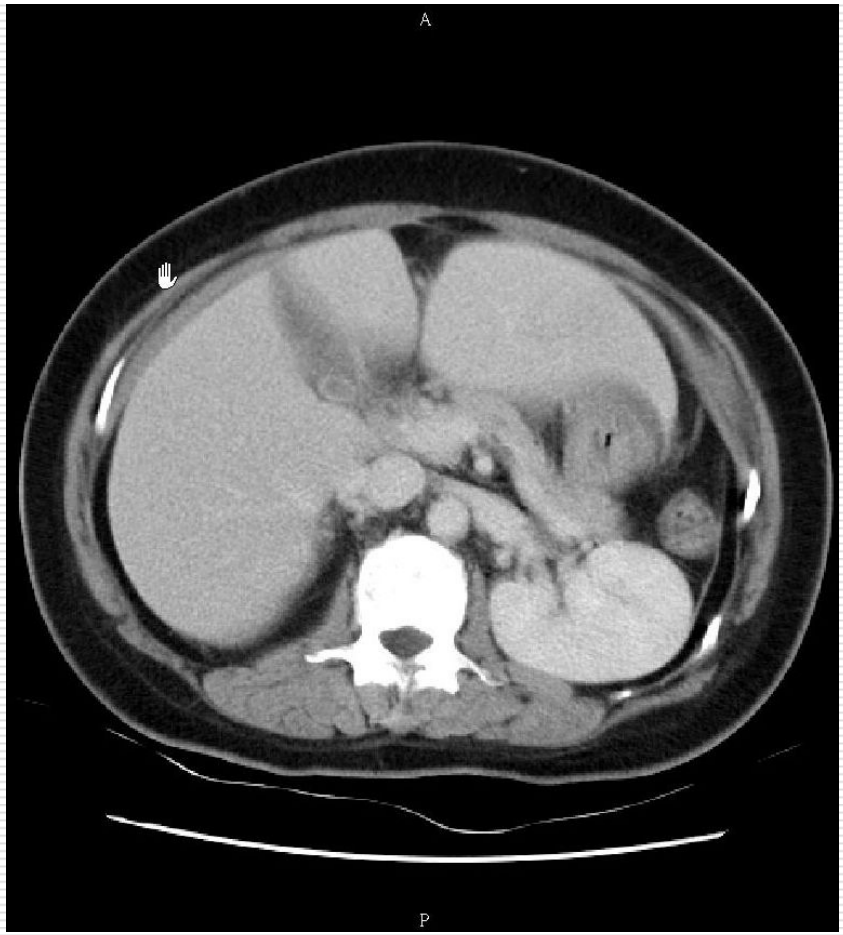
  -heterogenous hypodense lesion of left lobe(5.5cm) occupies segment II and III

  -HU: 34

  -lesion: well demarcated, round



- Abdominal CT
  -Gall bladder stone



- Pelvic

  -fluid accumulation in cul de sac and uterovesical pouch

Differential diagnosis

- Liver abscess
- Hepatocellular carcinoma
- Metastatic liver tumor
- Cavernous hemangioma

Liver abscess

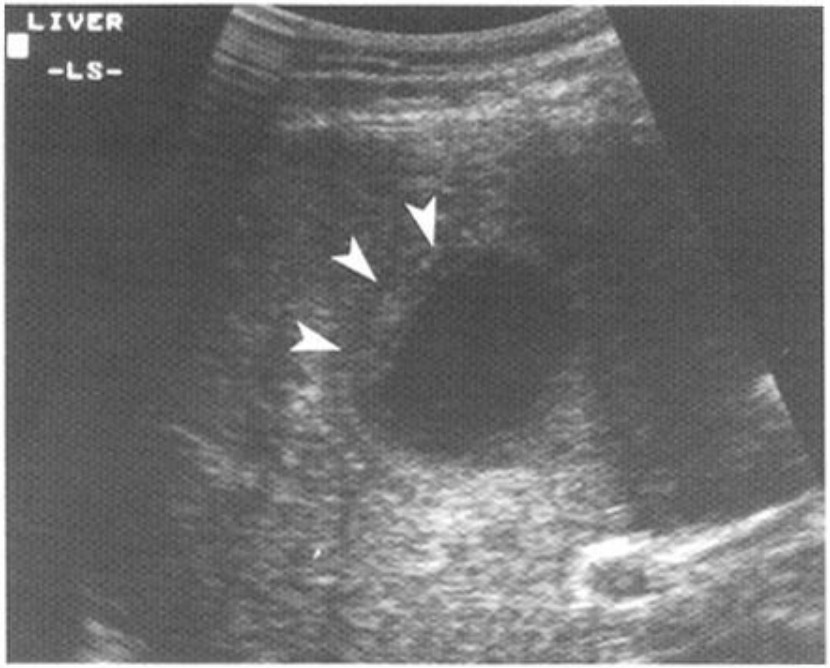
- US:

  -sharp margin,

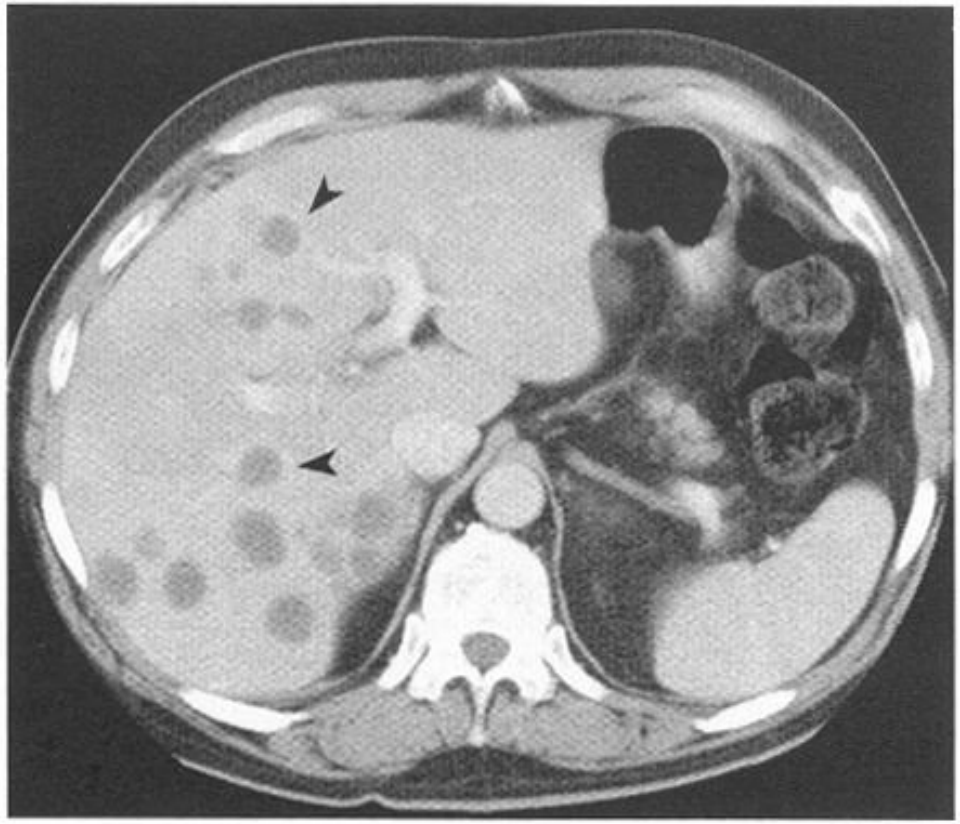
  -hypoechogenicity in the lesion

  -posterior acoustic enhancement

  -thickened irregular wall

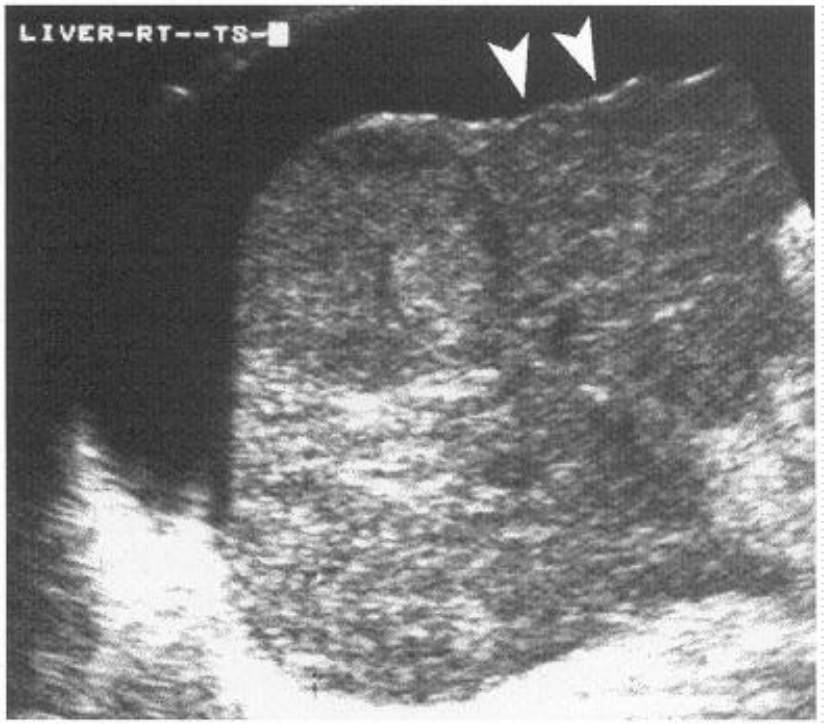


- CT:
  - -sharp margin, round, low attenuation,
  - -ring enhancement

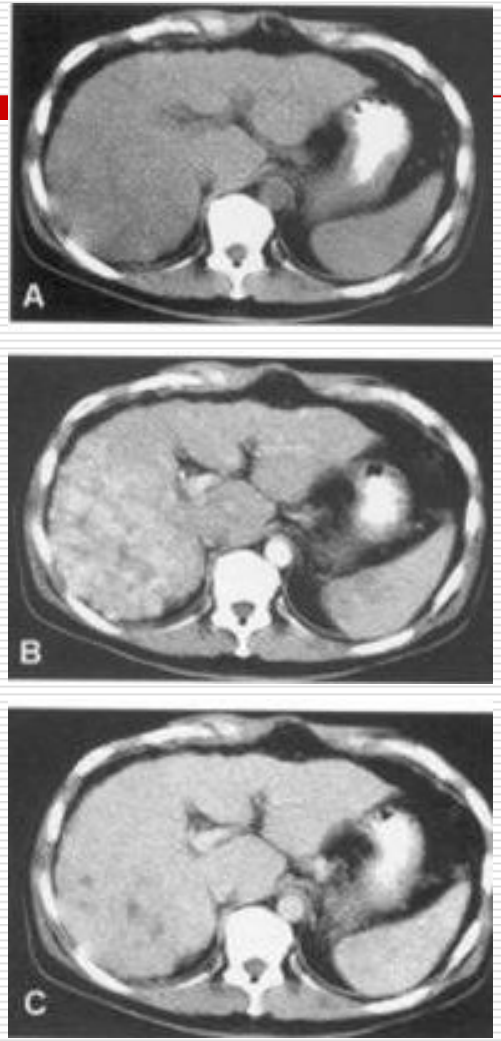


Hepatocellular carcinoma

- Nodular, massive, infiltrative type HCC
- US: hypoechoic lesion, rough liver surface, shrinked liver, capsulated nodule, ascites accumulation

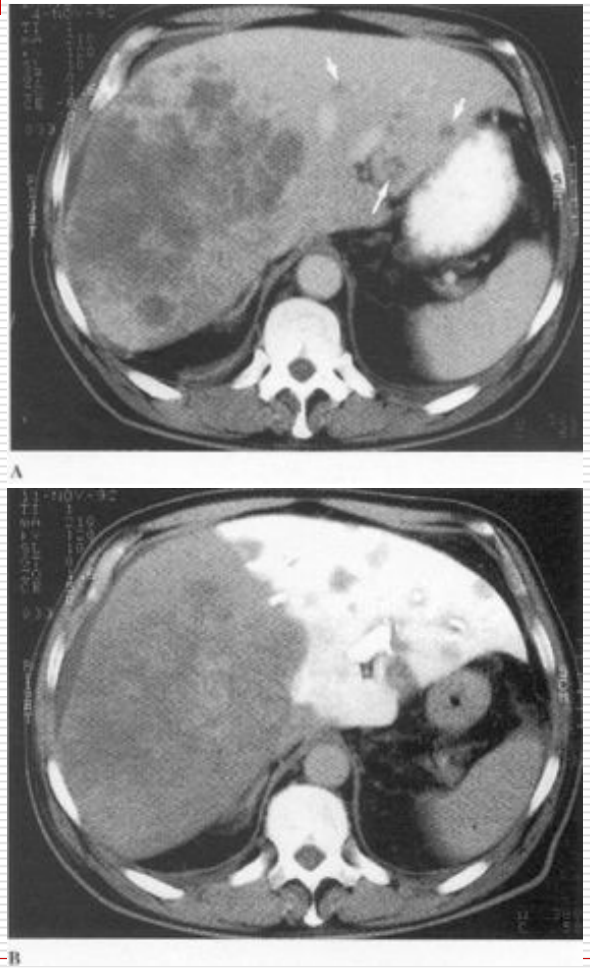


- CT: capsulized, hypervascularity(arterial phase)
  - a. non enhanced
  - b. arterial phase
  - c. portal/venous phase
- Angiogram: AP shunting, hypervascularity



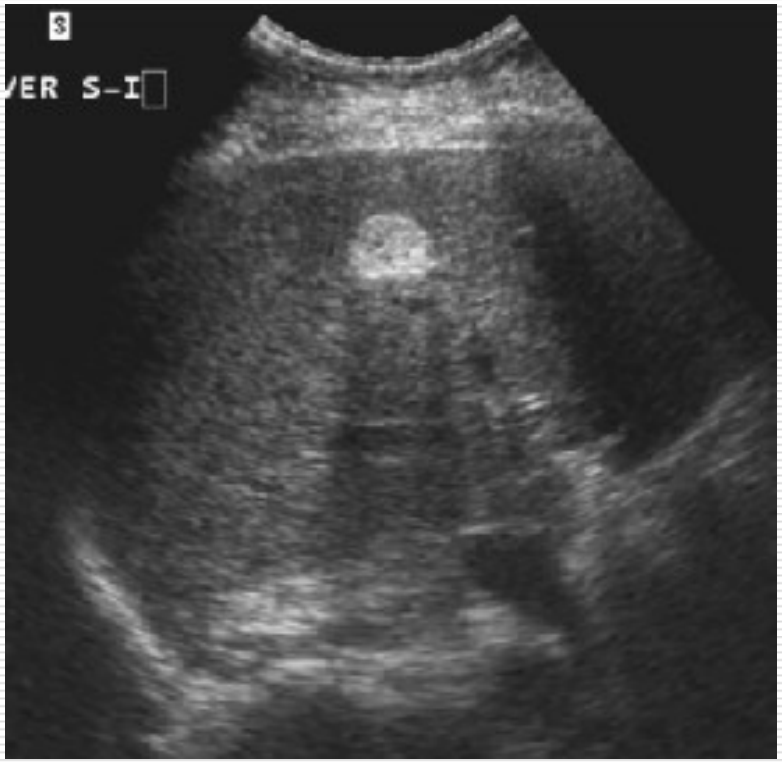
Metastatic liver tumor

- Usually multiple
- Calcification
- CT: hypovascularity, poor enhanced
- US: hypoechoic lesion

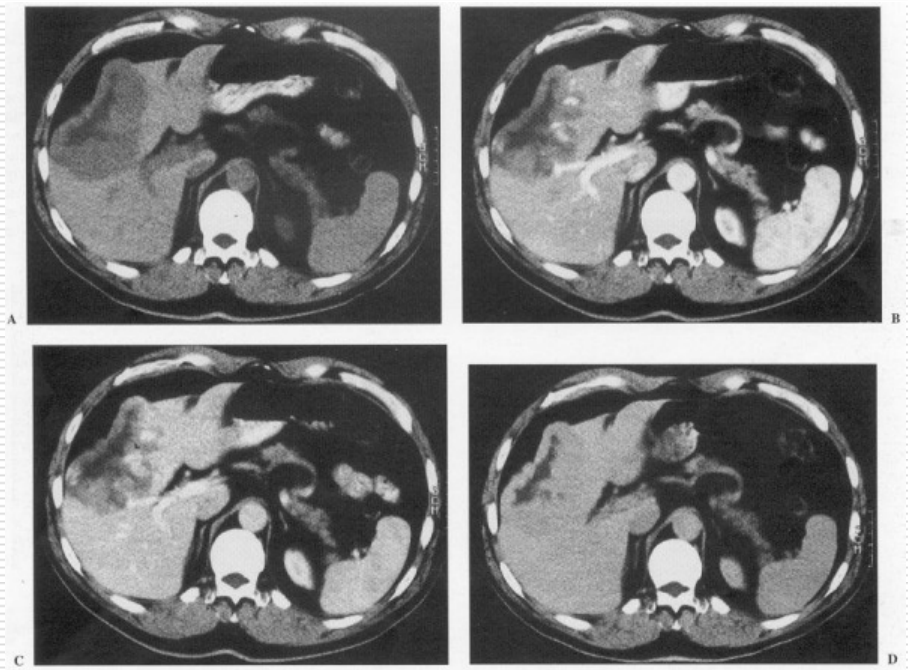


Cavernous hemangioma

- US: hyperechoic lesion, well defined



- CT: contrast enhacement: peripheral→central
- Angiography: peripheral pooling



Impression

- Patient's lesion: single, sharp margin, round, no contrast enhancement
- No contrast enhancement → cavernous hemangioma and HCC are excluded
- Single, big lesion → metastatic liver tumor is less likely
- r/o: liver abscess with rupture (fluid accumulation in cul de sac)

Treatment

- Surgery: left lobectomy + cholecystectomy
- Pathological report: chronic cholecystitis, liver abscess, fatty change of liver
- Blood culture: negative
- Pus culture: K. pneumoniae → cefametazole
- Final diagnosis: liver abscess with rupture

Discussion-liver abscess

- Introduction

  -Pyogenic(80%): E. coli, K.P

  Paracytic(10%): Entamaeba histolytica

  Others(10%): candida

  -Host immune: Kupffer cell

  -Age: 6th-7th decades

  -Sex: equal

- Clinial presentation

  -Symptoms: fever, chillness, malaise, RUQ pain, anorexia

  -PE: diminish BS at RLL, fever, tenderness of RUQ, jaundice(25%)

  -Pyogenic: subacutely presented, mild jaundice
  Amaebic: acutely presented, moderate jaundice

- Lab

  -CBC/DC: anemia, neutrophilia

  -Abnormal liver function

  -Blood/abscess culture

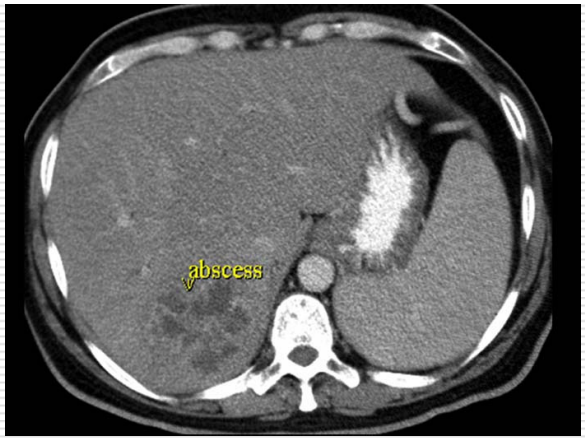
  -EIA

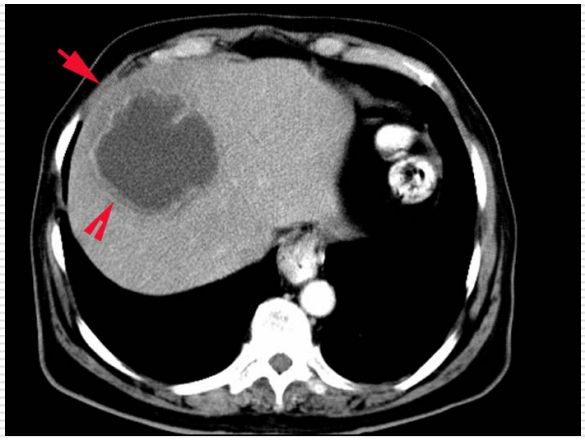
- Typical image

  1. CT(95-100%):
     hypodense, gas, septation

     a. pyogenic: more often multiple, confluent, less parenchymal edema

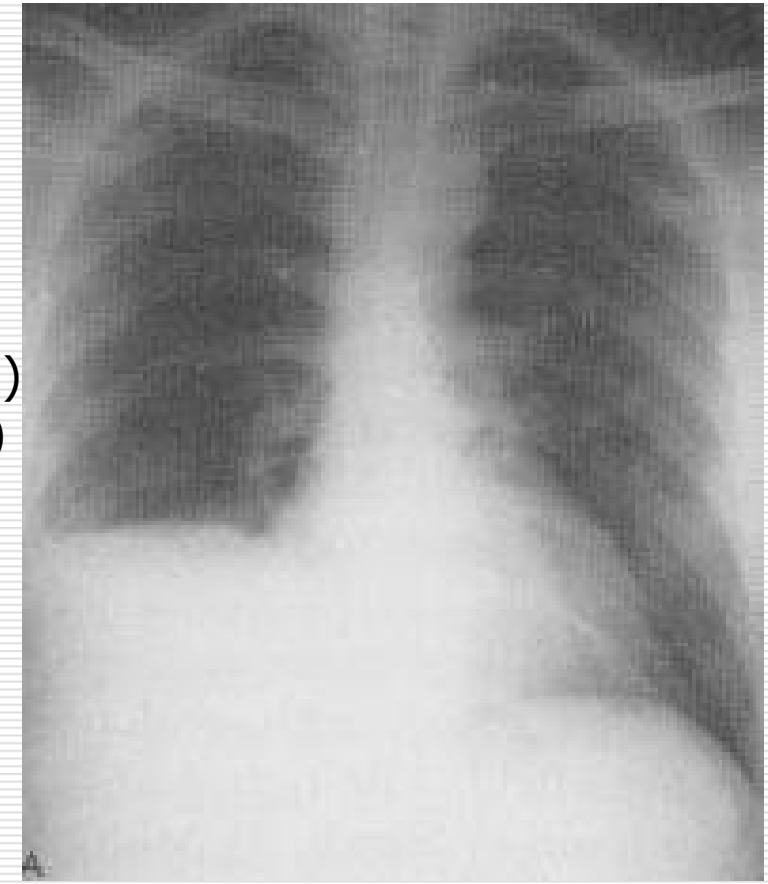
     b. amaebic: surrounding parenchymal edema





2. US(80-90%):
hypoechoic, septation

3. CXR: right diaphragm elevation, RLL atelectasis, pleural effusion in 50% cases
4. Radionucleotide scan
   - Technetium (sensitivity: 80%)
   - Gallium (sensitivity: 50-80%)
   - Indium (sensitivity: 90%)



- Treatment

  -Medical care

  pyogenic: antibiotics

  amaebic: metronidazole

  -Percutaneous needle aspiration

  -Percutaneous catheter drainage

  -Surgical care

- Prognosis

  -Mortality/morbidity: 5-30% death rate

  -If untreated → fatal

  -Poor prognosis: multiplicity of abscesses, underlying disease or malignancy, complications, delay diagnosis

Reference

- Grainger & Allison's Diagnostic Radiology : a textbook of medical imaging. 4th ed.
- eMedicine, liver abscess, 2006,8,2