Sex: male
Age: 60 y/o

Occupation: 郵局公務員

Chief Complaint:

General weakness and dyspnea on exertion for two days

Present Illness:

- This 60-year-old man is a well–being patient until 4 months ago. At a family party, he drank too much whisky without eating enough food. Since then, he started to suffer from LUQ and epigastric pain. Its character was dullness, no radiation, no relieving with meals or changing position, and sometimes painful in the mid-night. Besides, post-prandial abdominal fullness, poor appetite, fatigue, and weakness was complained too. On 2002.10.10, he went to聯合醫事檢驗所to receive blood test, and it showed hyperglycemia, elevated r-GT, and elevated direct bilirubin. About 3 months ago, icteric sclera, general yellowish skin color, and tea-colored urine were noted.
- On 2002.10.29, he went to see Dr. Liu (劉正典)'s LMD, and was admitted under the impression of jaundice R/O acute hepatitis, R/O obstructive jaundice. Since he was admitted, he was found to have DM. Abdominal sonography(91.10.30) revealed CBD, IHD, MPD dilatation.

Present Illness:

- Elevated CEA (5.75) and CA199 (1387) were noted. ERCP(2002.11.1) revealed pancreatic duct dilation and non-visualization of common bile duct. On 2002.11.19, exploratory laparotomy was done. However frozen biopsy revealed chronic pancreatitis with fibrosis only. Thus, cholecystectomy, choledocho-jejunostomy, and gastro-jejunostomy were done. On 2002.12.10, he was discharged.
- Abdominal sono(2003.1.2) showed a liver tumor(46x42mm, at S4) and a liver tumor(52 x 47 mm, at S7). 2 days ago, he began to feel general weakness, chillness, mild dizziness, dyspnea on exertion. Body weight loss about 14Kg was also noted. Thus, he came to our ER for help. The vital sign in ER was: T/P/R: 37.2/105/20, BP: 76/60 mmHg. Under the impression of 1.shock R/O septic shock 2.chronic pancreatitis s/p bypass surgery 3.hepatic tumor, he was admitted for further evaluate and management.

Family History:

Elder brother: pancreatic cancer

Elder sister: NBNC hepatitis

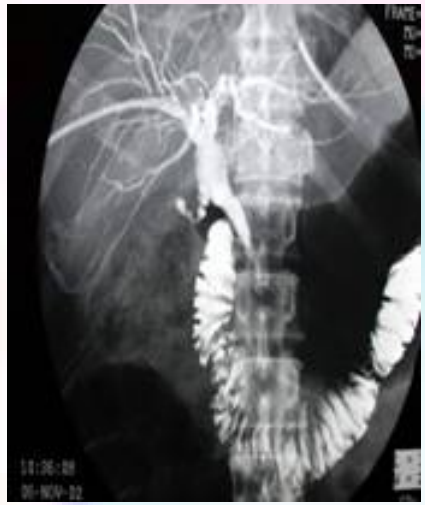
Personal history:

Drinking(+)：300ml whisky per week for 30 years

Physical Examination:

BP:92/56 mmHg

A large scar about 30cm on upper abdomen



Lab

- 2002.1.11:

  WBC: 23190

  Neutrophil: 91.5%

- 2002.1.13:

  Sugar AC: 220

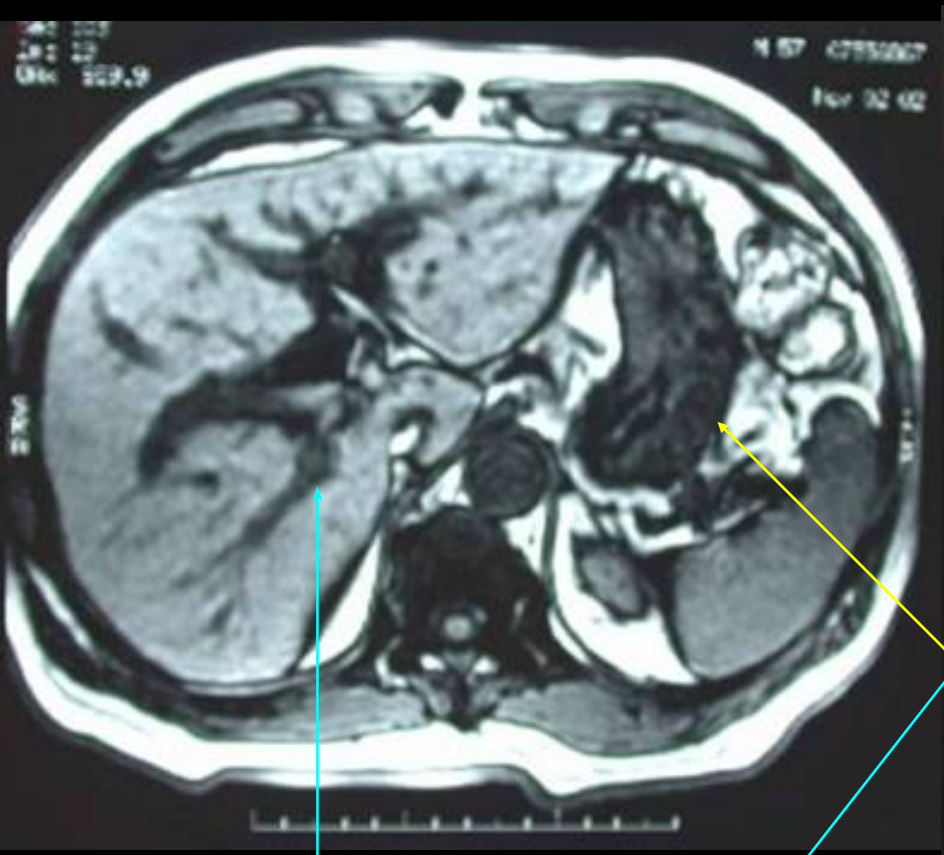
  Alk-P: 638

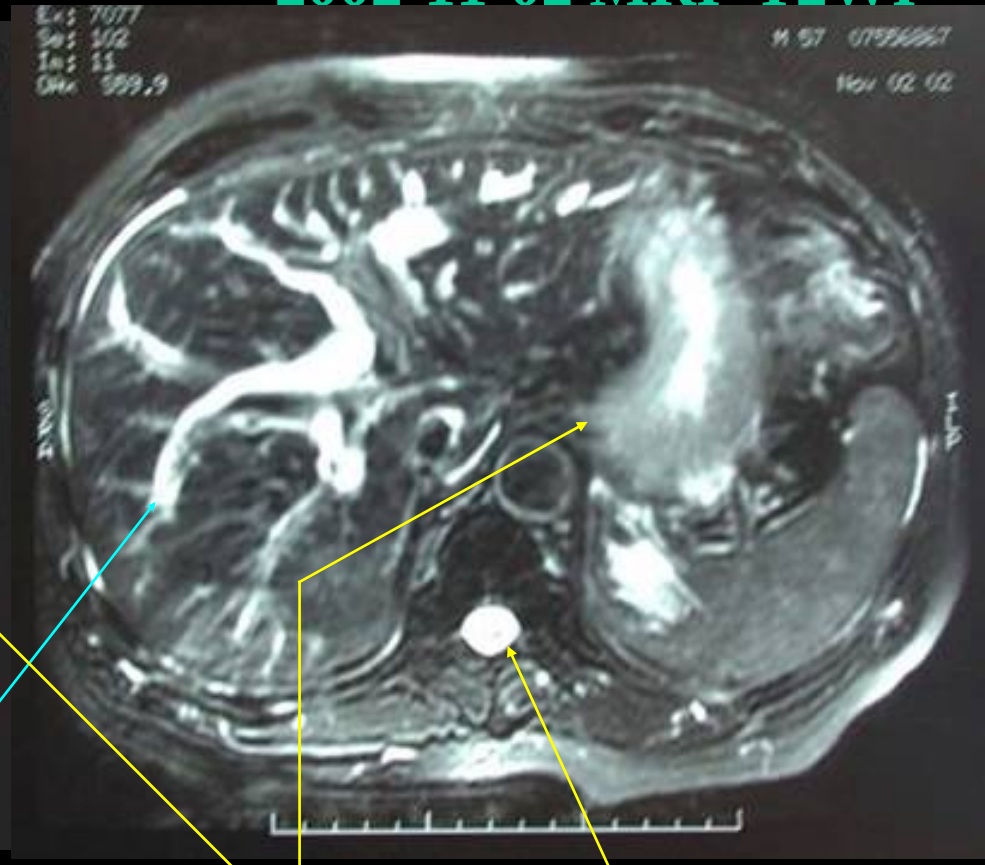
  CEA: 3.62

  CA199: 1162

2002-11-02 MRI T1WI

2002-11-02 MRI T2WI



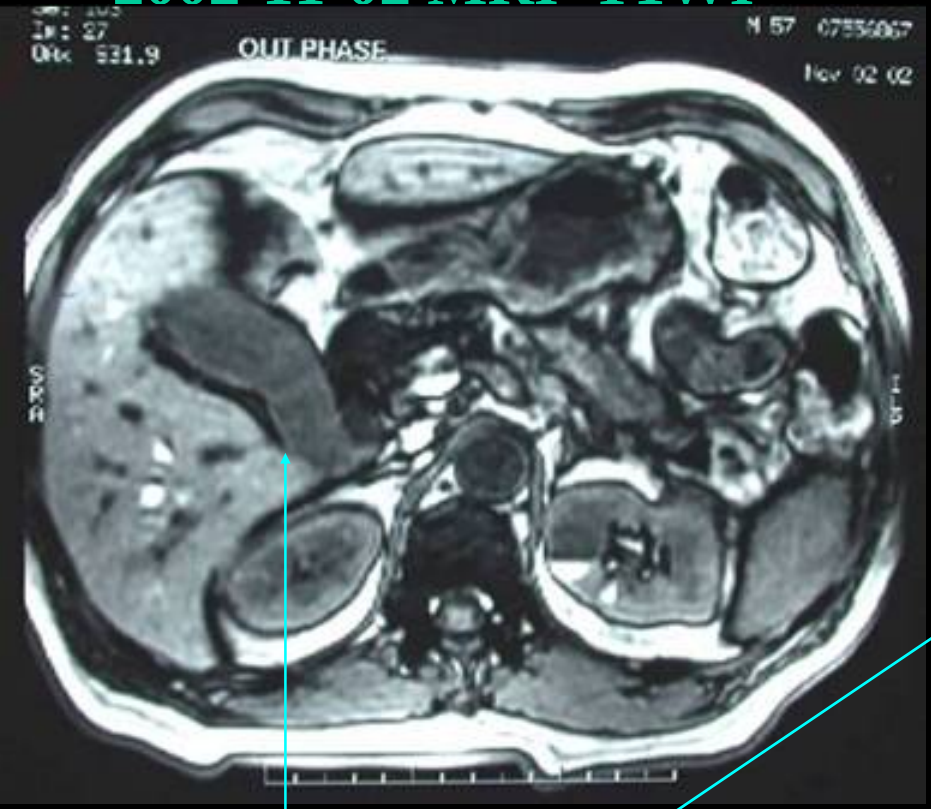


dilatation of bil. intra-hepatic biliary trees

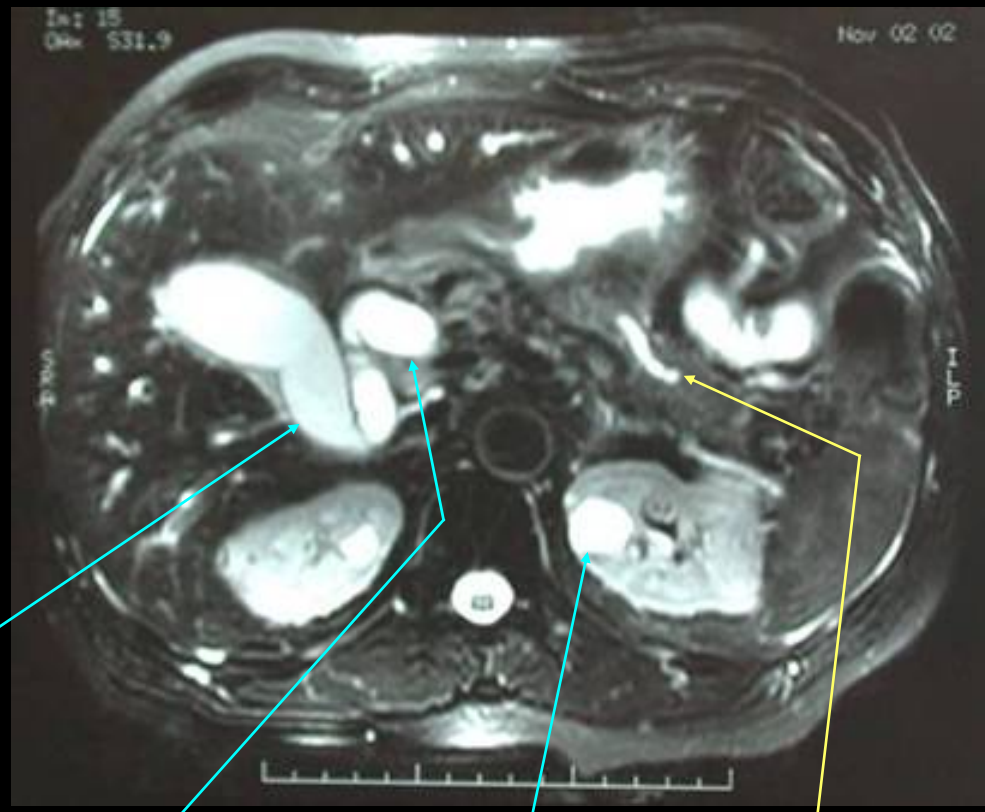
stomach

CSF in spinal cord

2002-11-02 MRI T1WI



2002-11-02 MRI T2WI



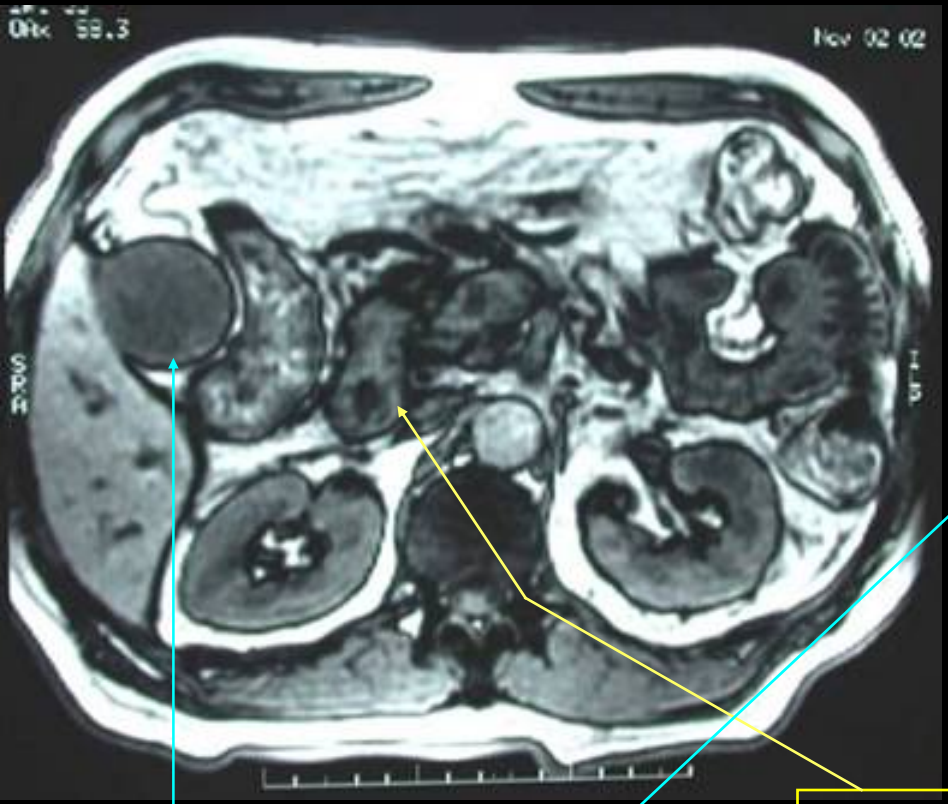
dilatation of GB

Tortous and dilated cystic duct

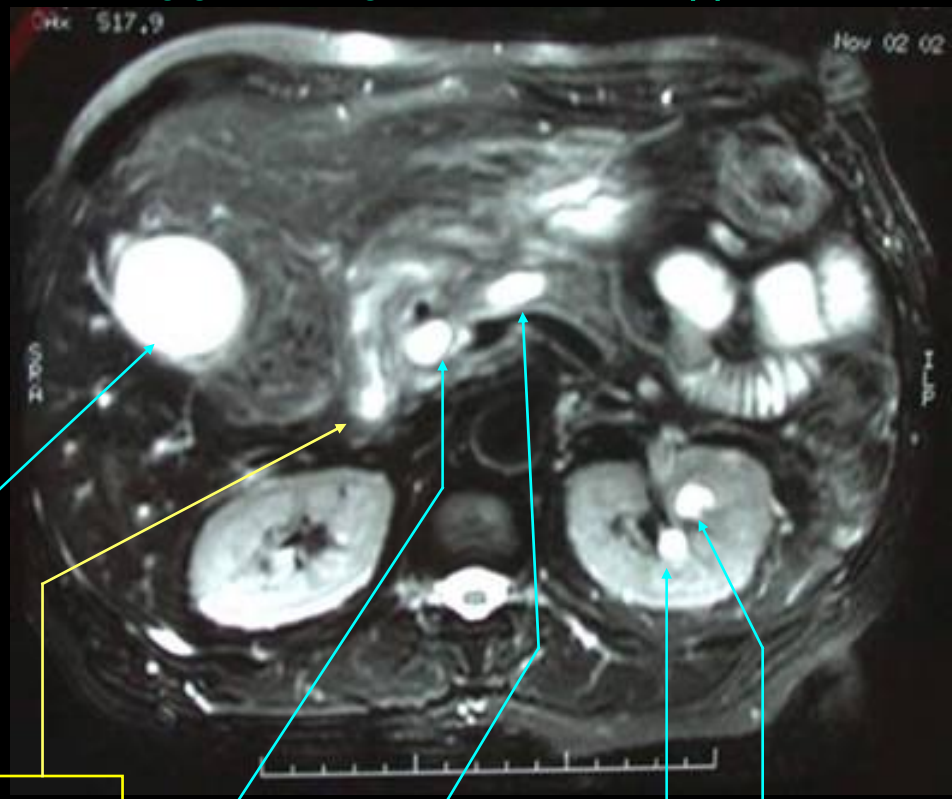
L't renal cyst

pancreatic duct

2002-11-02 MRI T1WI



2002-11-02 MRI T2WI



dilatation of gall-bladder

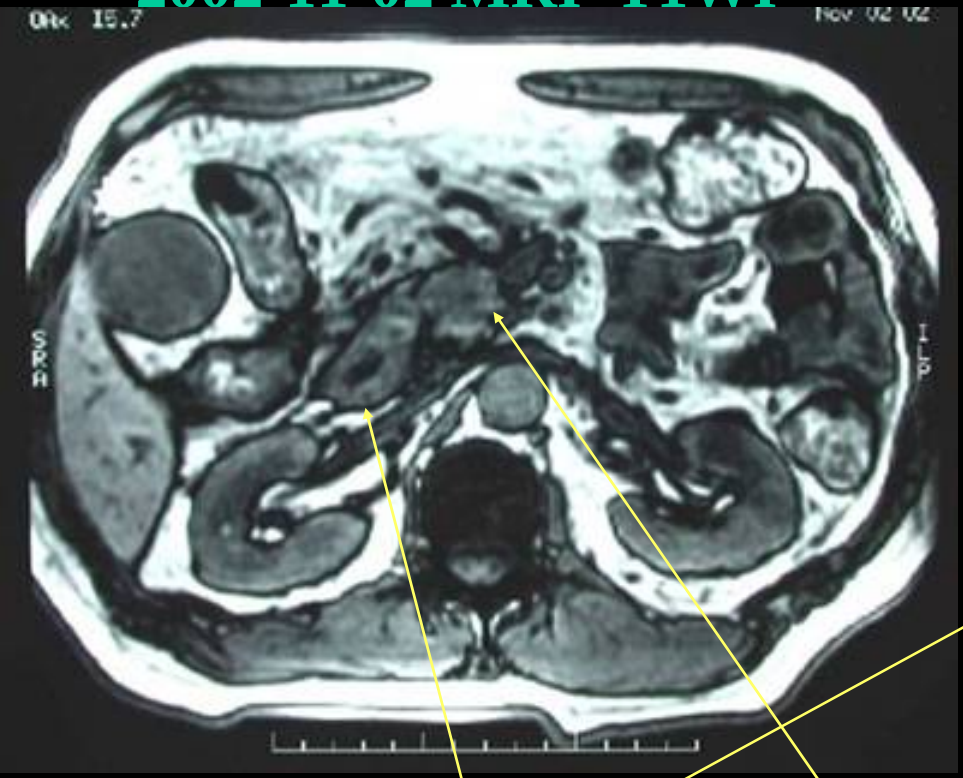
duodenum

dilatation of CBD

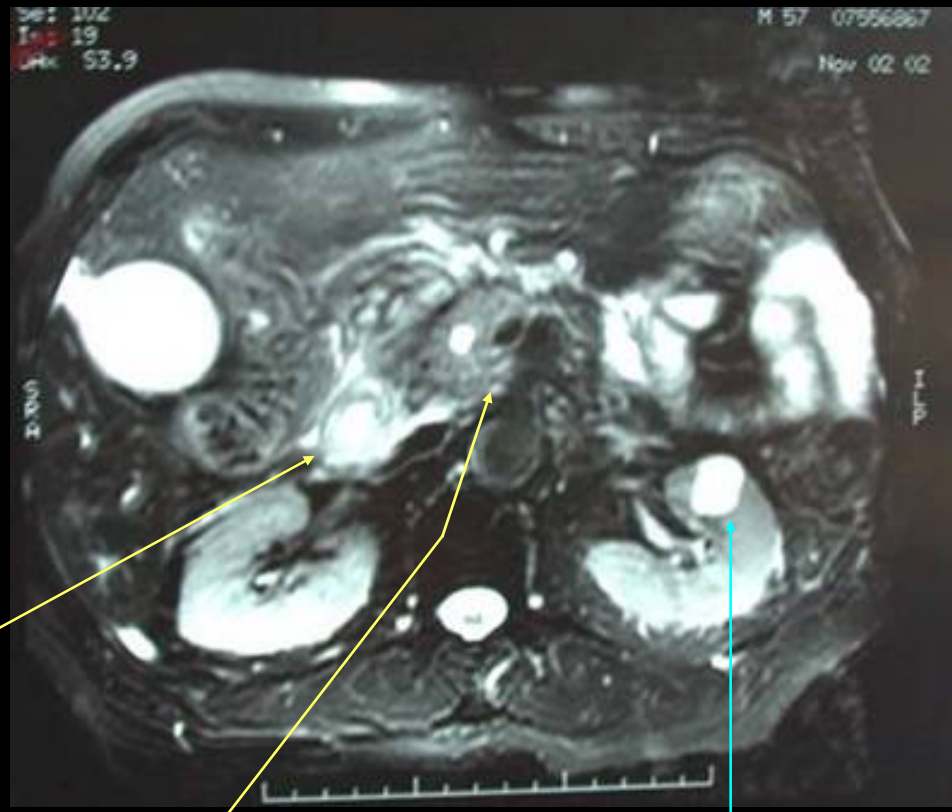
L’t renal cysts

dilatation of pancreatic duct

2002-11-02 MRI T1WI



2002-11-02 MRI T2WI



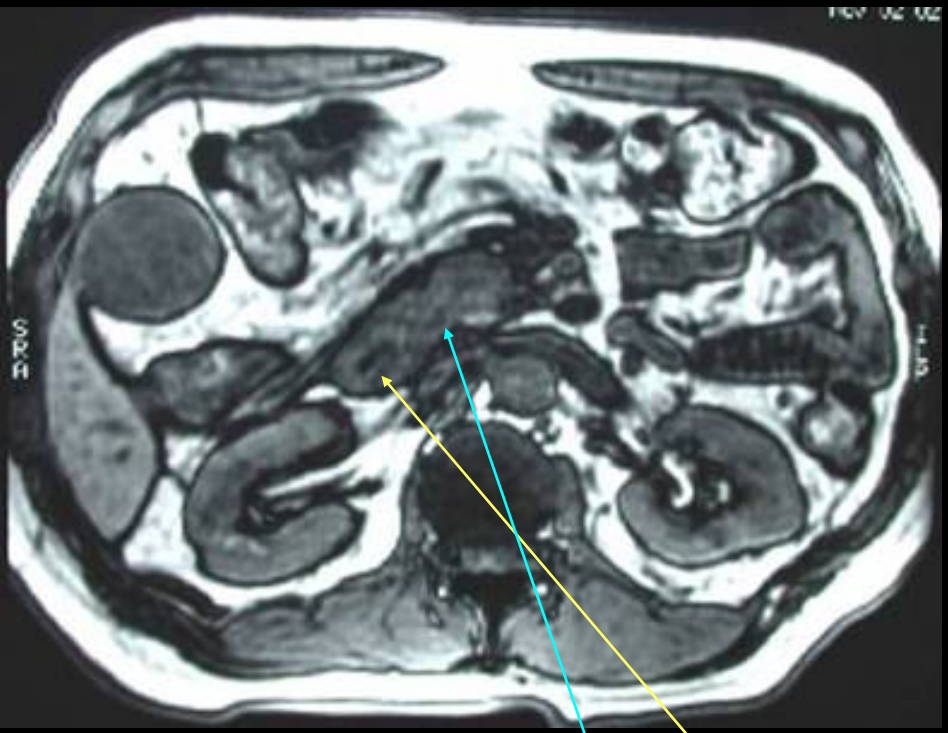
duodenum

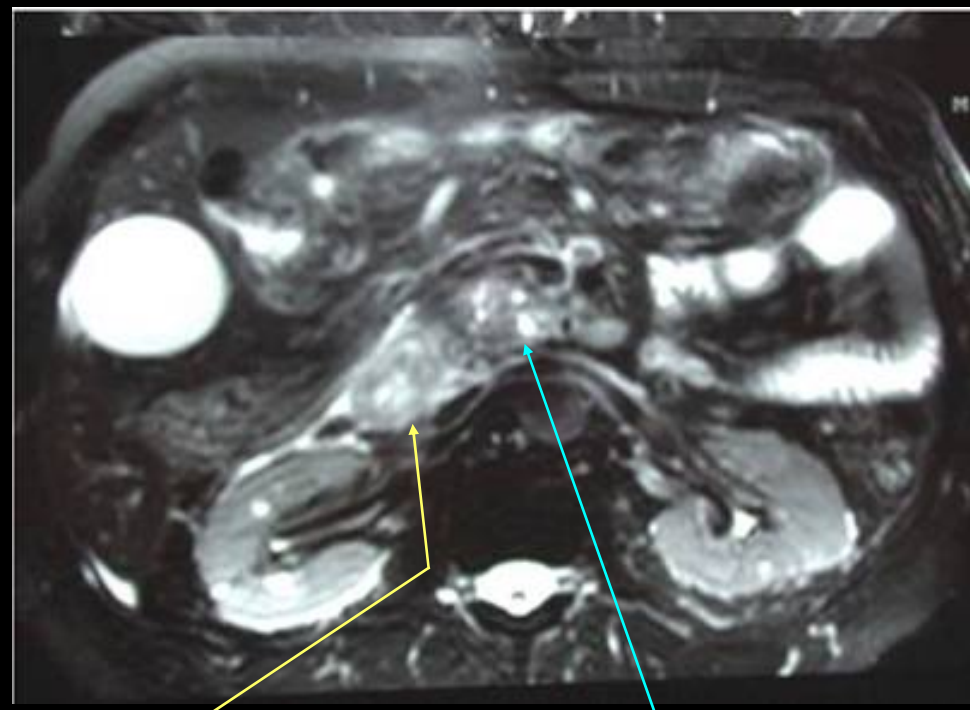
Pancreatic head

L’t renal cyst

2002-11-02 MRI T1WI

2002-11-02 MRI T2WI

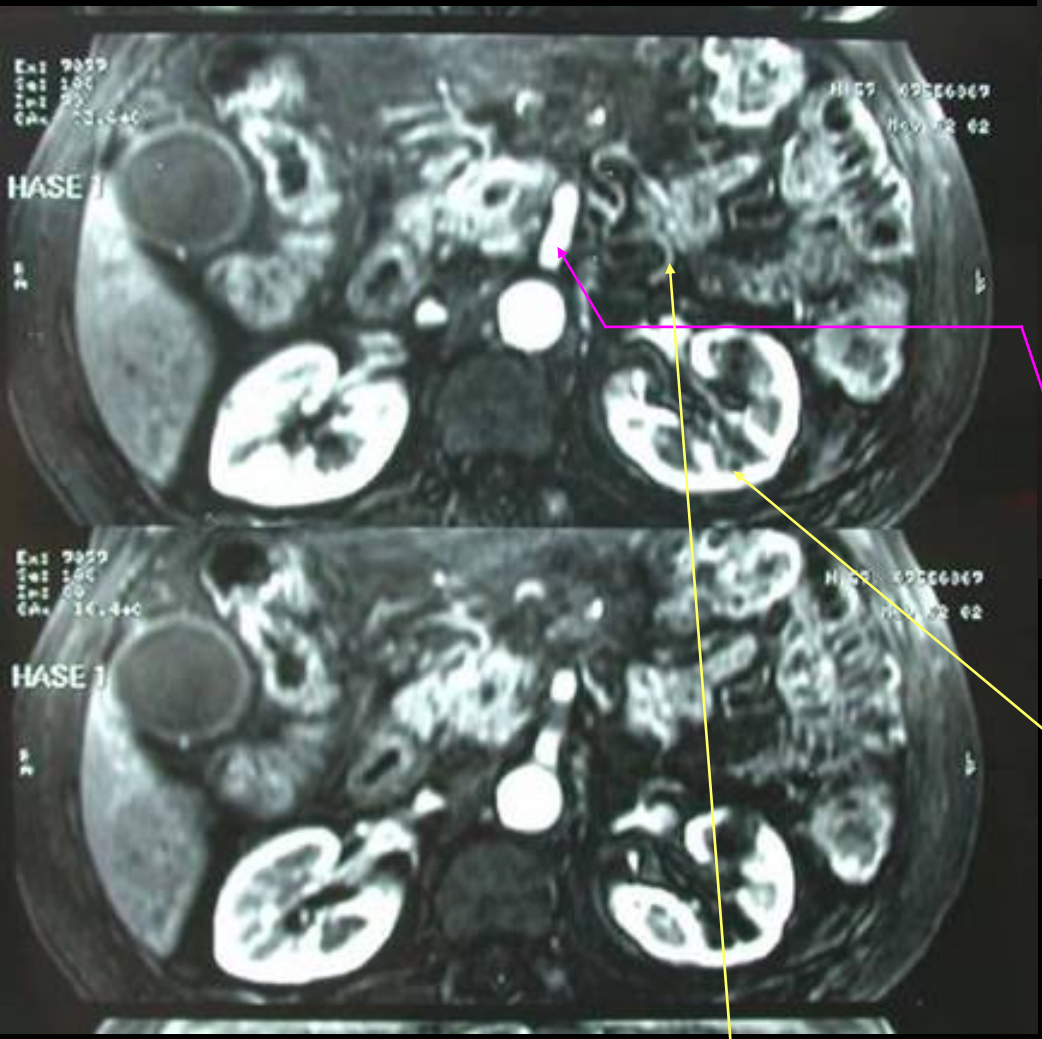




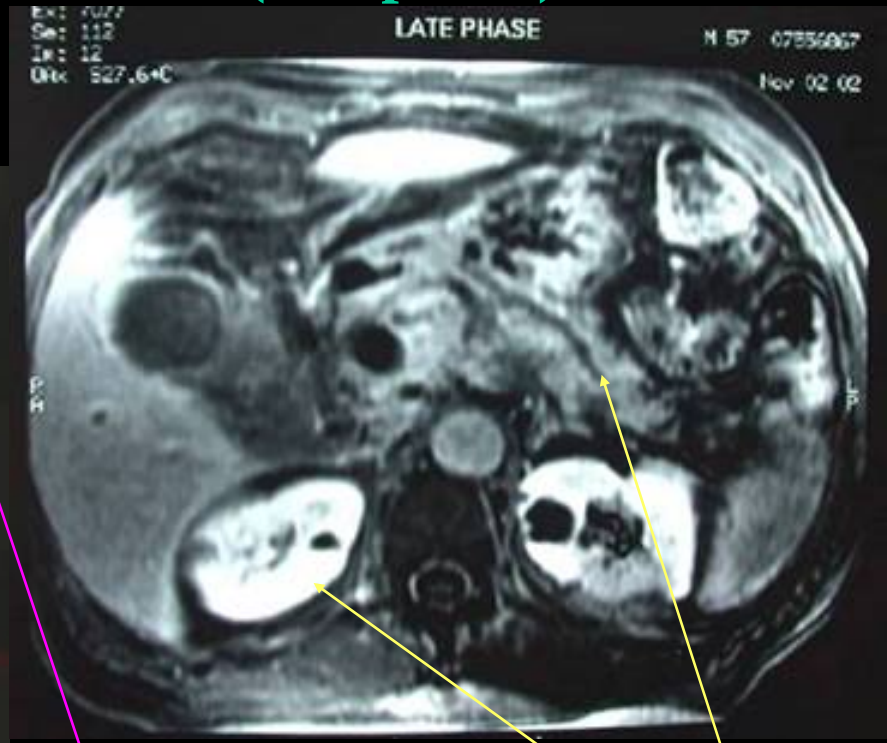
duodenum

pancreatic head mass exhibits iso-signal intensity on T1WI and T2WI

2002-11-02 MRI T1WI+C (early phase)



(late phase)



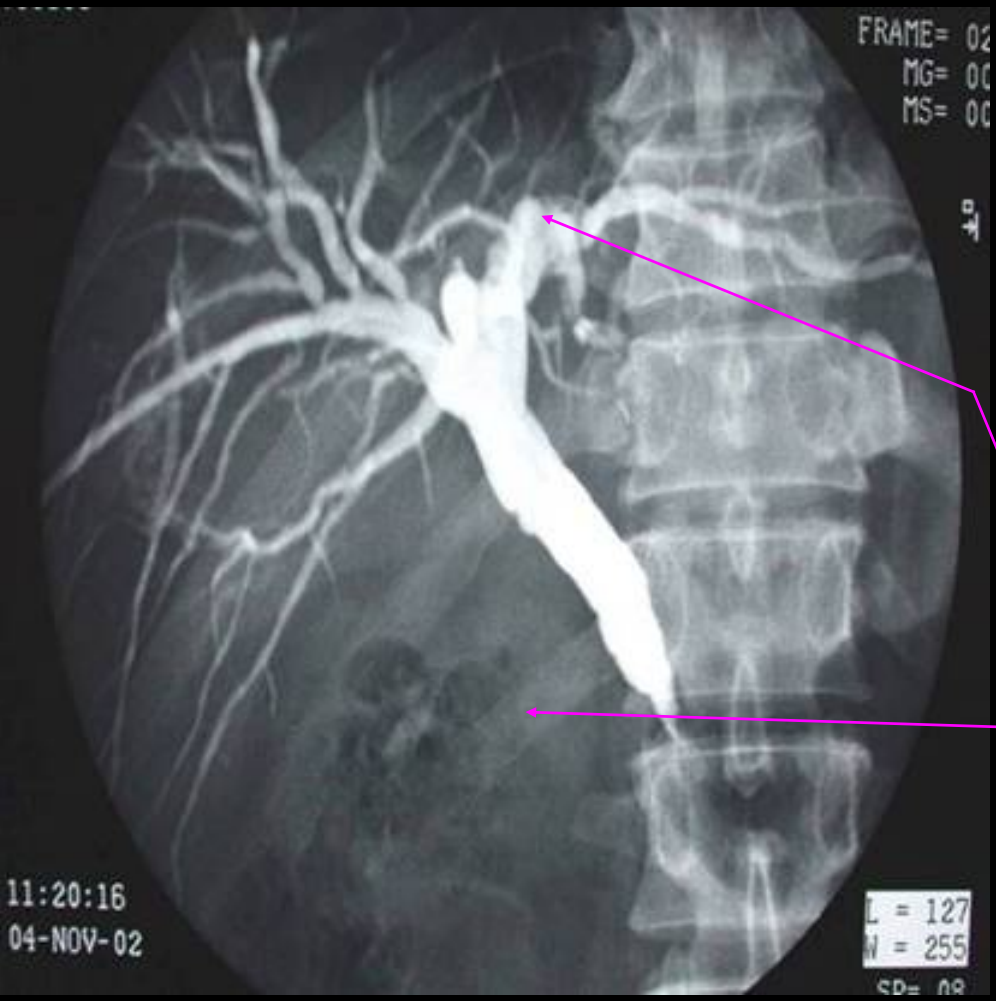
intact celiac artery

Show arterial phase

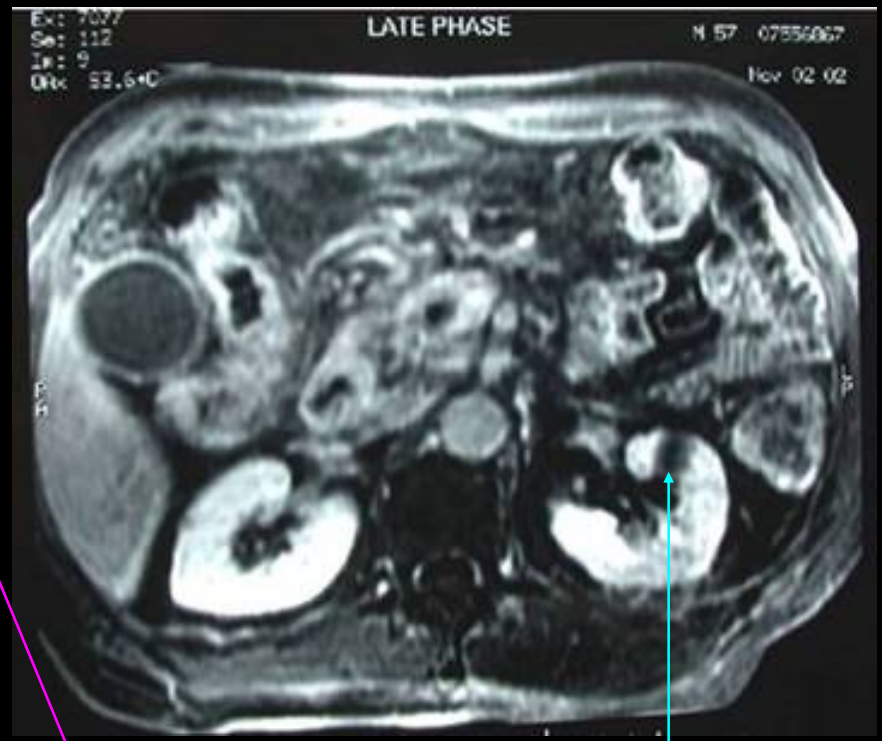
Show venous phase

Pancreatic duct

2002-11-02 MRI T1WI+C (early phase)



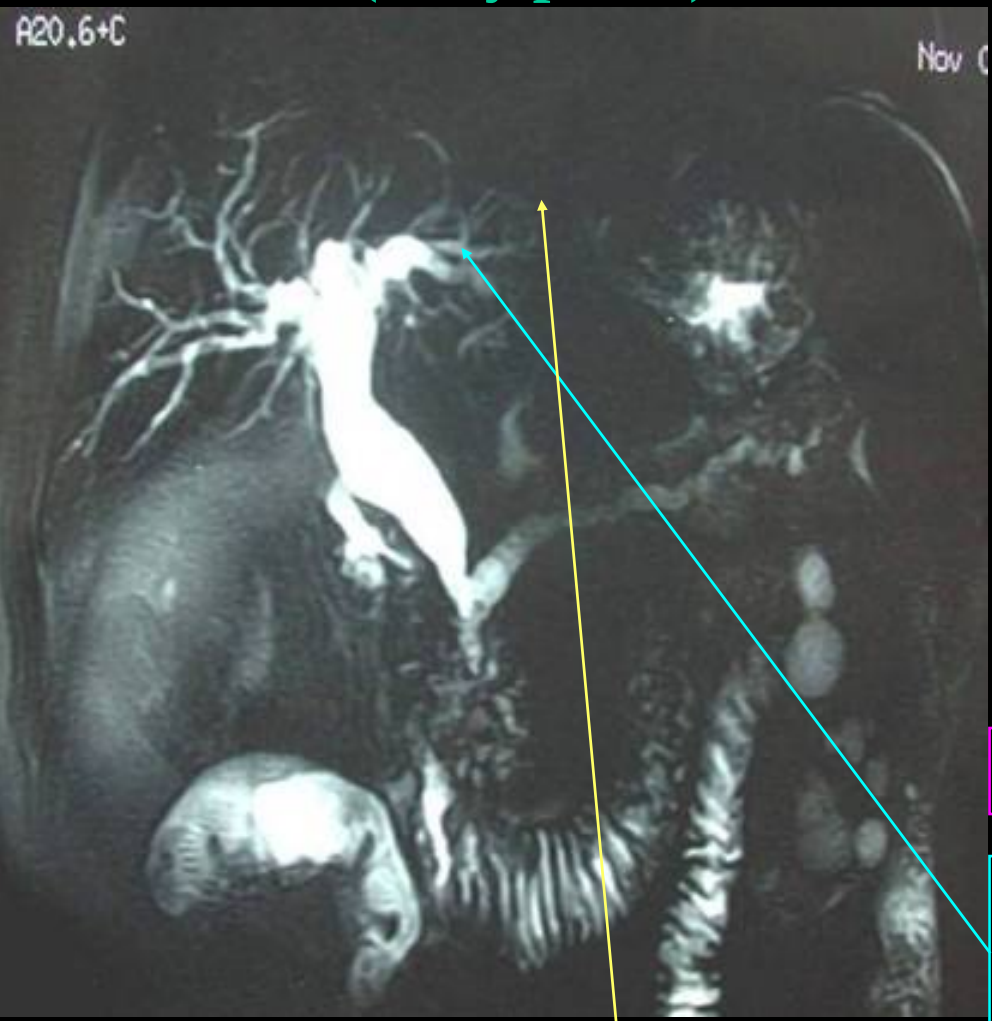
(late phase)



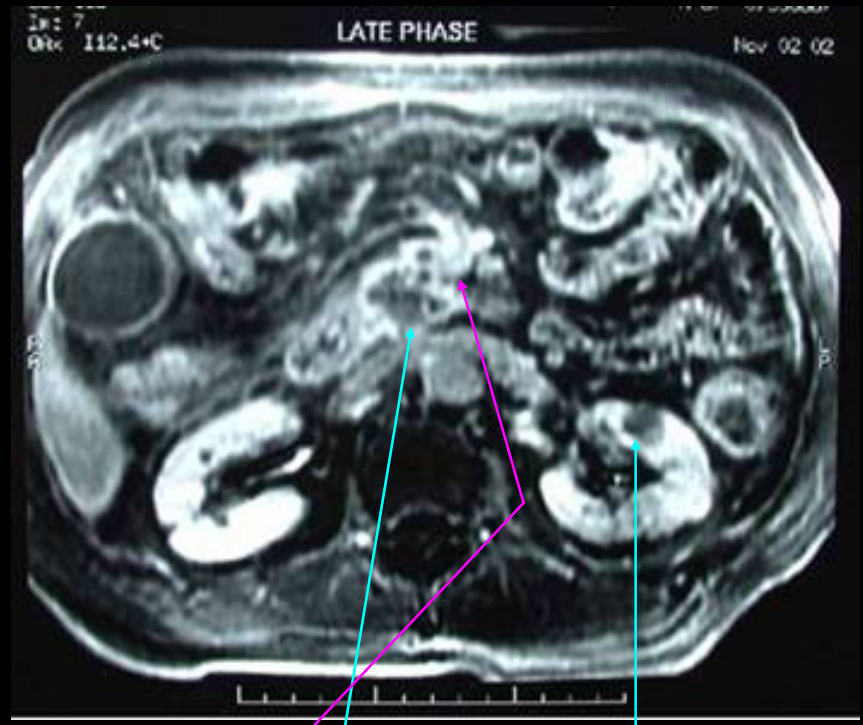
Intact **SMA**

L't renal cyst

2002-11-02 MRI T1WI+C (early phase)



(late phase)



Intact **SMV**

R't & L't renal cysts

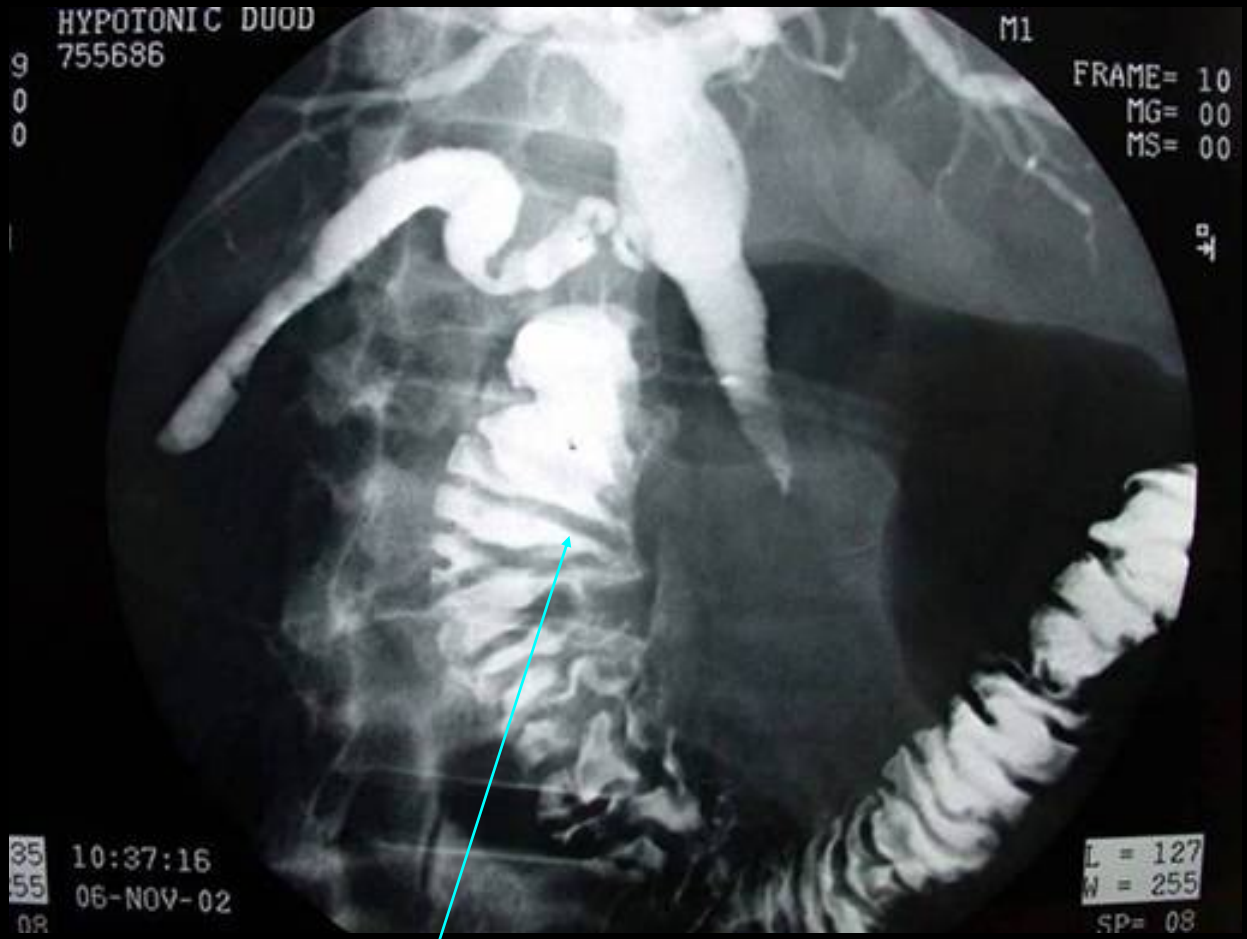
pancreatic head mass exhibits

less enhancement than normal pancreas on post-enhanced study

SMA

2002.11.02 MRI :

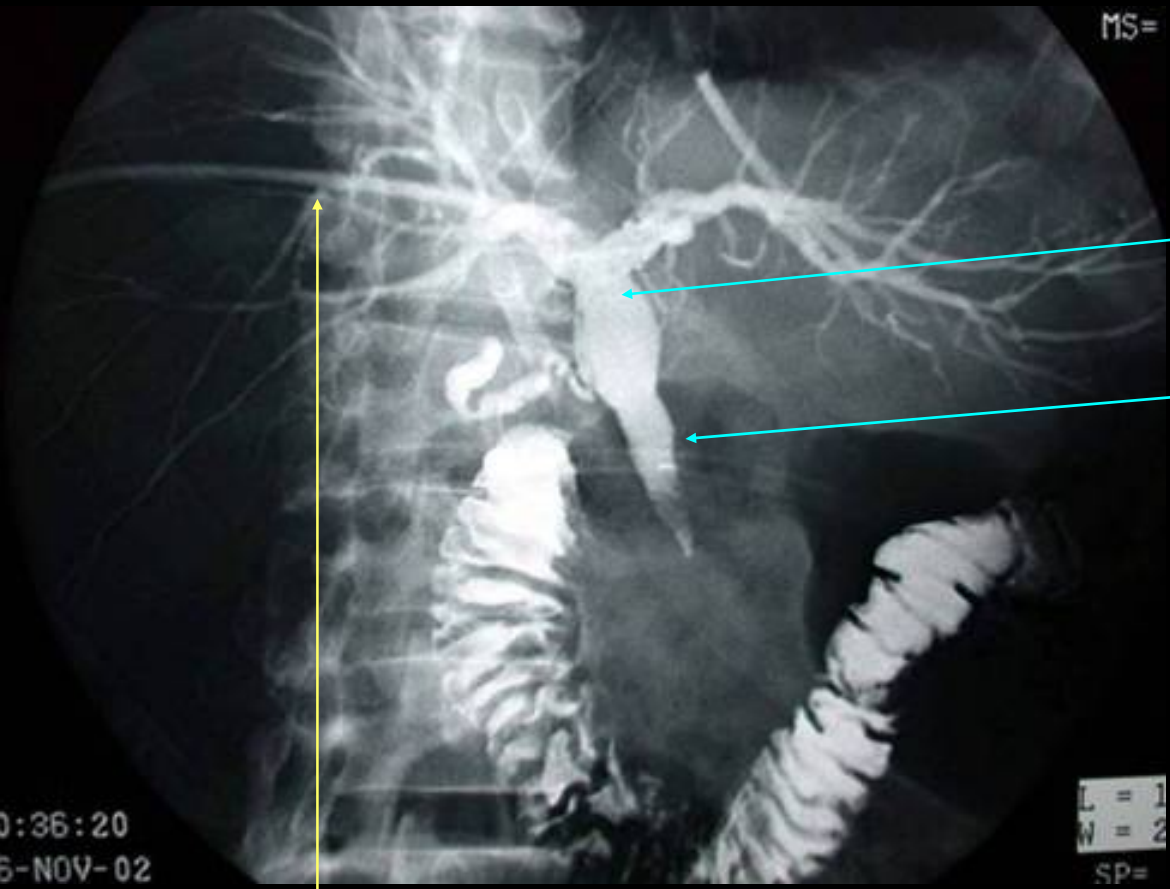
- no abnormal enlarged regional lymph nodes at peri-pancreatic region, para-aortic region or porta hepatis region.
- no abnormal enhanced & space-occupying lesions within the liver, spleen and both kidneys.



obstruction at the distal CBD

(Bird-leak like)

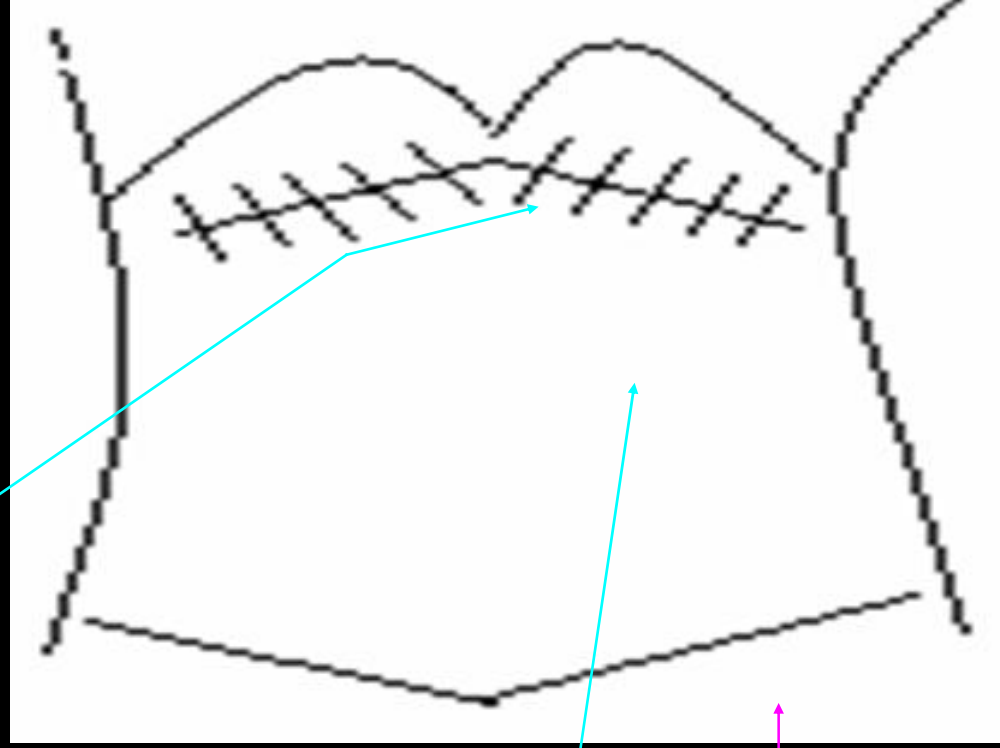
2002-11-06 Hypotonic duodenography



dilatation of CBD

distal CBD obstruction

Drainage tube



dilatation of CBD

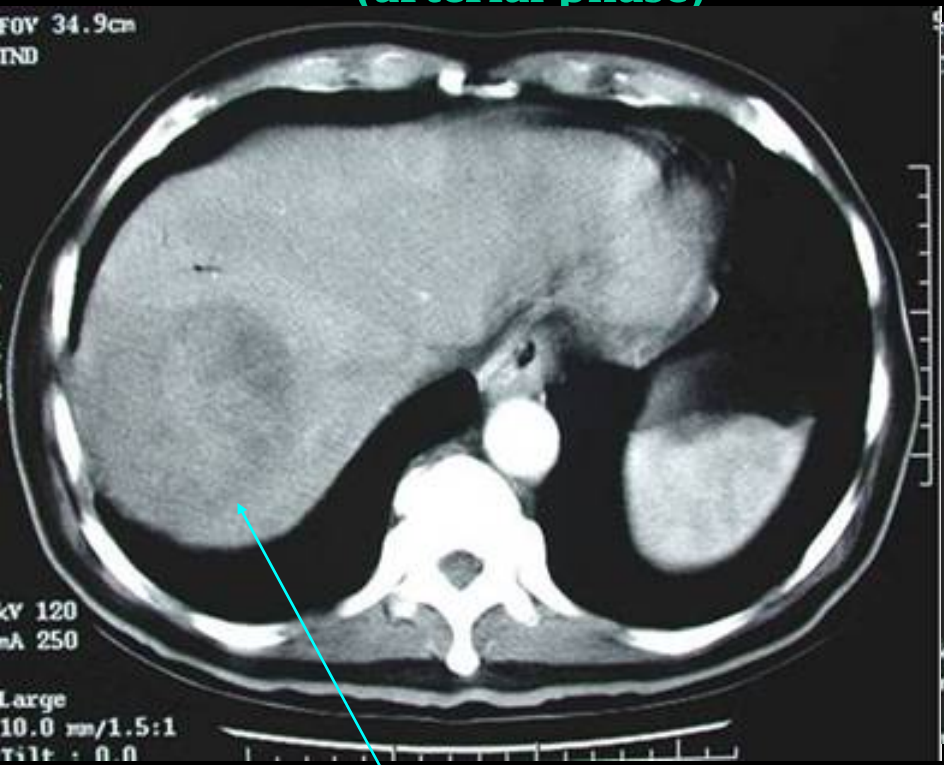
distal CBD obstruction

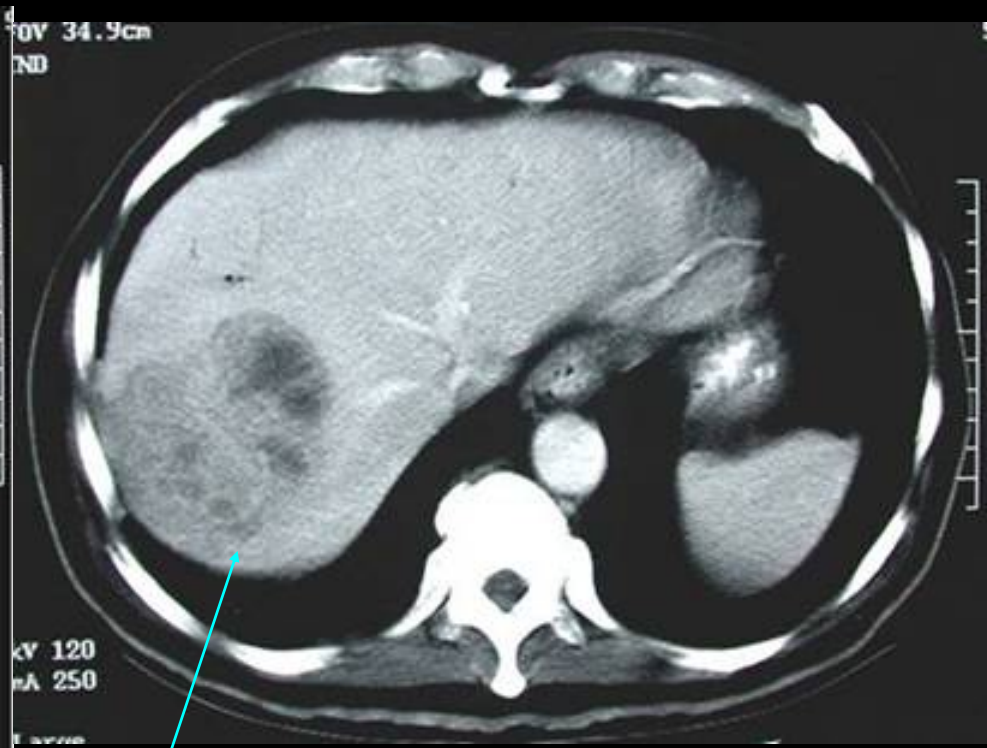
Smooth passage of the duodenal C-loop

No widening C-loop

2003-01-07 Abdomen CT with contrast (arterial phase)

(venous phase)

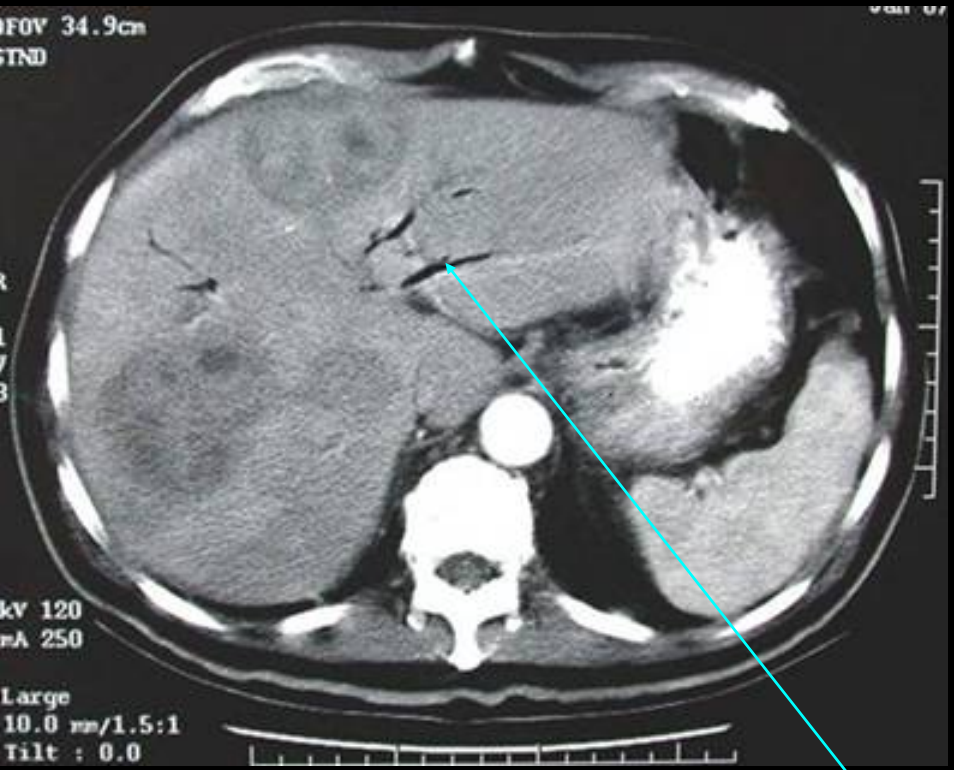


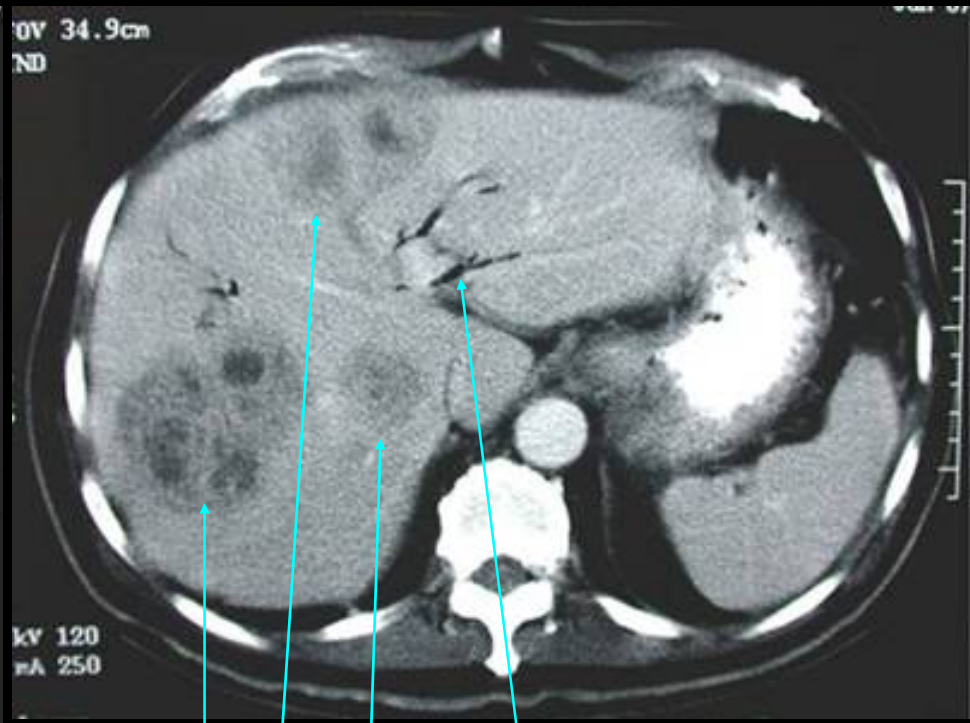


heterogenous mass lesions with perifocal edema in R't lobe of liver (compatible with metastasis lesions of liver)

(arterial phase)

(venous phase)



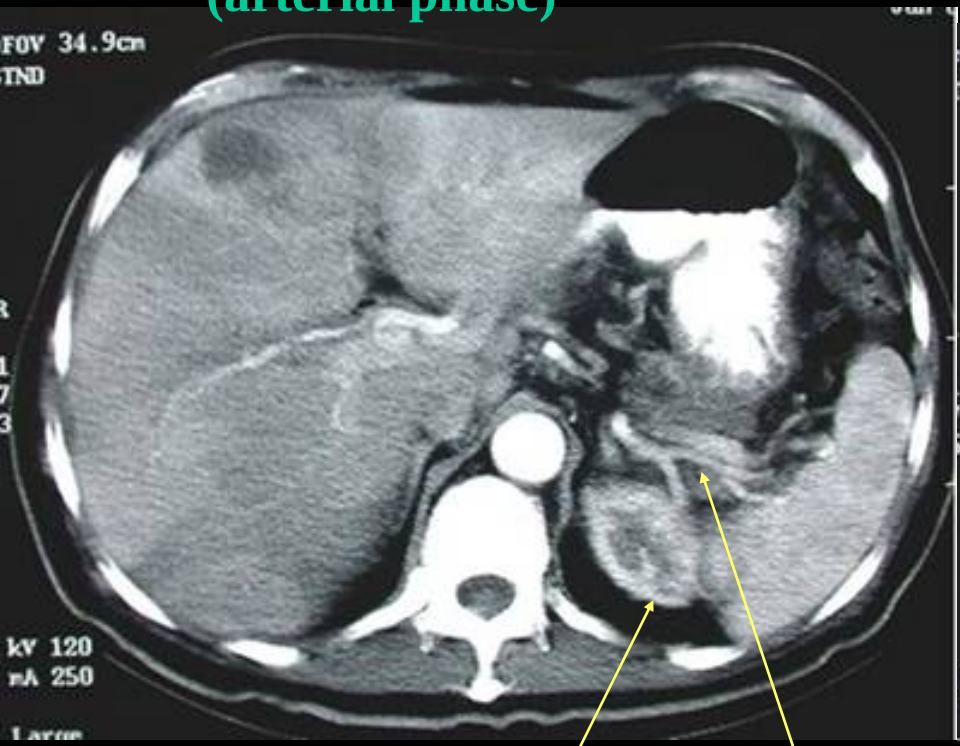


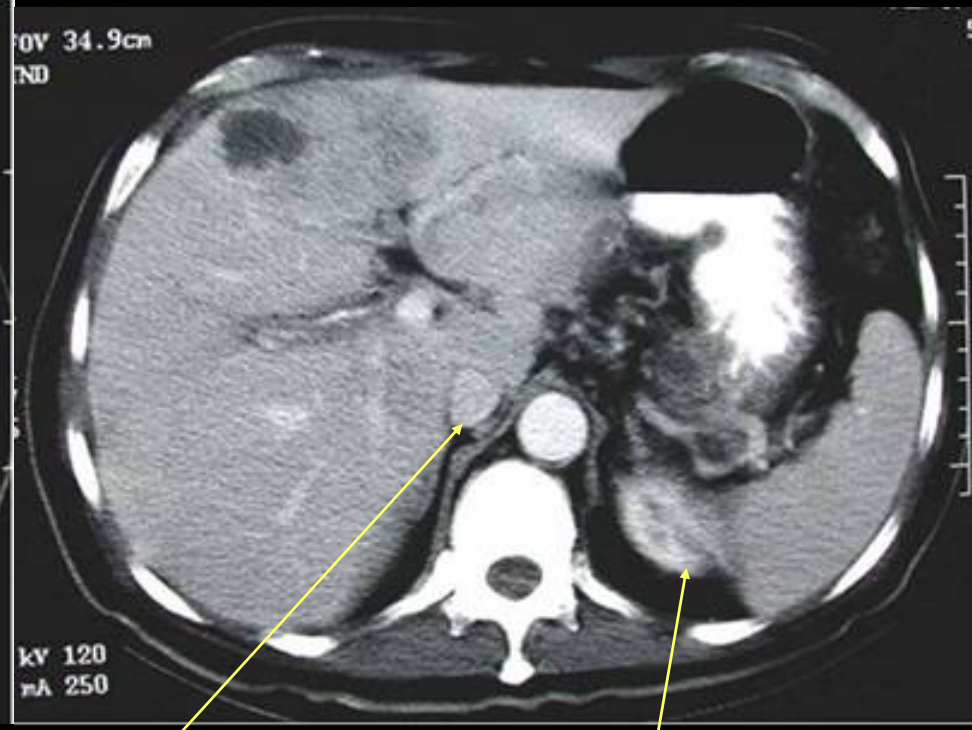
pneumobilia

heterogenous mass lesions with perifocal edema in R't and L't lobe of liver (compatible with metastasis lesions of liver)

(arterial phase)

(venous phase)



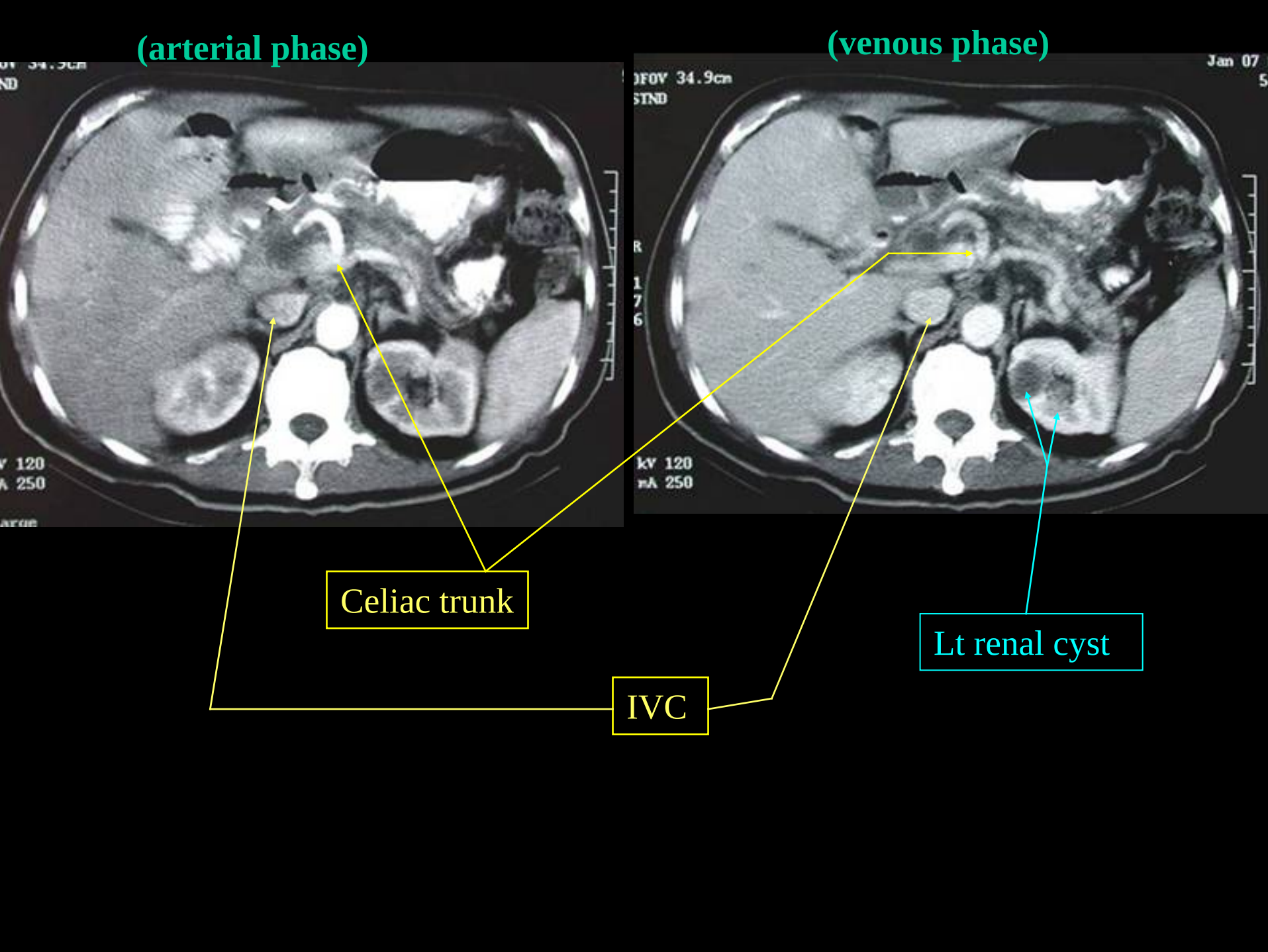


Splenic a.

IVC

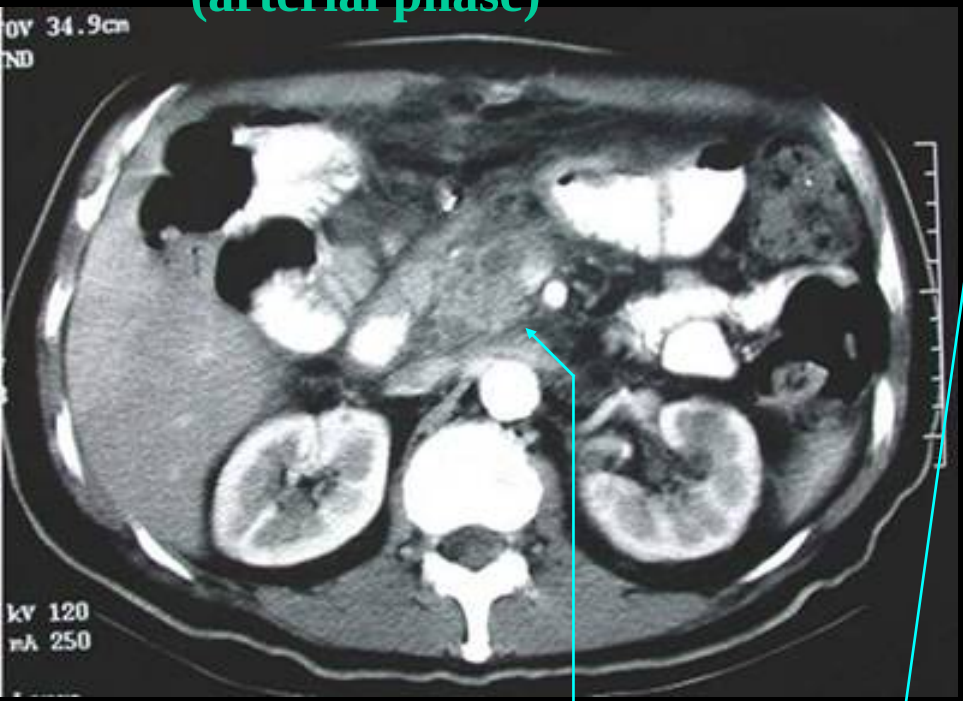
Show arterial phase

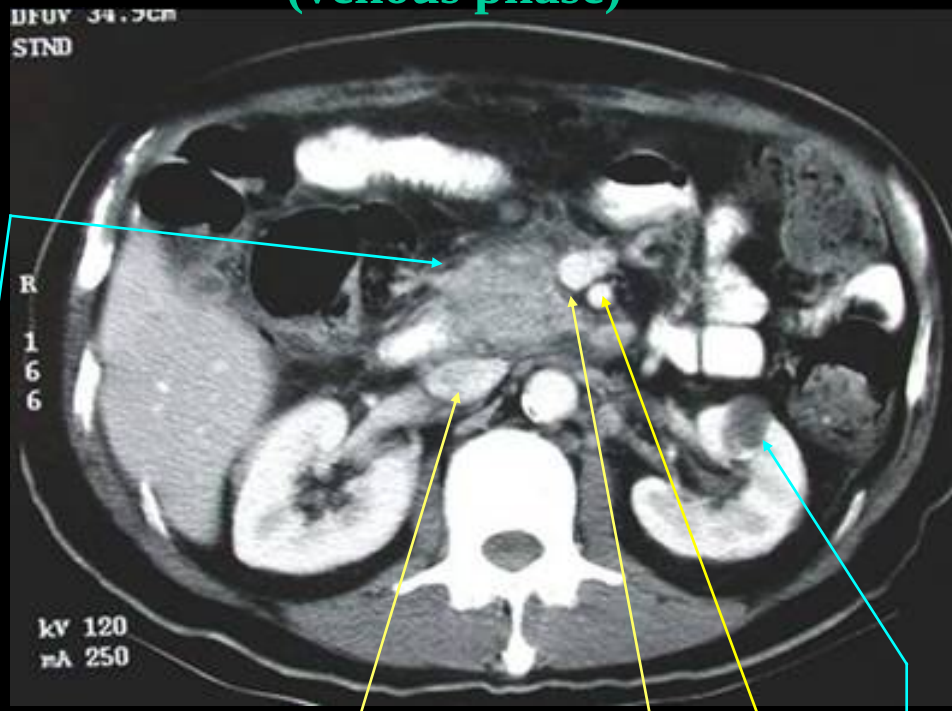
Show venous phase


(arterial phase)
(venous phase)
Celiac trunk
IVC
Lt renal cyst

(arterial phase)

(venous phase)





residual mass lesion at anterior para-aortic region

IVC

Aorta

SMA

SMV

Lt renal cyst

Image conclusion

MRI & MRCP :

- 1. markedly dilatation of pancreatic duct, CBD,CHD, bilateral intra-hepatic biliary trees and gall-bladder
- 2. ill-defined mass(1.4 cm x 2.0 cm) situated in the uncinate process of pancreatic head. The pancreatic head mass exhibits iso-signal intensity on T1WI & T2WI, and less enhancement than normal pancreas on post-enhanced study.
- 3. bil. renal cysts
- 4. Intact SMA, SMV and celiac artery.
- 5. no abnormal enlarged lymph nodes at peri-pancreatic region, para-aortic region, and porta hepatis region..
- 6. no space-occupying lesions within the liver, spleen and both kidneys.

Image conclusion

- **P.T.C.D** shows dilatation of the bil. intrahepatic ducts and CBD with obstruction at the distal CBD
- **Hypotonic duodenography** shows smooth passage of the duodenal C-loop, and no definite widening C-loop
- **Upper Abdomen CT focus on Liver:**

  1. pneumobilia
  2. heterogenous mass lesions with perifocal edema in R't lobe and L't lobe of liver. (The picture is compatible with metastasis lesions of liver.)
  3. residual mass lesion at ant. para-aortic region.
  4. L't renal cysts

Differential Diagnosis of pancrease image

- **Chronic pancreatitis:**

  可能會產生鈣化 → 在CT中特別明顯

  enalrged and irregular pancreatic duct → 在sonogram中特別明顯

  (在CT中,也能看見)

  ERCP has the advantage of providing detailed images of the duct system

  (可見chain of lakes)

- **Pancreatic head tumor:**

CT → The mass may not be visible on a unenhanced image. However, because the tumor is less vascular than the surrounding normal pancreatic parenchyma, it will be seen as a poorly enhancing focal area within the densely enhancing normal pancreatic tissue on dynamic contrast-enhanced CT.

MRI → On T1-weighted images the mass has a low signal intensity relative to normal adjacent pancreatic parenchyma. On T2-weighted images the tumor is often hyper-intense, but may be of variable signal intensity.

Differential Diagnosis of liver image

- Hemangioma
- Liver abscess
- Metastatic tumor

Hemangioma

blood pooling phenomenon =>

CT → low density in un-enhanced CT

density increase and becomes equal to that of the adjacent liver parenchyma in enhanced CT

MRI→ homogeneously high signal on T2WI

(higher signal than spleen and comparable to that of fluid)

Liver abscess

CT:

1. ill-defined and low attenuation
2. Following IV contrast medium, they may demonstrate enhancement predominantly around the edge of the lesion, although this is often not apparent once antibiotic treatment has started.
3. When the center of the abscess liquefies it may be of water attenuation and fail to enhance.
4. These appearances are not specific and similar findings may be seen with metastatic deposits, particularly those with central necrosis or cystic components.

MRI:

1. also overlap with necrotic metastases with an ill-defined lesion of low signal on T1-weighted images and high signal on T2-weighted images, often with a higher signal outer margin.
2. As the lesions liquefy the central signal decreases on T1-weighting and increases on T2-weighted imaging.

Metastatic tumor

- Usually multi-focal and at peripheral area
- The presence of other metastases helps but cannot distinguish infection from metastases.
- Percutaneous ultrasound-guided biopsy is required to make a definite diagnosis. This is crucial where the presence of tumor or infection may prohibit or indicate further treatment.

Pathology:

- 2002.11.21 Pancreas with needle biopsy & frozen section
  → chronic inflammation and fibrosis

- 2002.11.21 Pancreas with needle biopsy & frozen section
  → chronic pancreatitis and fibrosis with presence of few atypical glands

- 2002.11.22 Gallbladder(from cholecystectomy)
  → chronic cholecystitis

- 2003.01.16 Liver(segment 7) biopsy
  → acute and chronic inflammation

Conclusion:

- 1. R/O Pancreas head CA, with multiple liver metastasis.
- 2. R/O Chronic pancreatitis, with liver abscess.

Plan:

Antiobiotics treatment and follow-up sonography.

Reference

- A Textbook of Medical Imaging, 4th Ed., Grainger & Allison's Diagnostic Radiology
- Diagnostic Imaging, 3rd Ed., Peter Armstrong. Martin L Wastie
- Harrison’s Manual of Medicine, 15th Ed.