General data

- Gender: female
- Age:67years old
- Marriage state: married

Chief Complaint

- Intermittent abdominal pain and fullness sensation for 3 months

Present Illness(1)

- This 67 y/o female patient suffered from dull abdominal pain about 3 months ago.
- The abdominal pain was dullness in nature without relationship to eating.
- No associated symptoms such as nausea, vomiting, diarrhea, or tarry stool.
- She visited 長庚hospital and was told to have gastric ca with liver metastasis.

Present Illness(2)

- She admitted to our hospital on 2001-03-16. During her admission course, UGI endoscopy was performed and concluded as esophageal varices and gastric erosion.
- No protruding mass or ulcerated lesion was noted.
- Abdominal echo showed diffuse liver parenchymal disease, gallbladder stones with cholecystitis. CBD and IHD dilatation, spenomegaly, hepatic cyst were also noted.

Present ilnness(3)

- ERCP was performed but failured:
  ERP: Normal size and shape
  ERC: CBD: poor visualization due to poor
  filling and fast peristasis
  GB and cystic duct and IHD: not
  visualization
- The abdominal pain subsided and she discharged on 2002-03-27
- But the intermittent abdominal pain attacked again and became more severe in these days

Past History

- Hypertension(-)
- CAD(-)
- DM(+): under regular control
- Smoking: denied
- Drinking: denied
- Right eye blindness due to herpes zoster

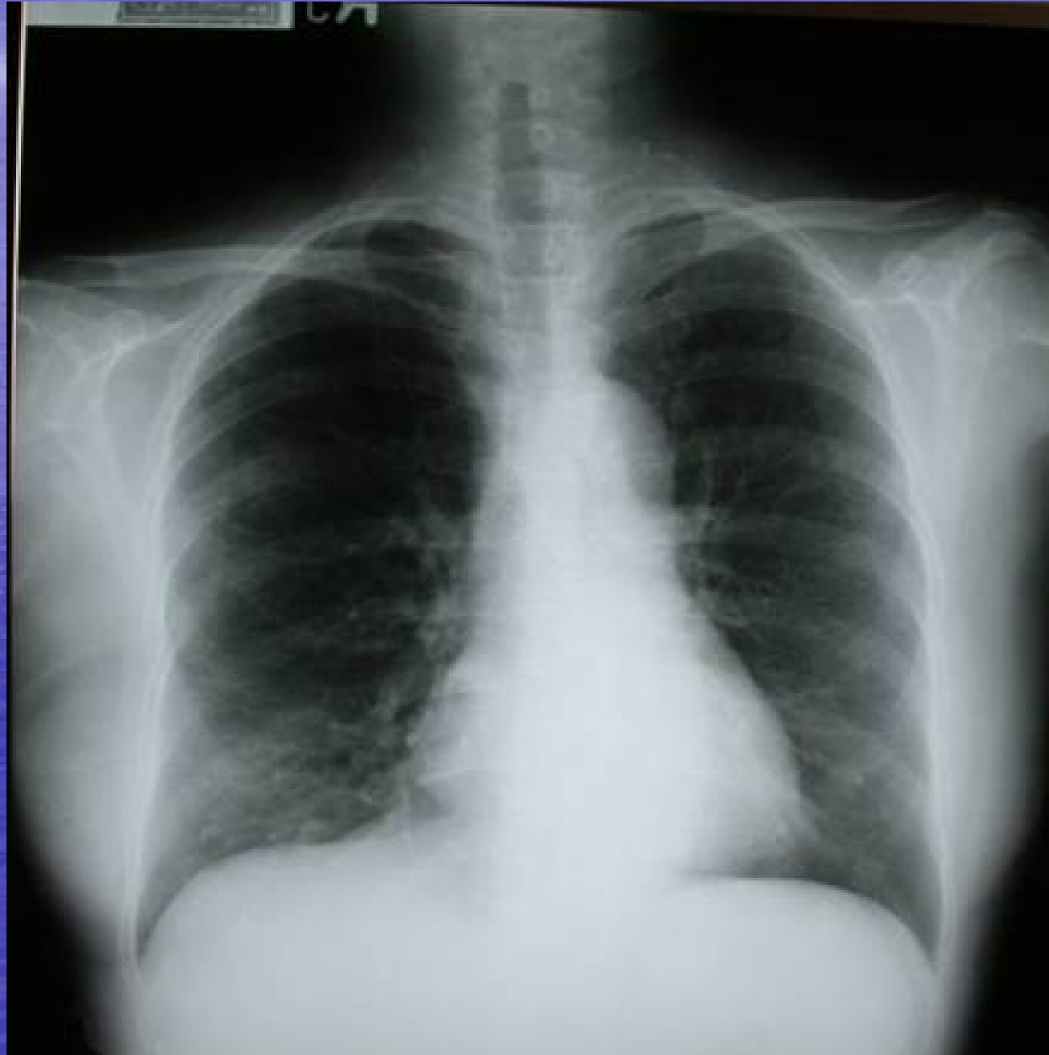
Physical Examination

- Icteric sclera, left eye
- prosthesis eye, right eye
- Abdomen: soft and mild distention
  mild RUQ tenderness
  Murphy's sign(-)

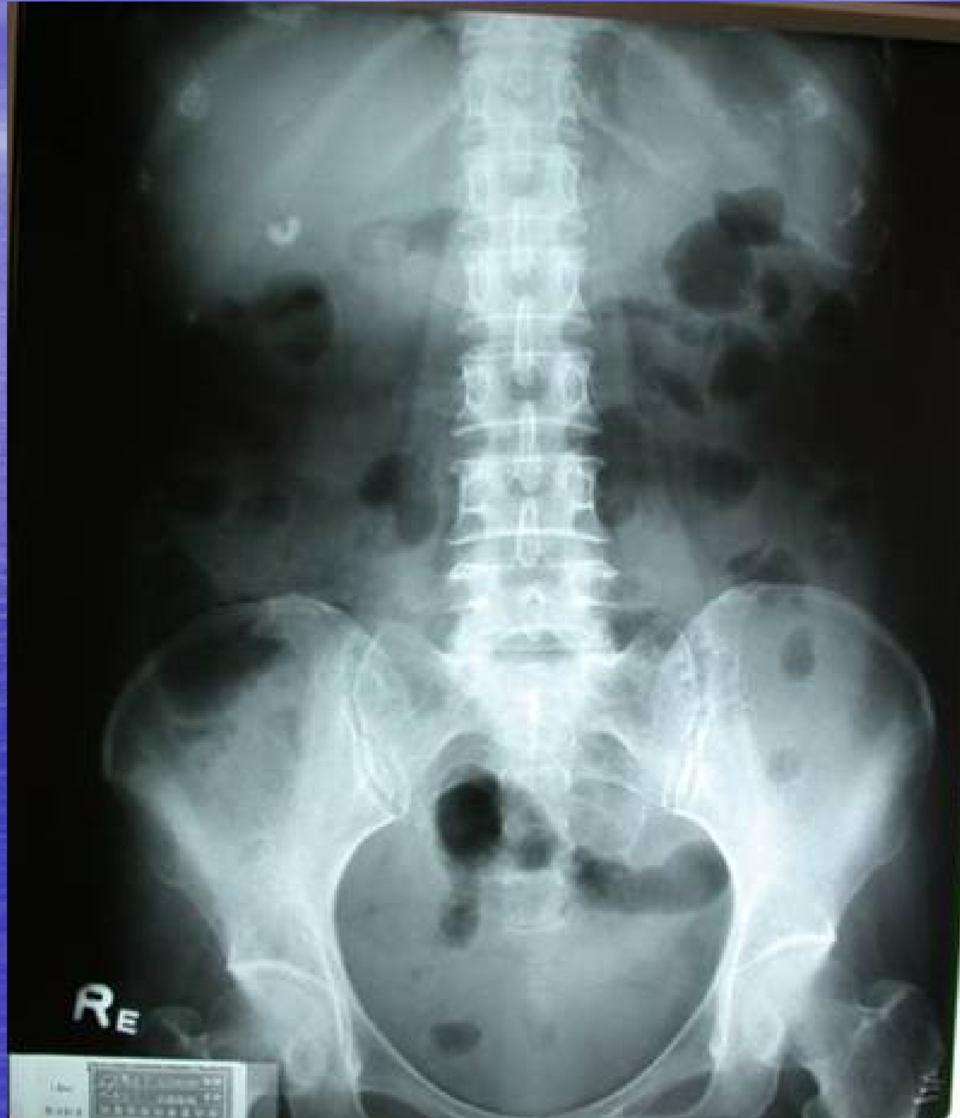
Lab Data

- WBC/DC: WNL
- Hb: 13.0
- Platelet: 119000
- GOT/GPT: 34/34
- CEA: 8.14

CXR(2001/03/16): normal

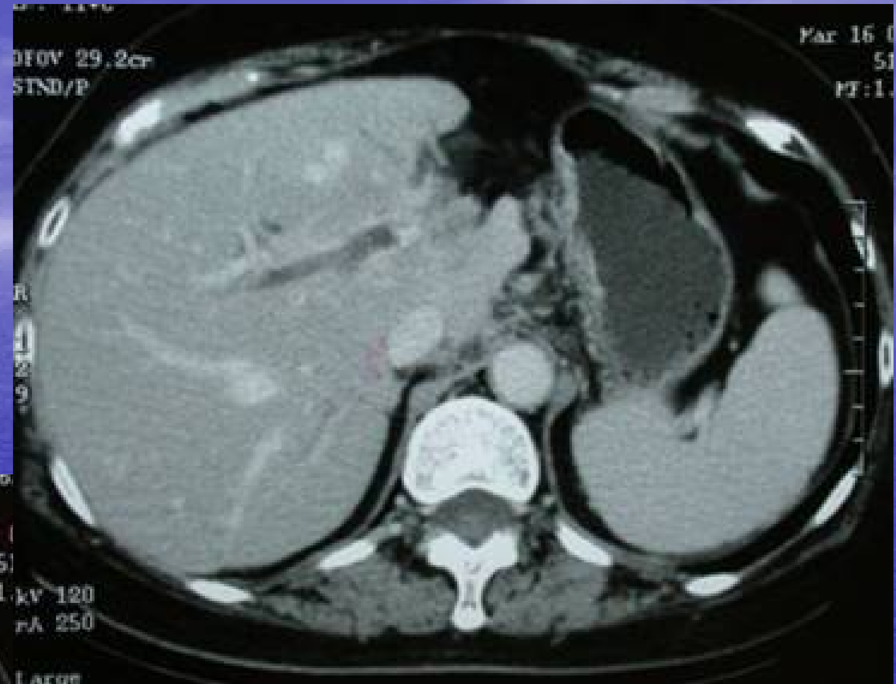


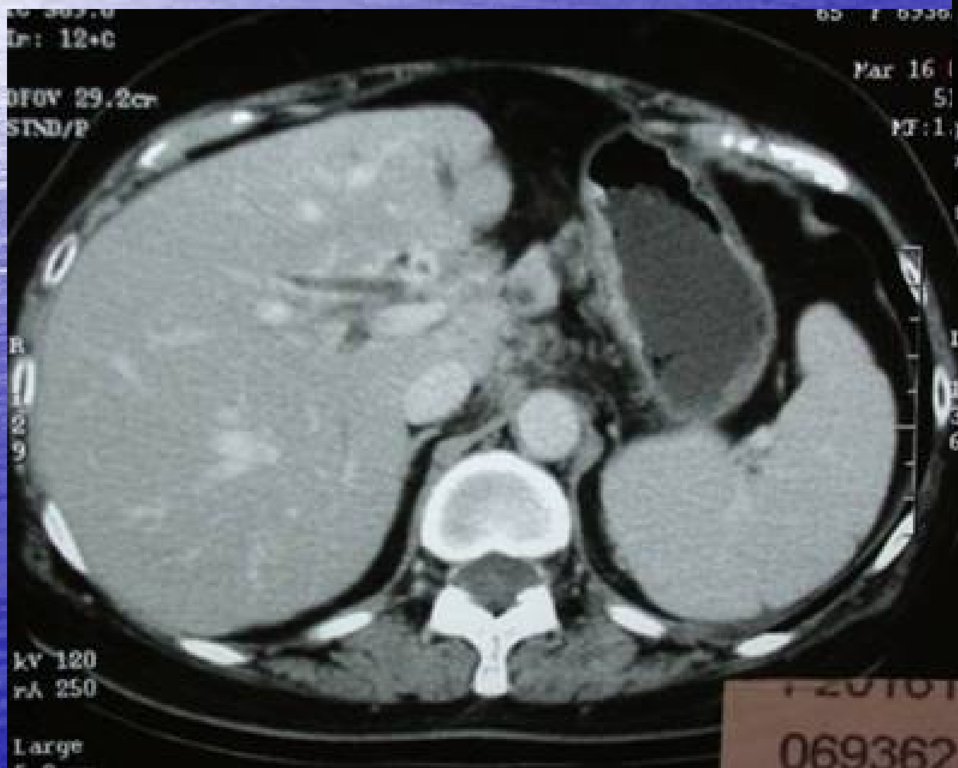
KUB(2001/03/16): gallstones noted



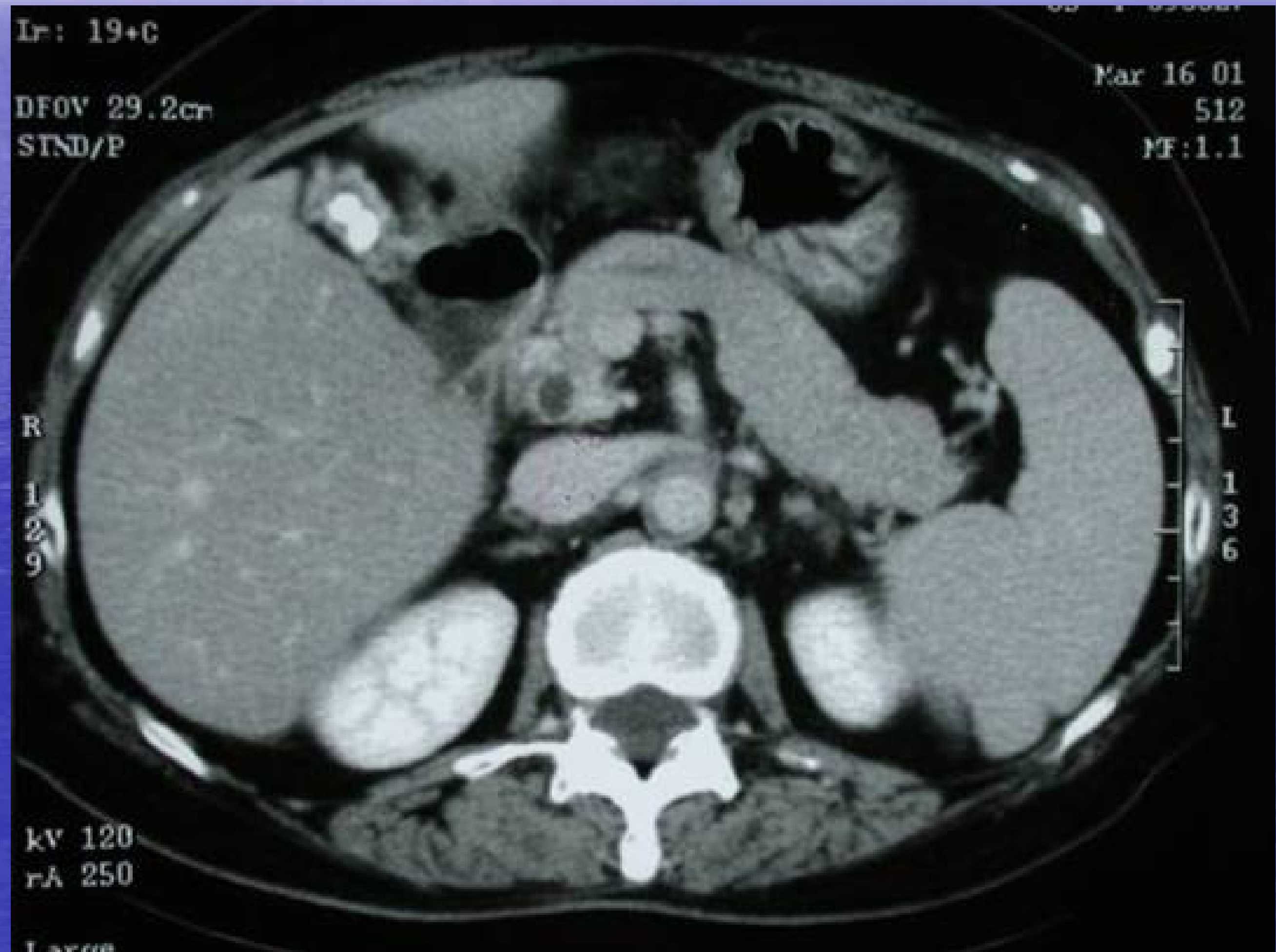
Abdominal CT(2001/03/16)

1. no gastric lesion noted
2. Dilated IHDs
3. Atrophic left lobe liver



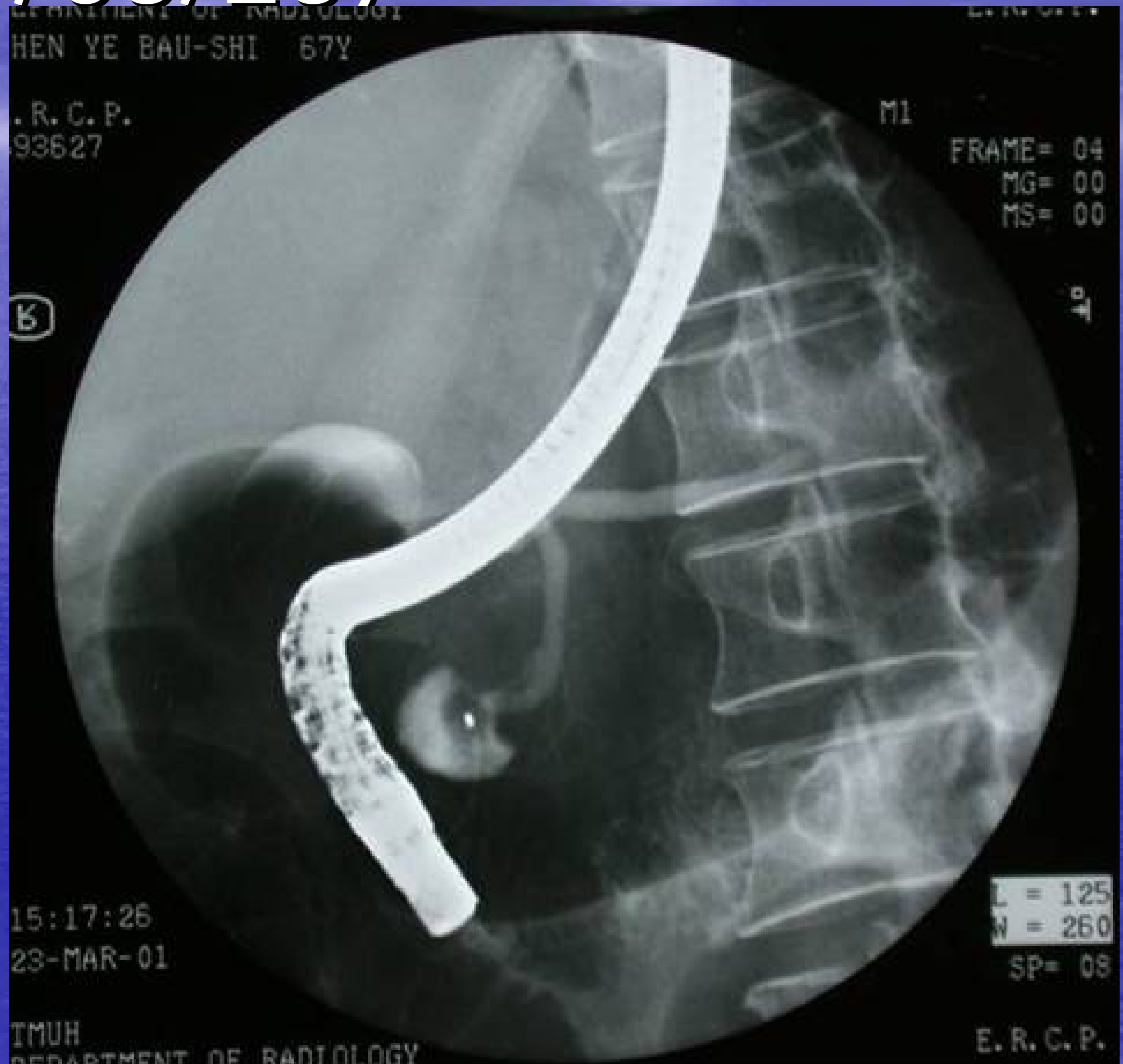


multiple gallstones in gallbladder
dilated CBD
normal pancreas



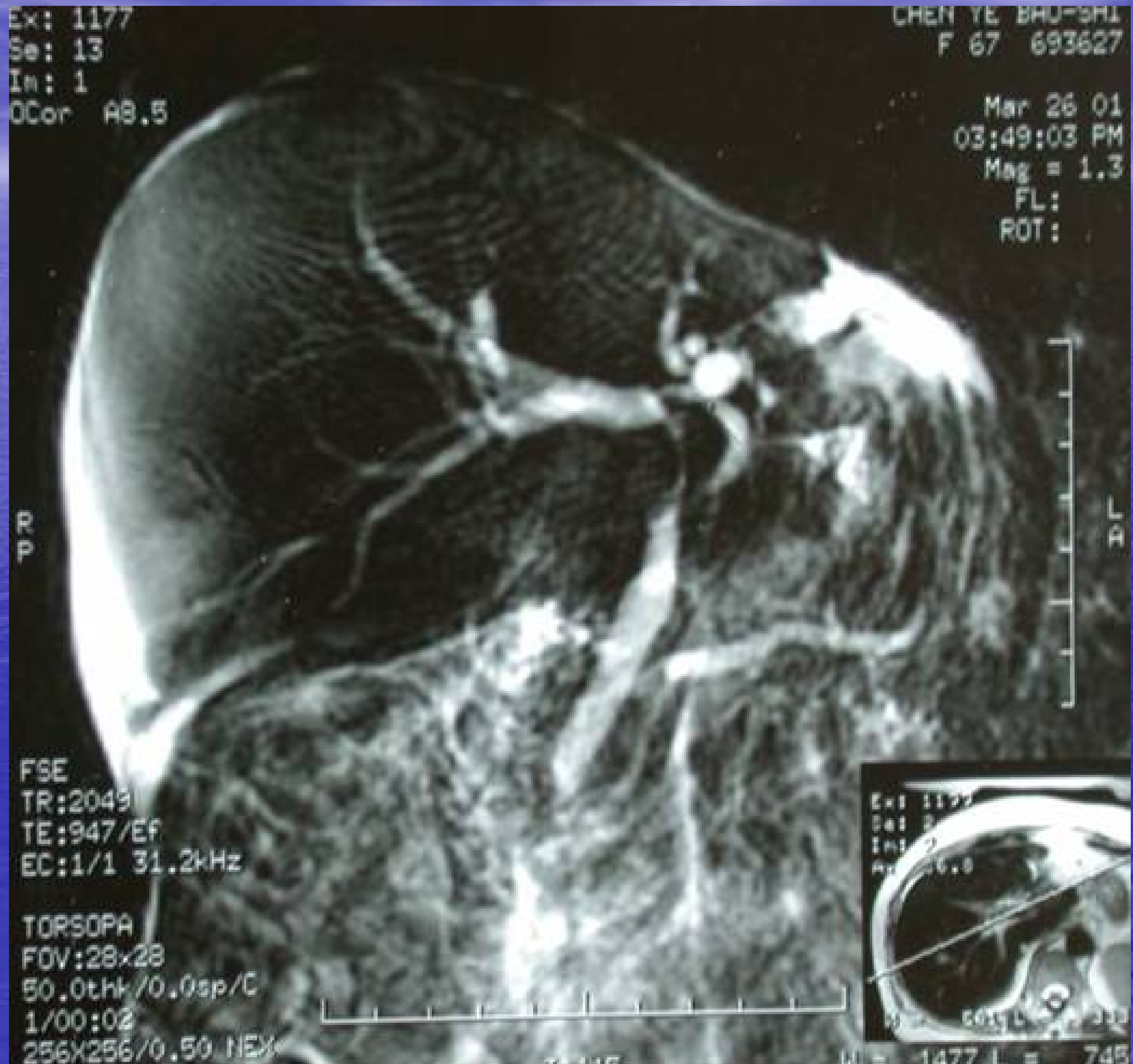
ERCP(2001/03/23)

- Normal pancreatic duct
- Irregular mass noted in pancreatic head



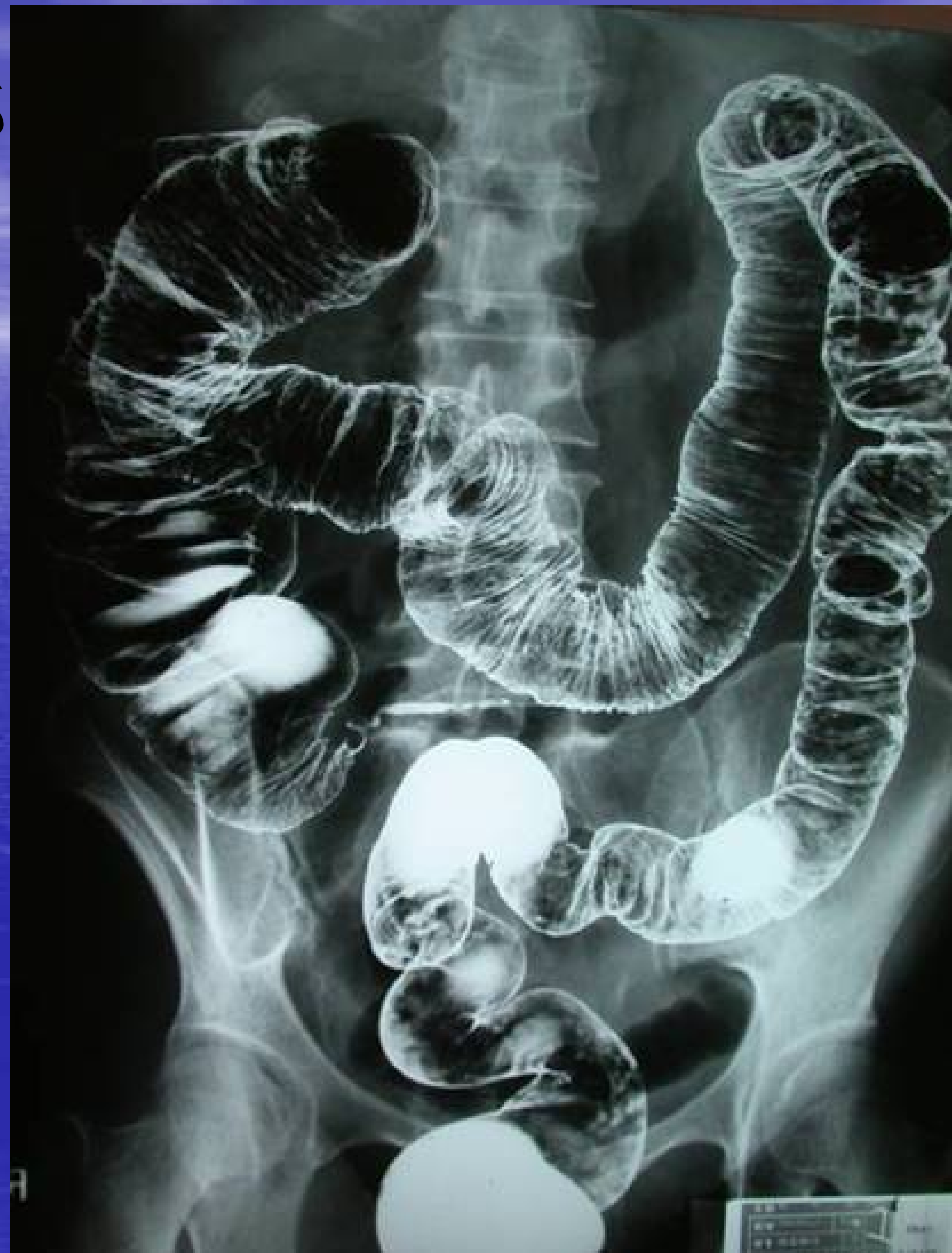
MRCP(2001/03/26)

- Dilatedright IHDs, CBD, and pancreatic duct
- Stricture of the CHD



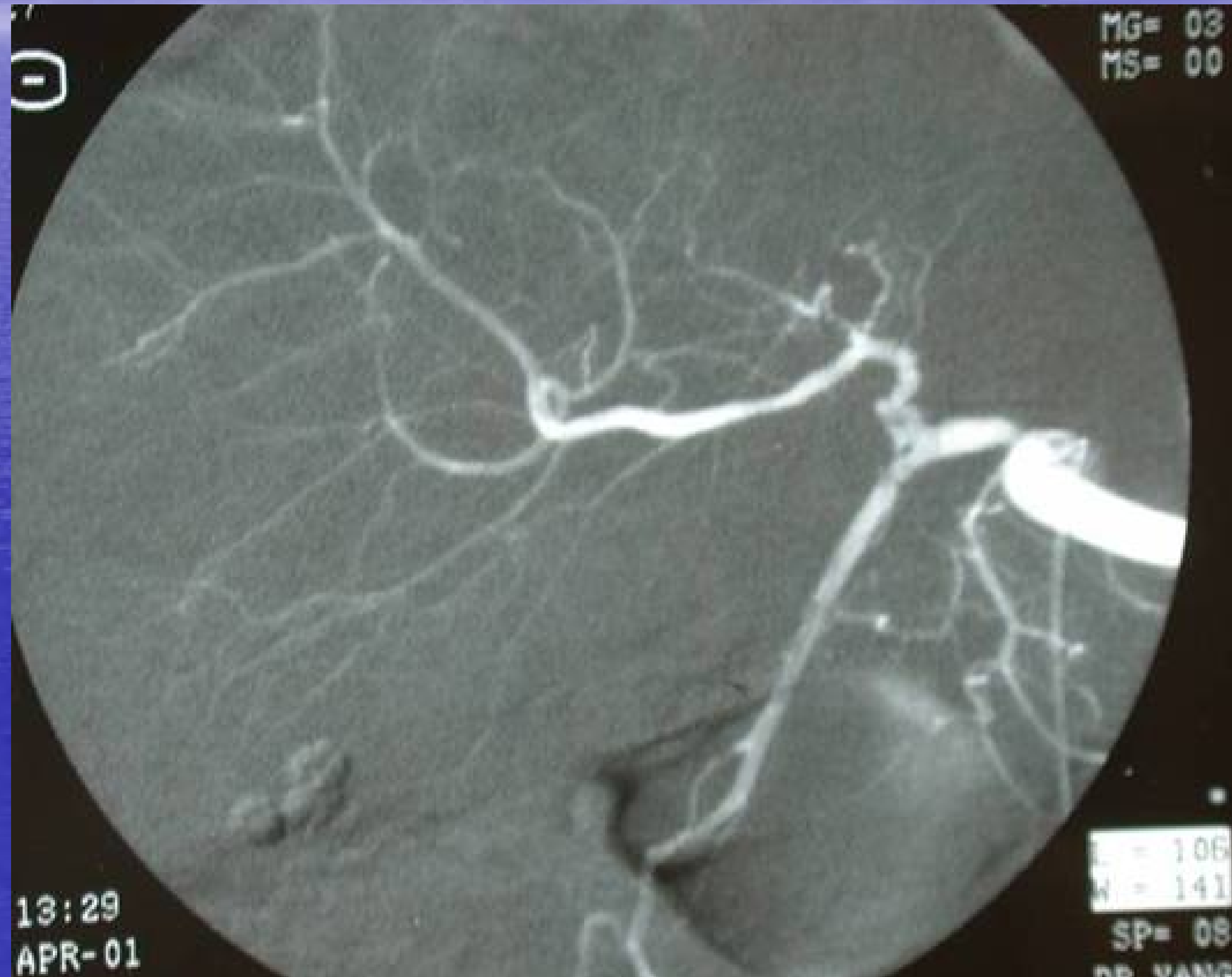
Lower GI series (2001/04/30)

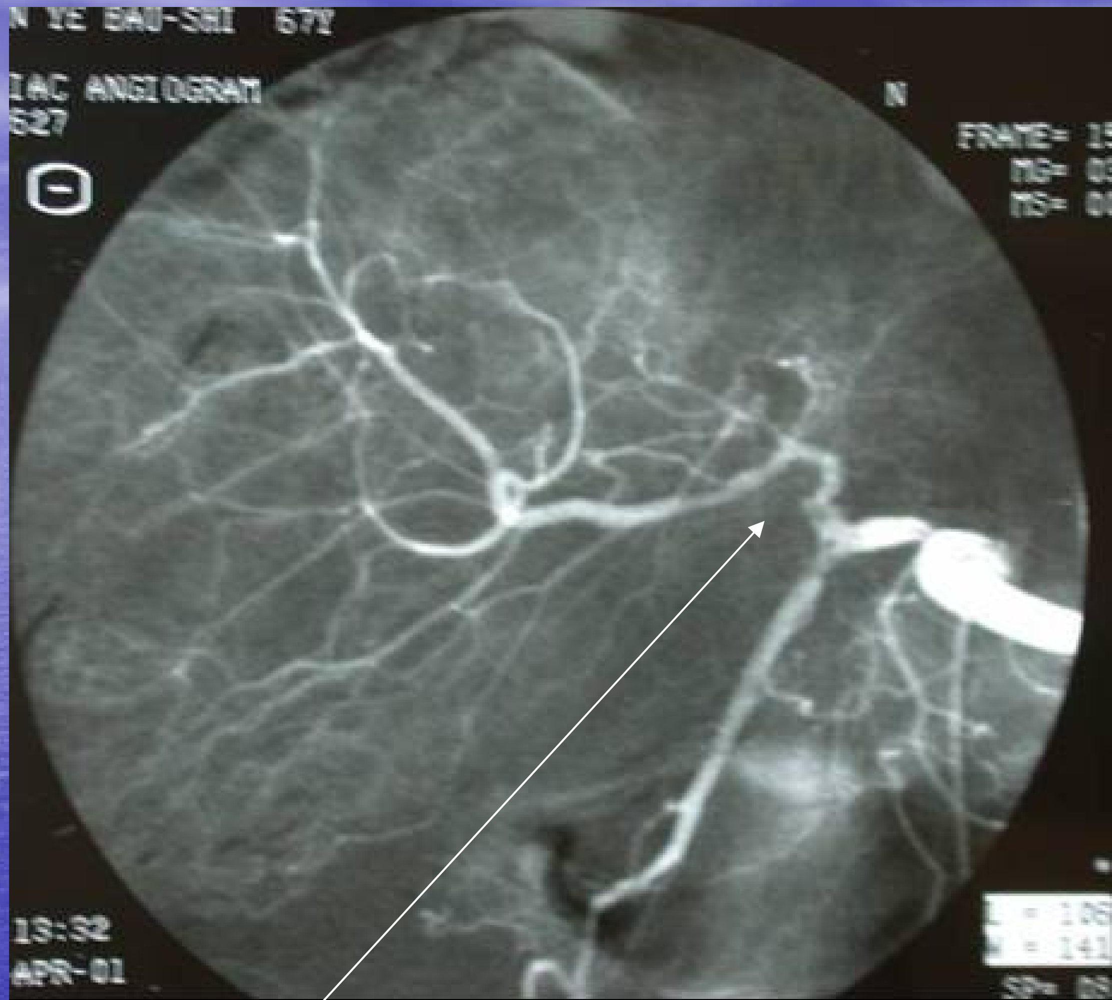
- mucosal tethering noted at the transverse and ascending colon >>tumor seeding should be considered.



Celiac angiography(2001/04/27)

- Visible slenic artery, common hepatic artery, and gastroduodenal artery

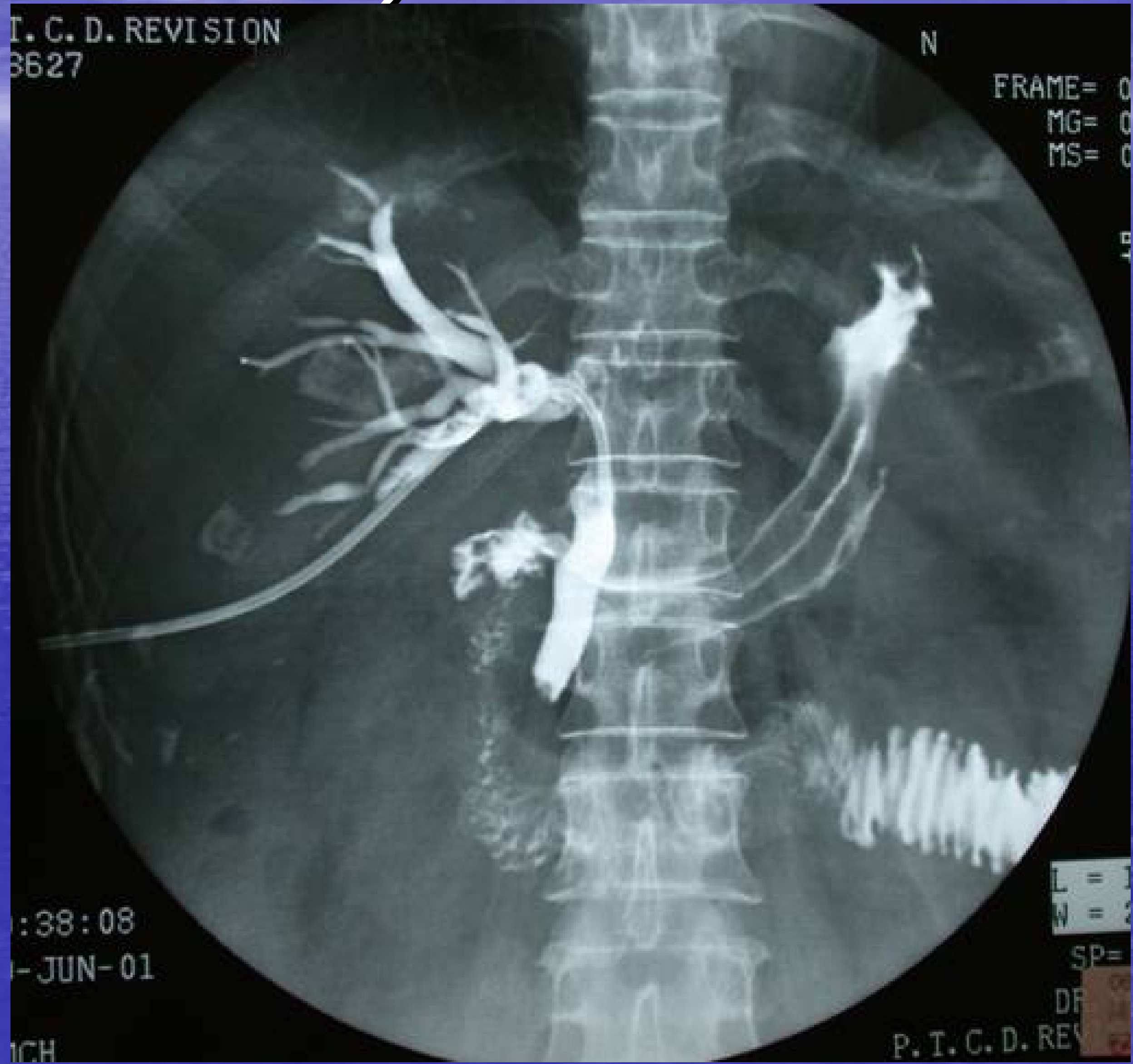


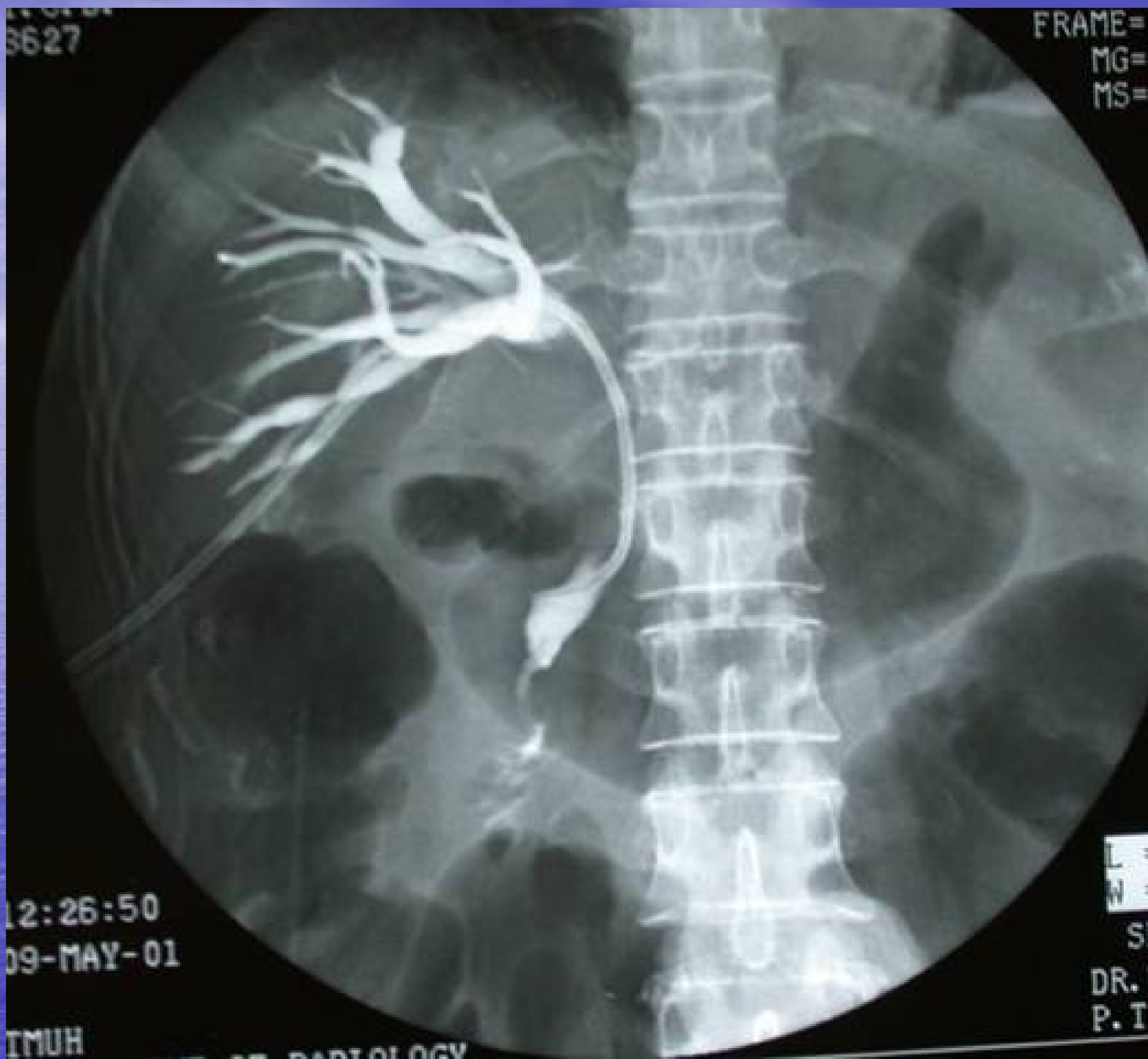


- Segmental narrowing with irregularity at the common hepatic artery and proximal portion of gastroduodenal artery

PTCD(2001/05/07)

- Dilatation of the right intrahepatic ducts with stricture of the common bile duct.





Dilatation of the right intrahepatic ducts stricture of the common bile duct.

Summary of image findings

- No gastric lesion
- Multiple gallstones in gallbladder
- Dilated CHD, IHDs and stricture of CBD
- Segmental narrowing with irregularity at the common hepatic artery and proximal portion of gastroduodenal artery
- mucosal tethering noted at the transverse and ascending colon
- Splenomegaly

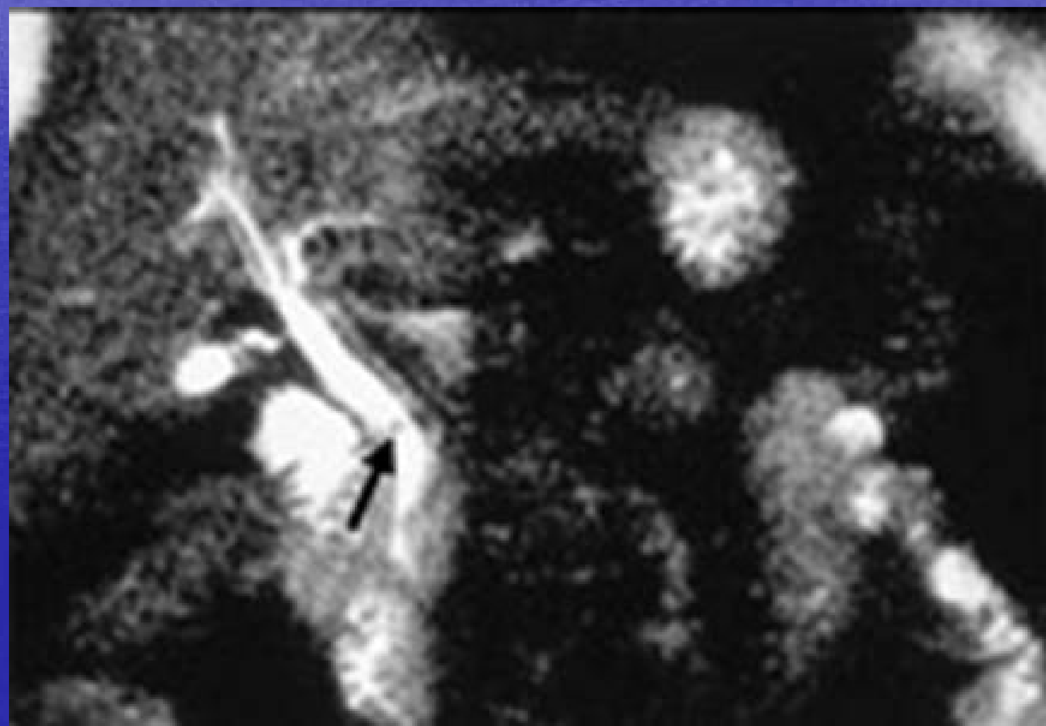
Differential Diagnosis of biliary tract obstruction

- Benign—75%
- Benign stricture
  --surgery/instrumentation
  --trauma
  --stone passage
  --cholangitis
  --choledochal cyst
- Stone impacted in duct
- Parasite(ascariasis)
- Liver cyst

- Malignant—25%
- Pancreatic carcinoma
- Ampullary/duodenal carcinoma
- Cholangiocarcinoma
- Metastasis

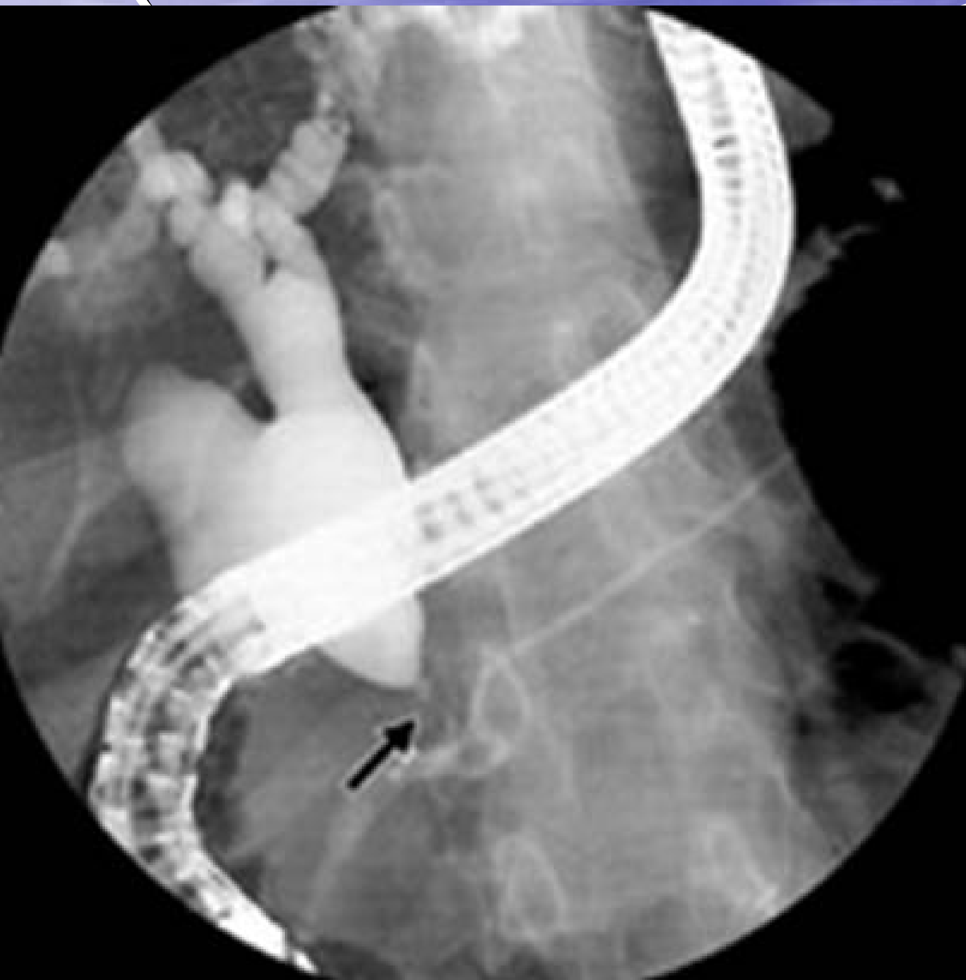
Choledocholithiasis

- Choledocholithiasis—20% of obstructive jaundice in adults



- PTC and ERCP are the most efficacious examination
- Most patients have gallstones in gallbladder

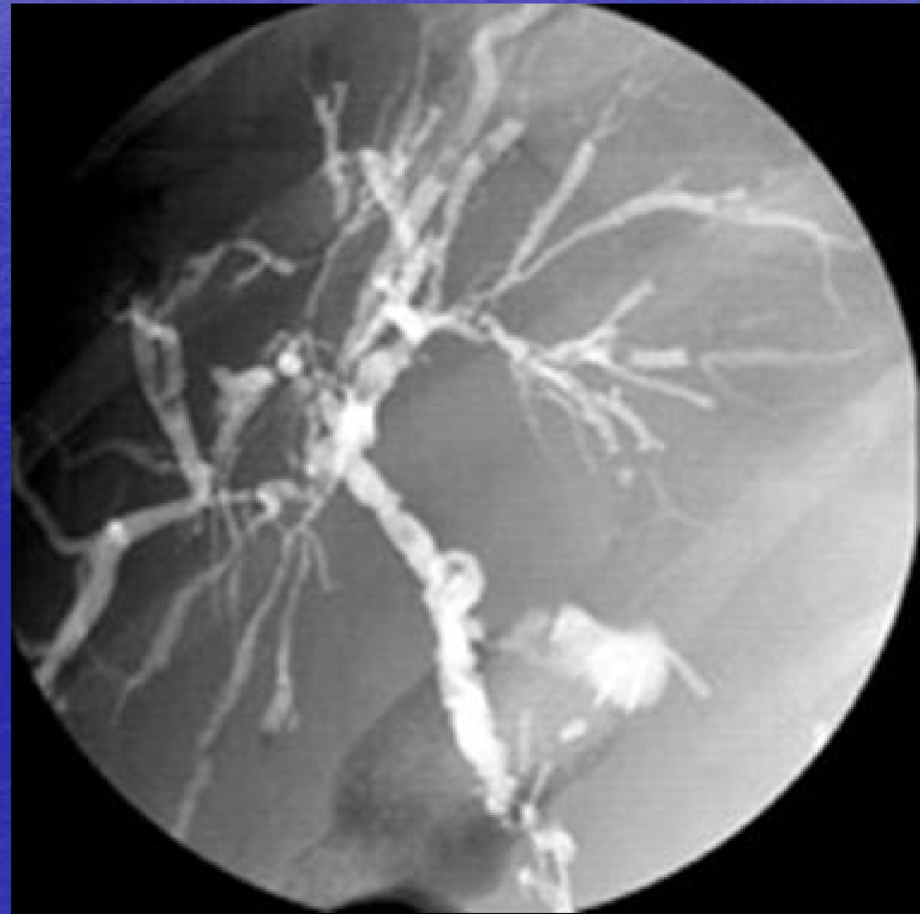
Choledochal cyst (uncommon congenital disorder)



- Slight dilatation of the extrahepatic biliary ducts proximal to the cystic dilatation due to some degree of obstruction distally;
- Narrowing of the distal common bile duct; and
- Abrupt beginning and end of the cystic dilatation.

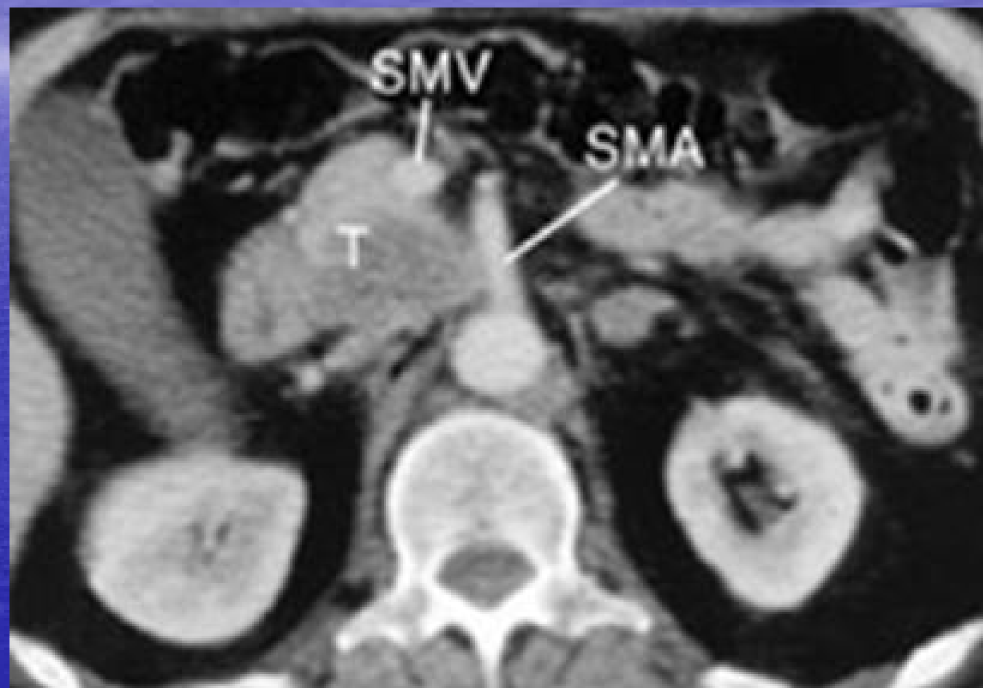
Sclerosing cholangitis

- A history of ulcerative colitis in 50 % cases
- elevated serum alkaline phosphatase
- liver biopsy
- Multiple short strictures and saccular dilations involving the intrahepatic and extrahepatic bile ducts give the biliary tree an irregular beaded appearance



Ampullary and Pancreatic tumor

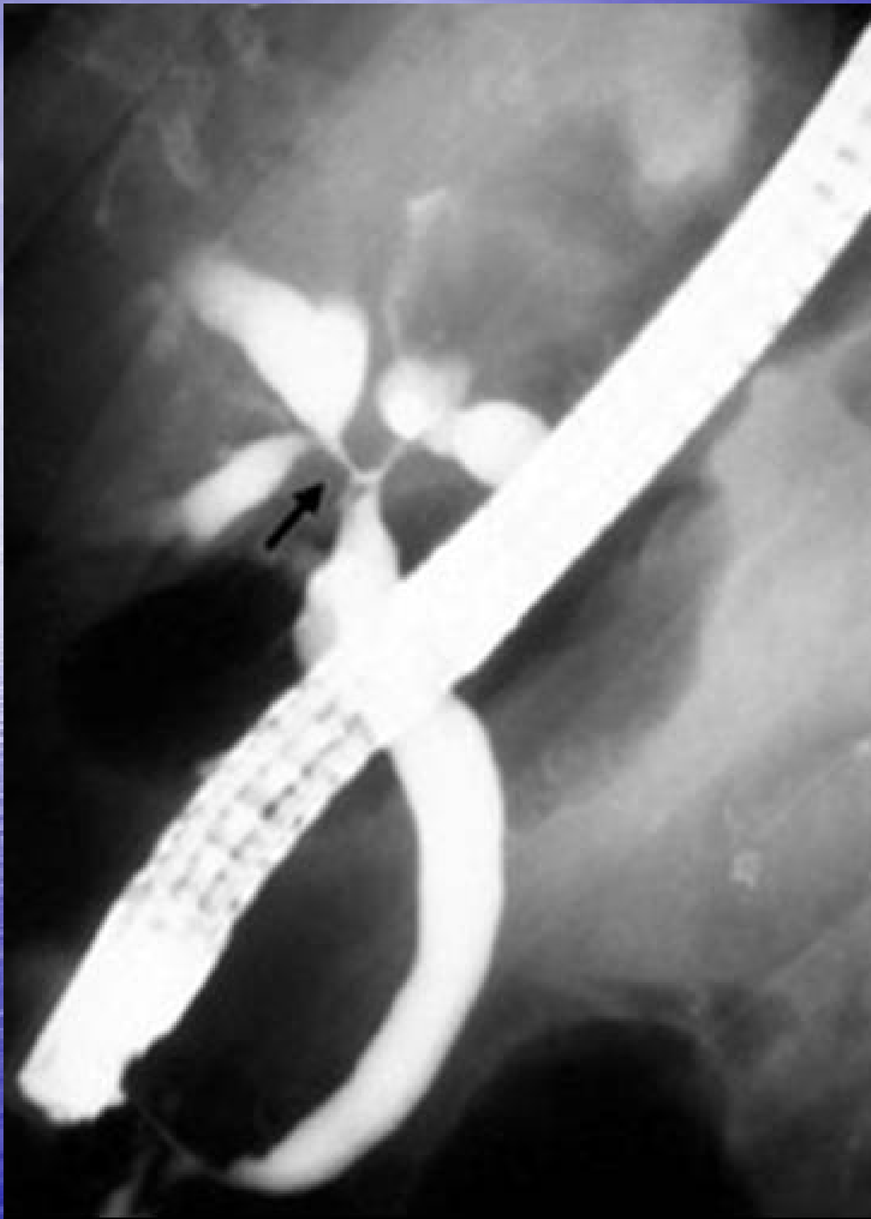
- Most common cause of malignant bile duct stricture
- **CT has become the gold standard for the diagnosis of pancreatic carcinoma**



- *Character CT findings:* obstruction with uniform dilatation of the distal pancreatic duct in the absence of duct calculi(compared with the irregular chain of lakes of chronic pancreatitis)

Cholangiocarcinoma

- *Peripheral cholangiocarcinoma—present* as an intrahepatic hypodence mass with adjacent biliary dilatation
- *Hilar cholangiocarcinoma*—Klaskin's tumor is usually small, poorly differentiated, aggressive, and cause obstruction of both ductal system
- *Extrahepatic cholangiocarcinoma*—cause stenosis or obstruction of the CBD



- ERCP, demonstrating extreme stenosis of the confluence of the left and right hepatic duct (arrow), extending into the proximal portion of the common hepatic duct due to infiltrative form of CCC.

Surgical intervention

- 2001-05-09: cholecytectomy + tumor biopsy
- Pathology: adenocarcinoma, hilum

Discussion

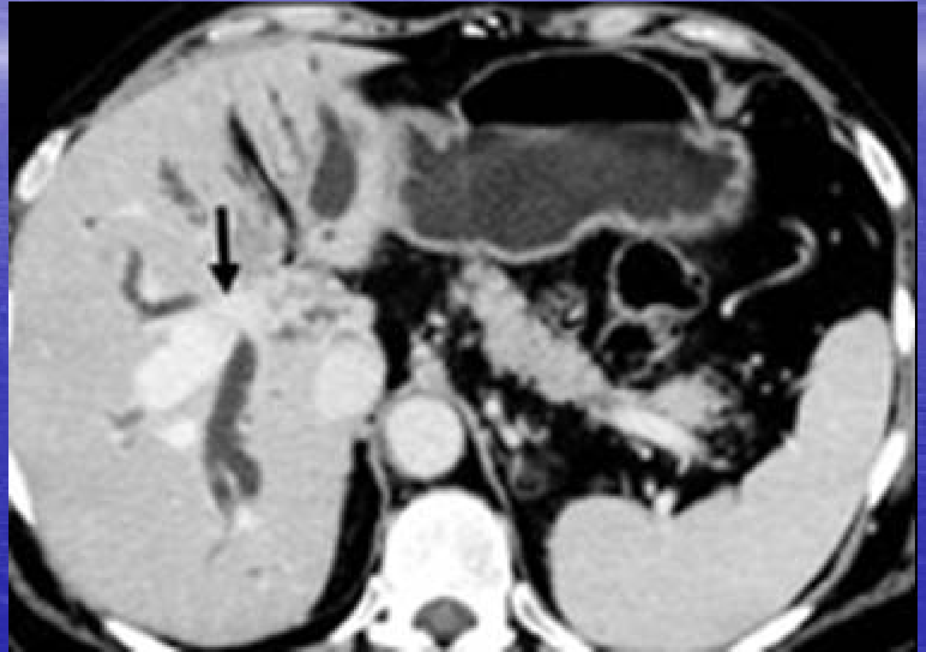
- Cholangiocarcinomas (CCC) are malignancies of the biliary duct system, originating in the liver and terminating at the ampulla of Vater.
- The etiology of most bile duct cancers remains undetermined.
  --Long-standing inflammation, as with primary sclerosing cholangitis (PSC) or chronic parasitic infection, has been suggested as playing a role

Discussion

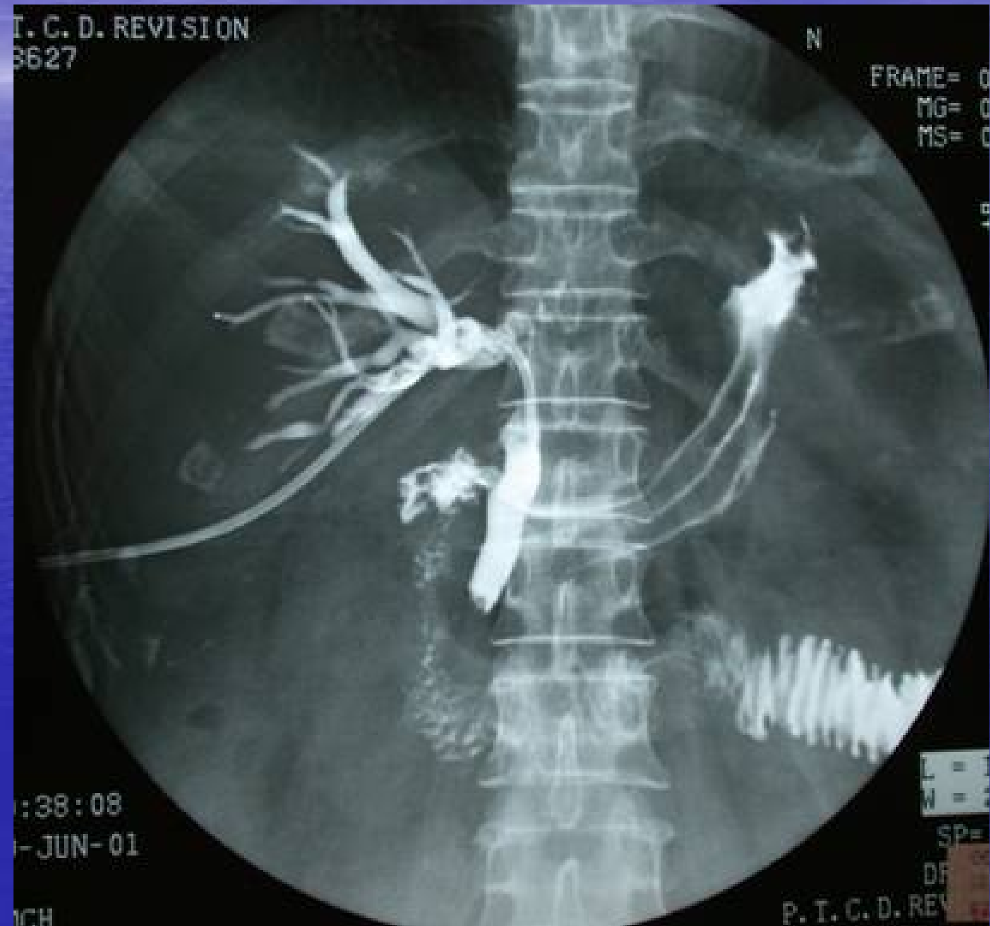
- Symptoms may include jaundice, clay-colored stools, dark urine, pruritus, weight loss, and abdominal pain.
- The patient may have a palpable gallbladder, which commonly is known as Courvoisier sign.
- Lab—
  --elevated conjugated (i.e., direct) bilirubin, Alkaline phosphatase, gamma-glutamyltransferase (GGT)
  --GOT/GPT may be normal or minimally elevated.
  --With prolonged obstruction, PT can become elevated from vitamin K mal-absorption

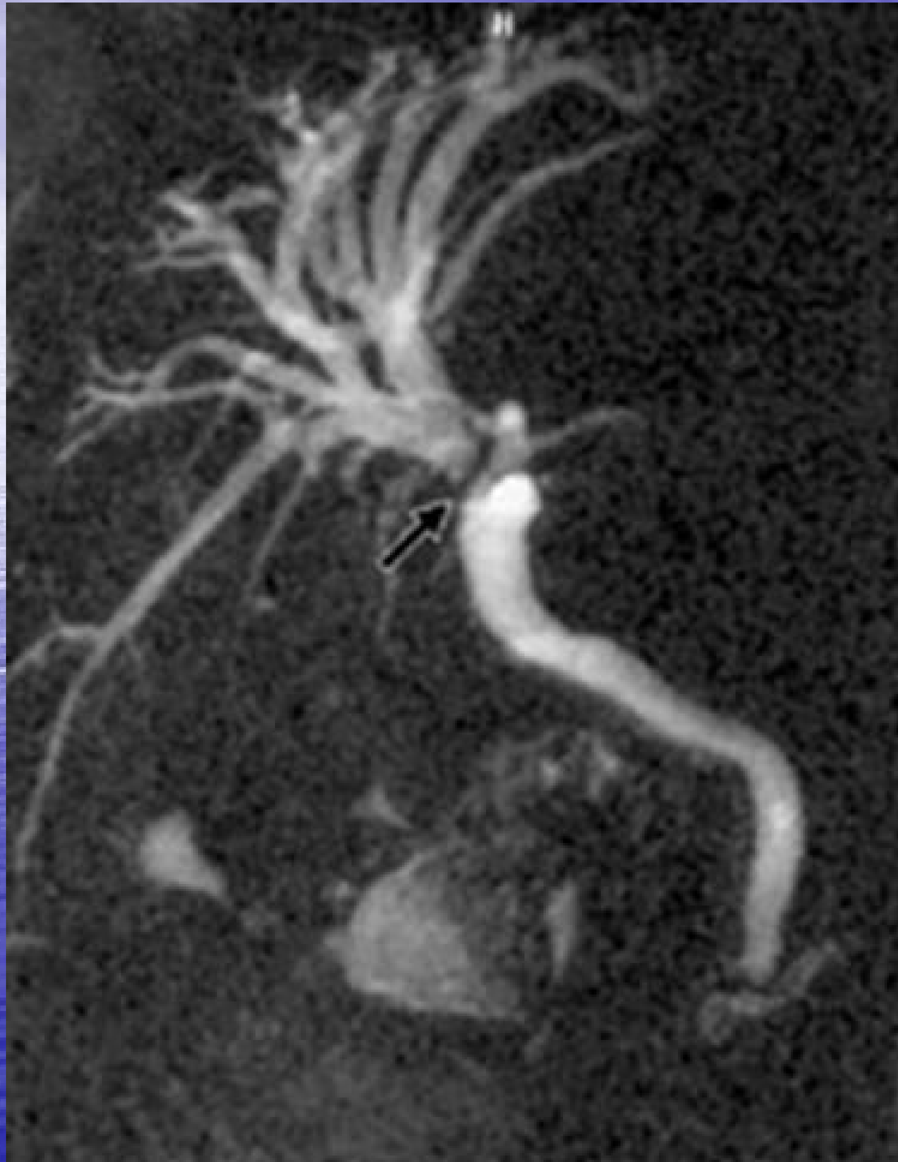
Discussion

- In general, ultrasound or computed tomography (CT) scan is performed initially, followed by a type of cholangiography.
- CT scan resembles ultrasound in that it may demonstrate ductal dilatation and large mass lesions.



- Until recently cholangiography either by ERCP or PTCD available to display correctly the full extent of CCC with an accuracy varying between 89 and 96%.





- MRCP, revealing a marked dilatation of intrahepatic bile ducts. Extreme narrowing (arrow) of the confluence of the left and right hepatic duct.

Discussion

- Complete surgical resection is the only therapy to afford a chance of cure.
- Unfortunately, only 10% of patients present with early stage disease and are considered for curative resection.
- Intrahepatic and Klaskin tumors require liver resection, which may not be an option for older patients with co-morbid conditions.