膽胰癌的危險因子與診斷

2015.06.26

臺大醫院 雲林分院

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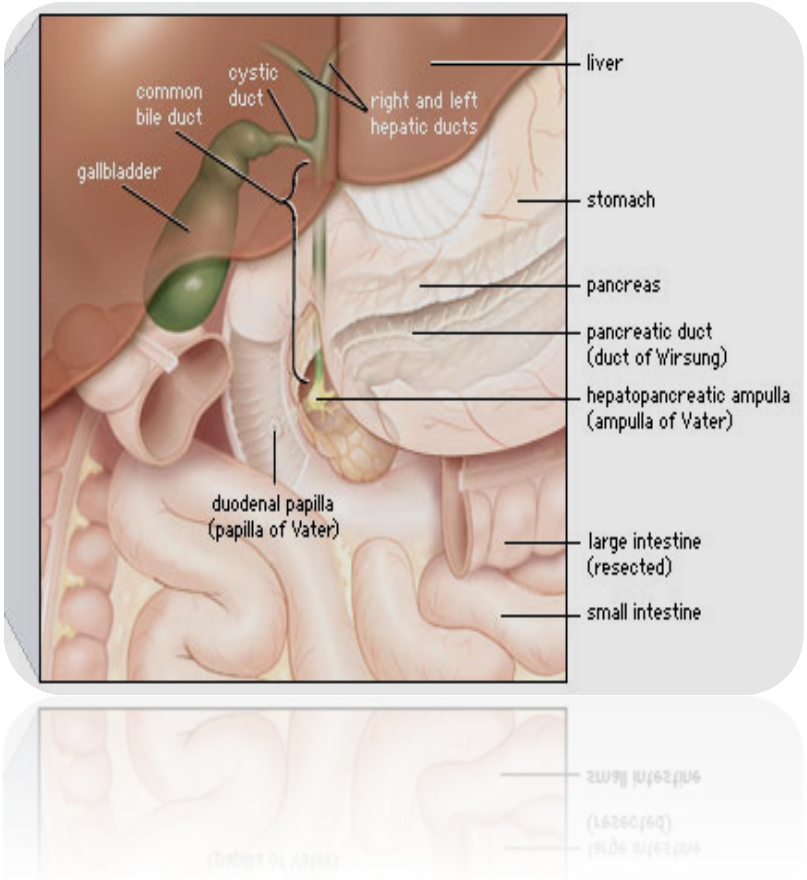
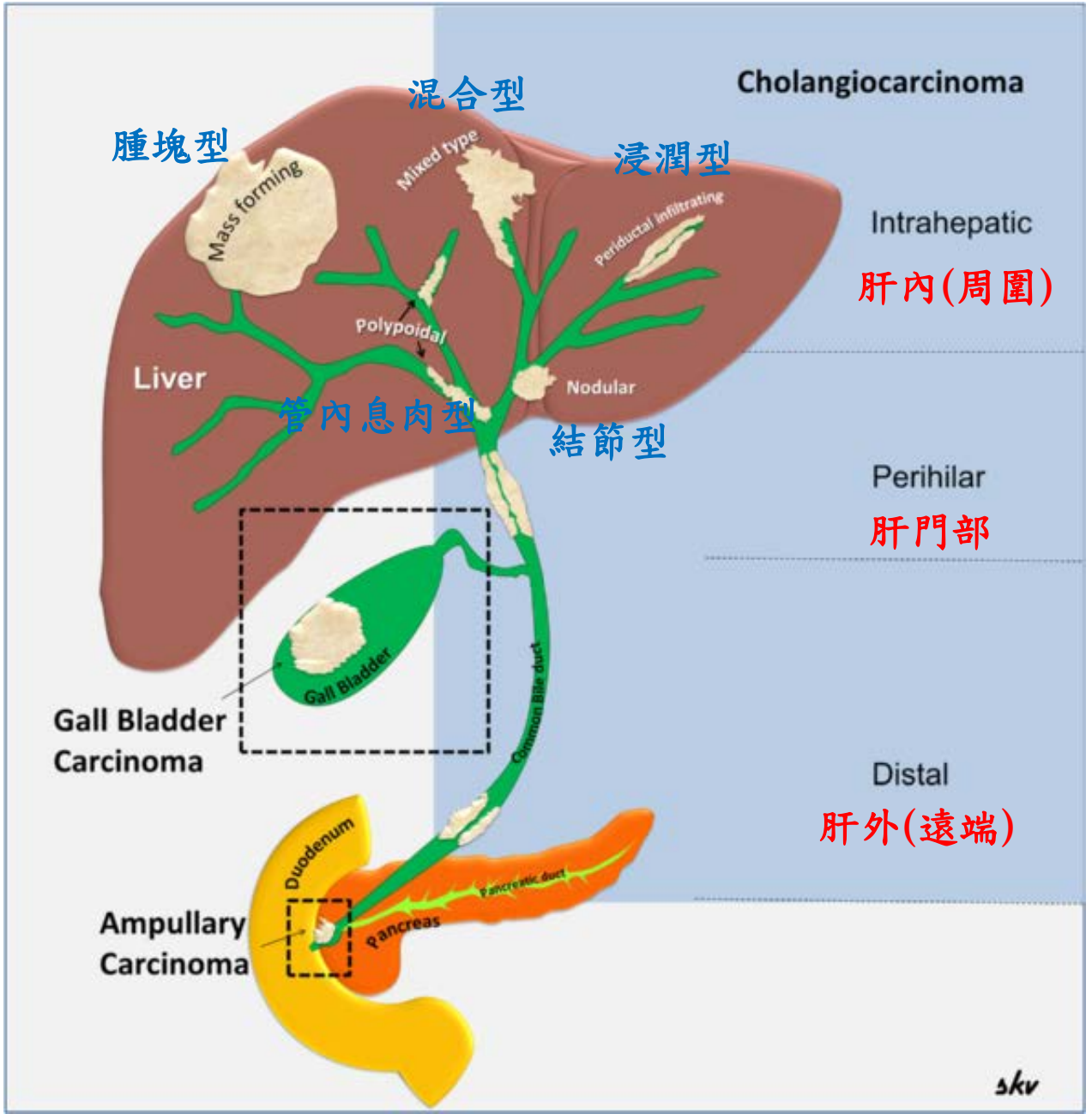


膽胰癌的種類


Cholangiocarcinoma
混合型
腫塊型
浸潤型
Mixed type
Mass forming
Periductal infiltrating
Intrahepatic
肝內(周圍)
Polypoidal
Liver
管內息肉型
Nodular
結節型
Perihilar
肝門部
Gall Bladder
Gall Bladder Carcinoma
Common Bile duct
Distal
肝外(遠端)
Duodenum
Pancreatic duct
Pancreas
Ampullary Carcinoma
skv

胰臟癌危險因子

- 糖尿病 (↑ 2-3x)
- 胰臟囊腫 (Pancreatic cysts)
- 環境因素
  - 吸菸 (↑ 1-2x)
  - 肥胖、缺乏運動
    - BMI：>30 vs. <23; RR：1.72
  - 飲食(西方)
    - 飽和脂肪、煙燻燒烤的肉類
  - 咖啡、酒精 (可能有害，結論分歧)
  - 使用aspirin以及NSAID (可能有益，結論分歧)
  - 幽門螺旋桿菌
  - 慢性B型肝炎

胰臟癌危險因子

- 與遺傳相關
  - 遺傳性胰臟炎 (Hereditary pancreatitis)
  - 遺傳性癌症易感症候群 (Inherited cancer susceptibility syndromes)
    - Hereditary breast cancer: BRCA and PALB2
    - Peutz-Jeghers syndrome
    - Familial atypical multiple-mole melanoma (FAMMM) syndrome
    - Ataxia-telangiectasia
    - Lynch syndrome and FAP
    - Familial pancreatic cancer
- ABO血型
  - O-type vs. non O-type：↑ 1-2x risk
- 非遺傳性慢性胰臟炎

膽管癌危險因子

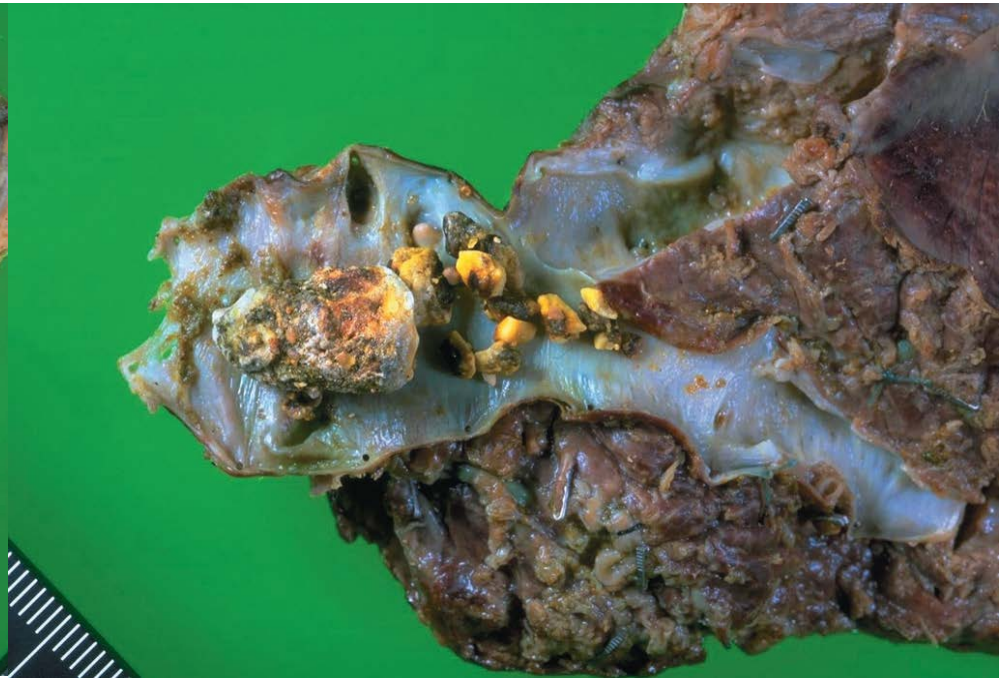
- 年紀
  - 65%患者年紀在>65歲以上
- 慢性肝內結石
  - 在亞洲，多達10%的肝內結石患者會罹患 肝內膽管癌
- 膽道腺瘤及乳突瘤 (Bile duct adenoma and biliary papillomatosis)
- 膽總管囊腫，肝內膽道囊腫 (Caroli's disease)
  - 終身罹患膽管癌風險約6–30%；風險隨年紀增加，多發生於四十多歲時。(較偶發的膽管癌年輕)。
- Thorotrast(顯影劑)
  - 已禁用

膽管癌危險因子

- 中華肝吸蟲及泰國肝吸蟲
  - 東南亞如泰國東北部，膽管癌是比較常見的
- 慢性沙門氏菌帶原
  - 東南亞;肝膽所有惡性腫瘤的風險增加六倍
- 原發性硬化性膽管炎(Primary sclerosing cholangitis)
  - 終生膽管癌風險：10-15%
- 潰瘍性大腸炎 (Ulcerative colitis)
- 膽汁性肝硬化 (Biliary cirrhosis)
- 慢性C型肝炎 (Chronic hepatitis C)
- 亞硝胺 (Nitrosamine exposure)

肝內結石

- Calcium bilirubinate stone (bilirubin + Chol + Fatty acid + Ca) “brown pigmented stone”
- Cholesterol stone



總膽管囊腫

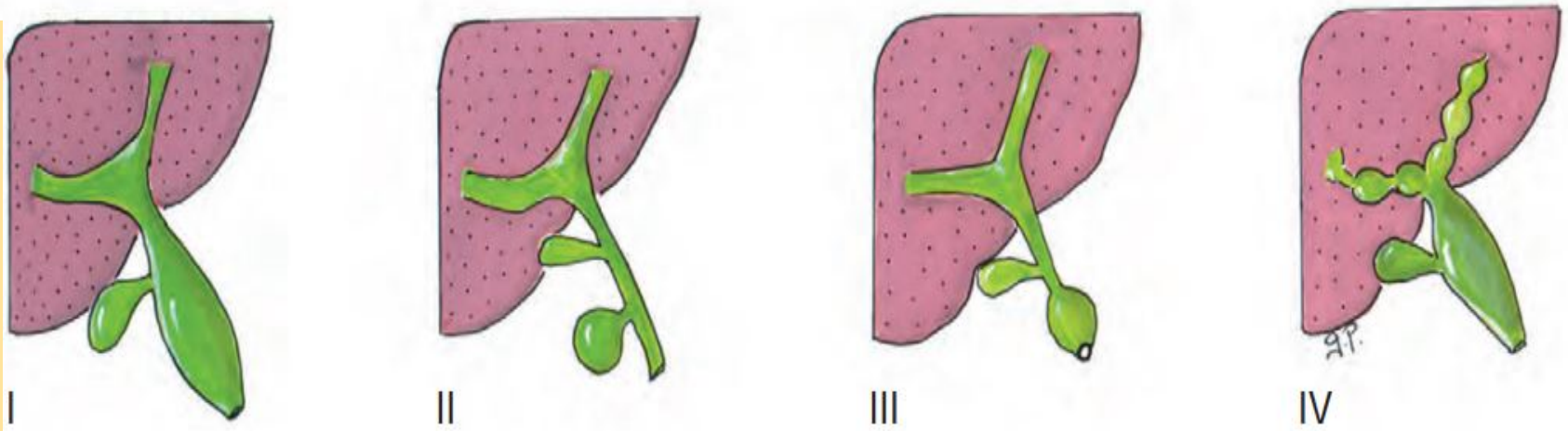


FIGURE 6-6. Todani classification system for choledochal cysts. **Type I cyst:** diffuse dilation of the extrahepatic bile duct; this is the most common type (80%). **Type II cyst:** true diverticulum of the bile duct; very rare. **Type III cyst:** also called choledochocele; diffuse dilation of the very distal (intraduodenal) common bile duct. **Type IV cyst:** multifocal dilations of the intrahepatic and extrahepatic bile ducts. **Type V cyst,** Caroli's disease, is omitted because it is not a true choledochal cyst. *(From Todani T, Watanabe Y,*

肝內膽道囊腫

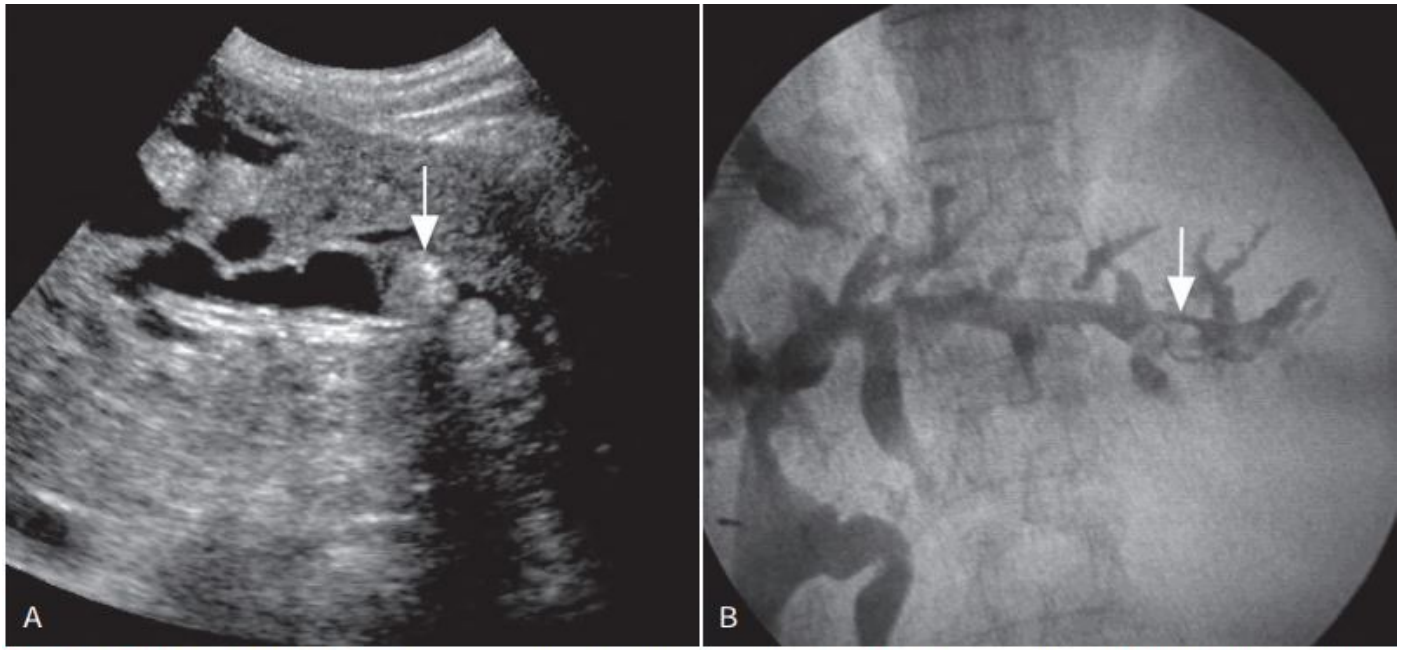
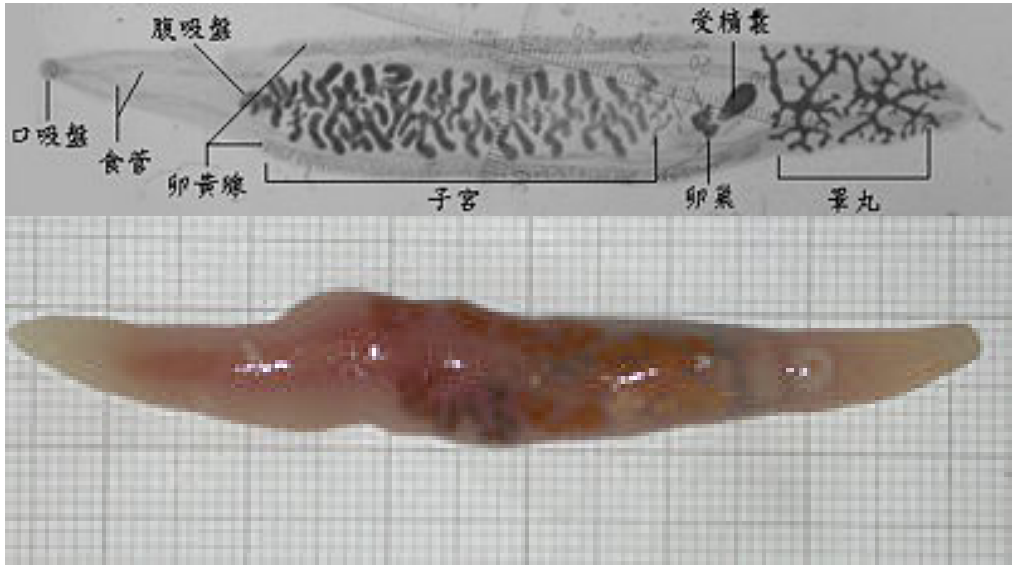
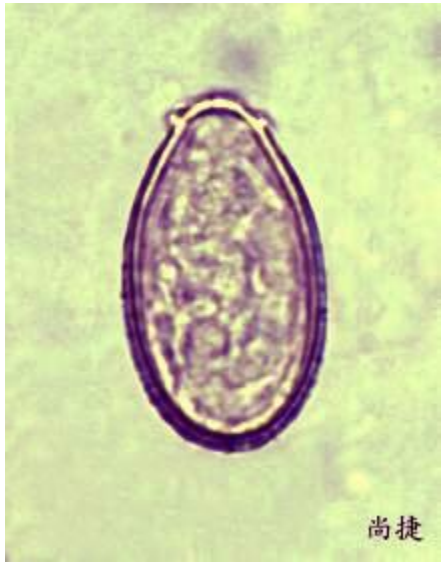


FIGURE 6-8. Caroli's disease. **A,** Transverse image through the left lobe of the liver demonstrates a dilated duct with sacculations typical of Caroli's disease. Mildly shadowing stones *(arrow)* are seen in the proximal duct. **B,** Corresponding cholangiogram shows the stones *(arrow)* as filling defects.

肝吸蟲





膽胰癌的診斷

- 典型病徵：膽汁滯留包括黃疸、茶褐色尿液、灰白便、皮膚癢、腹痛、身體不適與體重下降。
  - 血液檢驗資料 顯示膽紅素，鹼性磷酸酶上升。凝血 酶原時間(PT) 延長及脂溶性維他命K的 減少。
- 非特異的症狀， 如腹痛、體重下降、身體不適及食慾不良；偶爾可能 觸摸到腹部腫塊。

膽胰癌的影像學診斷

- 超音波
- 斷層掃描
- 核磁共振

- 內視鏡超音波
- 膽胰鏡併膽道攝影
- 經皮穿肝膽道攝影及引流術

腹部超音波常常最先被使用，可以顯現出腫瘤的位置與大小。

超音波的診斷於病人有黃疸時是良好的診斷工具，90%以上的病例可以提 供足夠的診斷。

膽胰癌的影像學診斷

- 超音波
- 斷層掃描
- 核磁共振

- 內視鏡超音波
- 膽胰鏡併膽道攝影
- 經皮穿肝膽道攝影及引流術

電腦斷層(CT)檢查可以證實膽管擴張，評估肝實質及淋巴結被侵犯的程度。

可以提供94%的正確診斷率，而僅能提供64%的可切除率預測。

膽胰癌的影像學診斷

- 超音波
- 斷層掃描
- 核磁共振

核磁共振可以顯現出腫瘤的大小，血管侵犯的程度，也可以更精確顯現膽管癌與膽管的相關位置。

合併MRCP有95%的正確診斷率。

- 內視鏡超音波
- 膽胰鏡併膽道攝影
- 經皮穿肝膽道攝影及引流術

膽胰癌的影像學診斷

- 超音波
- 斷層掃描
- 核磁共振

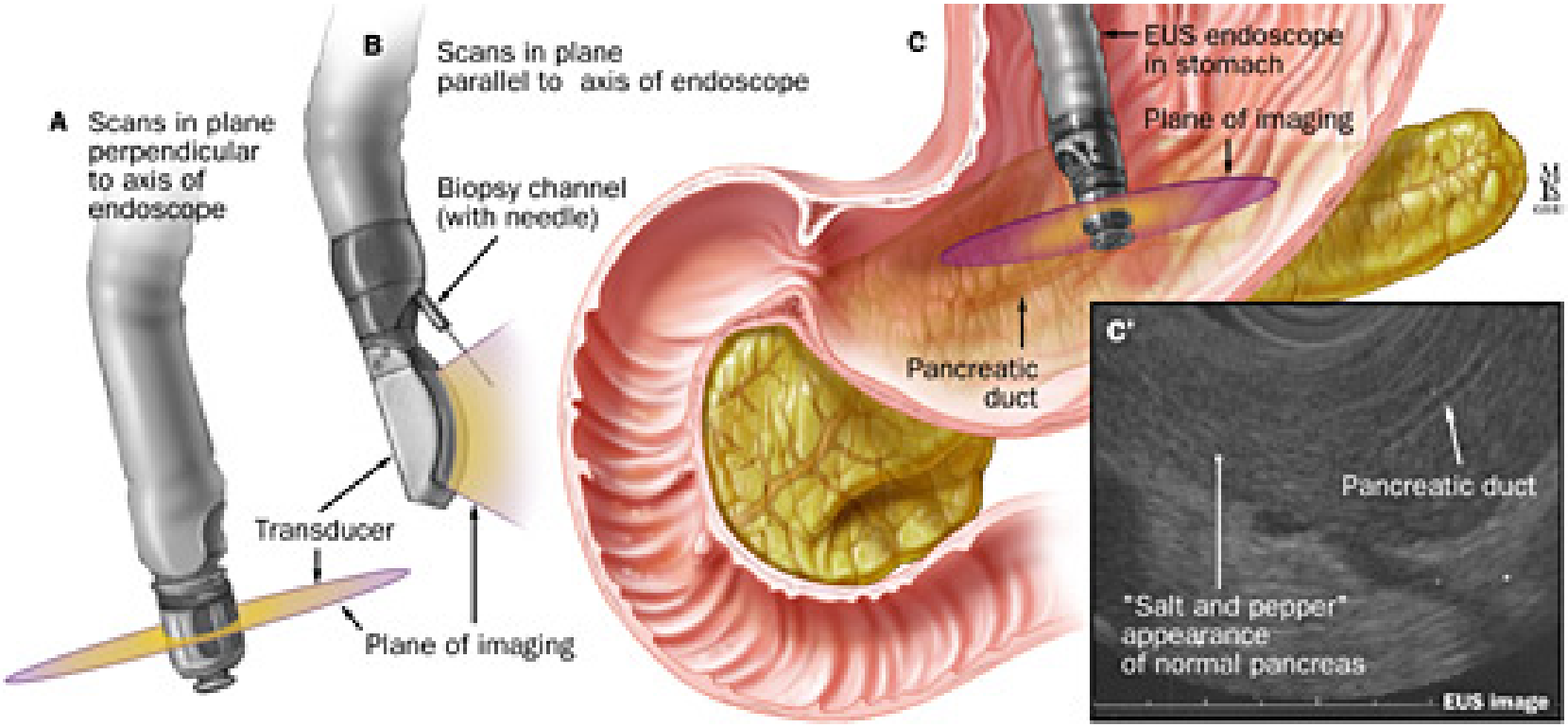
- 內視鏡超音波
- 膽胰鏡併膽道攝影
- 經皮穿肝膽道攝影及引流術

侵襲性檢查；找更細微的組織病灶、介入引流、取得組織

診斷-內視鏡超音波

- 內視鏡超音波(EUS)
  - 優點
    - 觀察較為細小的構造
    - 細針穿刺切片檢查(Fine-needle aspiration/biopsy)
  - 缺點
    - 細針穿刺切片造成轉移(seeding the biopsy tract)

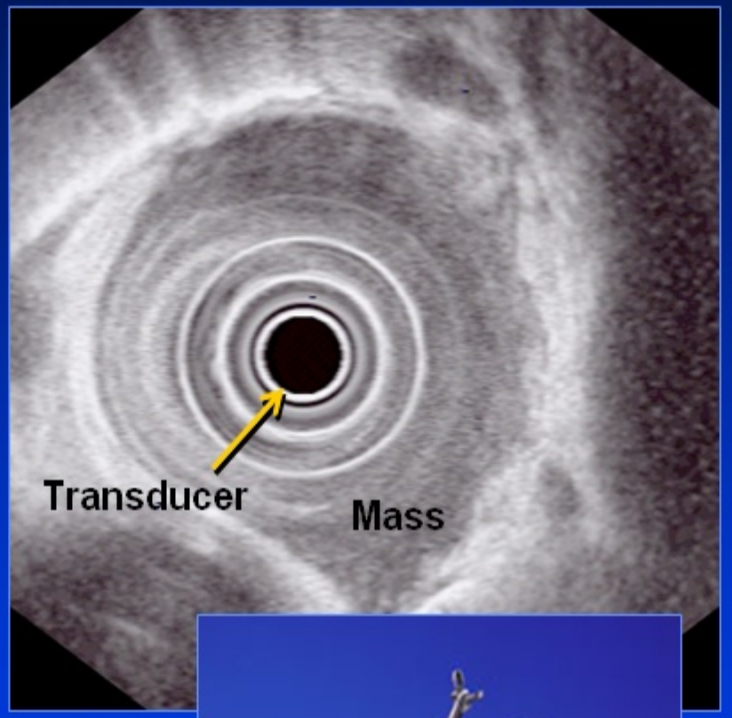
內視鏡超音波


A Scans in plane perpendicular to axis of endoscope
B
Scans in plane parallel to axis of endoscope
Biopsy channel (with needle)
Transducer
Plane of imaging
C
EUS endoscope in stomach
Plane of imaging
Pancreatic duct
C'
Pancreatic duct
"Salt and pepper" appearance of normal pancreas
EUS image

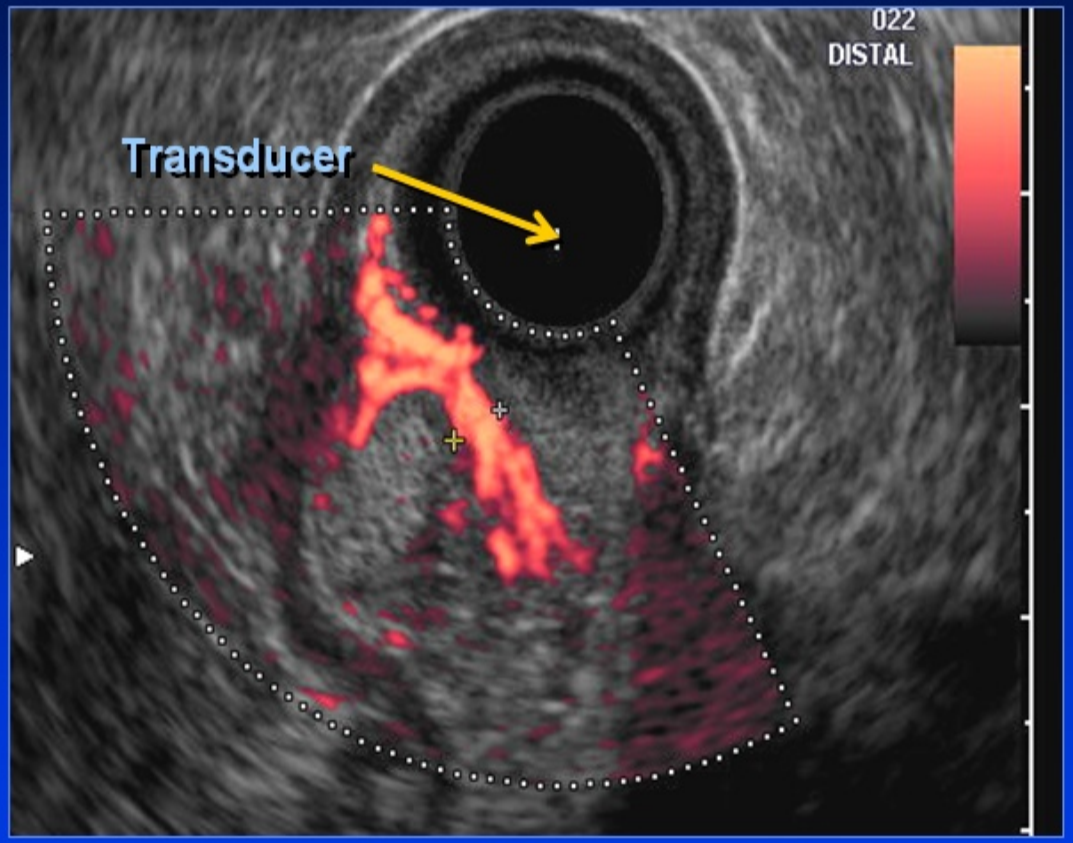
內視鏡超音波(環狀/機械式)

- Advantages
  - Cross sectional imaging
  - Easier to learn
  - Moderate depth of penetration
- Disadvantages
  - No ability for FNA
  - No Doppler imaging
  - Needs frequent repair
- Traditionally used for staging of luminal GI malignancies

Radial image of esophageal cancer



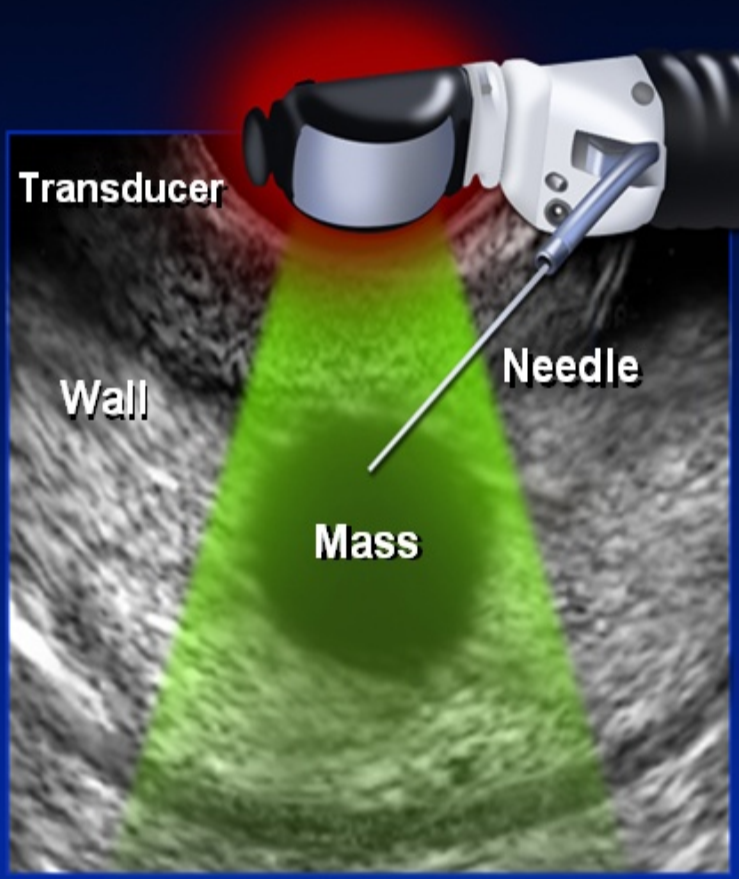
內視鏡超音波(環狀/電子式)

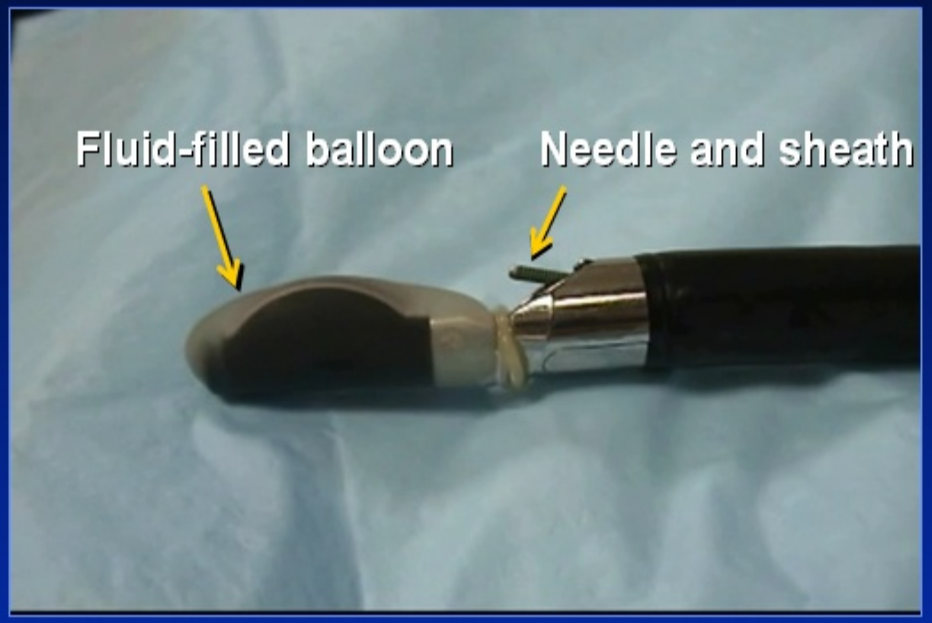


Cross sectional image of the GEJ with vessels (color Doppler)

Radial echoendoscope

內視鏡超音波(線狀)

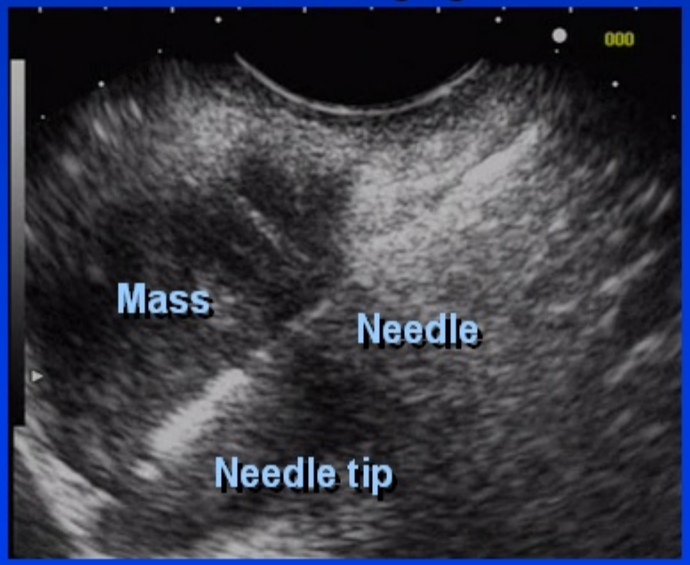

Transducer
Wall
Needle
Mass
Ultrasound beam

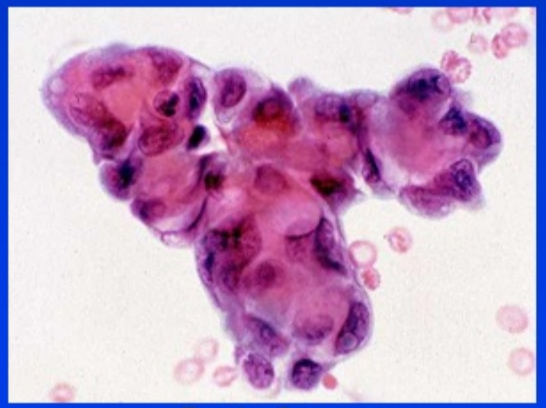

Fluid-filled balloon
Needle and sheath

內視鏡超音波-細針穿刺檢查

- Linear echoendoscope
- Color Doppler
- Aspiration needle
- Intramural lesions
- Adjacent organs
- Cytology

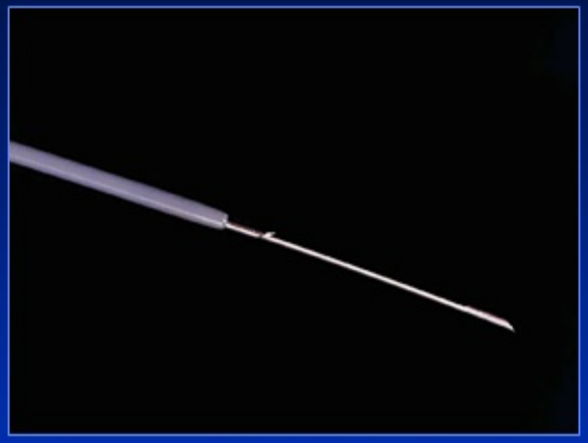
EUS imaging





Cytology

EUS Accessories



Diagnostic FNA Device

Therapeutic Cystotome

Needle Brush Cytology

Therapeutic Injection Needle

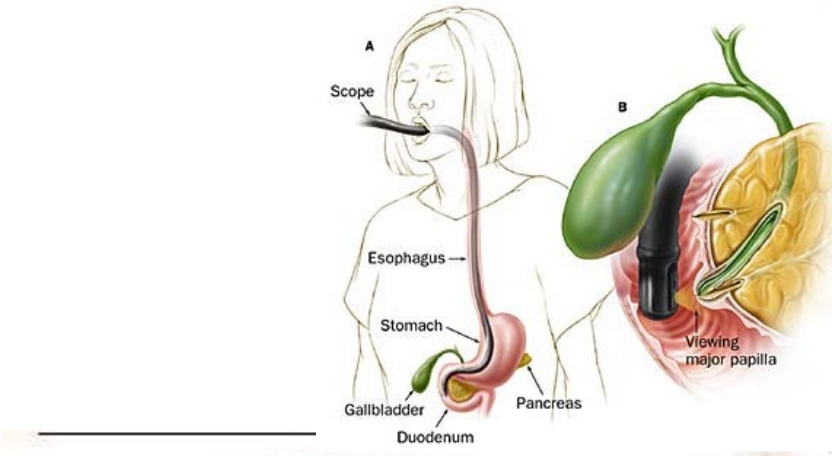
Wilson-Cook Quick-Core Needle

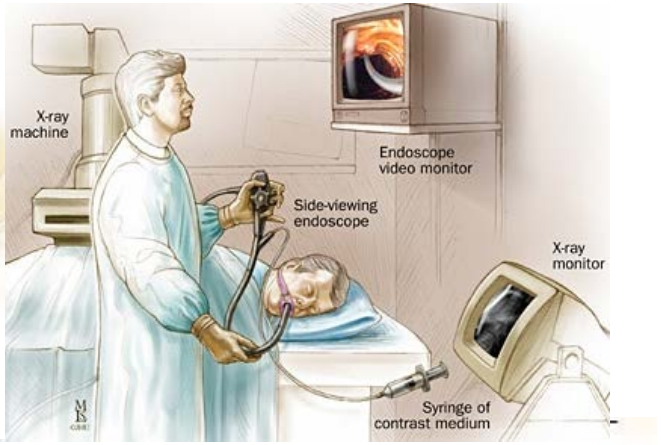
- 19-gauge needle
- Tru-cut design
- Spring-loaded
- No aspiration (core of tissue)

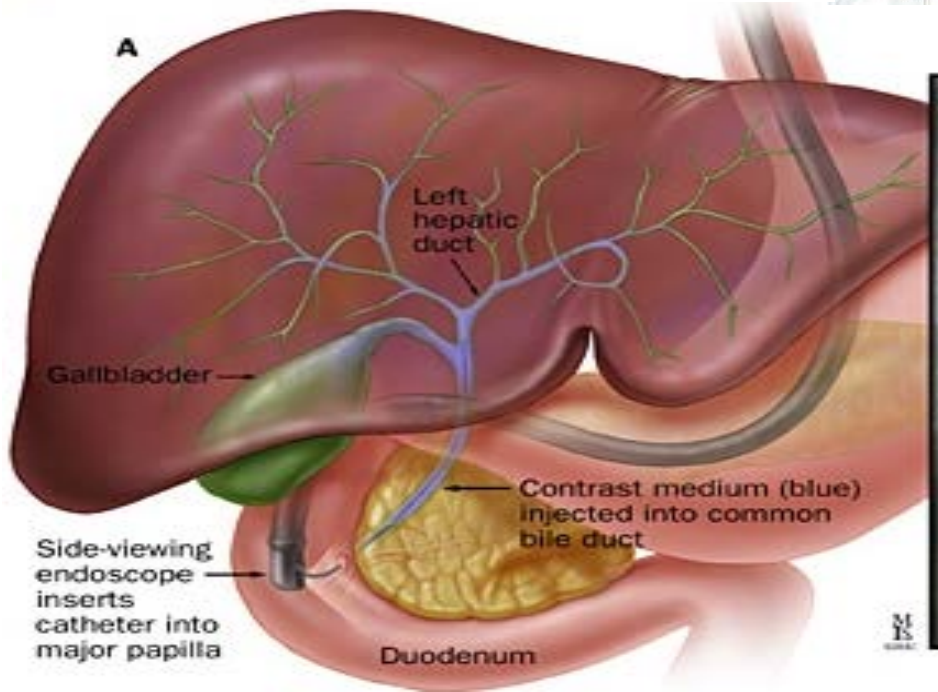
診斷--膽胰鏡併膽胰攝影(ERCP)

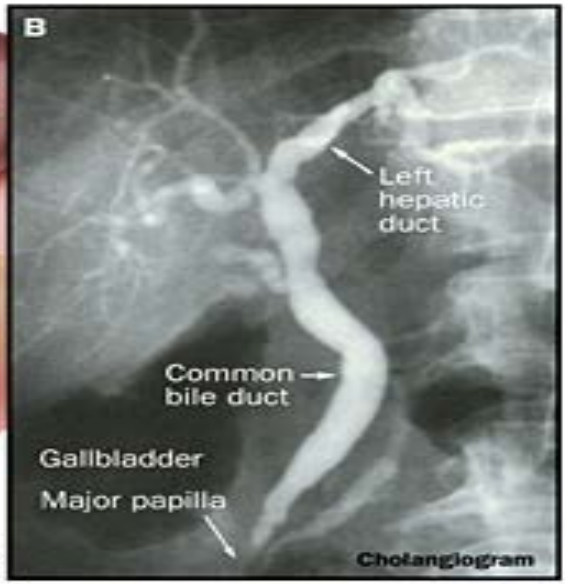
- 膽胰鏡併膽胰攝影(ERCP)
  - 優點
    - 觀察較為細小的膽道壁變化
    - 切片(Biopsy)
    - 刷細胞學檢查(Brush cytology)
    - 膽管內超音波(IDUS)
    - 支架置放
  - 缺點
    - 常見膽胰鏡檢查缺點
      - 膽管炎、胰臟癌、出血、穿孔
    - 注射顯影劑所造成的上昇性膽管炎

膽胰鏡併膽道攝影(ERCP)

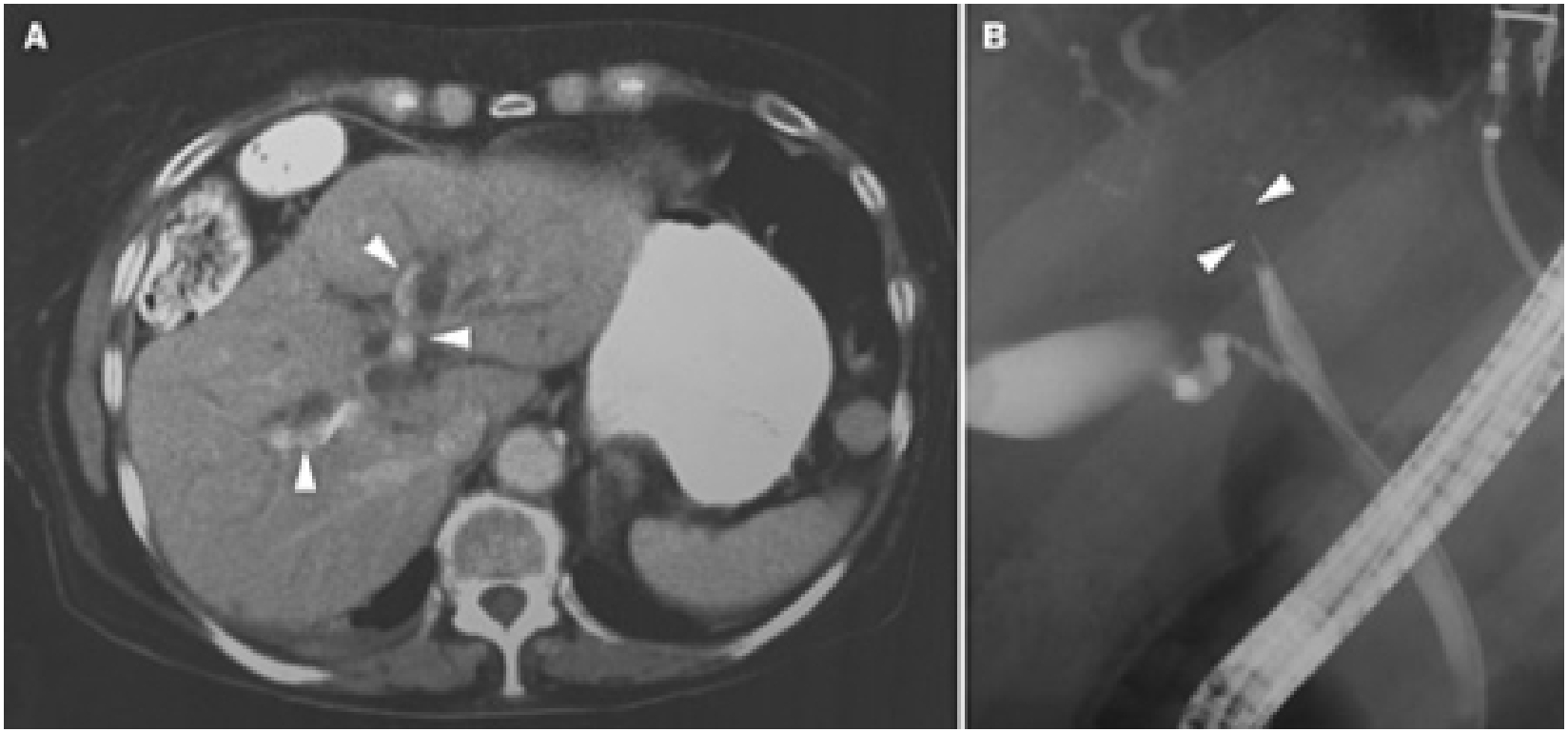








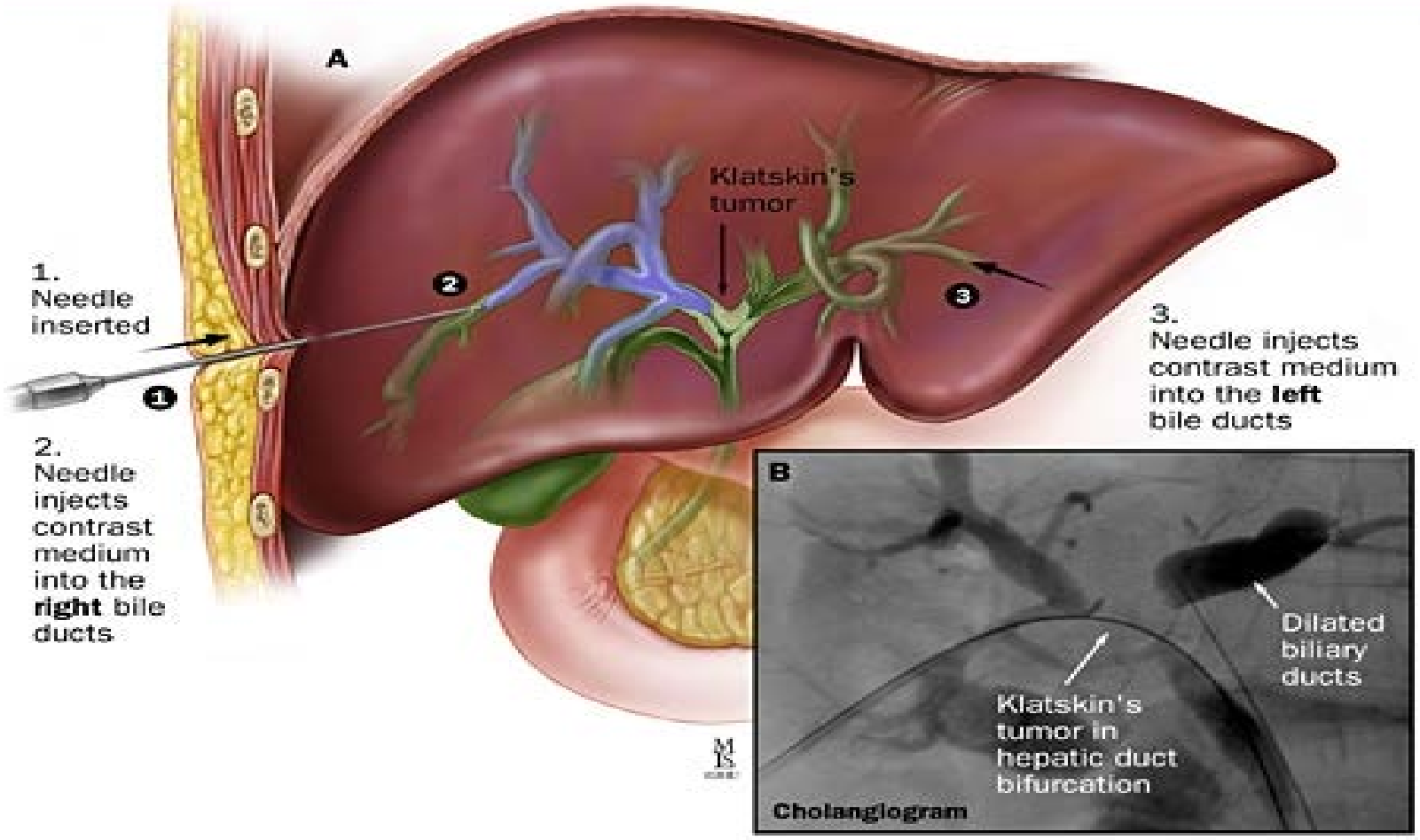
膽胰鏡併膽道攝影(ERCP)



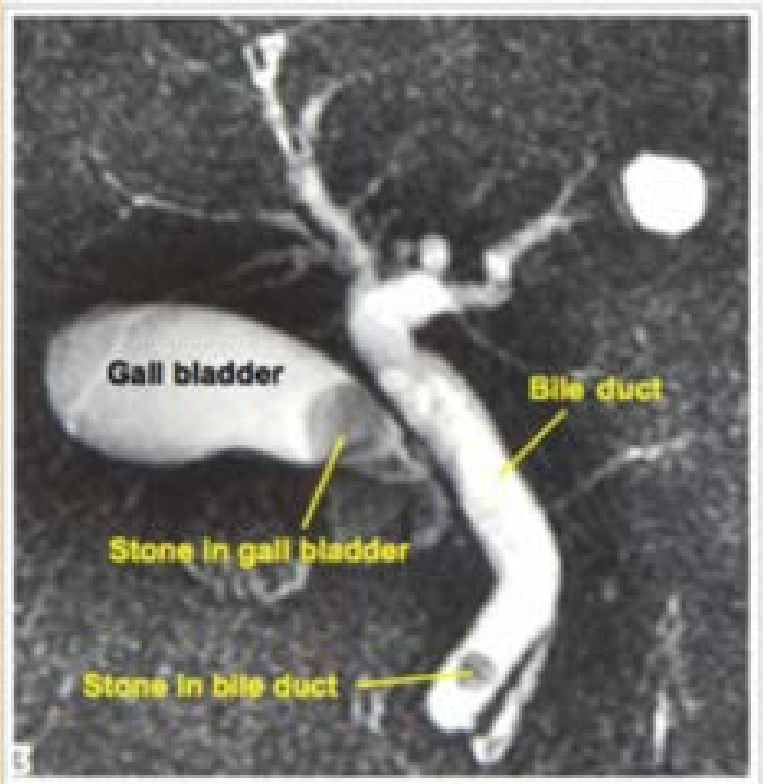
Comparison of radiographic images showing cholangiocarcinoma; A, computed tomography (CT) image; B, cholangiogram (ERCP) image. Arrows designate the tumor.

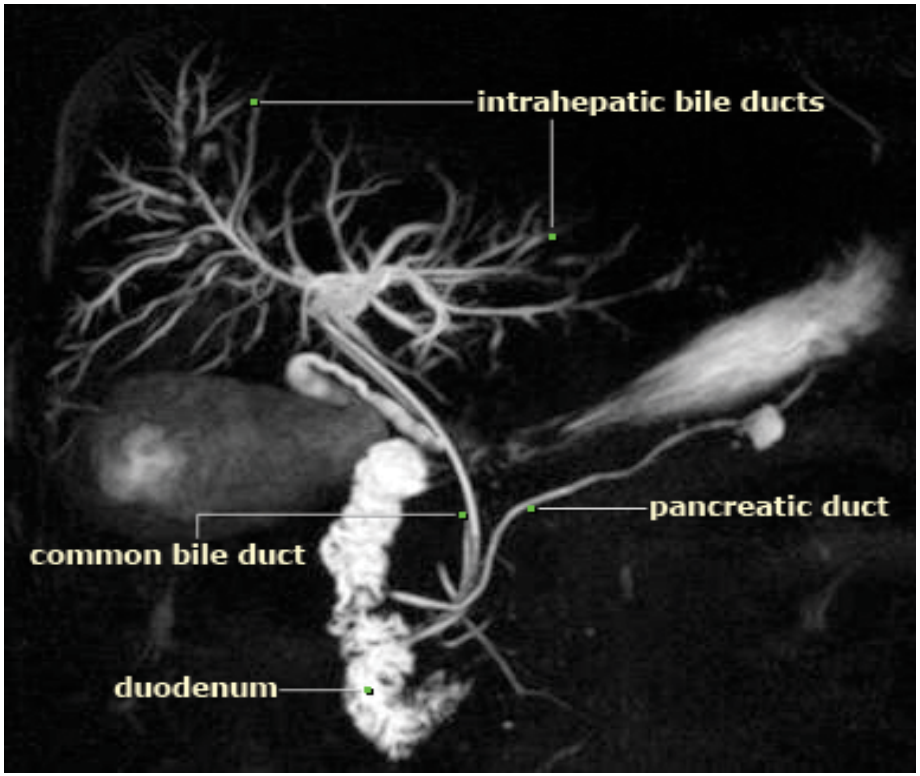
經皮穿肝膽道攝影(PTCD)

In this procedure, a thin needle is inserted through the skin and into the bile ducts. A dye is injected through the needle so that a contrast image will show up on X-rays



經皮穿肝膽道攝影(PTCD)



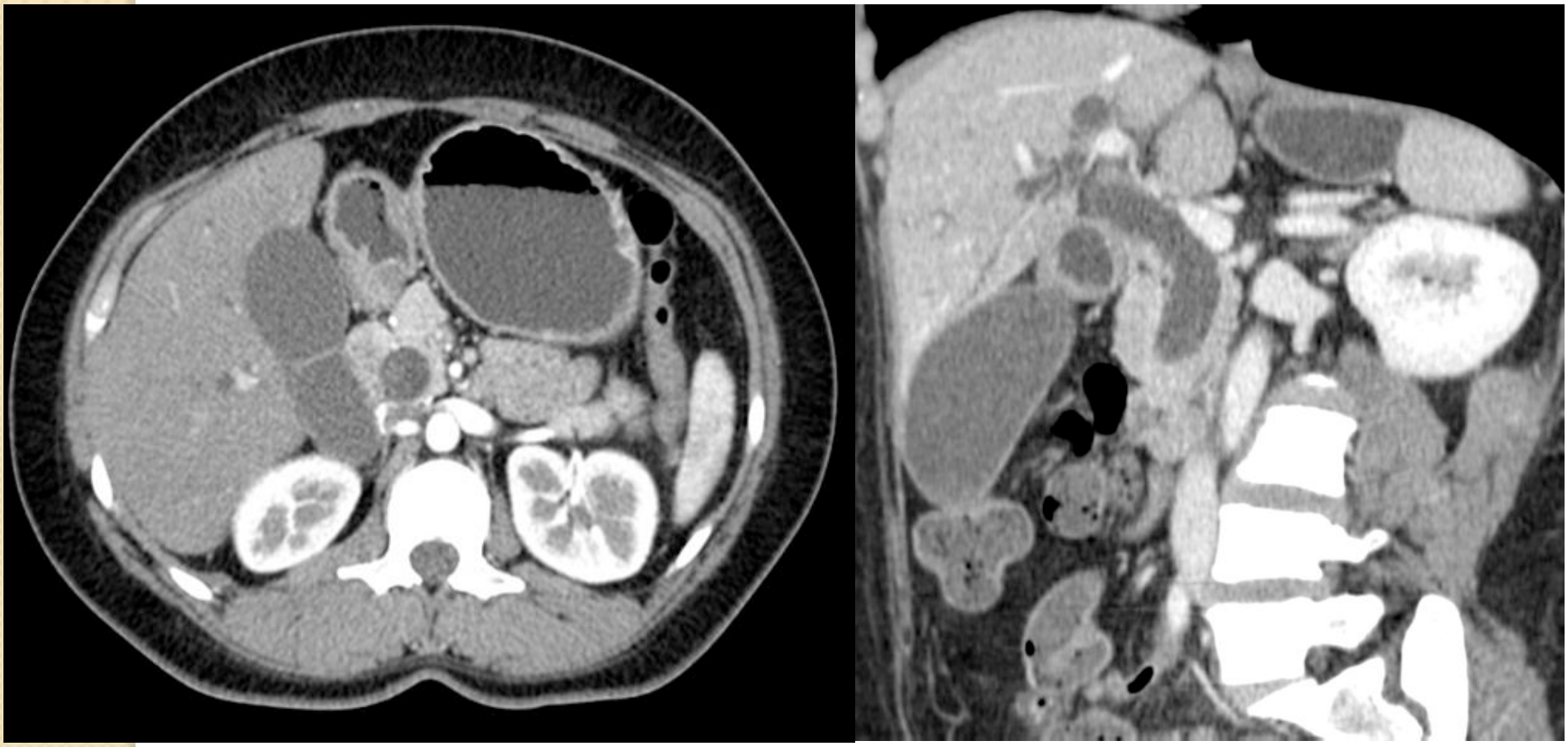


膽胰癌影像學診斷案例介紹

- 非侵入性影像檢查
  - 超音波、斷層掃描，核磁共振
- 侵入性影像檢查
  - 內視鏡超音波、膽胰鏡逆行性攝影

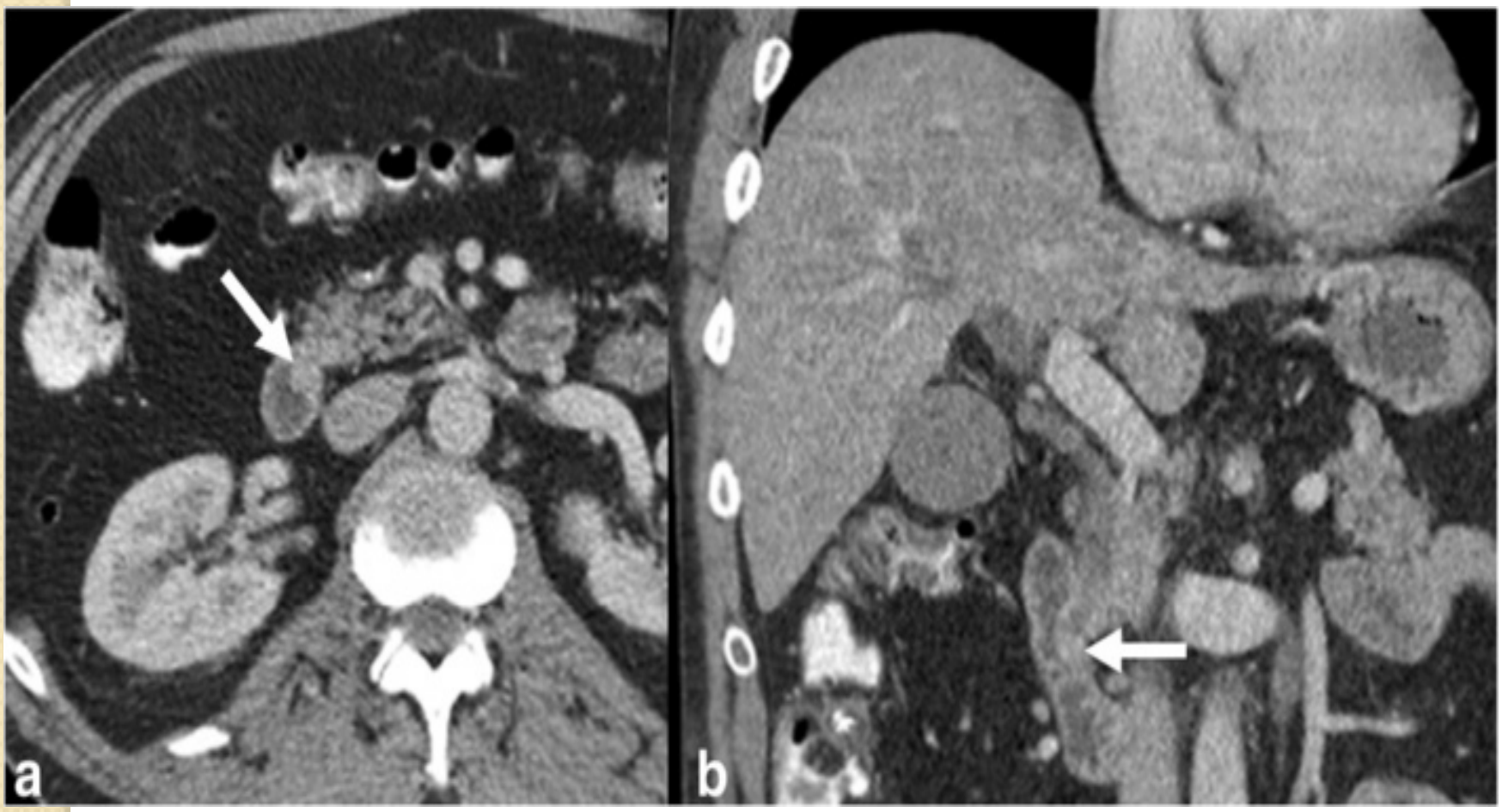
壺腹癌

Ampullary carcinoma. Contrast enhanced axial CT (a) and sagittal reformat (b) showing a small polypoid mass representing carcinoma in the ampulla of the bile duct.

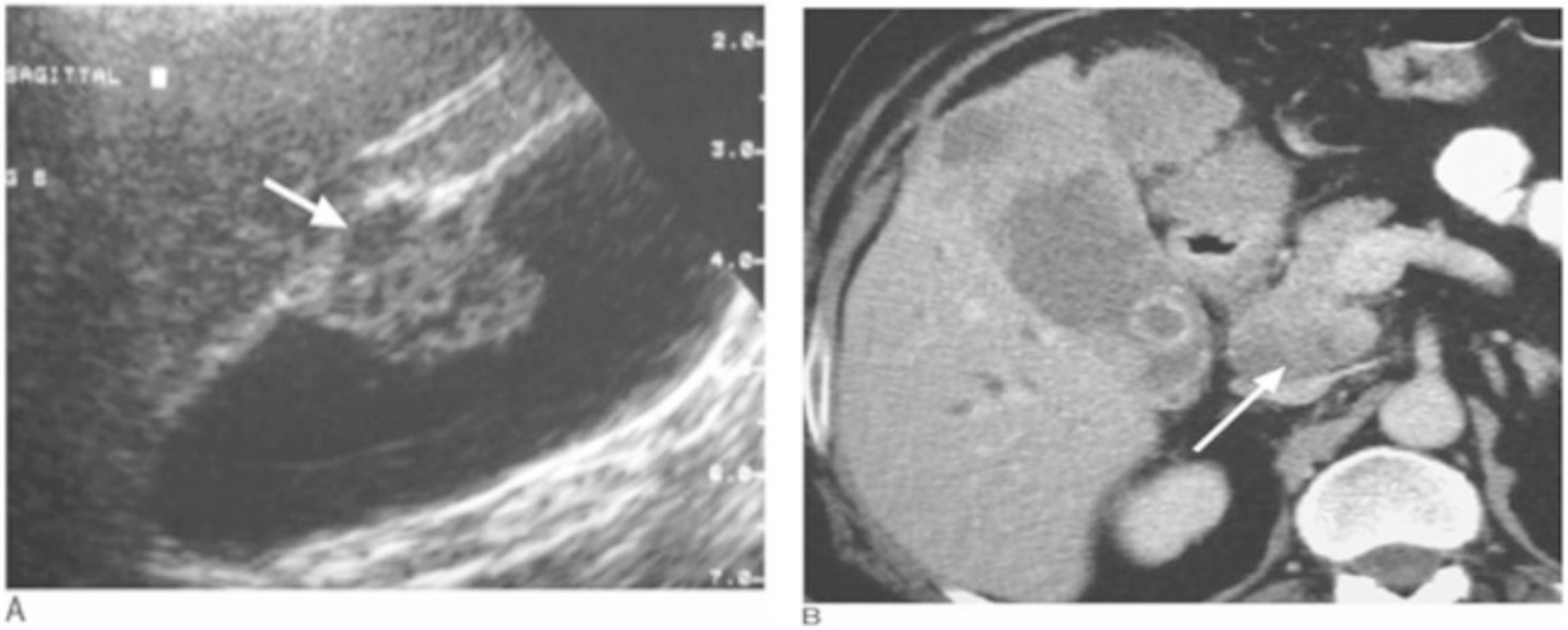


壺腹癌

Ampullary carcinoma. Contrast enhanced axial CT (a) and coronal reformat (b) showing a small polypoid mass (arrow) representing carcinoma in the ampulla of the bile duct.

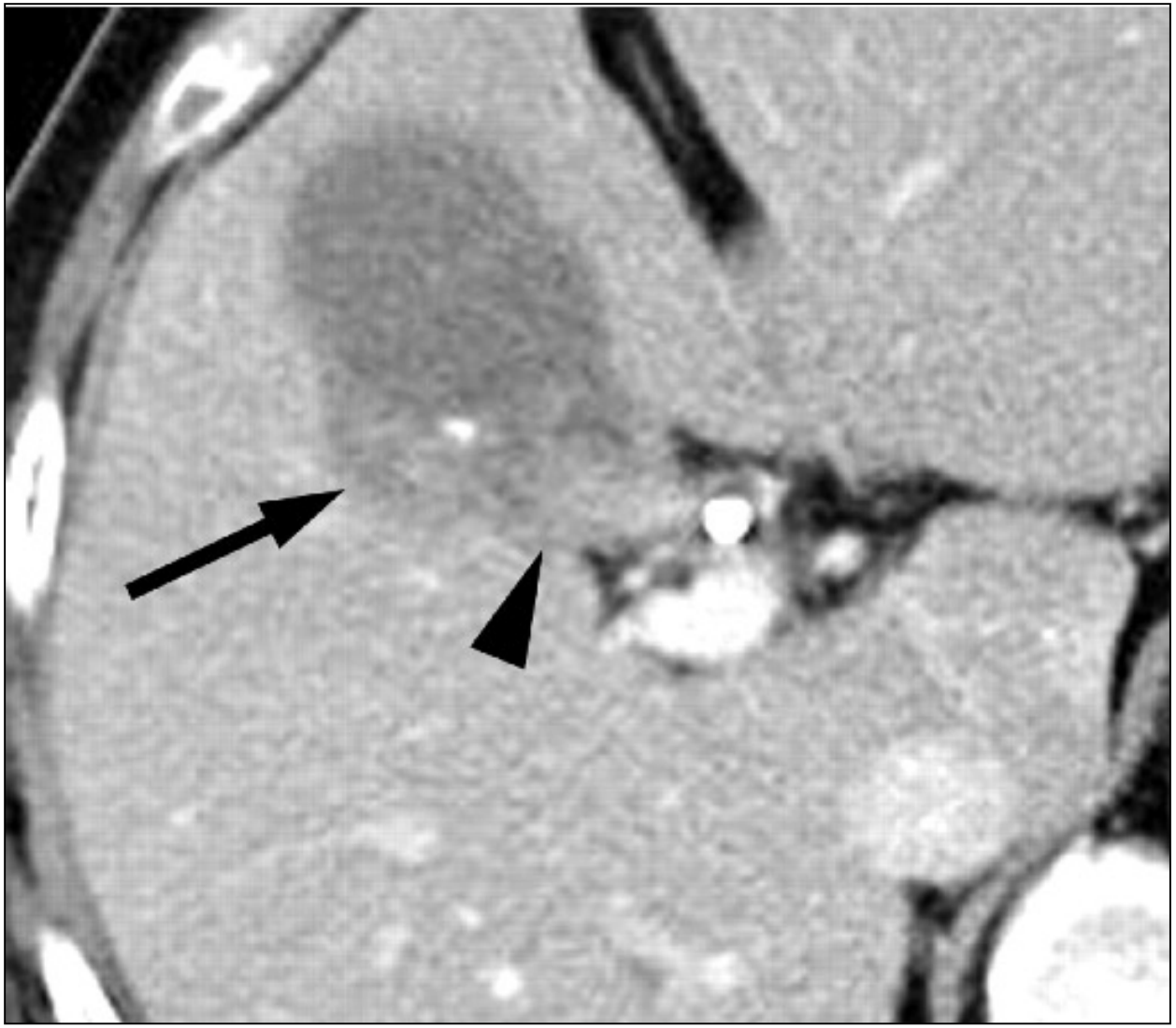


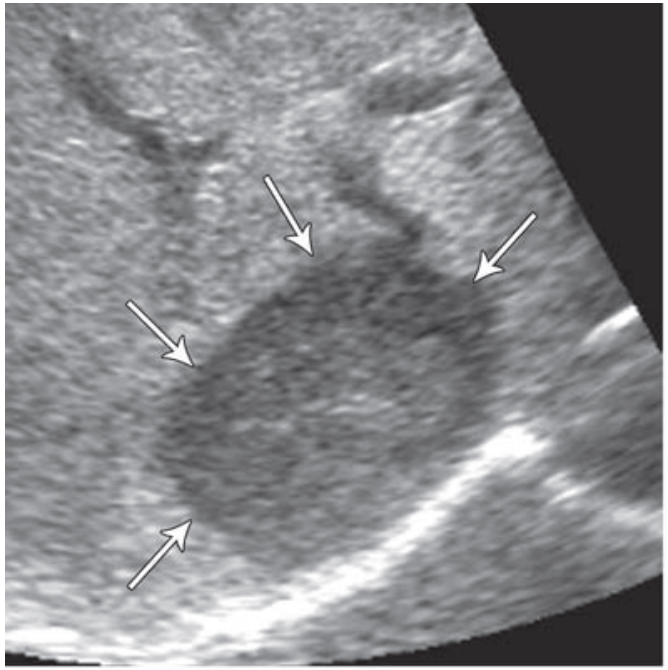
膽囊癌局部擴散



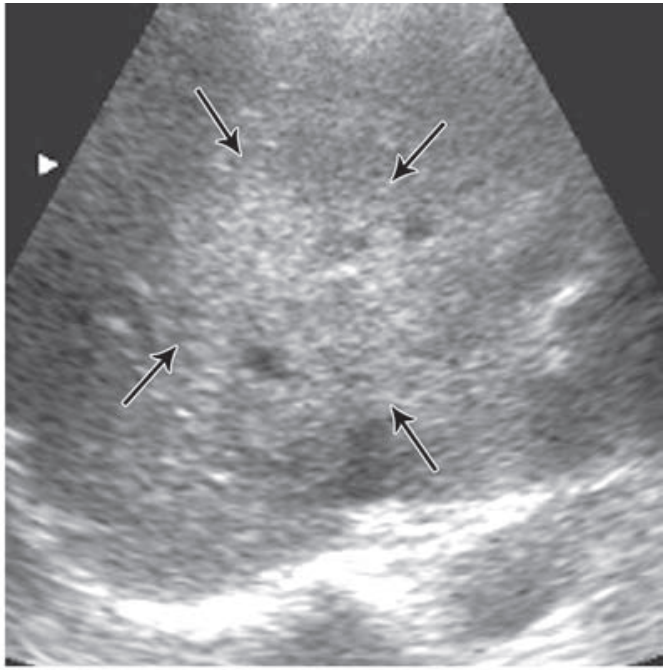
(A) Polypoidal growth with breach of continuity of the underlying wall (arrow).
(B) Advanced carcinoma extending outside the fundus, with a nodal metastasis posterior to the pancreatic head (arrow).

66歲女性，膽囊癌併肝臟侵入



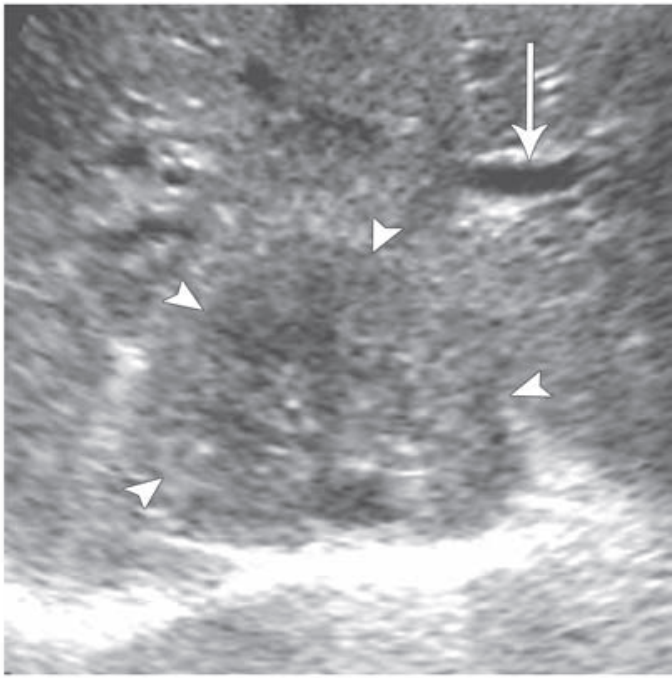


a.



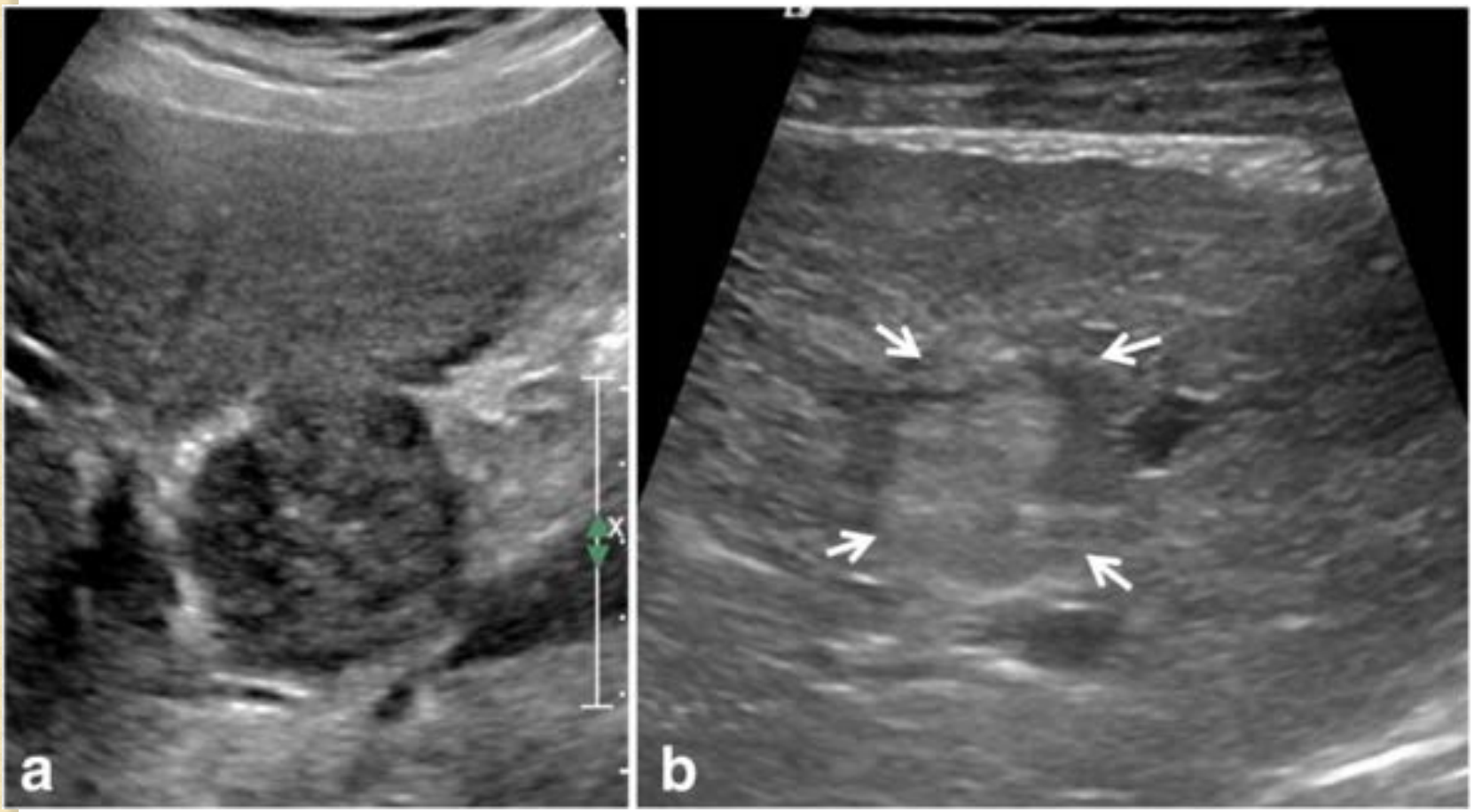
b.

肝內膽管癌之超音波像



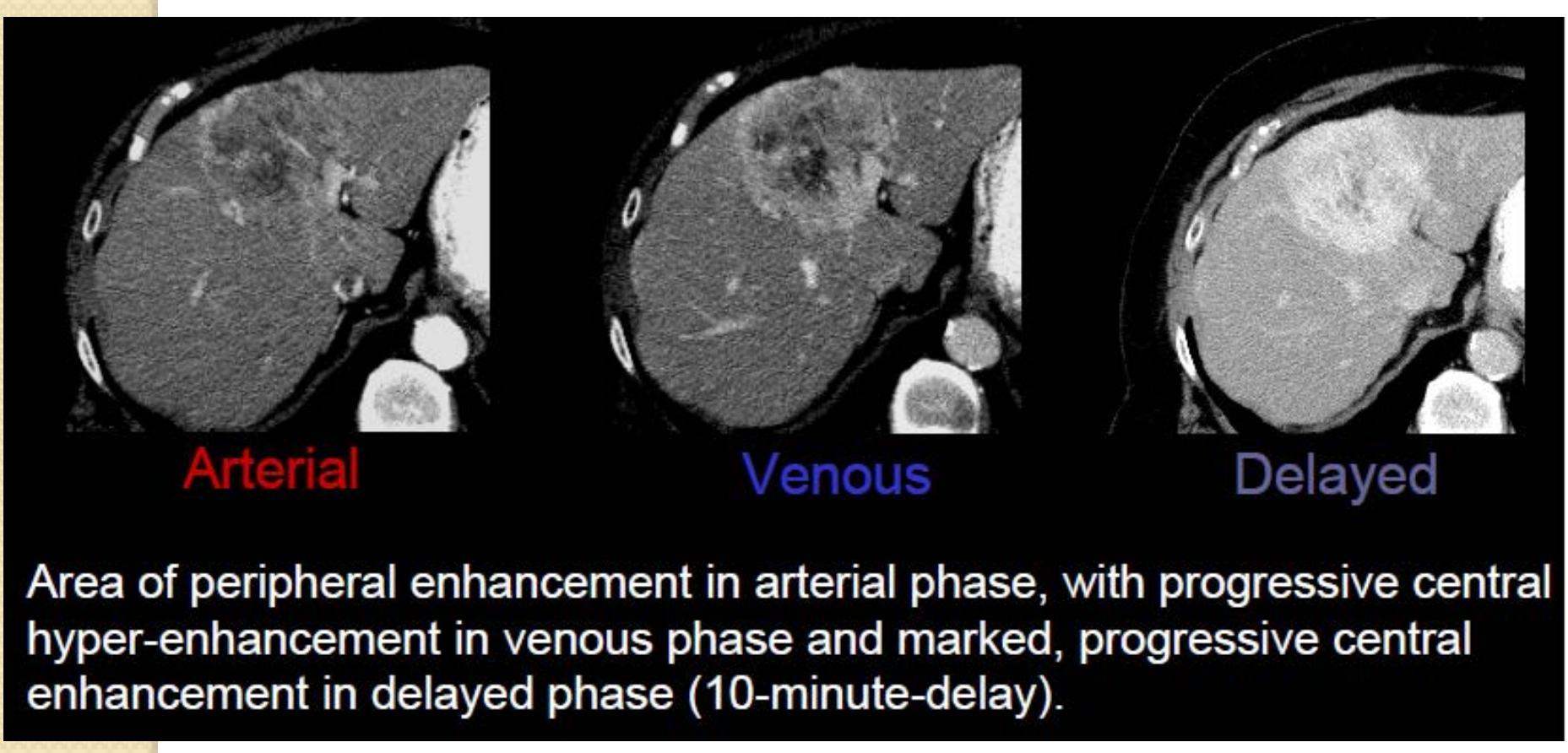
c.

膽管癌(肝內、腫塊型)



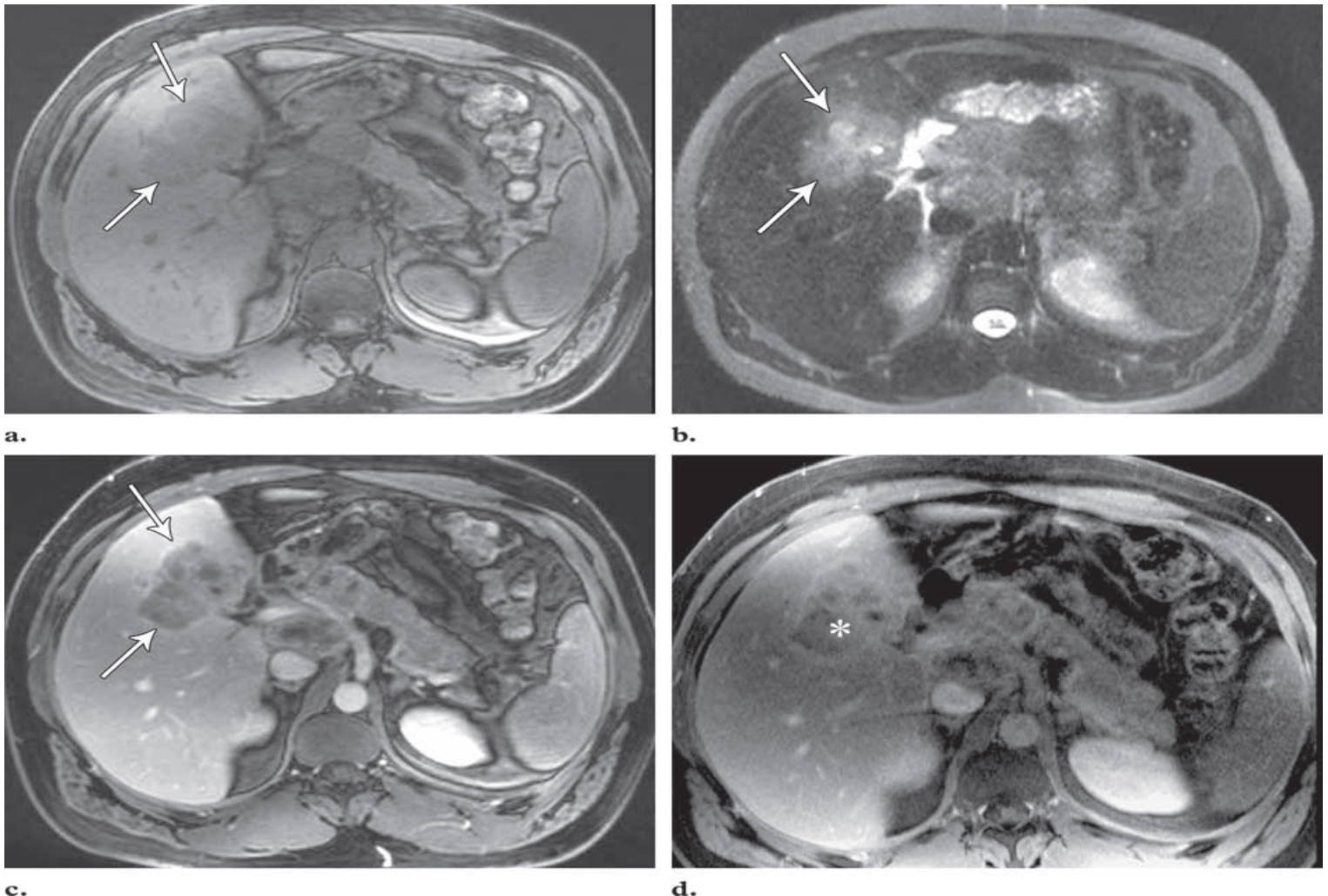
Intrahepatic cholangiocarcinoma (iCCA) on ultrasound in two different patients. Mass forming iCCA may present as a well-defined hypoechoic mass (arrow, a) or as an ill-defined heterogeneous isoechoic mass (arrowheads, b).

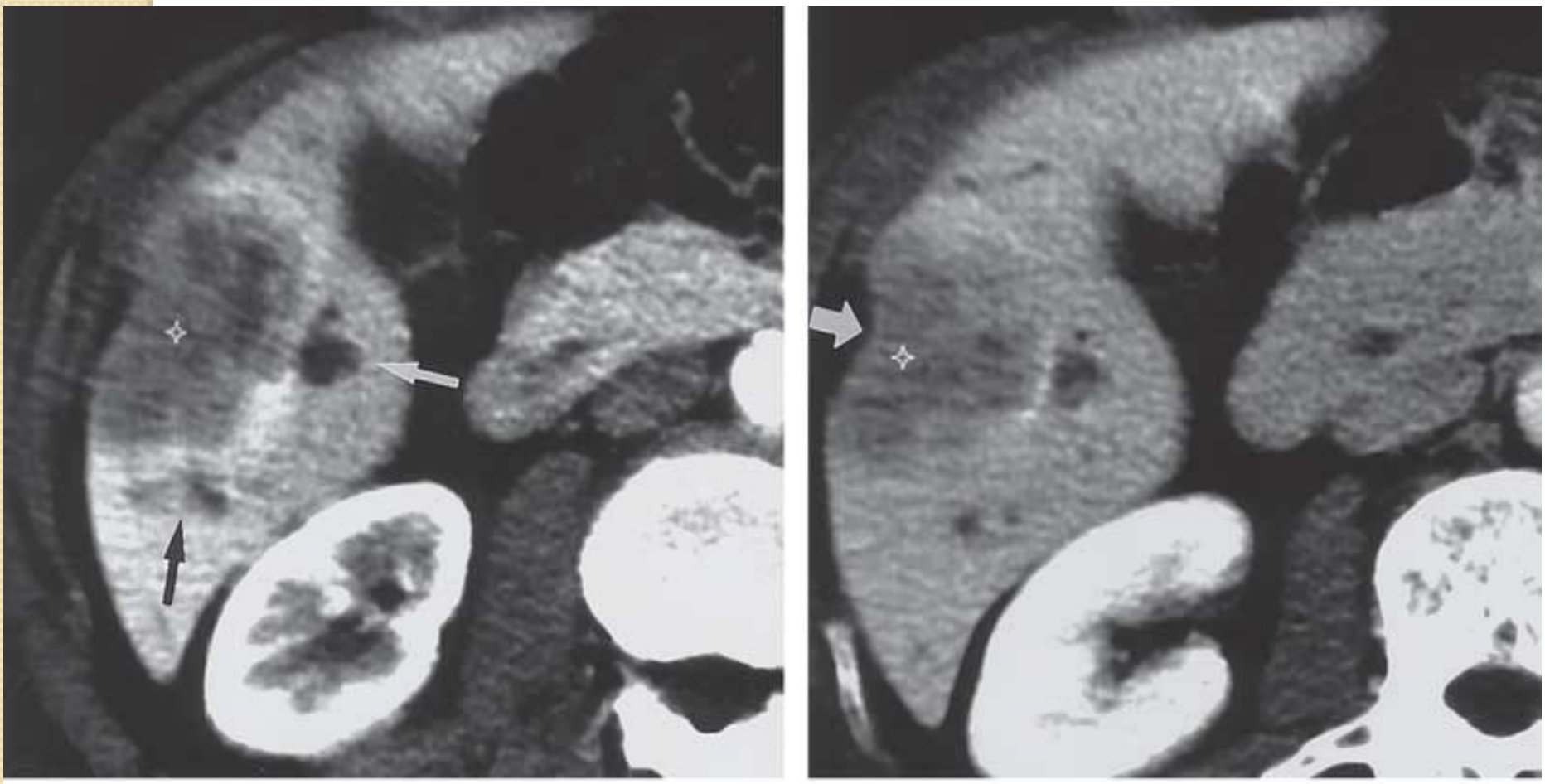
膽管癌(肝內、腫塊型)



Cholangiocarcinoma with Hyper-enhancement on Delayed Images

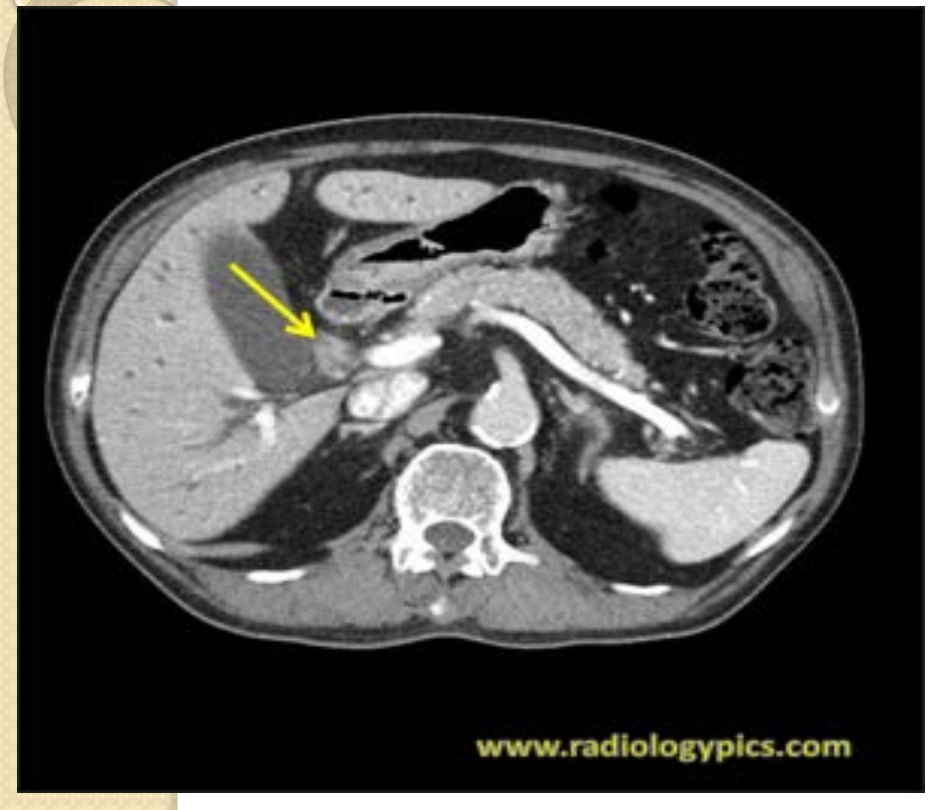
膽管癌 (肝內)*(a) Out-of-phase gradient-echo T1-weighted MR image shows a hypointense lobulated mass in the right hepatic lobe (arrows). (b) On a fat-saturated T2-weighted MR image, the mass appears hyperintense (arrows). (c) Early-phase contrast-enhanced T1-weighted MR image shows irregular peripheral enhancement of the mass (arrows). (d) Delayed phase contrast-enhanced T1-weighted MR image shows progressive heterogeneous enhancement of the lesion (*).*



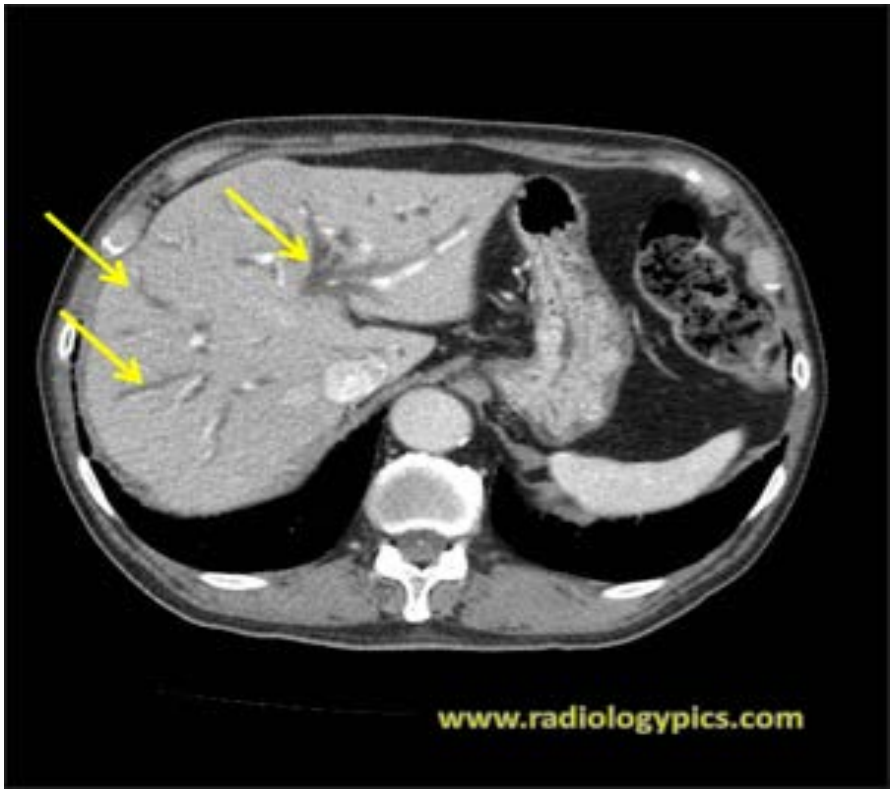


Peripheral cholangiocarcinoma. (a) Arterial-phase CT scan shows a low-attenuation mass (marker) with rim enhancement. Note the dilatation of the peripheral intrahepatic ducts (arrows). (b) On a portal-phase CT scan, the mass looks smaller because the central portion is now more enhanced. The rim enhancement seen in a is partially washed out. Capsular retraction is also noted (arrow).

膽管癌(肝門)併肝內膽管擴張



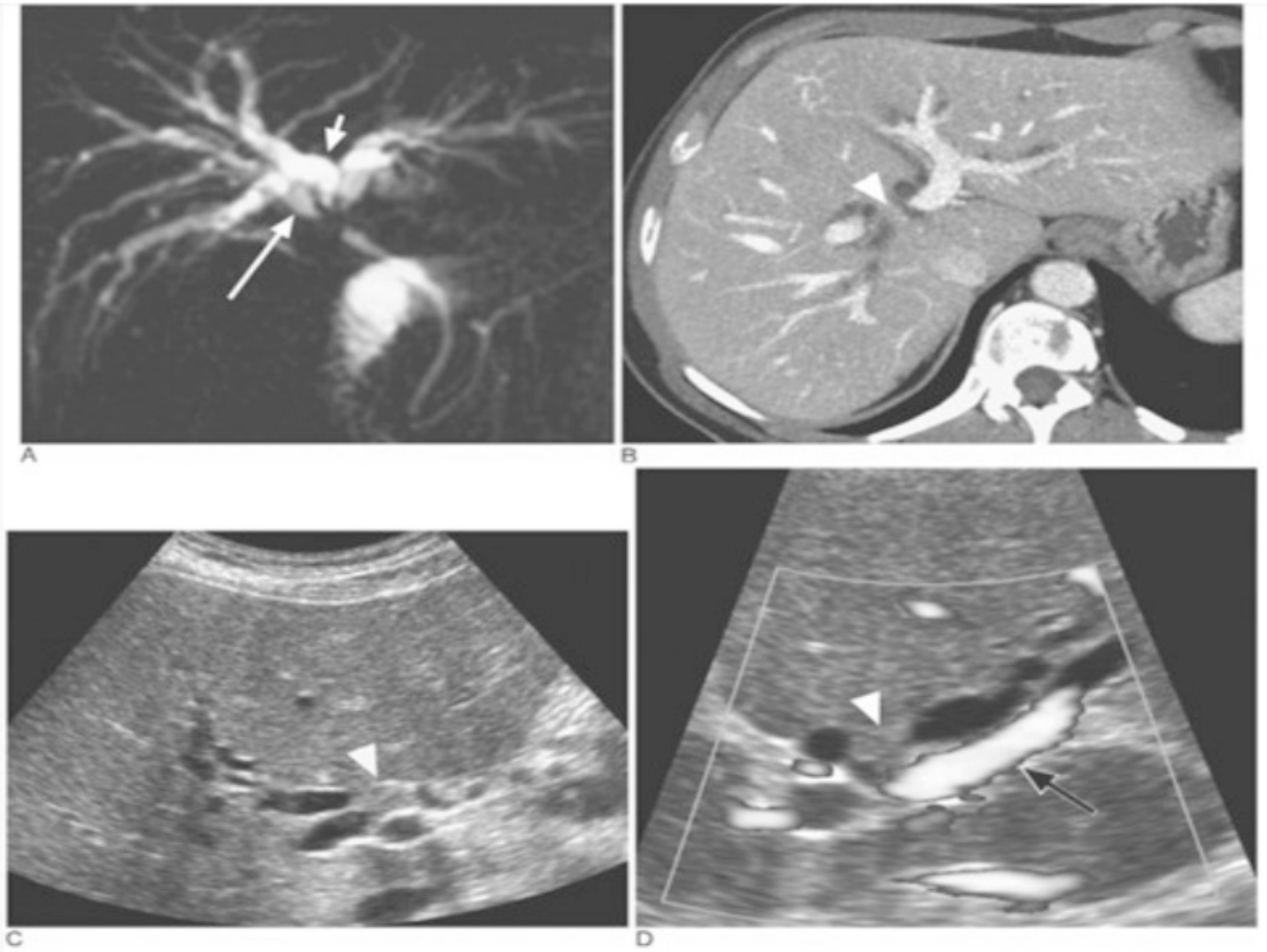
Klatskin Tumor:
An enhancing mass near the gallbladder neck (yellow arrow). This is compatible with a Klatskin tumor (hilar cholangiocarcinoma)



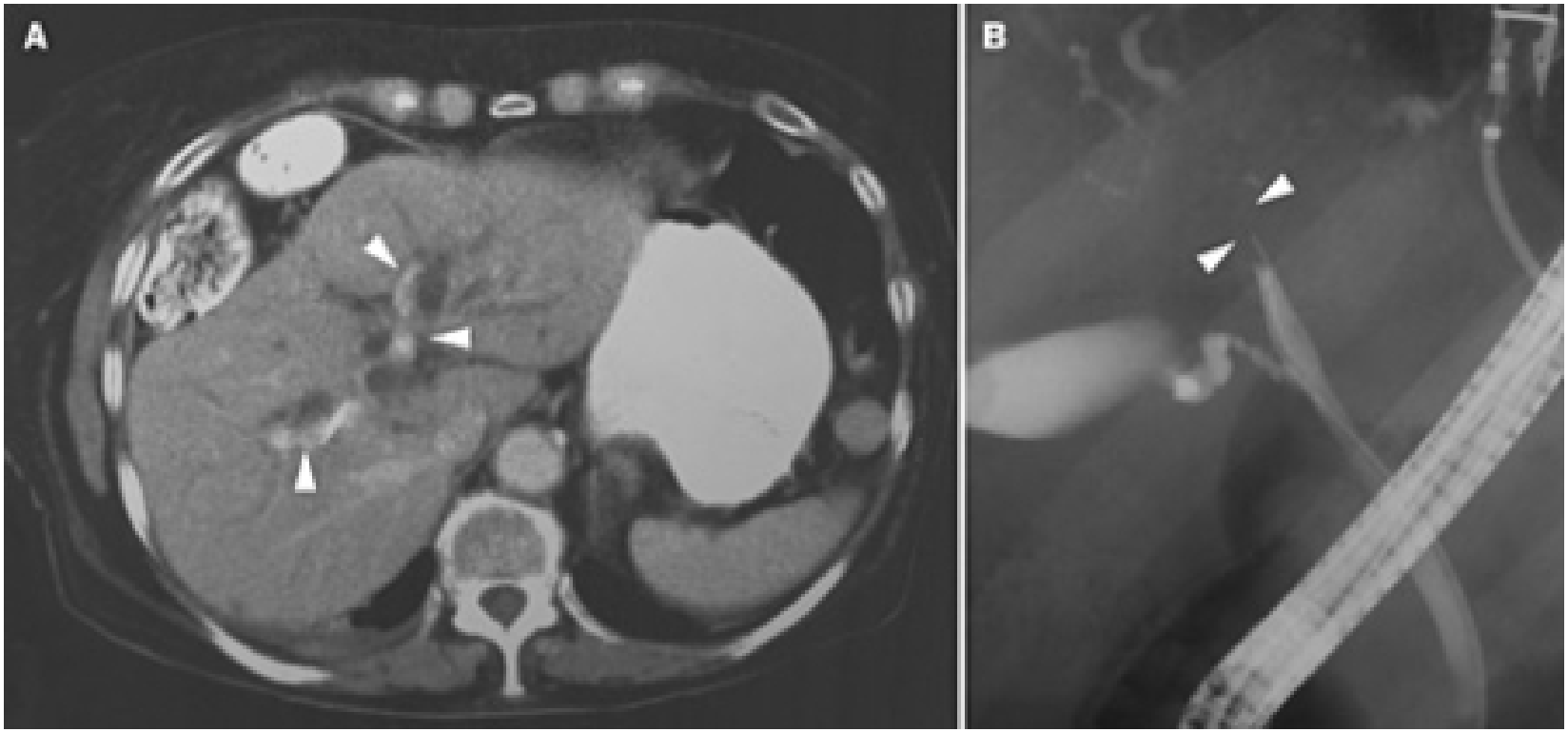
Intrahepatic Biliary Dilatation:
Axial CT of the abdomen at a more superior level reveals significant intrahepatic biliary dilatation (yellow arrows)

膽管癌(肝門)

Right posteral sectoral duct(短箭)。 Right anterior sectoral duct (長箭)。(A) 核磁共振膽胰造影 (B) 斷層掃描 (C) 超音波阻塞 (D) 都卜勒超音波 (Open arrow, normal left portal vein).

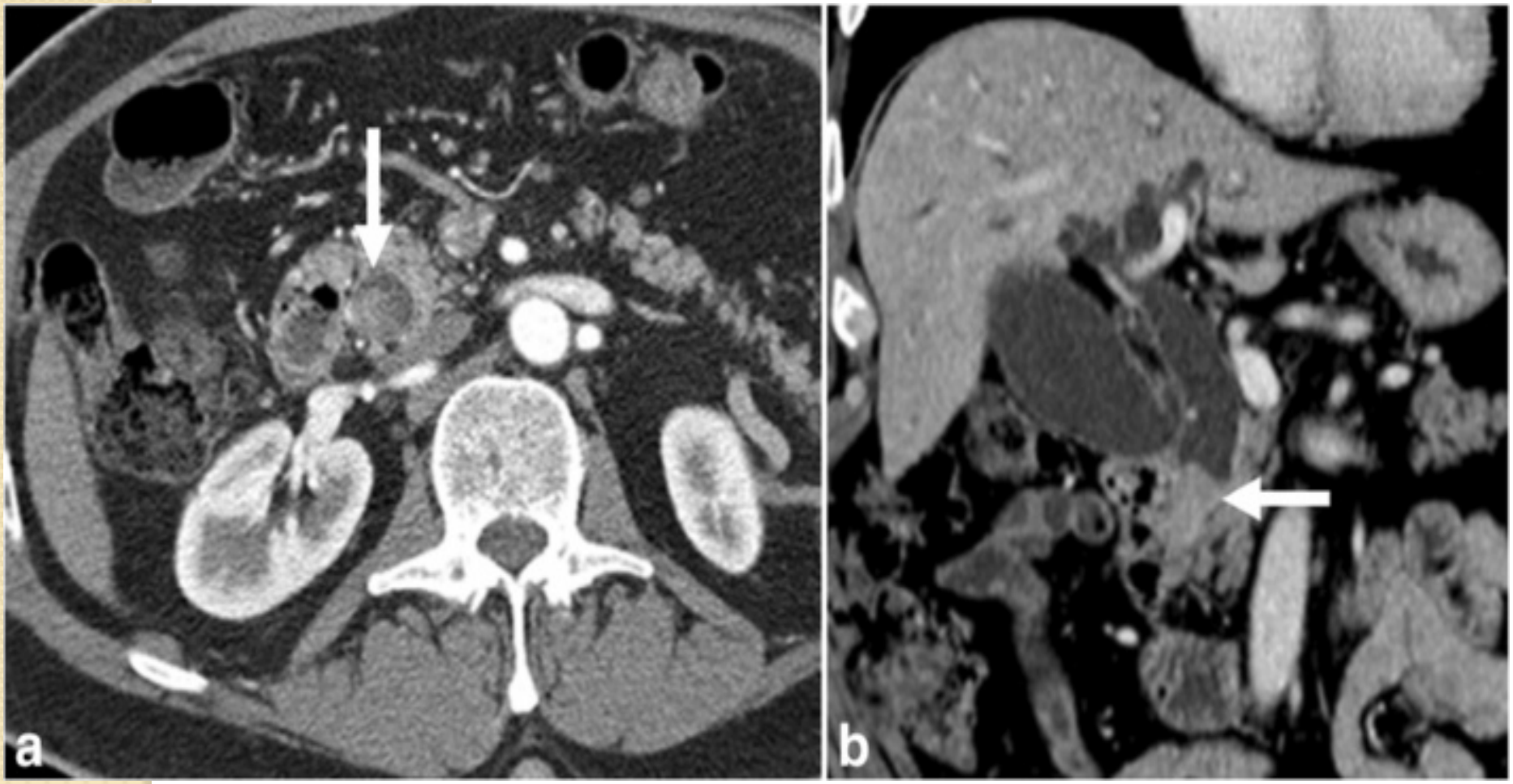


膽管癌(肝門)

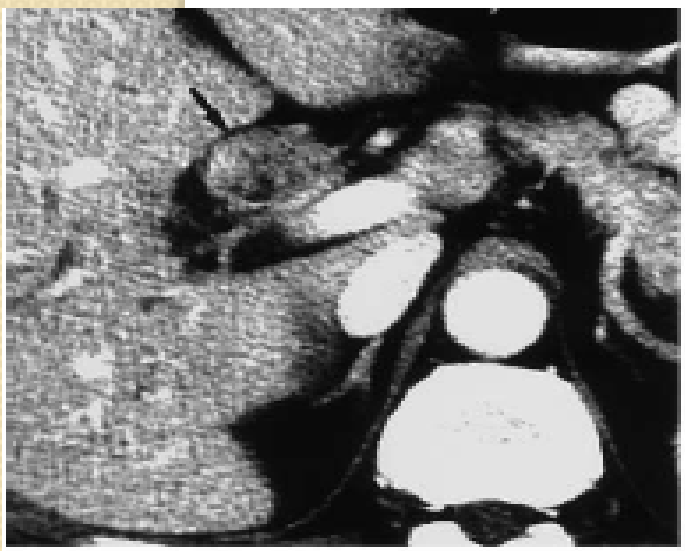


Comparison of radiographic images showing cholangiocarcinoma; A, computed tomography (CT) image; B, cholangiogram (ERCP) image. Arrows designate the tumor.

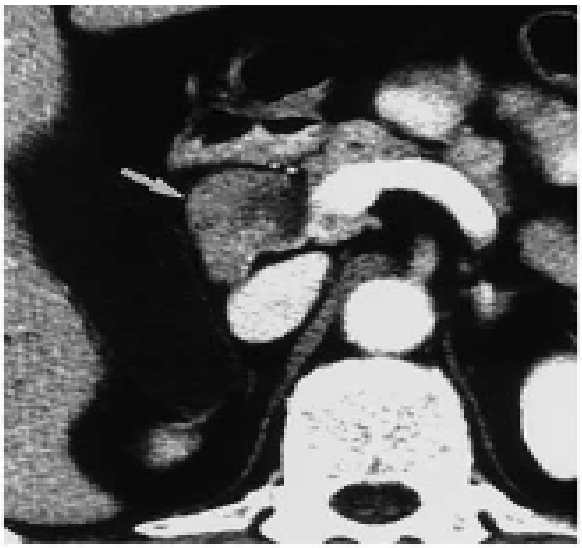
膽管癌(肝外)併黃疸



膽管癌(肝外)併黃疸



a.



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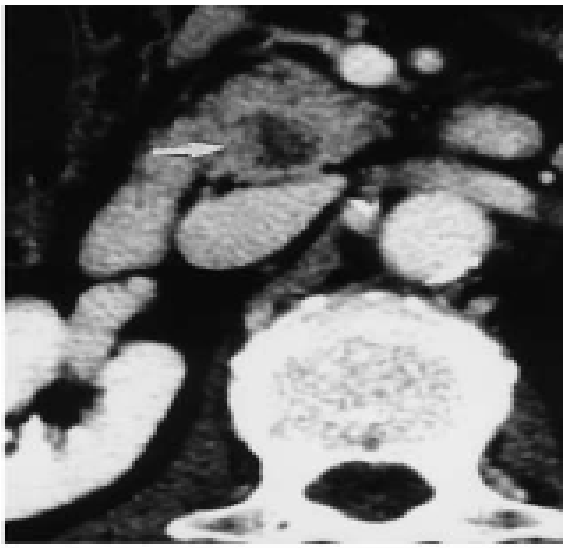
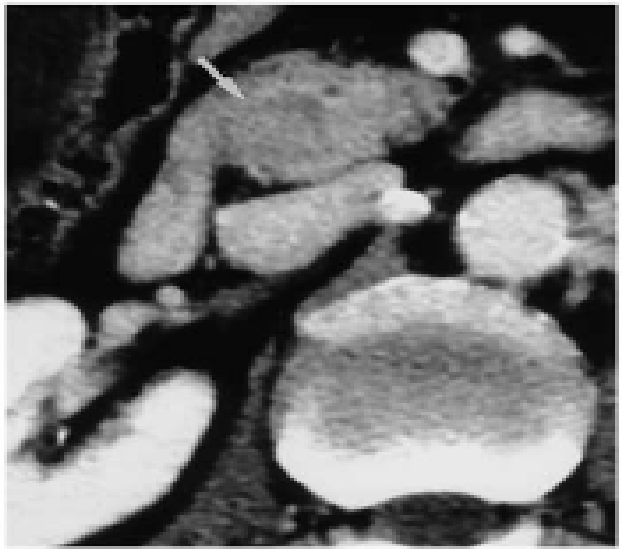
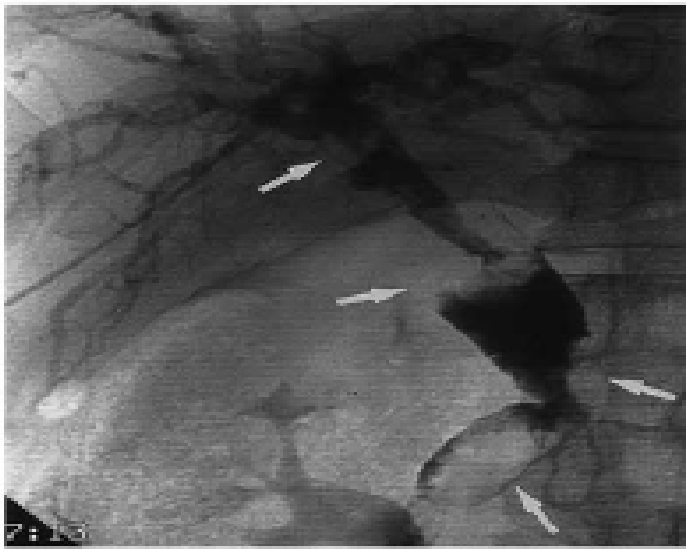


c.



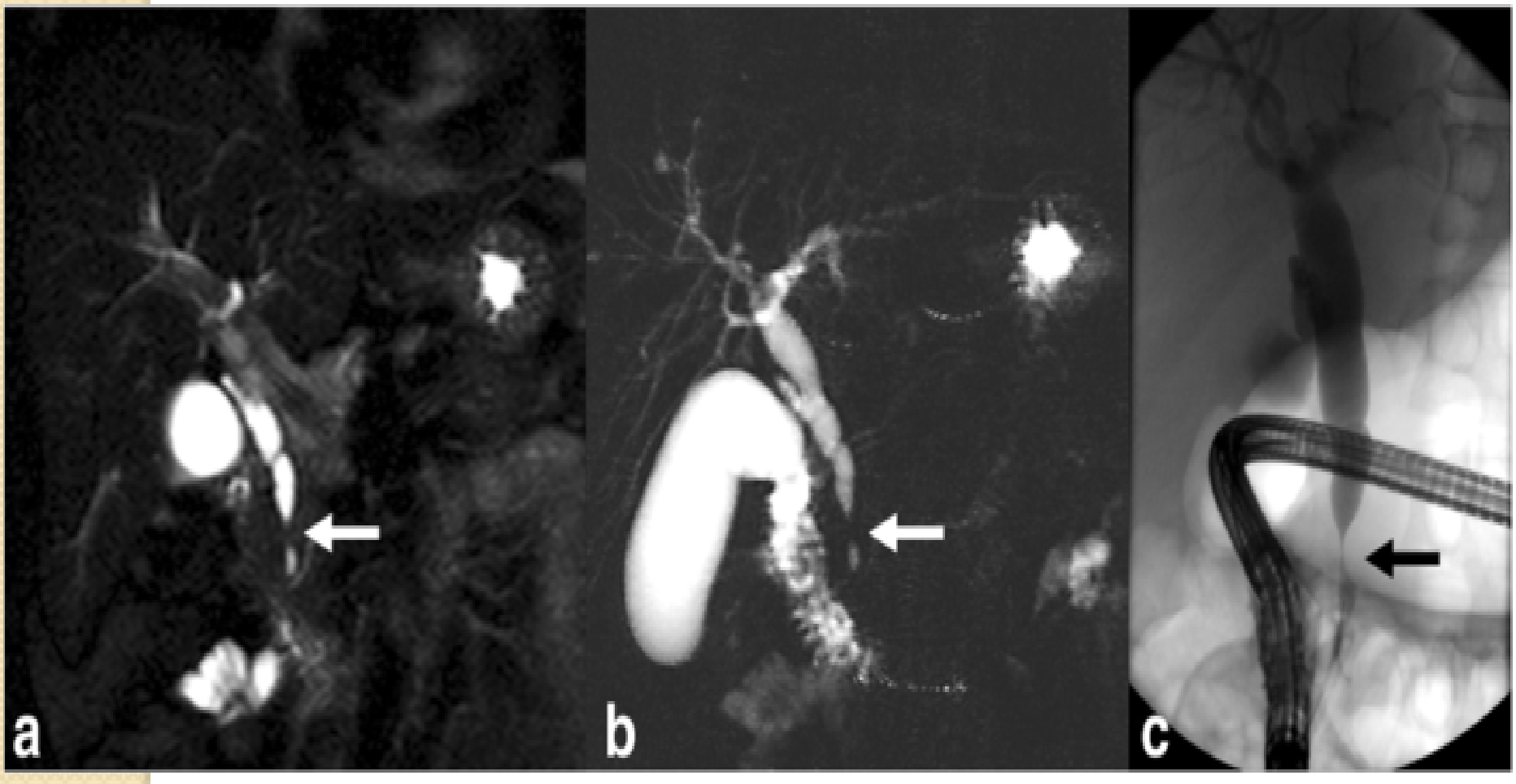
d.



e.

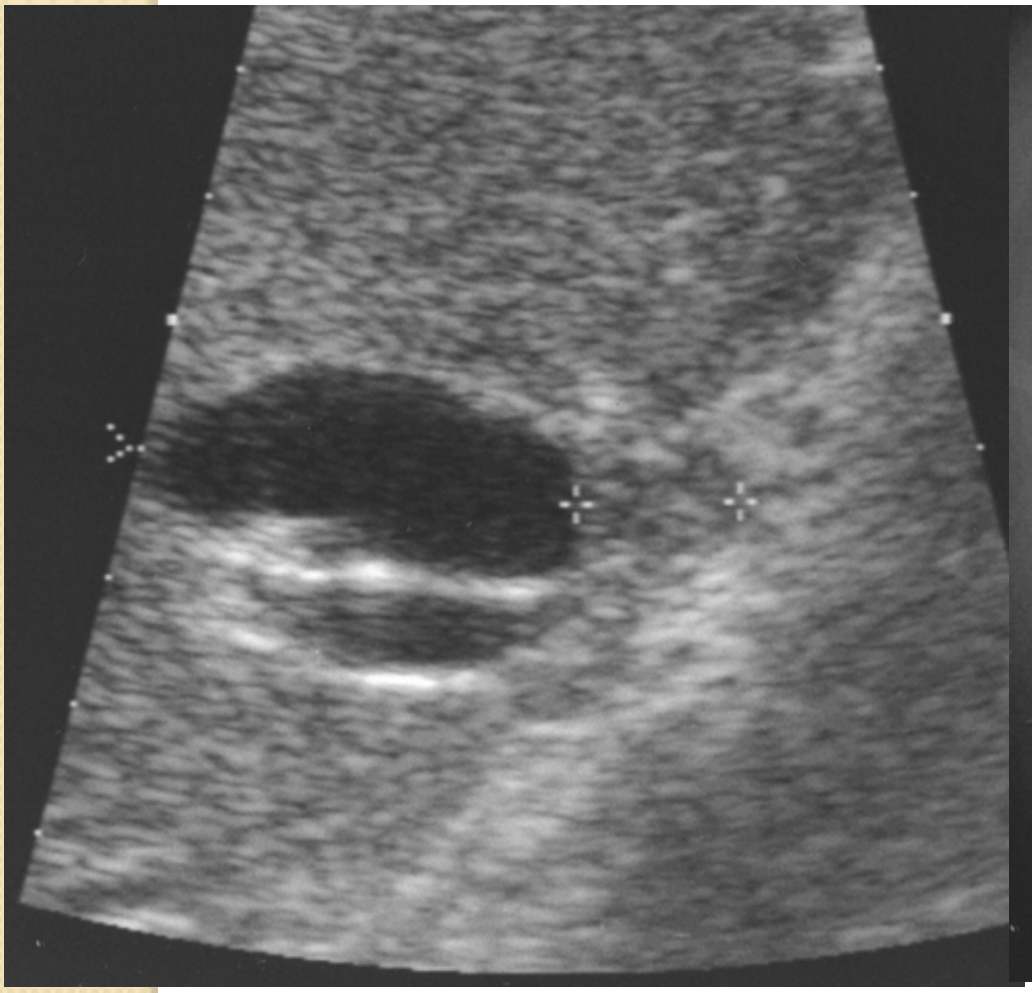
Polypoid/eCC

膽管癌(遠端)併黃疸

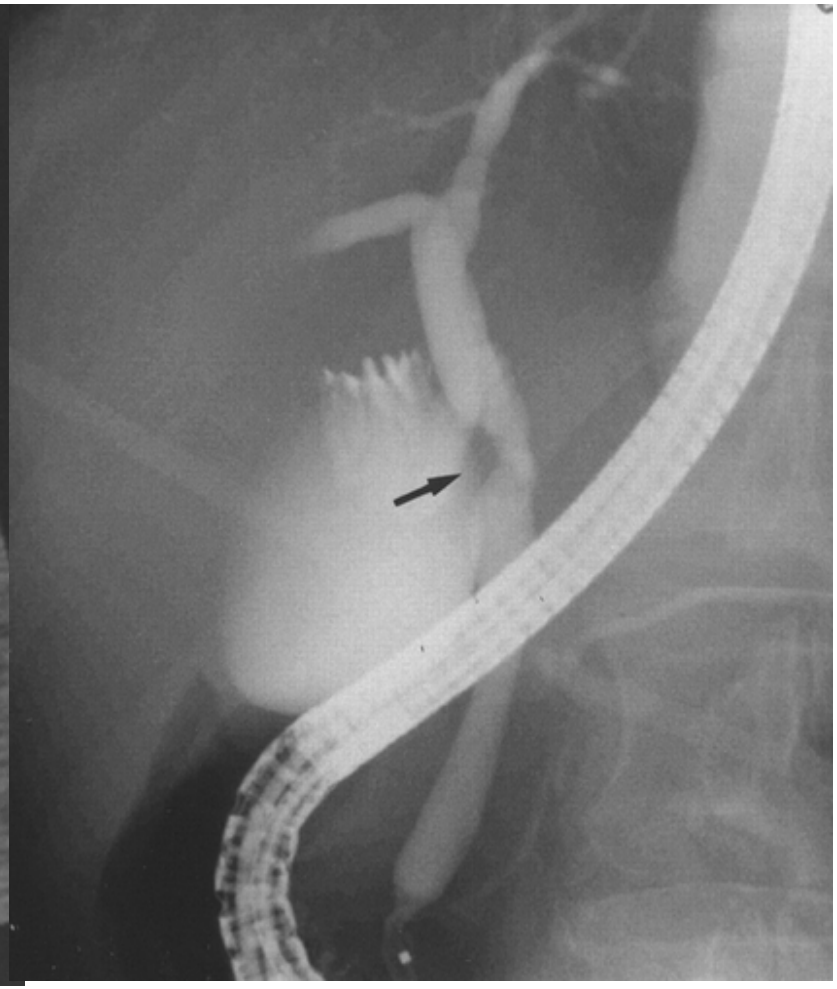


Distal CCA. Common bile duct stricture due to grade 4 invasive carcinoma. Coronal T2-weighted image (a) and MRCP (b) image showing a short segmental narrowing (arrow) with proximal dilatation. ERCP (c) showing a short segmental stricture representing the invasive CCA.

膽管癌(肝外)

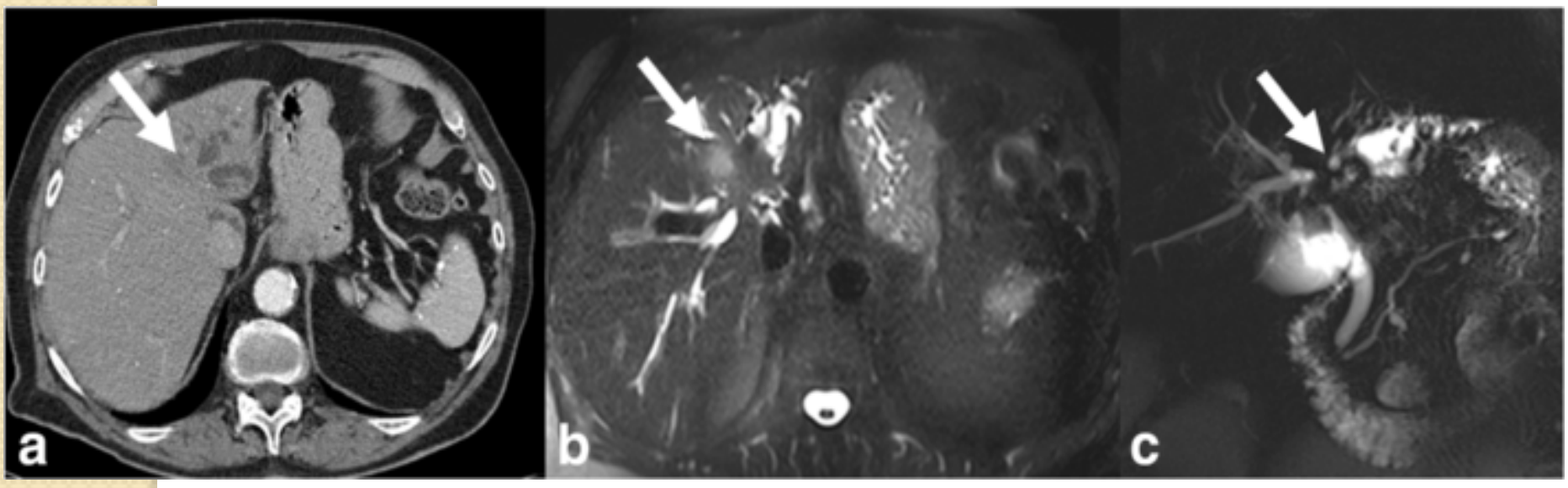


超音波



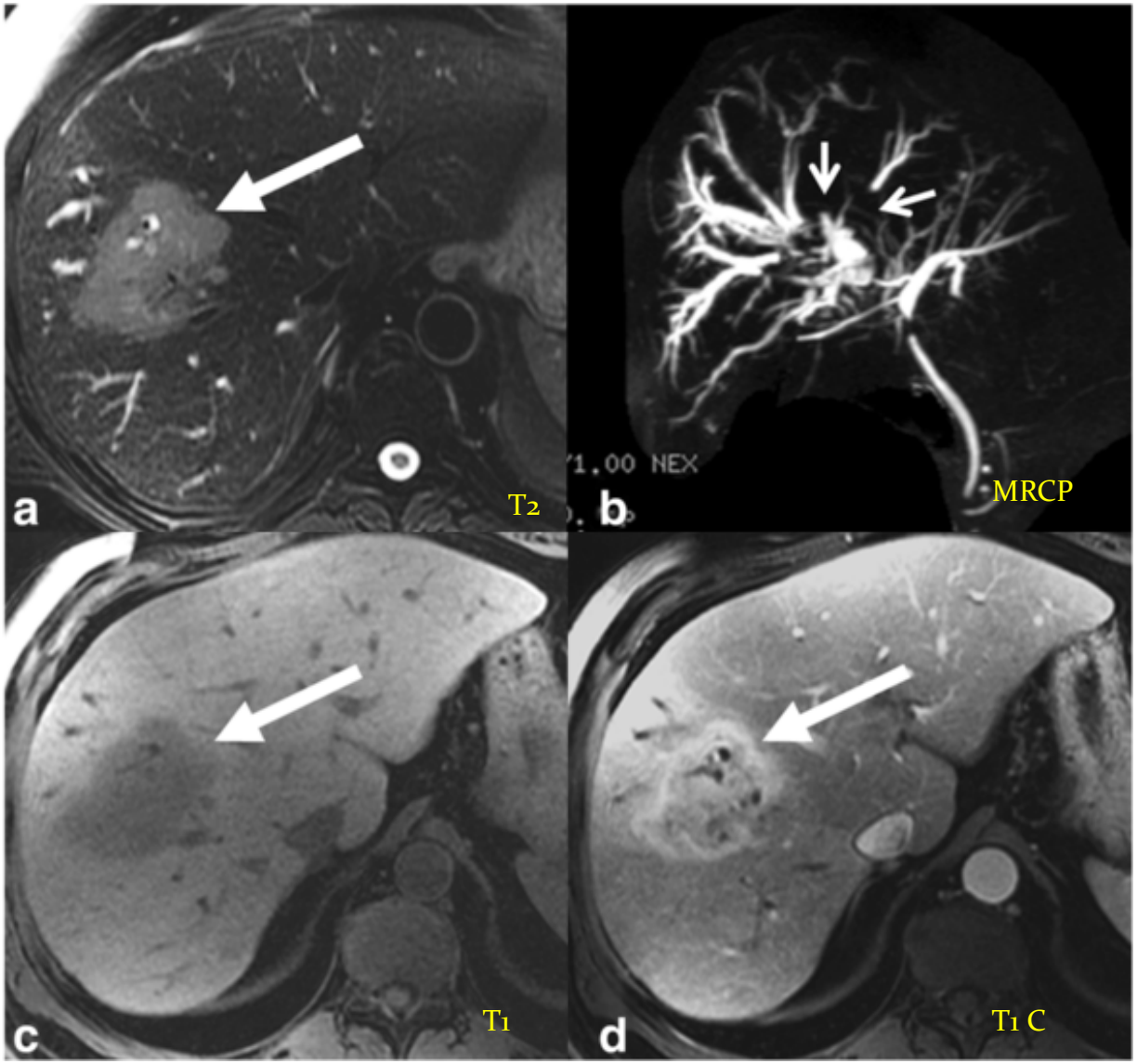
膽胰鏡膽道攝影

膽管癌(浸潤型、肝内併肝門延伸)



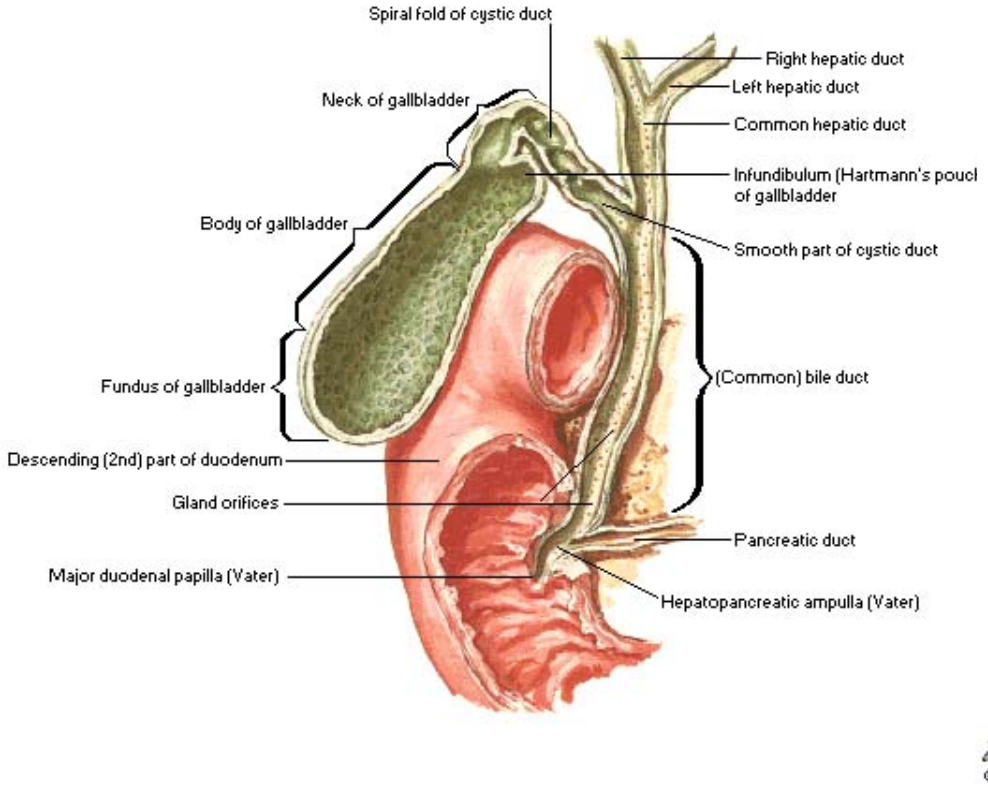
Peripheral cholangiocarcinoma with involvement of confluence. Infiltrating pCCA of the left hepatic duct (arrow) isodense to liver parenchyma on axial contrast enhanced CT (a) with dilation of the left hepatic ducts. The ductal thickening is hyperintense (arrow) on T2-weighted MRI image (b) with extension to the confluence causing mild dilatation of the right hepatic ducts demonstrated better on MRCP (c).

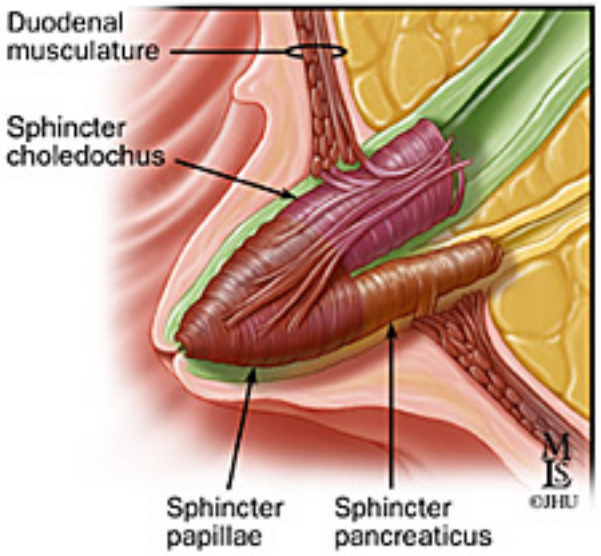
膽管癌(腫塊型、浸潤型)



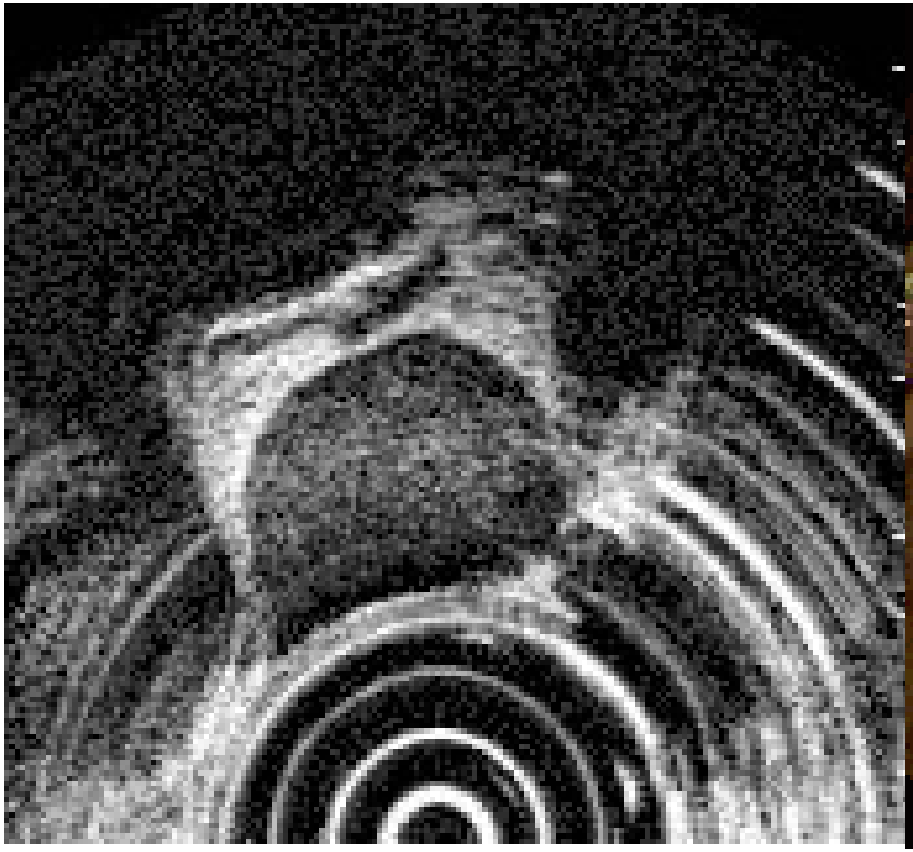
A predominantly periductal thickening (stricturing iCCA) and also mass forming (arrow) in the right lobe liver. Note the separation of the right intrahepatic ducts on MRCP (arrowheads).

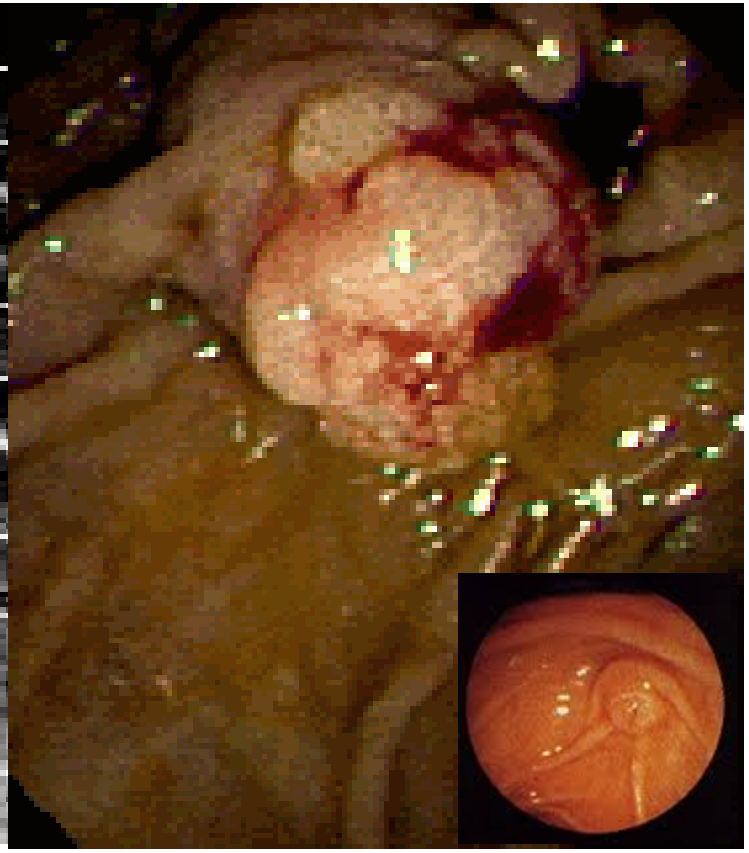
壺腹腫瘤(Ampullary Neoplasms)



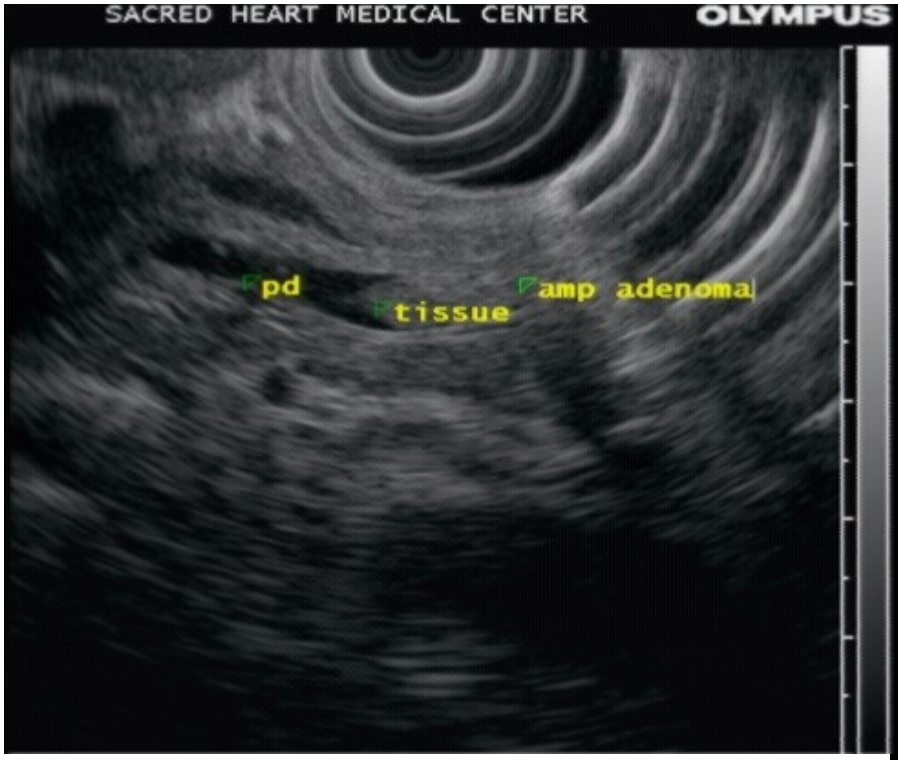


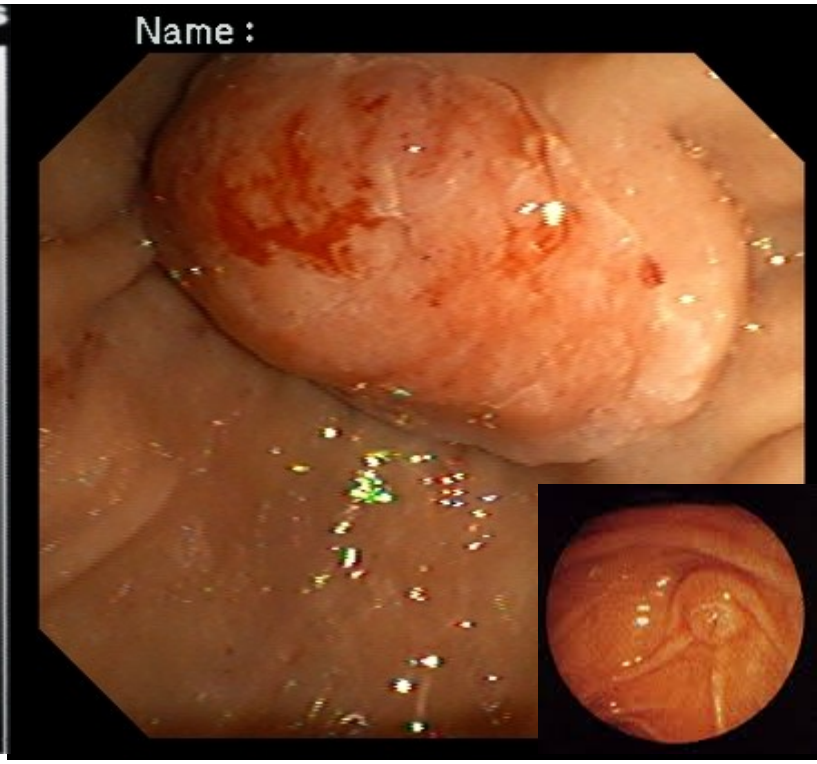
壺腹腺瘤(Ampullary Adenoma)



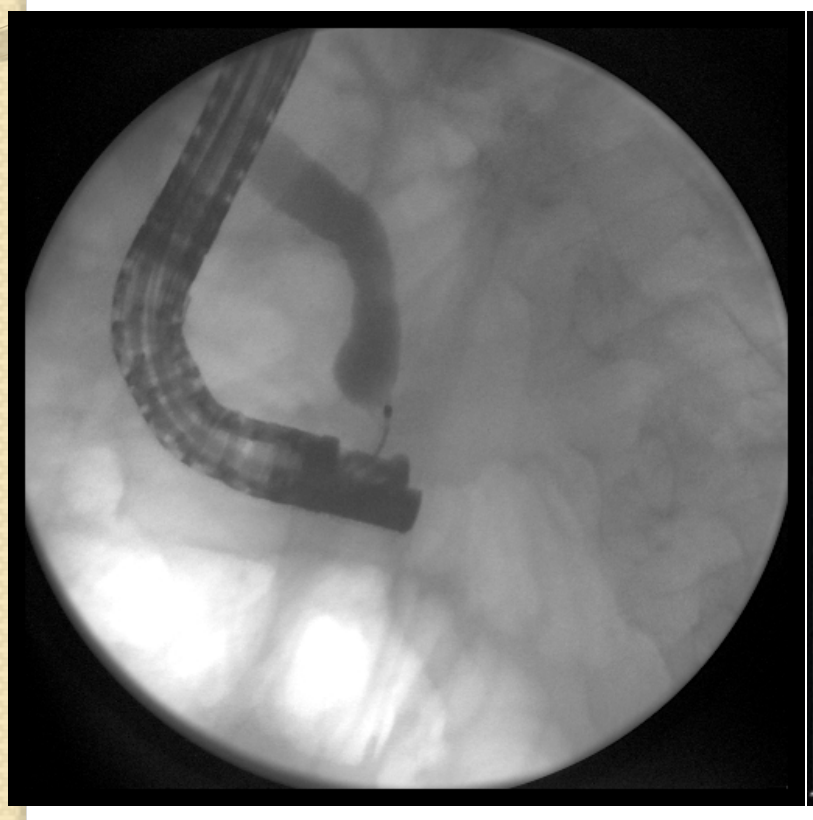


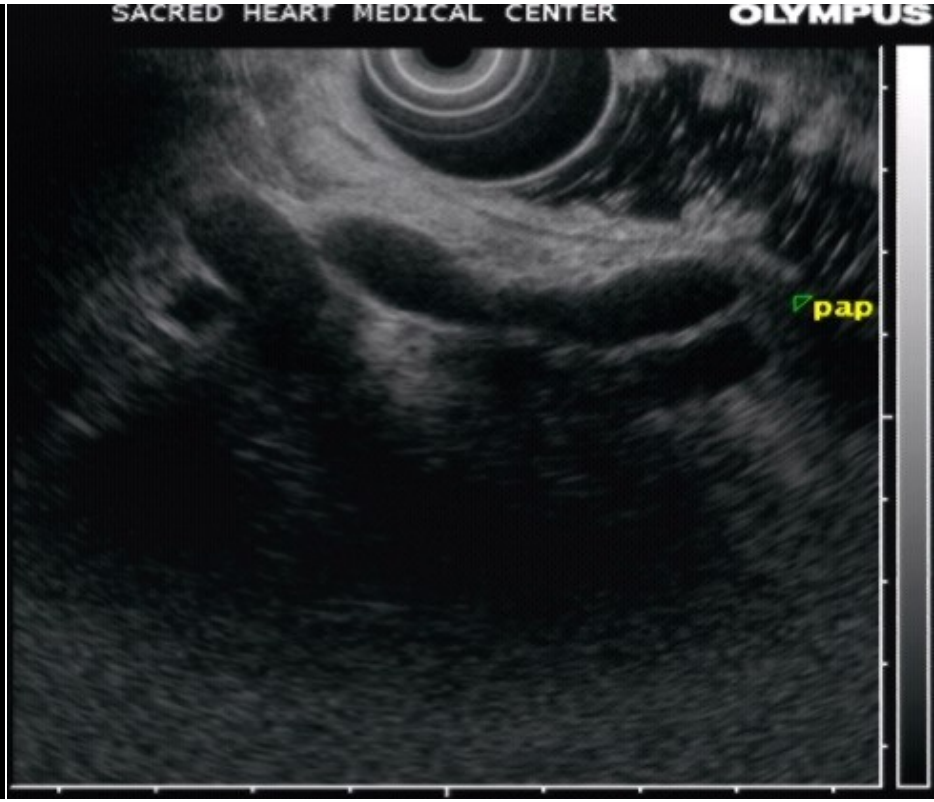
壺腹腺瘤(Ampullary Adenoma)



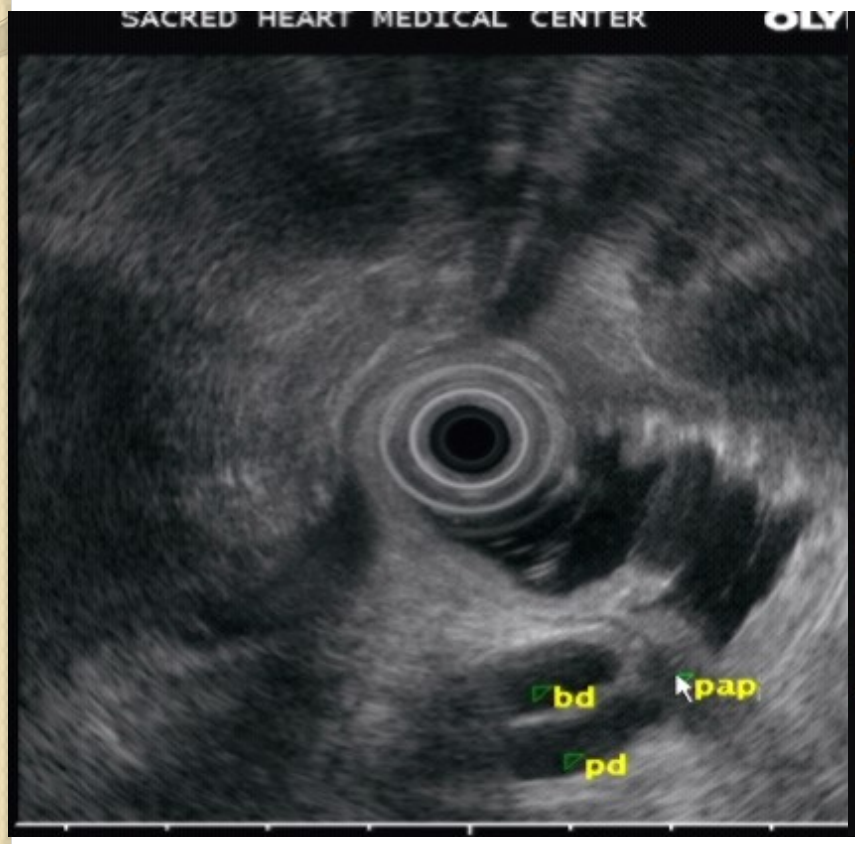


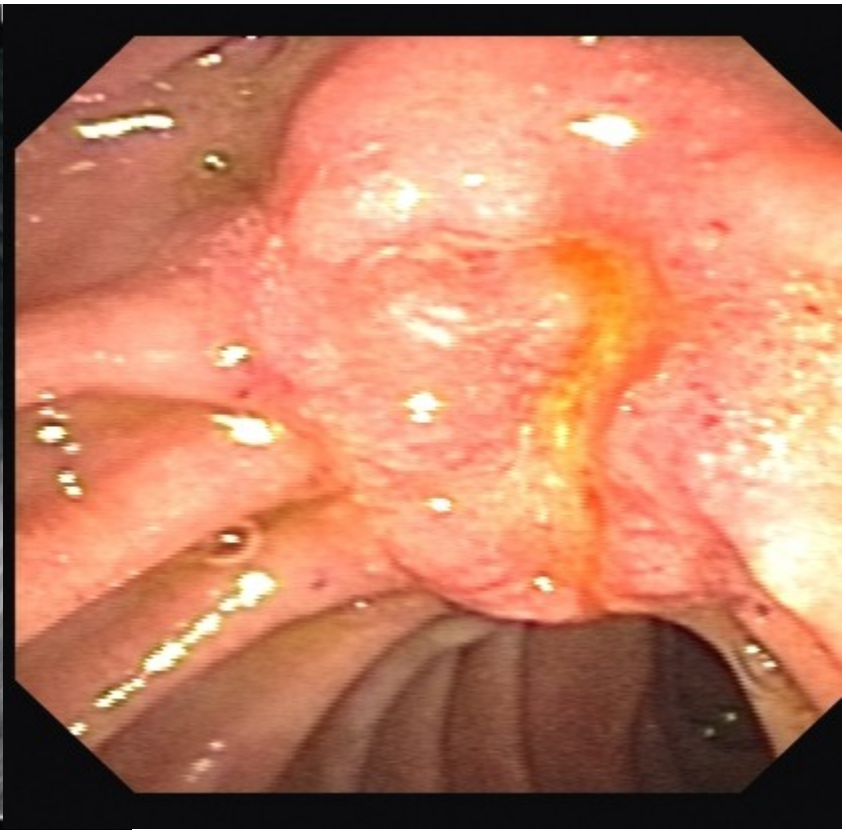
壺腹癌(Ampullary Carcinoma)



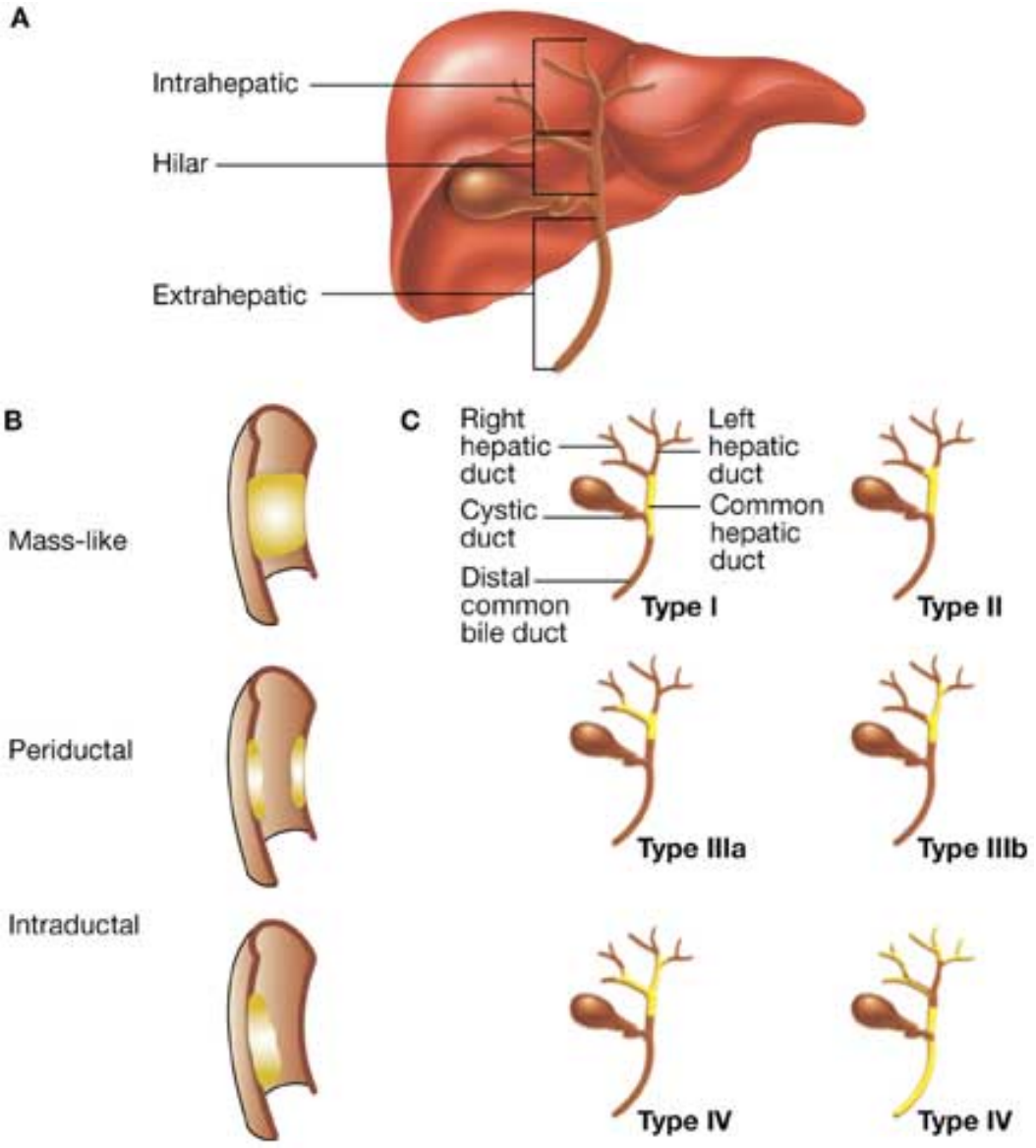


壺腹癌(Ampullary Carcinoma)

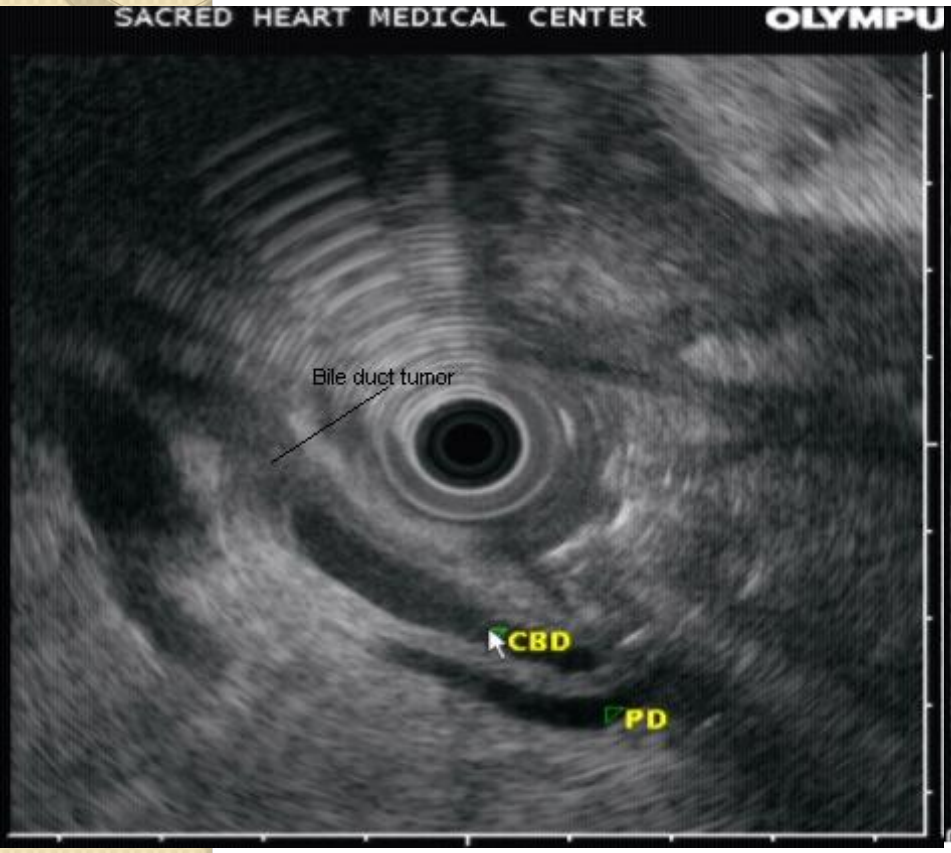


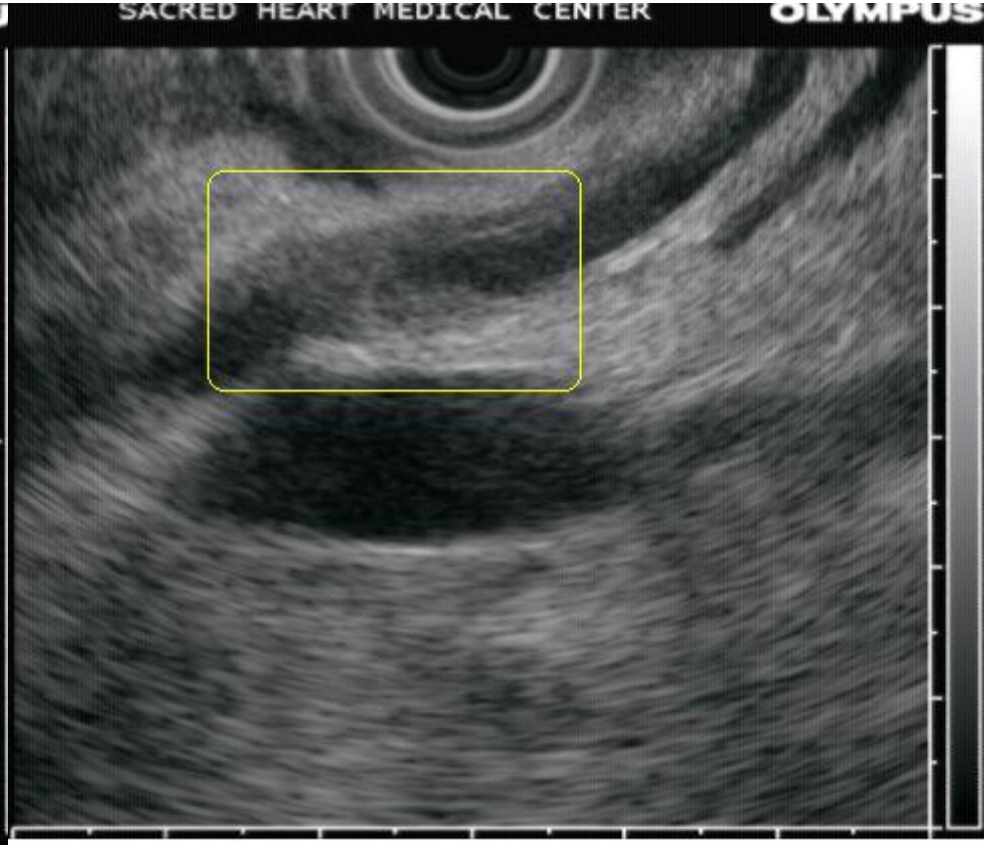


膽道癌（Cholangiocarcinoma）

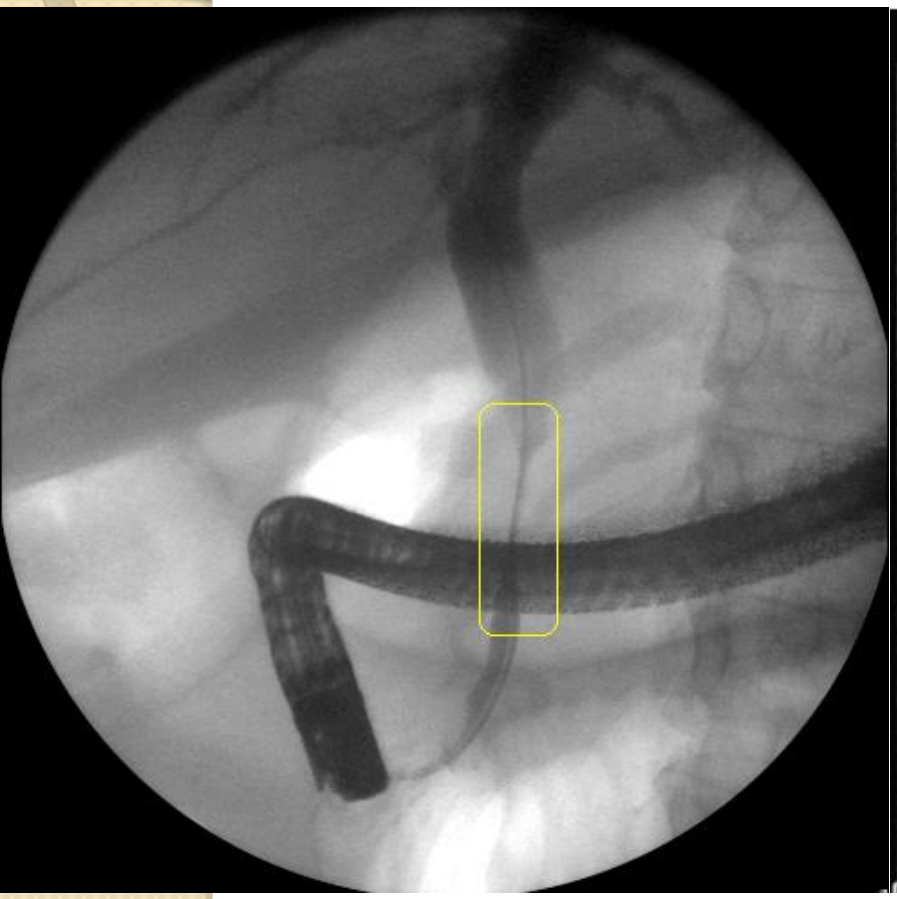


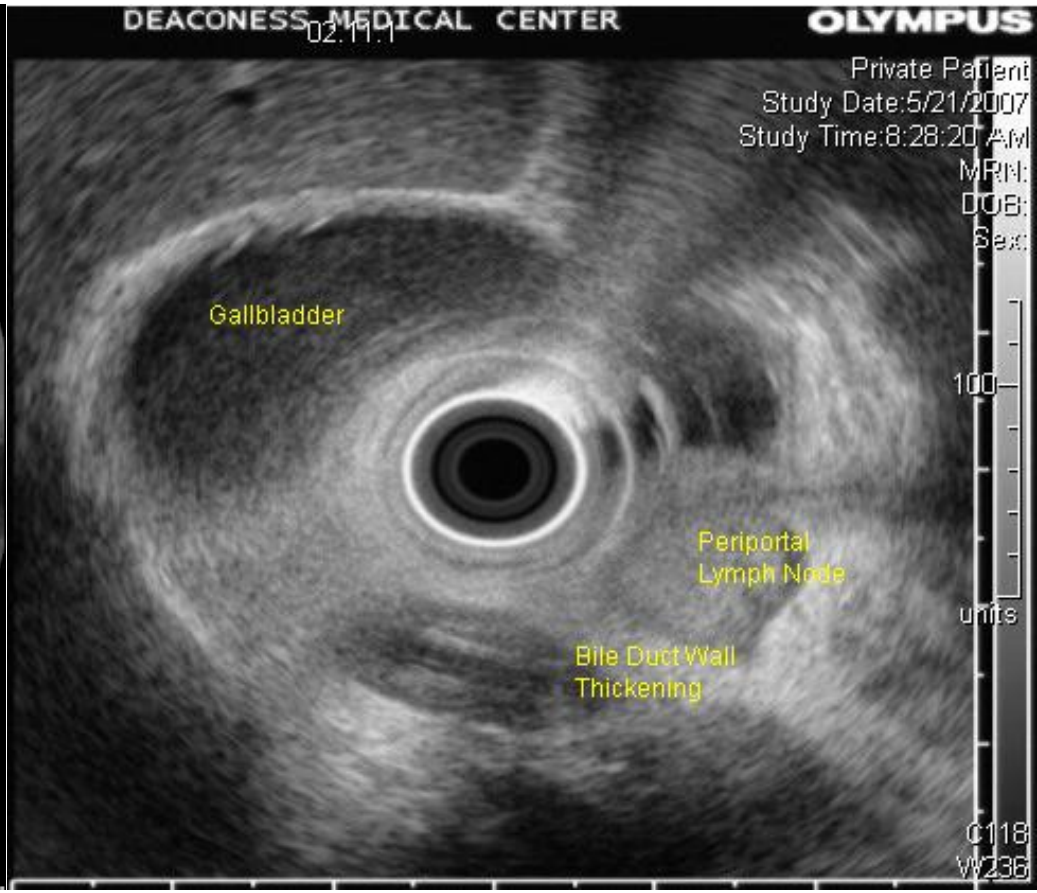
膽道癌(Cholangiocarcinoma)



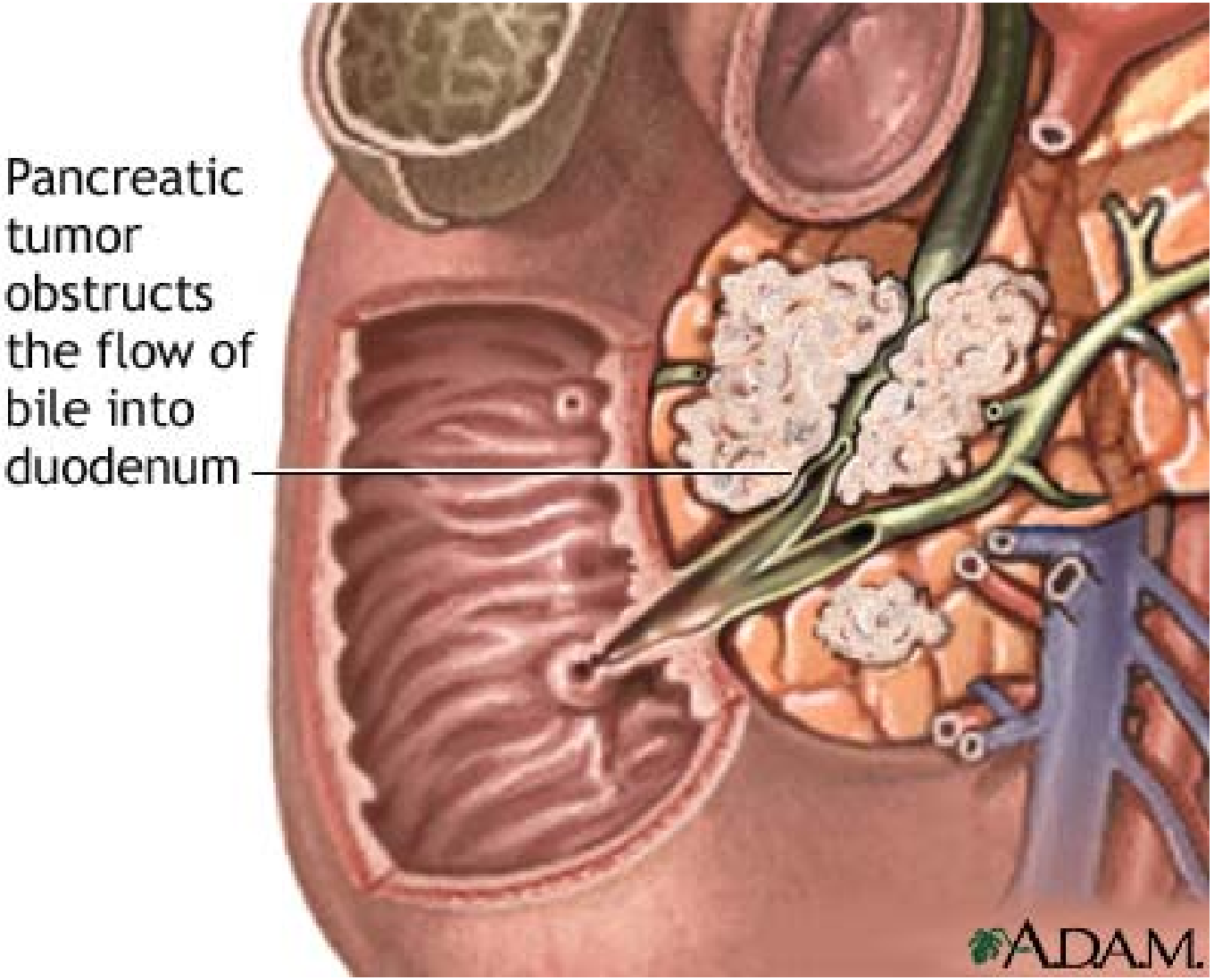


膽道癌（Cholangiocarcinoma）

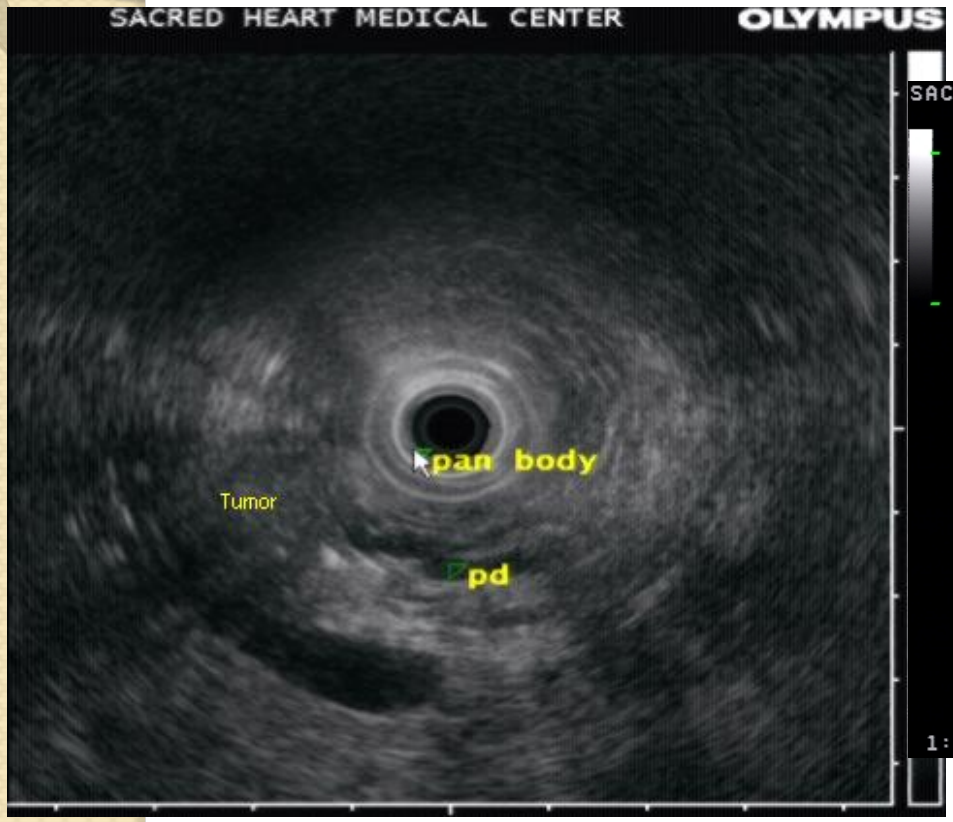


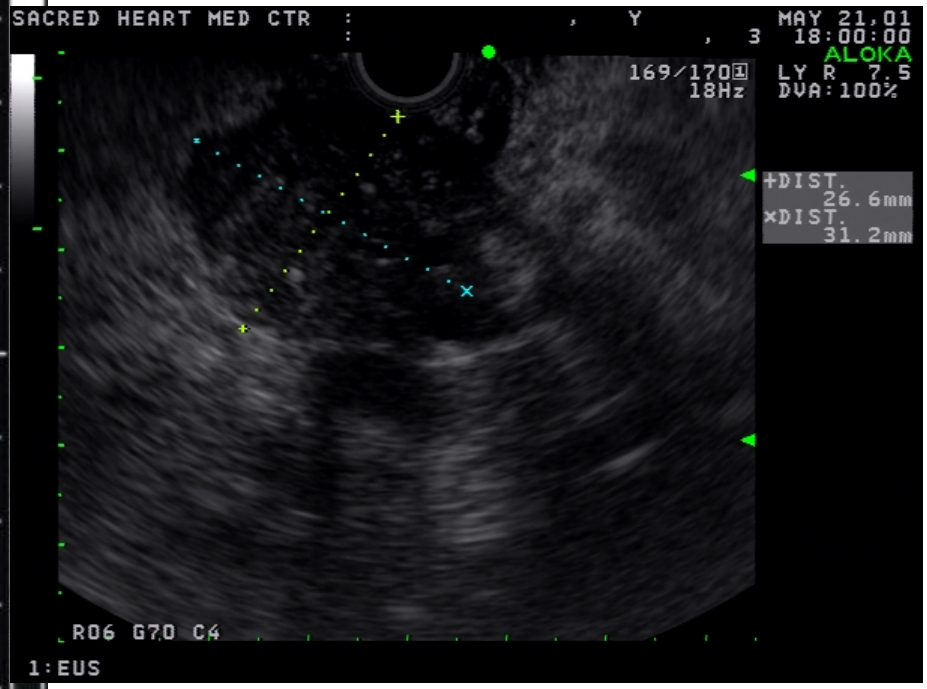


胰臟癌(Pancreatic Cancer)

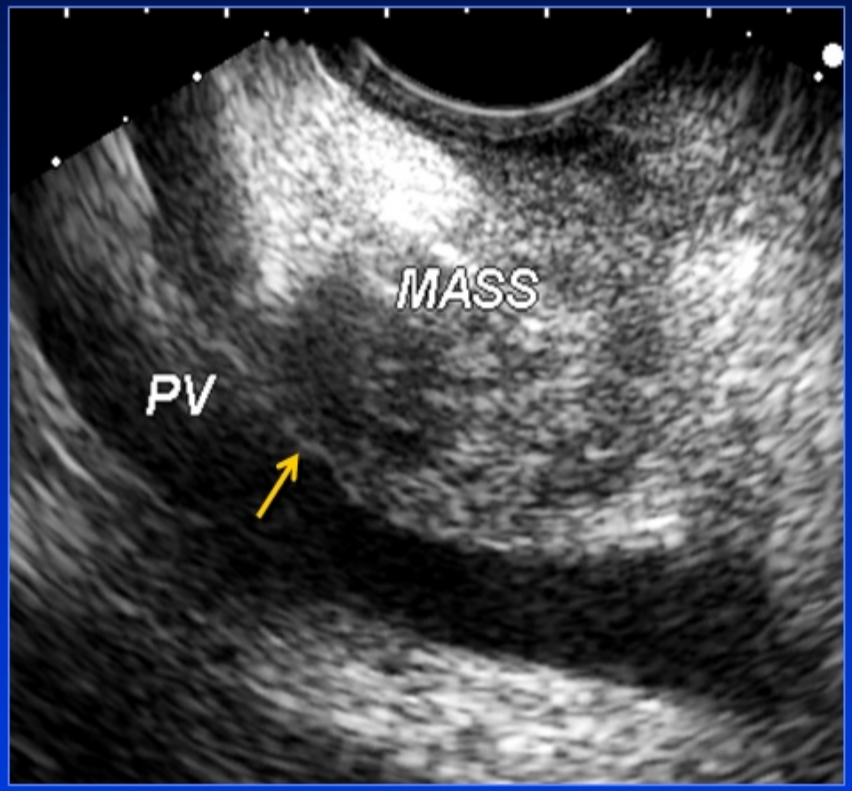


胰臟癌(Pancreatic Cancer)

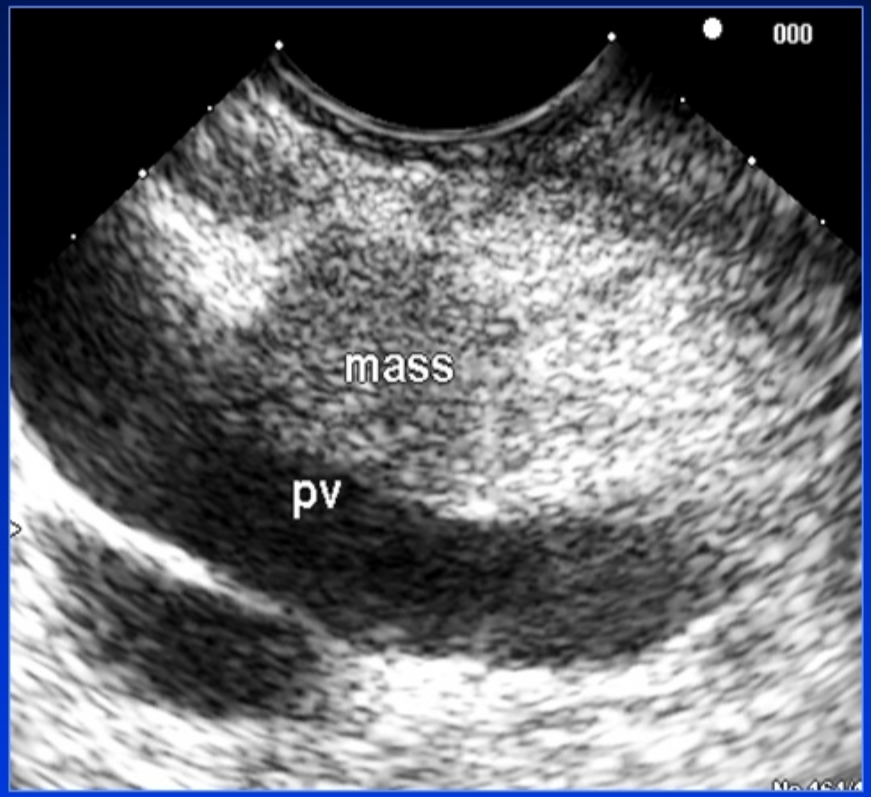




胰臟癌(Pancreatic Cancer)



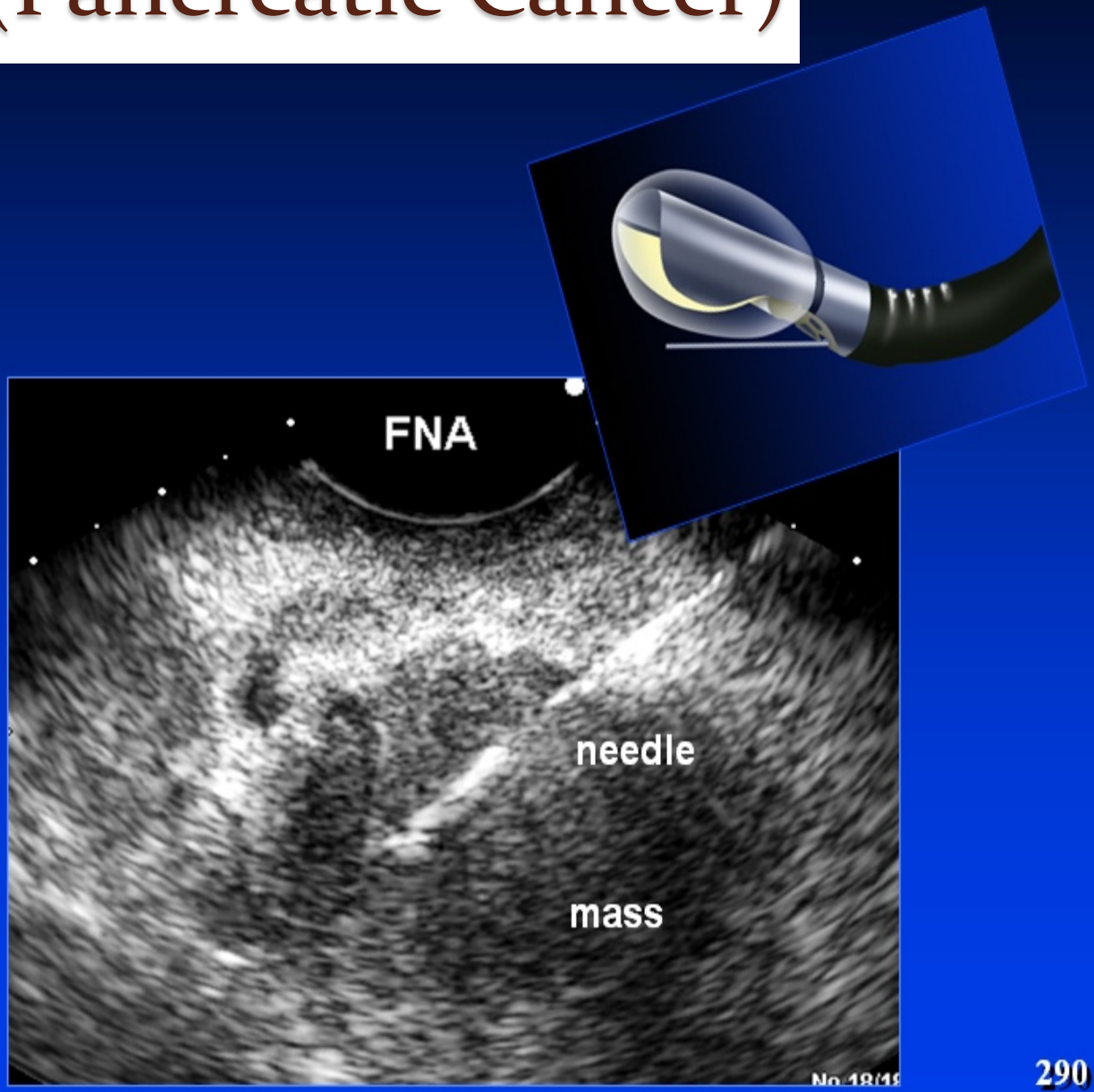
Focal hypoechoic mass invading a 1-2 cm segment of the portal vein wall



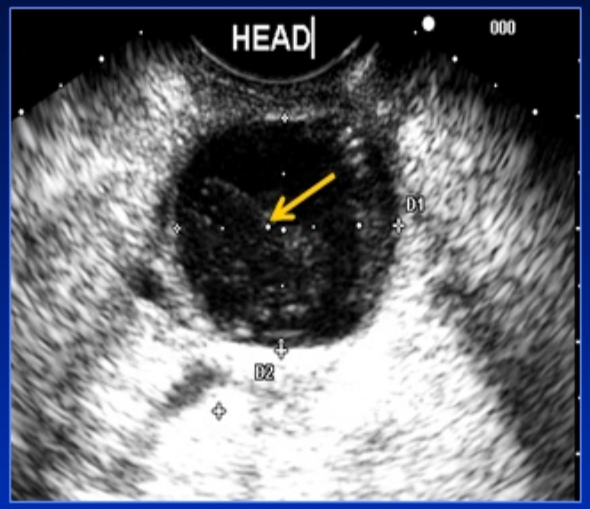
Focal isoechoic mass invading a segment of the portal vein

胰臟癌(Pancreatic Cancer)

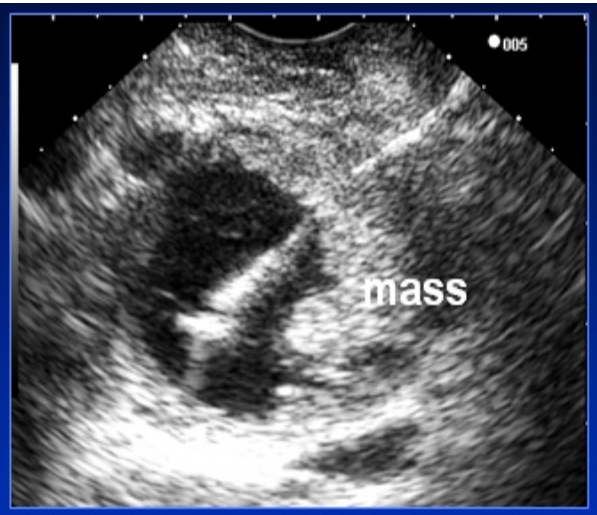
- Linear echoendoscope
- Color Doppler
- Aspiration needle
- Transgastric or transduodenal aspiration
- Needle aspiration for cytology



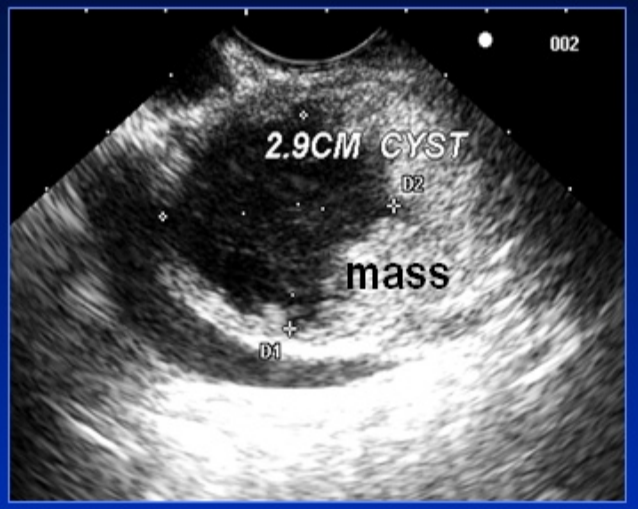
胰臟癌(Pancreatic Cancer)



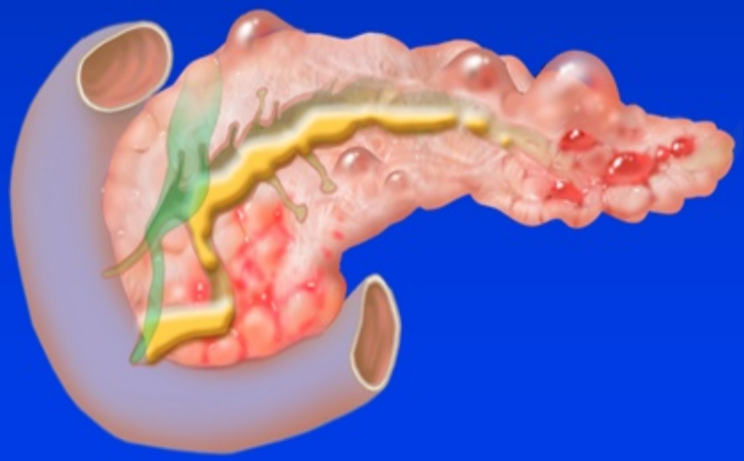
Large nodule
In cyst

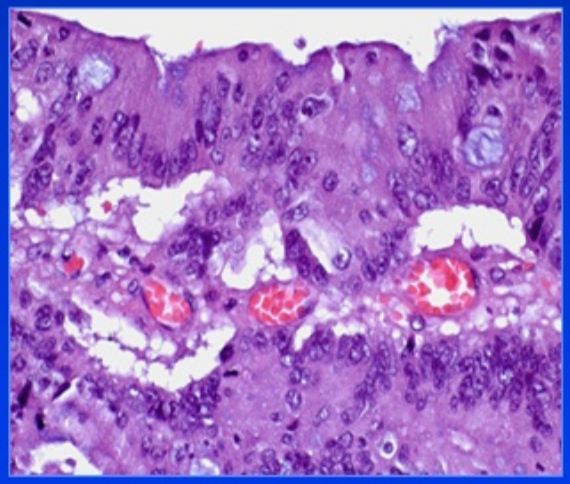


FNA of cyst and
mass



Mass filling cyst





Malignant histology

Thanks for your attention!

膽胰癌的診斷：檢查、檢查、檢查!