- Blood investigations – unremarkable, except for mild elevated GGT/ALP.

- Ultrasound abdomen – mild dilated common bile duct. No choledocholithiasis. Distal bile duct not visible.

- CT Abdomen – mild dilated bile duct. No stones noted.


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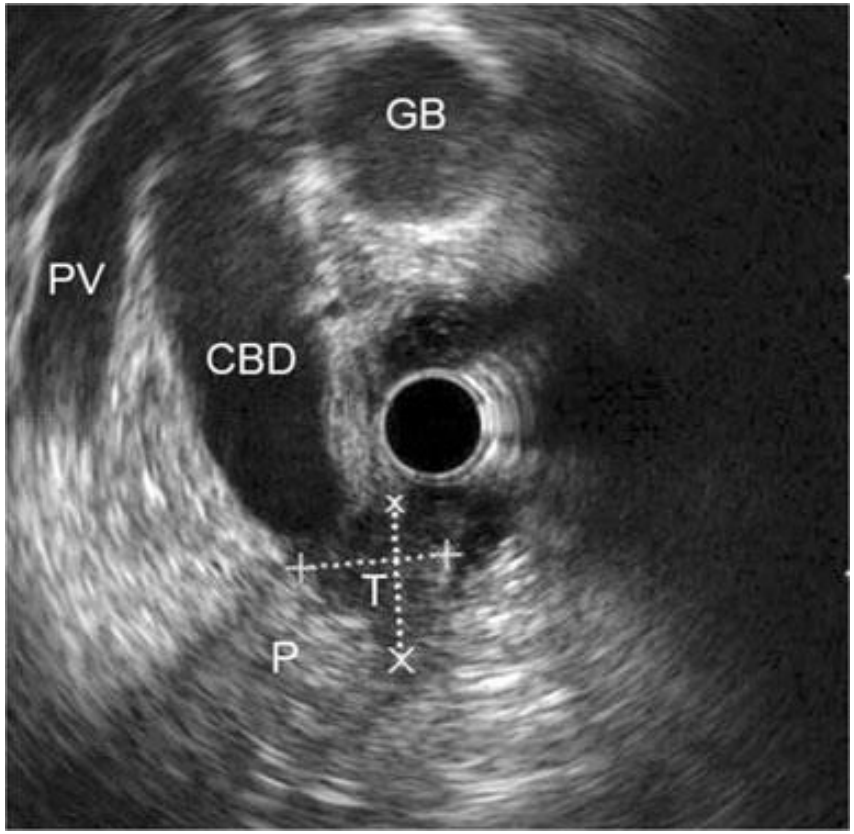
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# EUS versus MRCP

| | EUS | MRCP |
|---|---|---|
| SN | 93.7 SD 7.1 (86.6; 100) | 83.5 SD 18.6 (64.9; 100) |
| SP | 88,5 SD 16.1 (72.4; 100) | 91.5 SD 10.7 (80.8; 100) |
| PP | 38.7 SD 21.8 (16.9; 60.5) | |
| PPV | 89 SD 6.9 (82.1; 95.9) | 87,8 SD 14.4 (73.4; 100) |
| NPV | 96.9 SD 2.6 (94.3; 99.5) | 87,8 SD 15.5 (72.3; 100) |
| Accuracy | 93.3 SD 1.7 (91,6; 95) | 89.7 SD 5.0 (84,7; 94.7) |

SN: Sensitivity, SD: Standard deviation, SP: Specificity, PP: Pretest probability, PPV: Positive predictive value, NPV: Negative predictive value

- Endosc Ultrasound. 2016 Mar-Apr; 5(2): 118–128.

Endoscopic ultrasound *versus* magnetic resonance cholangiopancreatography in suspected choledocholithiasis: A systematic review

# Case 2

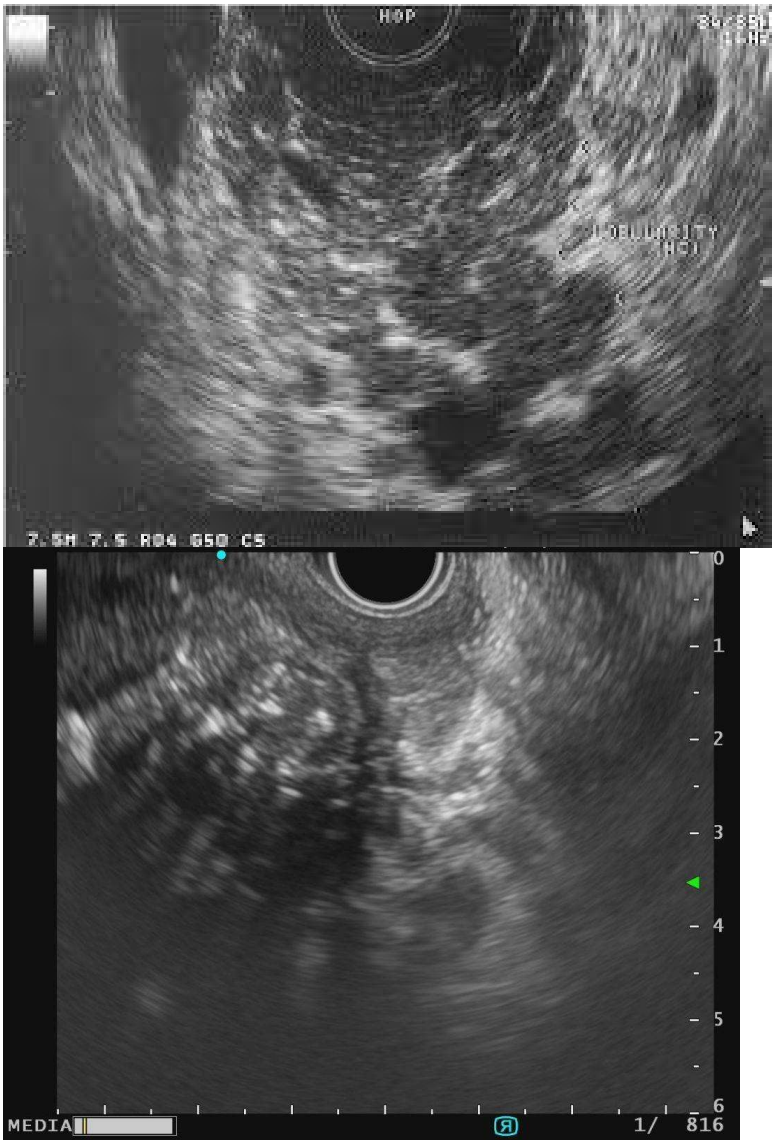
65 year old male

- On and off recurrent abdominal pain.
- Diarrhea with weight loss.
- Chronic alcohol intake ( significant).

- Blood investigations – Normal limits.
- Stool Specs – negative.
- CT abdomen – normal
- Stool steatocrit – elevated .
- Faecal eelastase – low.

- Impression : chronic pancreatitis.

- ? Next step




- Early changes detected by EUS correlate with histologic changes of CP.

- EUS - microcalcifications/lobularity/hyperechoic strands and foci.

# Rosemont's criteria

| | |
|---|---|
| Major criteria A | 1) Hyperechoic foci with shadowing (echogenic structure ≥2 mm length and width that shadow)<br>2) Lobularity with honeycombing (well circumscribed, ≥5 mm structures with enchaining rim and relatively echo pure center, contiguous ≥3 lobules)<br>3) Main pancreatic duct calculi (echogenic structure(s) within main pancreatic duct with shadowing) |
| Major criterion B | Honeycomb pattern of lobularity |
| Minor criteria | 1) Lobularity without honeycombing (noncontiguous lobules)<br>2) Hyperechoic foci without shadowing<br>3) Cysts<br>4) Strands<br>5) Irregular pancreatic duct contour<br>6) Dilated side branches<br>7) Main pancreatic duct dilatation<br>8) Hyperechoic duct wall |

EUS diagnosis of CP on the basis of Rosemont criteria.

I. Consistent with CP
   A. 1 Major A feature + ≥3 minor features
   B. 1 Major A feature + major B feature
   C. 2 Major A features

II. Suggestive of CP
   A. 1 Major A feature + <3 minor features
   B. 1 Major B feature + ≥3 minor features
   C. ≥5 Minor features (any)

III. Indeterminate for CP
   A. 3 to 4 Minor features, no major features
   B. Major B feature alone or with <3 minor features

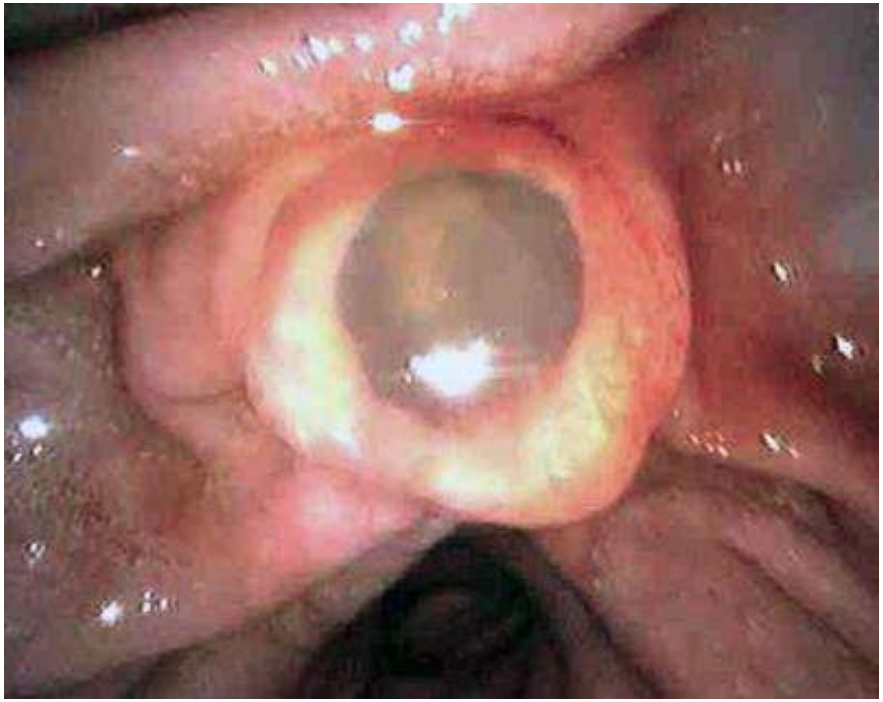
IV. Normal
   ≤2 Minor features, no major features

# Case 3

- 58 year old

- Incidentally detected to have a pancreatic cyst on imaging ( size 3 cm ) at the pancreatic head with dilated pancreatic duct.

- Dudoenoscopy showed this



| | Serous cystic tumor | Mucinous neoplasm | Main-duct intraductal papillary mucinous neoplasm | Branch-duct intraductal papillary mucinous neoplasm | Solid pseudopapillary neoplasm |
|---|---|---|---|---|---|
| **Age of presentation** | Variable, usually 5th to 7th decade | Variable, usually 5th to 7th decade | Variable, usually 5th to 7th decade | Variable, usually 5th to 7th decade | Usually 2nd to 3rd decade |
| **Gender distribution** | Females >males | Almost exclusively females | Females = males | Females = males | Females >males |
| **Typical clinical presentation** | Incidental or abdominal pain or mass effect | Incidental or abdominal pain or malignancy related | Incidental or pancreatitis or pancreatic insufficiency or malignancy related | Incidental or pancreatitis or malignancy related | Incidental or abdominal pain or mass effect |
| **Typical imaging characteristics** | Microcystic/honeycomb appearance<br>Oligocystic appearance less common | Unilocular or septated cyst ± wall calcifications<br>Solid component, if present, may suggest malignancy | Dilated main pancreatic duct ± parenchymal atrophy<br>Solid component, if present, may suggest malignancy | Dilated pancreatic duct branch or branches<br>Solid component, if present, may suggest malignancy | Solid and cystic mass ± calcifications |
| **Typical aspirate characteristics** | Thin, often bloody | Viscous | Viscous | Viscous or thin | Bloody |
| **Typical carcinoembryonic antigen (CEA) level** | <5 to 20 ng/mL in majority of lesions | >200 ng/mL in approximately 75% of lesions | >200 ng/mL in approximately 75% of lesions | >200 ng/mL in approximately 75% of lesions | Insufficient data |
| **Typical glucose level** | >50 mg/dL in majority | <50 mg/dL in majority | <50 mg/dL (limited data) | <50 mg/dL in majority | Insufficient data |
| **Typical DNA analysis** | Allelic loss affecting chromosome 3p and VHL mutation specific | K-ras mutation specific (>90%), not sensitive (<50%)<br>TP53, PTEN, PIK3CA, high DNA amount or high-amplitude allelic loss seen in malignancy | K-ras and GNAS mutation specific (>90%), not sensitive (<50%)<br>TP53, PTEN, PIK3CA, high DNA amount or high-amplitude allelic loss seen in malignancy | K-ras and GNAS mutation specific (>90%), not sensitive (<50%)<br>TP53, PTEN, PIK3CA, high DNA amount or high-amplitude allelic loss seen in malignancy | CTNNB1 mutation specific |
| **Relative malignant potential** | Negligible | Moderate | High | Low to moderate | Moderate to high |
| **Treatment** | Resect if symptomatic | Resection | Resection and post- | Closely monitor or | Resection |

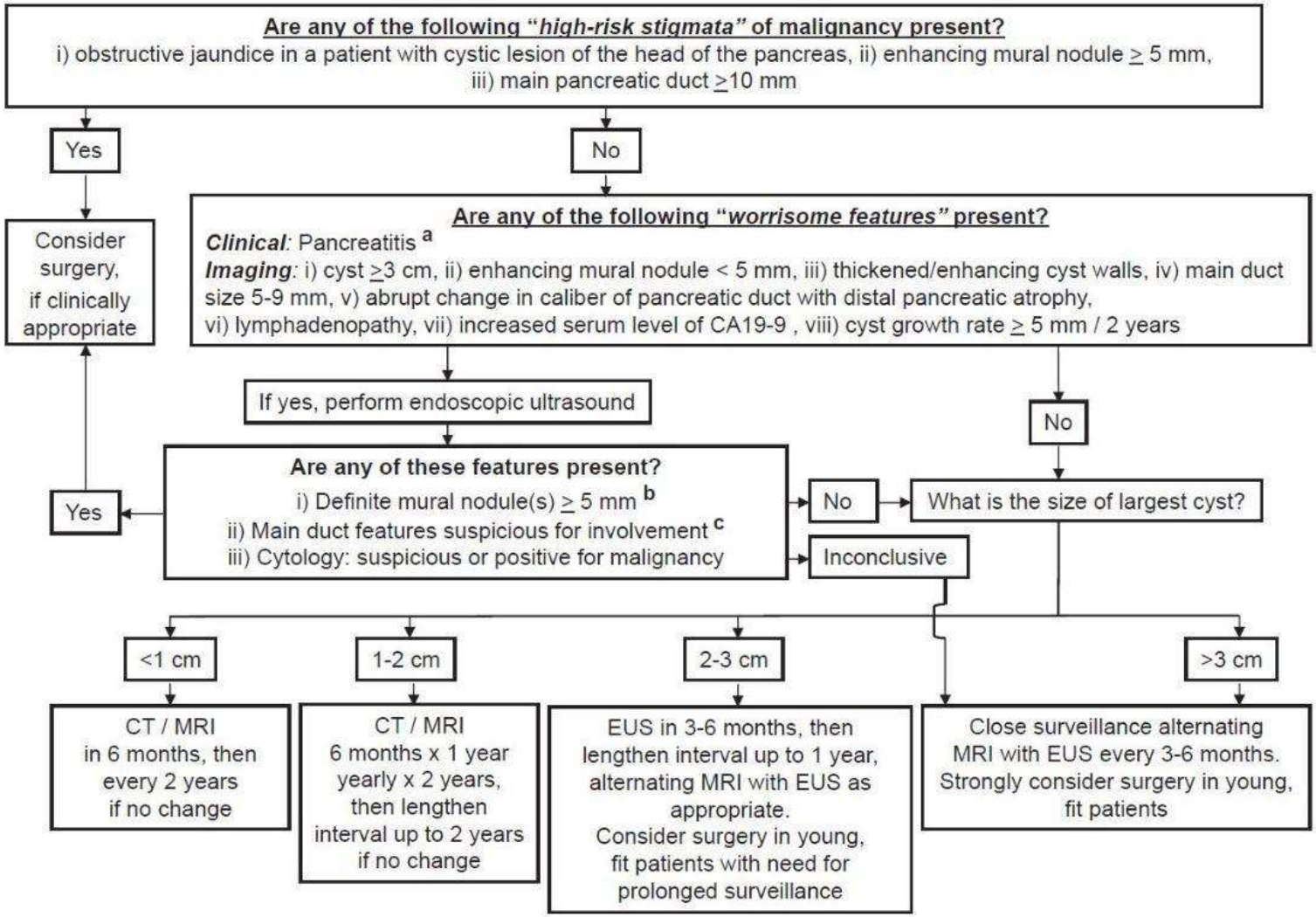



Fig. 6?Diagnostic and therapeutic procedure for IPMNs in accordance with the revised Fukuoka Guidelines [3]