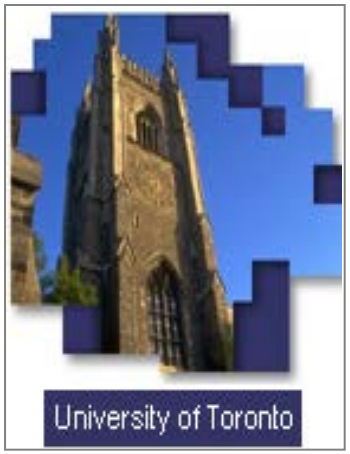
Diagnosis and Treatment of Pancreas Tumours



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BC Surgical Oncology Network, Oct 22 2016

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CONFLICT OF INTEREST DECLARATION

I, Alice Wei declare that in the past 3 years:

I have been a member of an Advisory Board or equivalent with the following companies*: Ethicon, Histosonic, Celgene, Sanofi, Takeda, Bayer

I have been a member of the following speakers' bureau: None

I have done speaking engagements for the following companies*: Sanofi, Celgene

I have received payment or funding from the following companies*

(includes gifts, grants, honoraria, and 'in kind' compensation): None

I have done consulting work for the following companies*: Cancer Care Ontario

I have held a patent for a product referred to in the program or that is marketed by a commercial organization: None

I or my family hold individual shares in the following companies*: None

I have participated in a clinical trial for the following companies*: None

MANAGING POTENTIAL BIAS

no commercial uses will be discussed

**pharmaceutical, medical device, or communications companies*

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Learning Objectives

- Learn about the incidence of common pancreatic lesions

- Review the diagnosis and management of pancreas masses

Question: Pancreatic lesions

1. Incidental lesions are uncommon and decreasing in frequency
2. Incidental cystic lesions rarely require surgery
3. Mucinous cystic neoplasms require surgery for high risk features
4. Solid pancreatic lesions usually require surgery
5. Mixed duct IPMNs can be followed if < 3 cm

Pancreatic lesions

- pathology is common
  - pancreatitis
    - 5-10/10000
  - pancreatic cancer
    - 4th most common cause of cancer death
    - 4600 cases yearly
- pancreatic cystic lesions
  - detection of lesion increasing

Diagnosis of pancreatic lesions

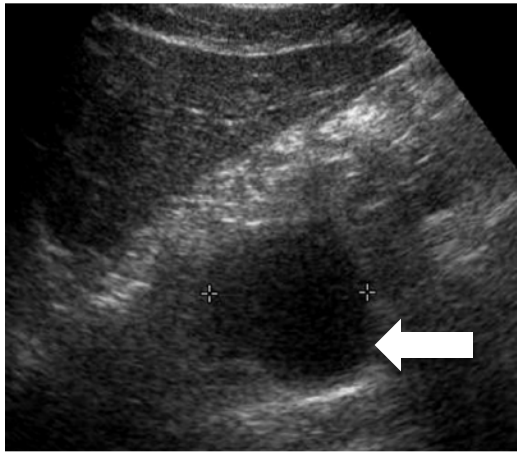
- many are incidental
  - ~ 50% of pancreatic referrals
  - 48% are solid
  - 25% require resection
- found in work up of
  - GU symptoms (16%)
  - LFT abnormality (13%)
  - screening (7%) or chest pain(6%)
- When symptoms present
  - Pancreatitis, abdominal pain, jaundice
  - Weight loss, fatigue

Approach to pancreatic lesions

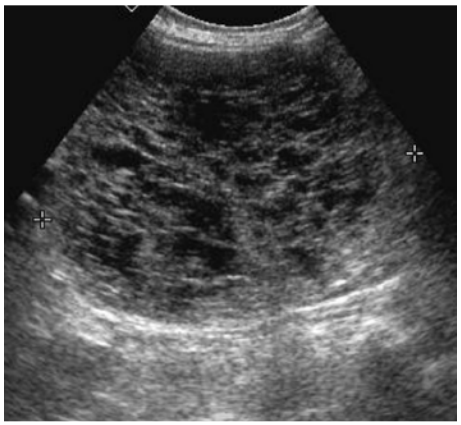
- History and physical
  - history of pancreatitis or CBD stones?
  - history of pancreas cancer?
  - Symptoms?
- Imaging essential
  - US → CT→ MRI →Eus /Biopsy

Ultrasound

- Safe, inexpensive
  - sensitivity is 88% for solid lesions
  - surveillance of established lesions
  - appropriate screening test
- Disadvantages
  - Quality is operator dependent
  - visualization is limited for:
    - fatty livers
    - obese patients
    - gas overlying the pancreas



simple unilocular cyst

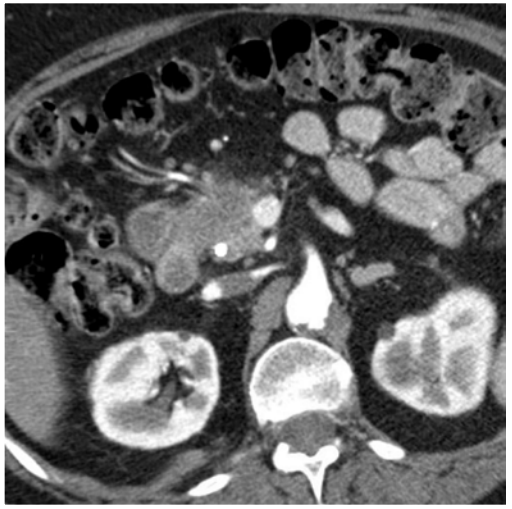


microcystic serous cystadenoma

CT scan

- Contrast enhanced CT most useful

- excellent anatomic resolution
  - defines relationship between lesion and vascular structures
  - distant/peritoneal disease



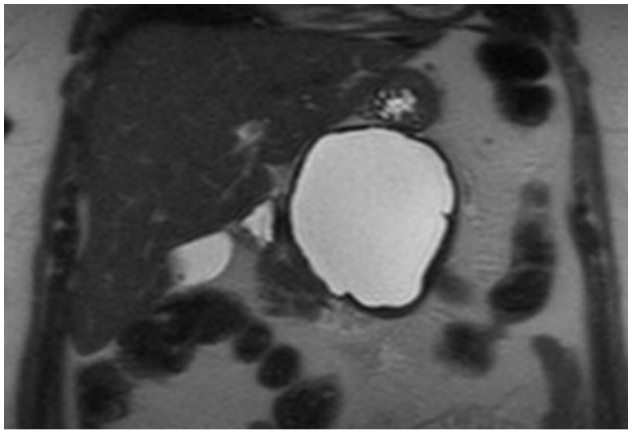
pancreas adenocarcinoma

- use pancreas dedicated protocol
  - Arterial/venous phases with coronal/ sagittal views
  - thin slices through the pancreas

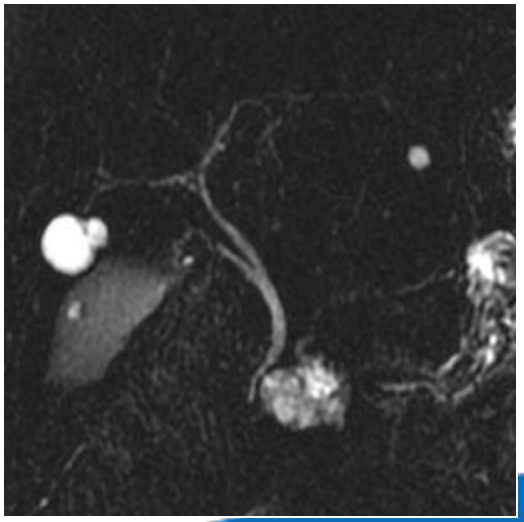
pseudocyst

MRI scan

- excellent for CYSTIC lesions
- Good adjunct to CT for indeterminate lesions
- Addition of gadolinium of primovist contrast helpful for indeterminate liver lesions
- MRCP
  - confirm cystic nature of lesion
  - assess biliary and pancreatic ducts
  - relationship of lesion to ducts



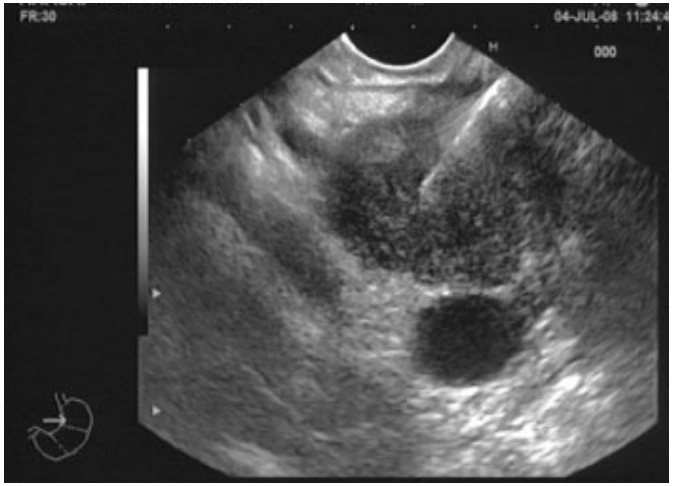
simple unilocular cyst



IPMN

When to biopsy

- Only when tissue needed to guide Rx
  - i.e. to confirm malignancy
  - Cyst fluid analysis
- EUS preferred when surgery is an option
- Biopsy metastases if present
  - liver biopsy n → easier
  - confirms stage and malignancy



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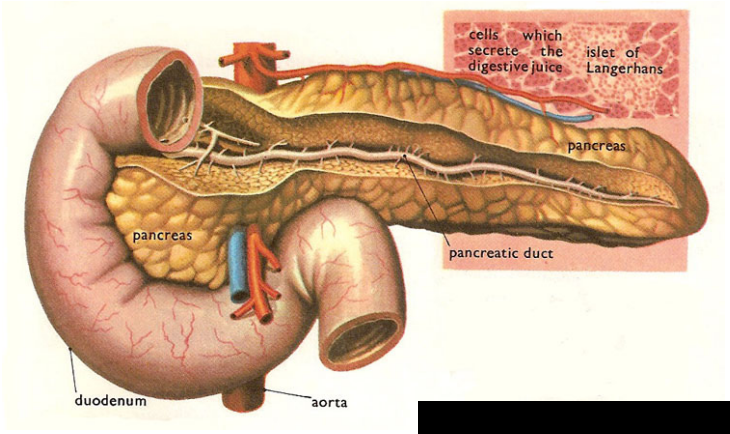
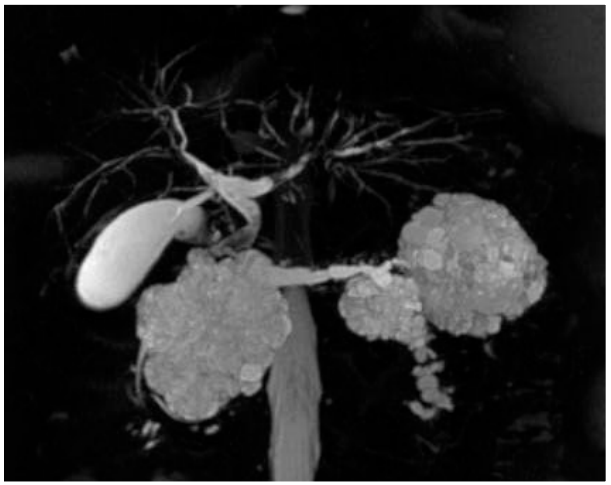
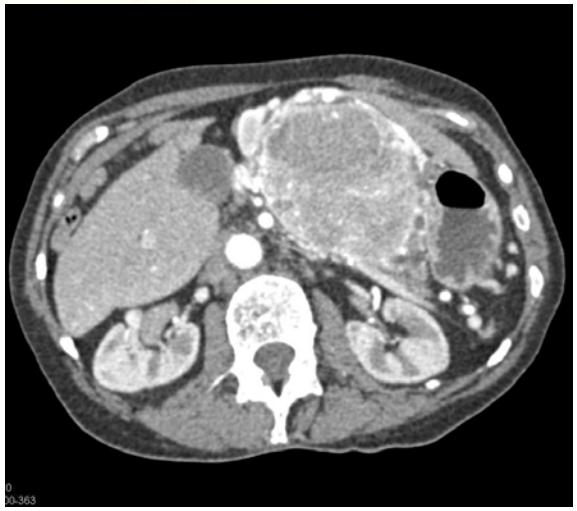
Pancreas lesions

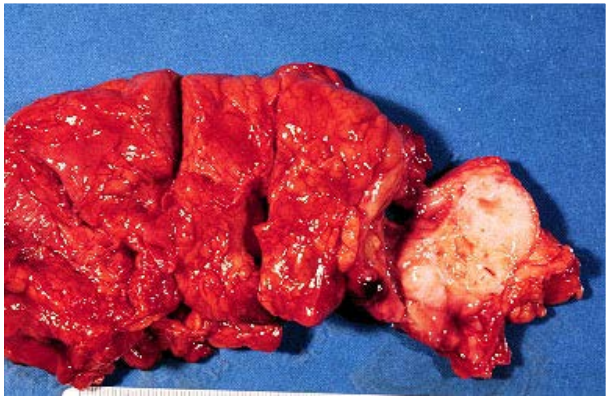




Serous cystic neoplasm



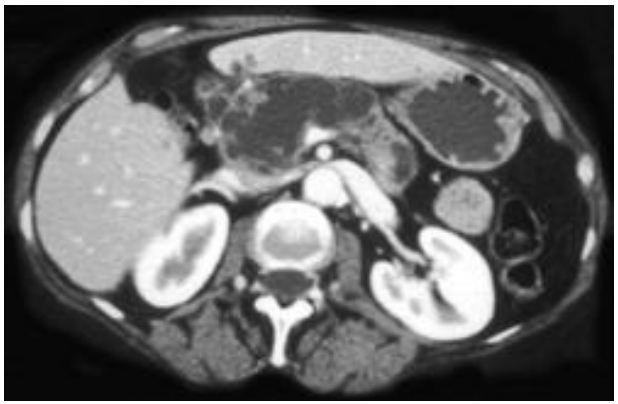
neuroendocrine



adenocarcinoma

Cystic Lesions of Pancreas

- Incidence:
  - Autopsy Series 25%
  - MRI Series 20%
- Evolving knowledge:
  - Histopathology/classifications
  - Clinical significance
  - Management



Large IPMN

pseudocyst

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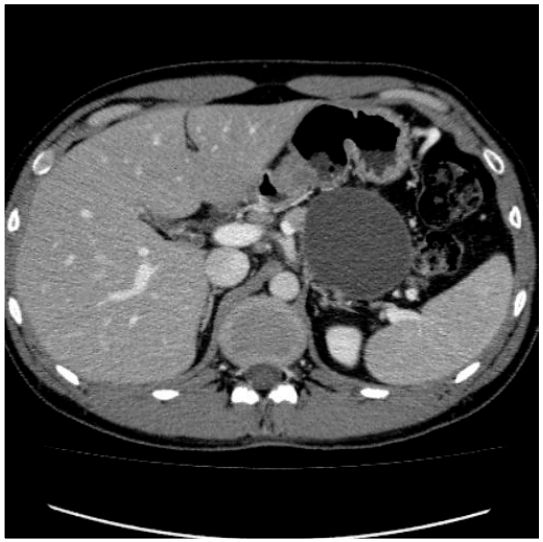
Cystic Lesions of Pancreas

- Common
  - Pseudocyst
  - Serous Cystadenoma
  - Mucinous Cystadenoma
  - IPMN
- Uncommon
  - Solid/pseudopapillary epitheliod neoplasm (SPEN)
  - Cystic neuroendocrine
  - Cystic Adenocarcinoma
  - Metastases
  - Simple pancreatic cyst
  - Lymphoepithelial cyst
  - Hydatid cyst
  - Mucinous non-cystic tumor
  - Osteoclast like-giant cell tumor…

Pseudocyst

- Most common cystic lesion (85%)
  - history of pancreatitis common
- majority are asymptomatic
- Symptoms if present
  - Pain, mass effect
  - Bleeding, Infection
- Rx:
  - Asymptomatic → observation
  - Symptoms →drainage
    - Endoscopic→ percutaneous→ surgical



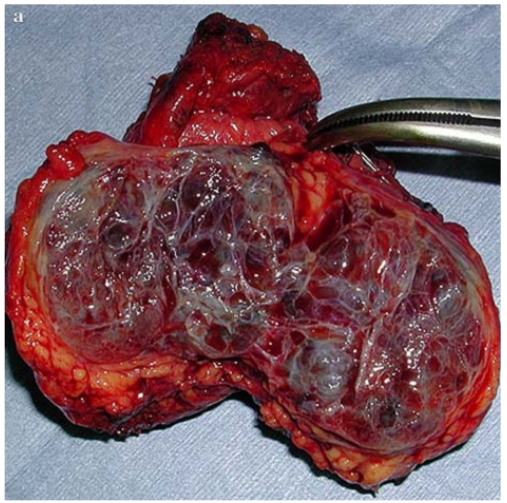
pseudocyst

Serous cystic neoplasm

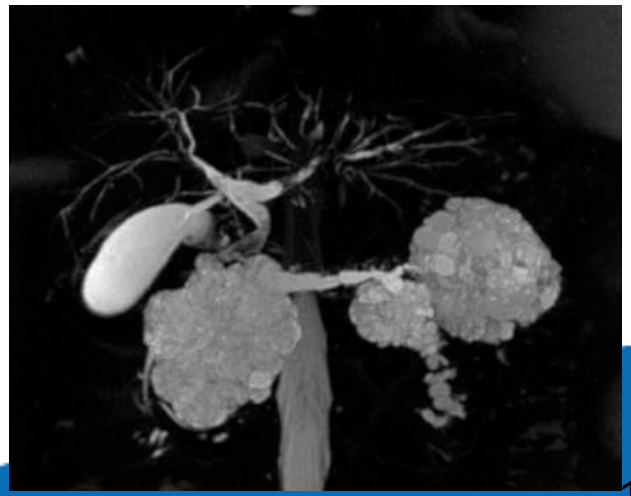
- Median age: 60 years
- 75% female
- Median size: 5 cm
- 65% located in the body and tail

- Usually solitary
- well circumscribed
  - Honeycomb-like structure
- < 1% malignant transformation

- Rx: Surveillance

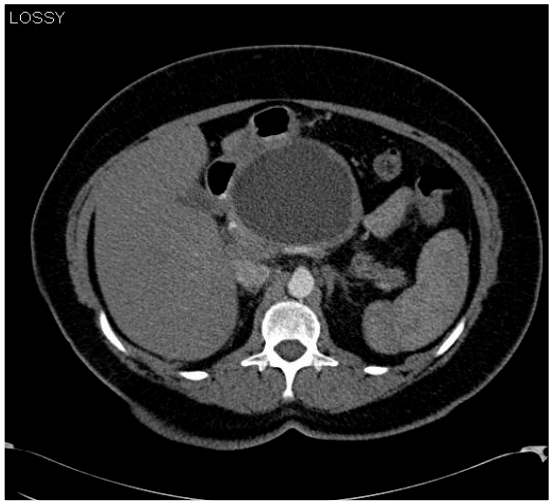


Serous cystic neoplasm

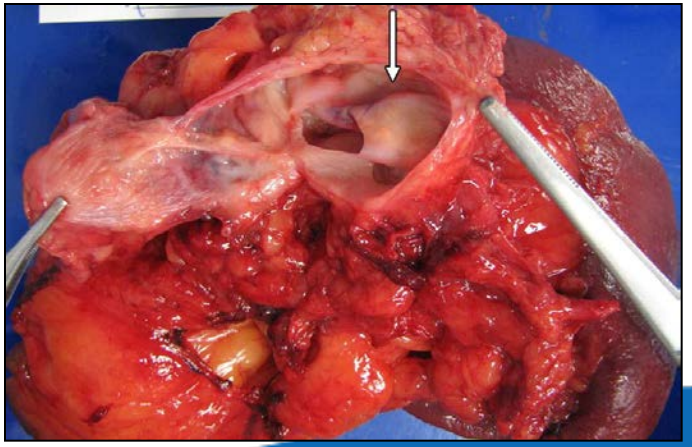


Mucinous cystic neoplasm

- Thick walled septated cysts
- Median age: 50 years ~75% female
- Usually multilocular
  - NO communication with duct
  - ~ 90% in body/tail
- 18%-48% malignant transformation
  - Older age, wall calcifications, ↑size, ↑ CEA at risk for cancer
- Rx: Surgical Excision
  - If cancer →5-year OS ~60%

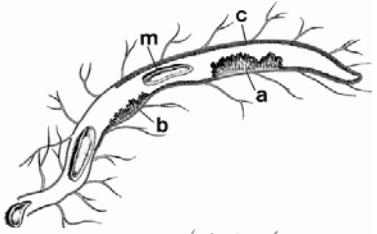


mucinous cystic neoplasm

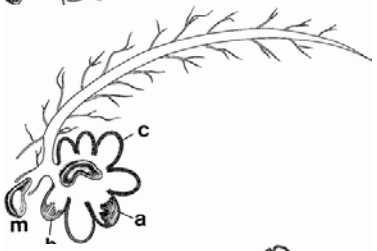


Intraductal Papillary Mucinous Neoplasm

- IPMN
  - ↑ Incidence with age
  - Male > Female
  - Benign or low grade malignancy
- 3 variants
  - main duct
  - side branch
  - combined/mixed type

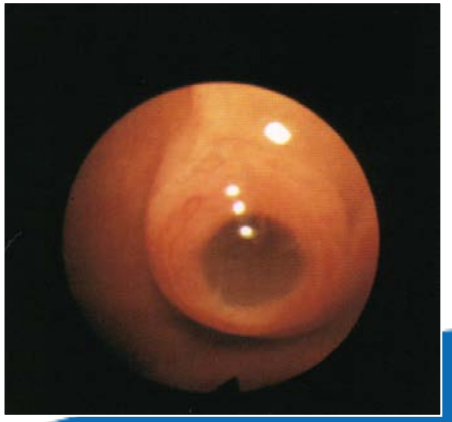


Main Duct IPMN



Side-Branch IPMN

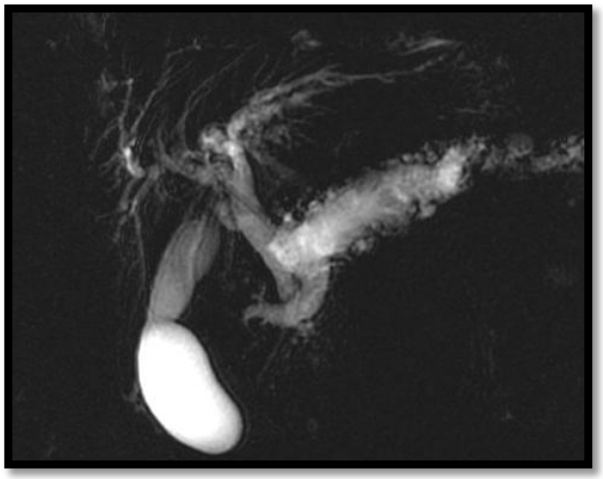
Combined IPMN



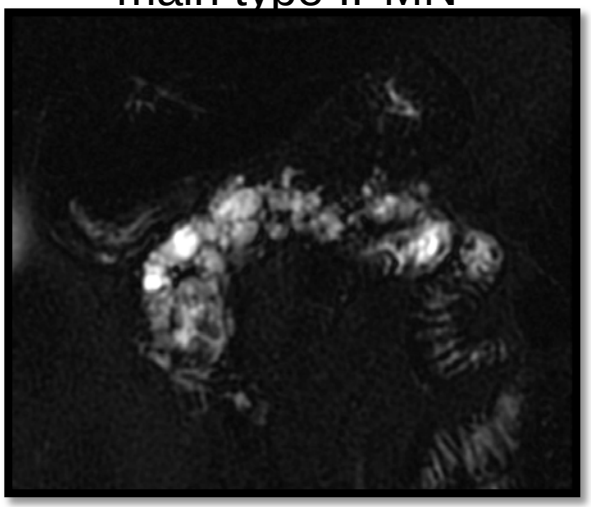
fish mouth ampulla

Intraductal Papillary Mucinous Neoplasm

- Presentation depends on morphology
  - Asymptomatic → side branch
  - Pancreatitis → main/combined type
  - ↑malignancy[1] with
    - High risk stigmata
    - Worrisome features
- if malignant→ pancreatic adenocarcinoma
- Surgery to PREVENT malignancy



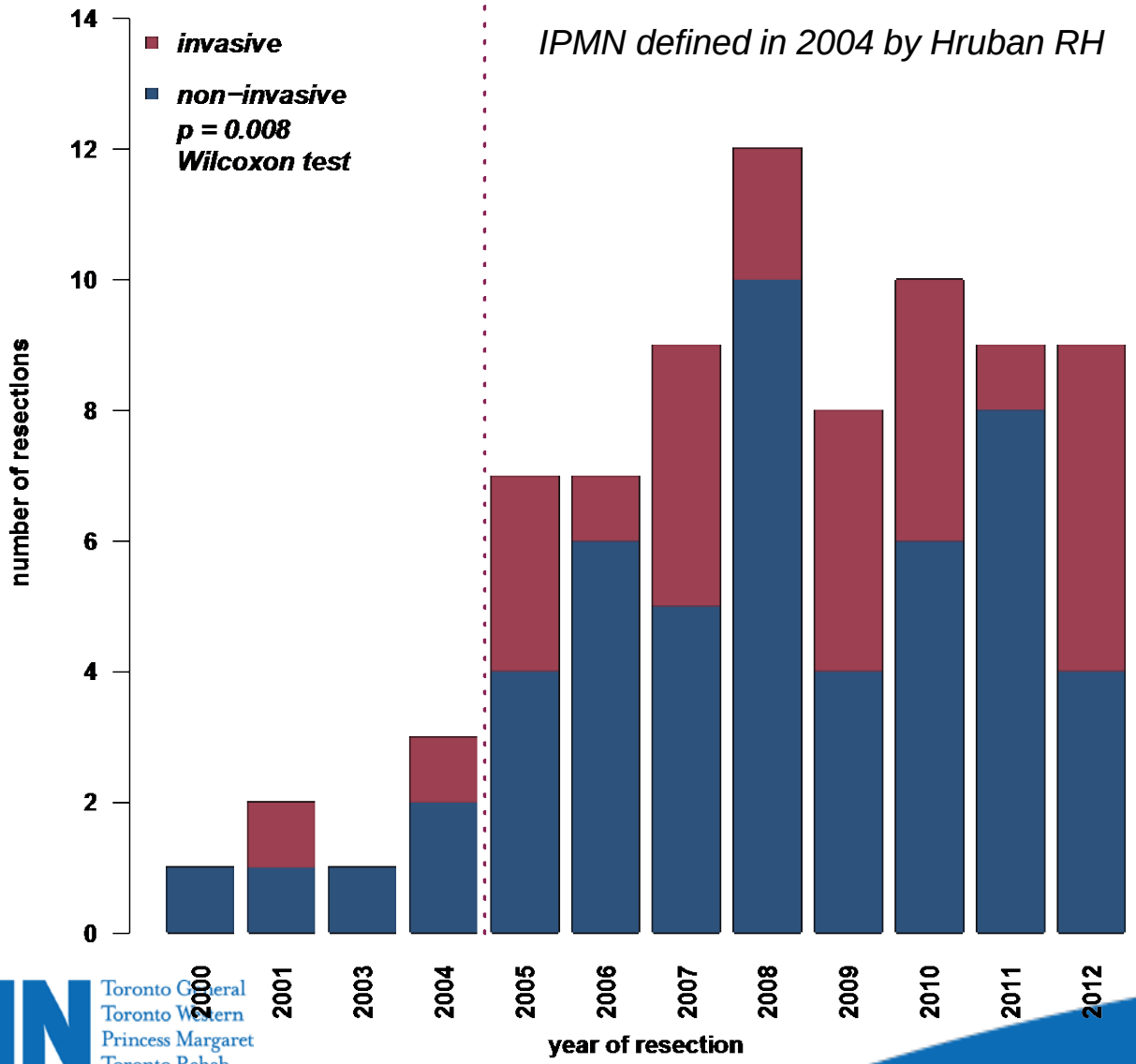
main type IPMN



combined type IPMN

1. Tanaka M, Pancreatology, 2012 doi:10.1016/j.pan.2012.04.004

Proportion of malignant IPMN at UHN (2000-2012)



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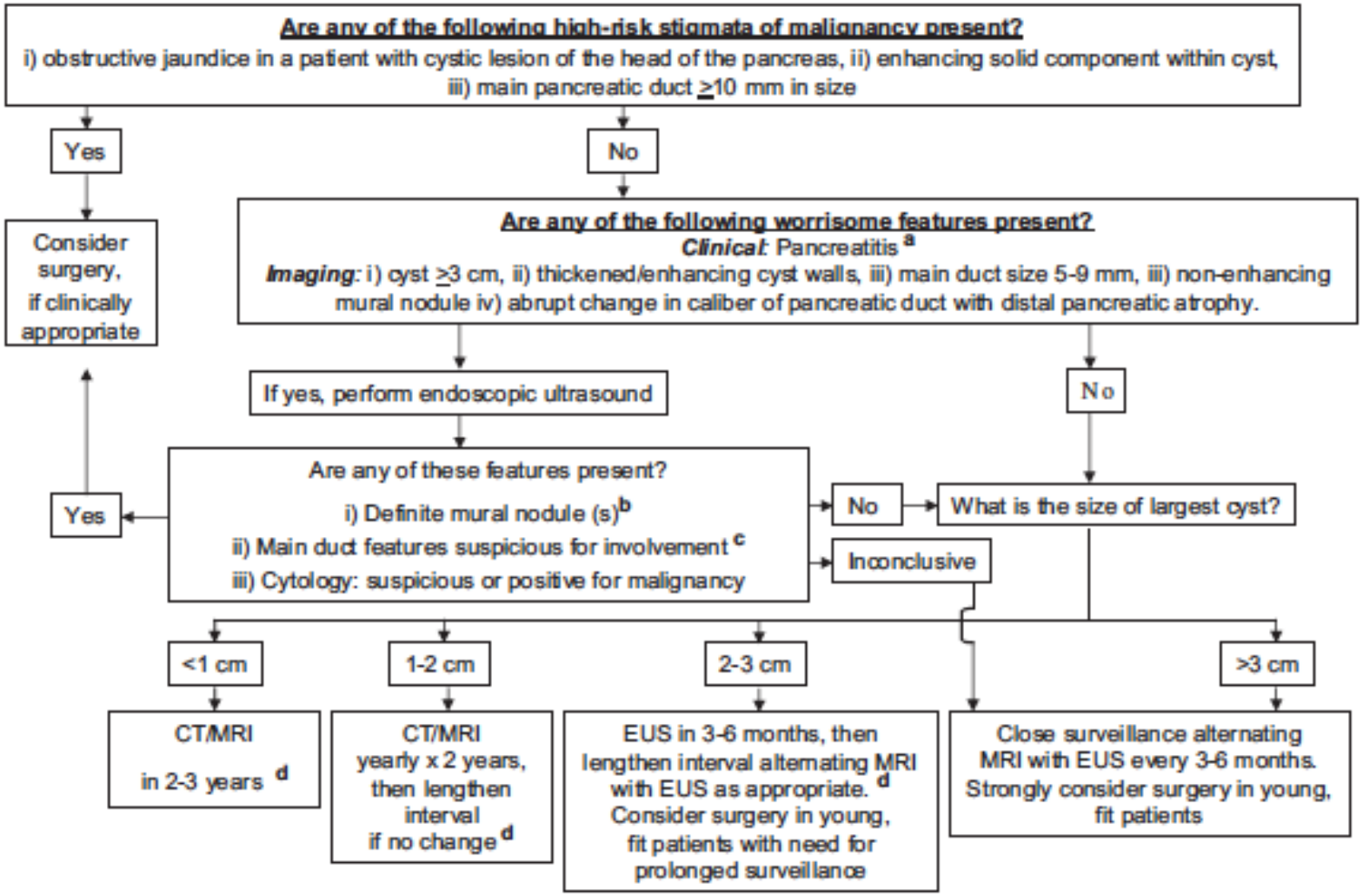
(Wei et al Manuscript in preparation)

Fukuoka algorithm for IPMN (2012)

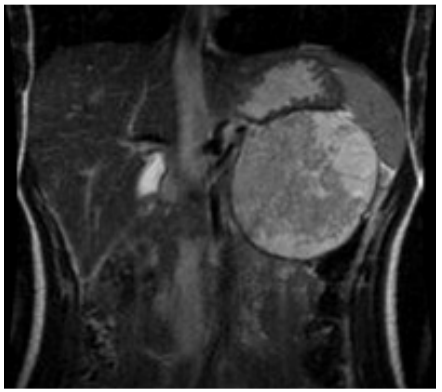


1. Tanaka M, Pancreatology, 2012 doi:10.1016/j.pan.2012.04.004

Solid pseudopapillary epithelial neoplasm (SPEN)

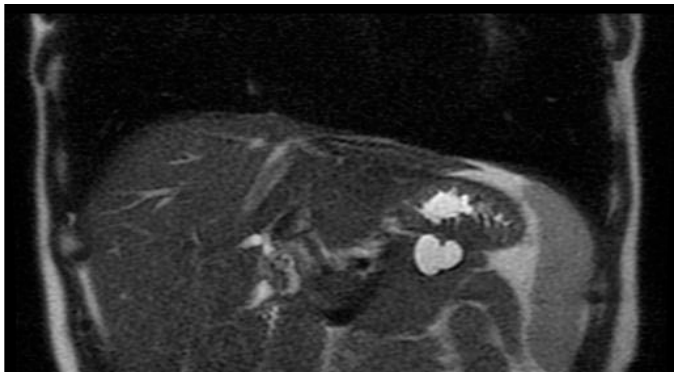
- Rare, 90% in young woman
- peak incidence 3rd decade
- Asian and African predilection
- majority are benign (85%)
- arise from unknown cell of origin

- Rx: surgical resection



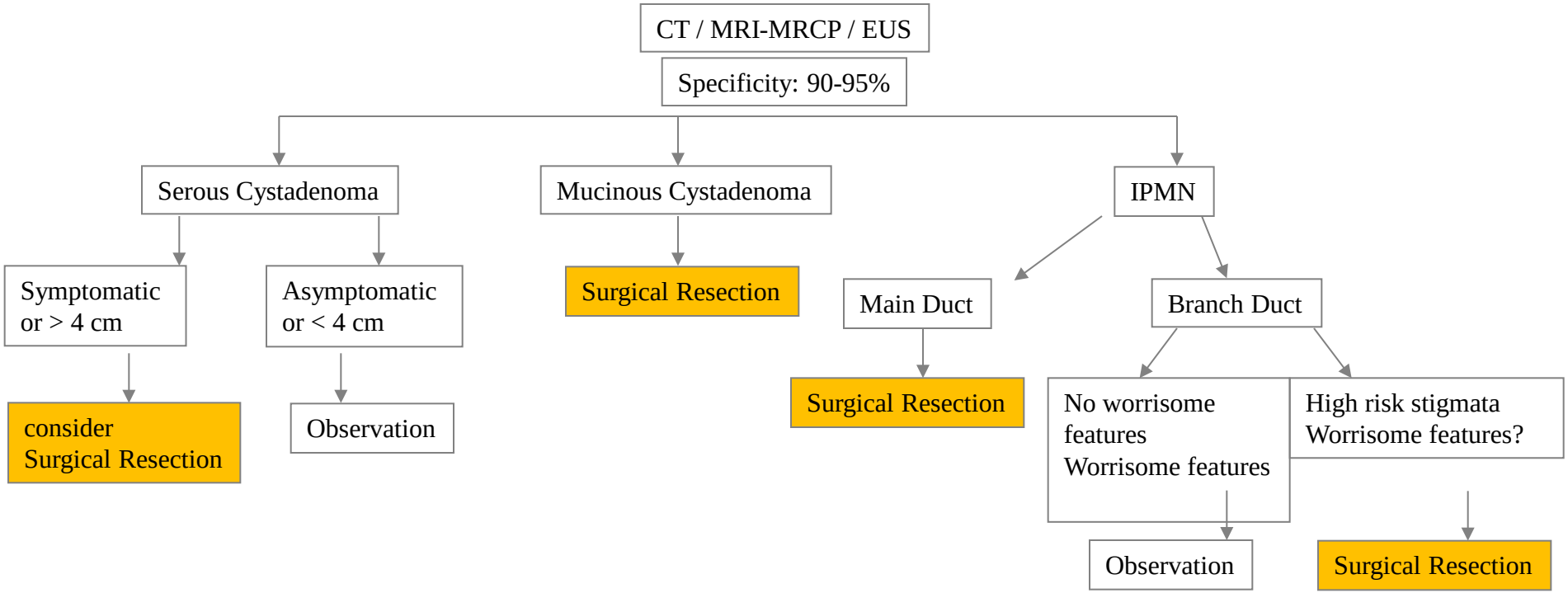
Simple pancreatic cysts

- not very common
  - sporadic→ usually isolated
  - familial or syndromic variants
    - PCKD, VHL
- Natural history not clear
- Rx: recommend lifelong surveillance
  - interval? 6-24 months?

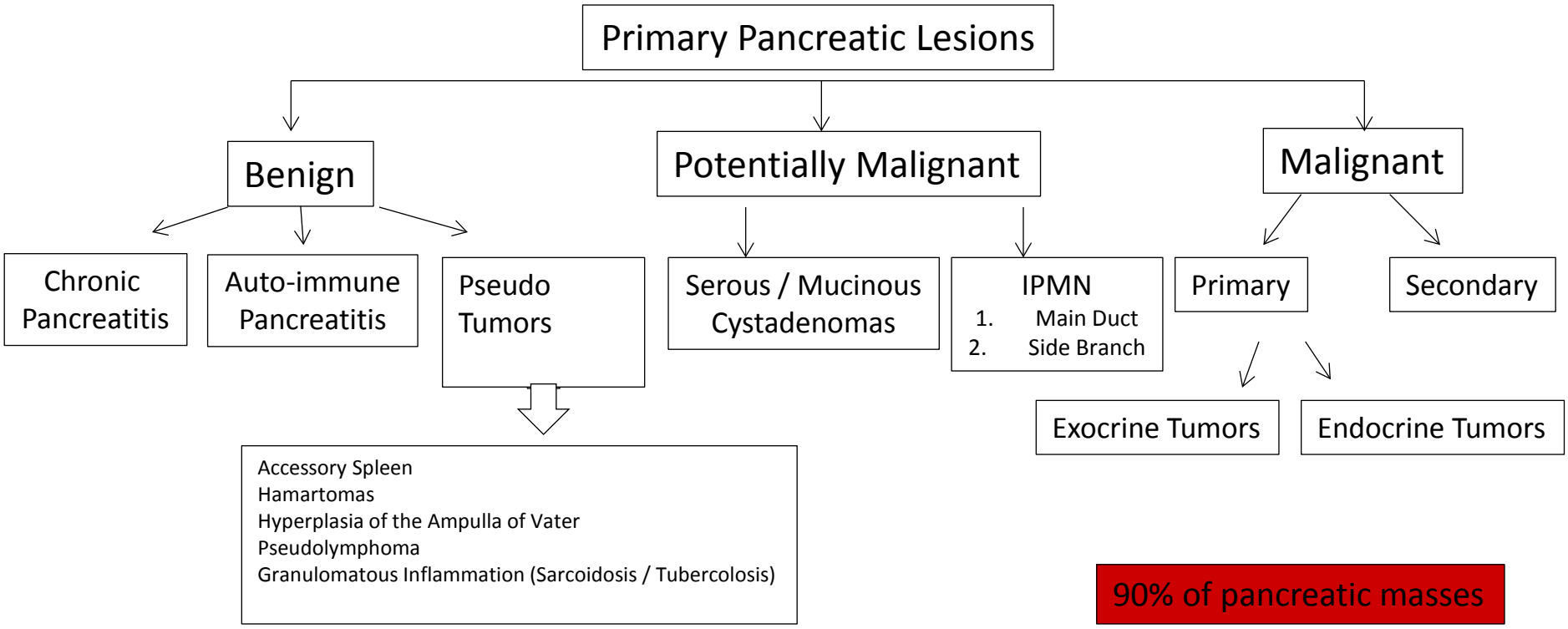


Simple cyst

Management of pancreatic cystic neoplasms



Classification of solid pancreatic lesions



90% of pancreatic masses

10% of pancreatic masses

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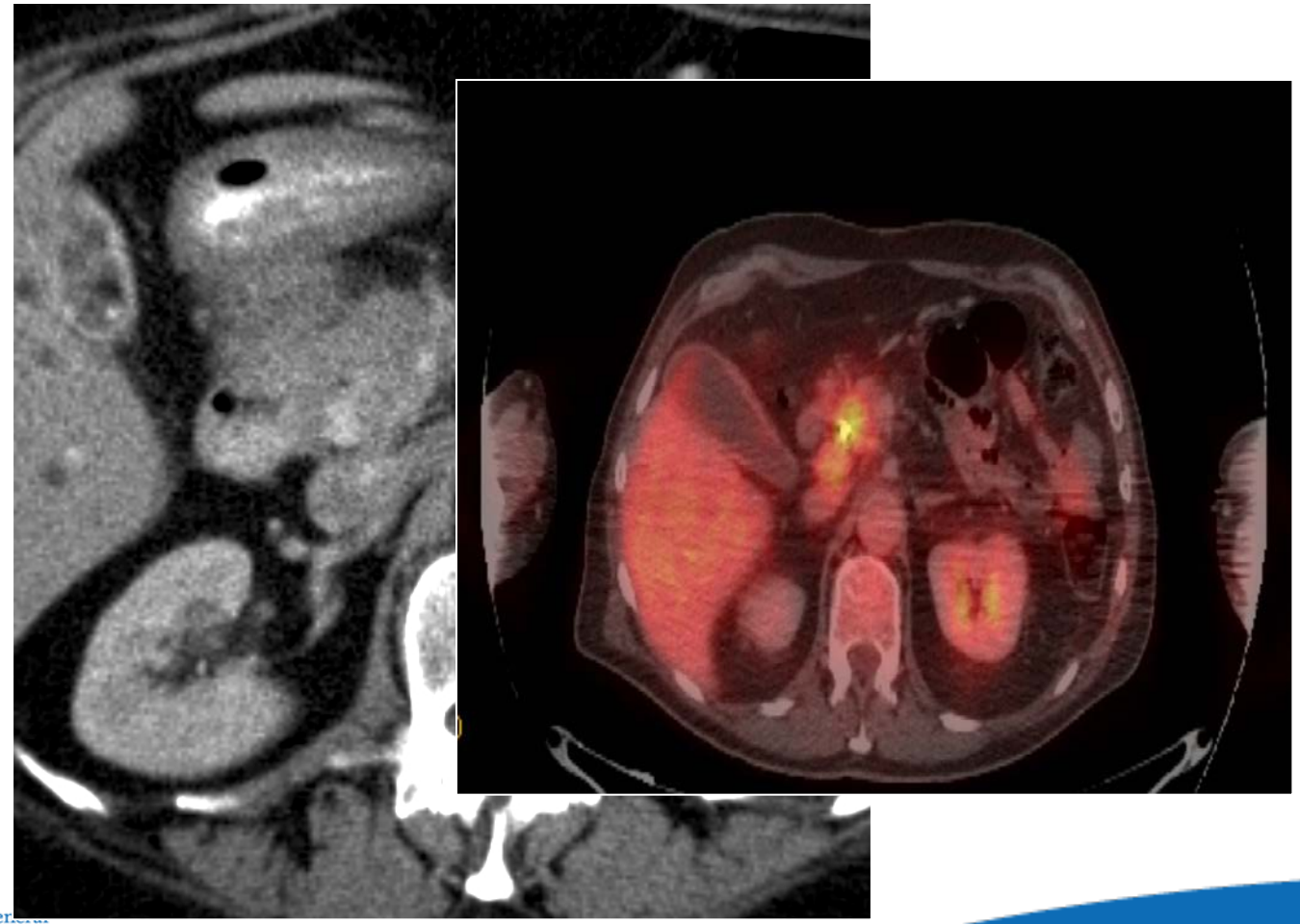
Pancreatic Carcinoma…coming up next



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