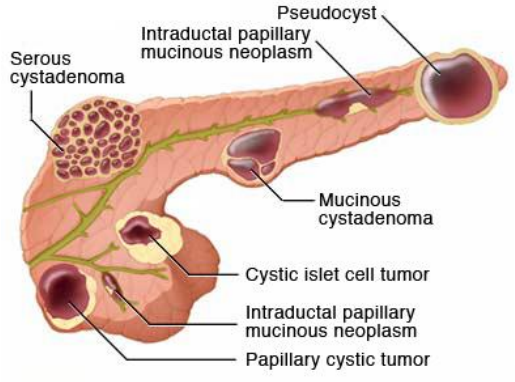
Cysteuze afwijkingen in het pancreas



Hendrik van Dullemen, MDL-arts
Universitair Medisch Centrum Groningen
Veldhoven 2017

rijksuniversiteit groningen

umcg

Geen belangenverstrengeling.

Waar gaat dit over?

- Type cysten van de pancreas
- Diagnostiek
- Hoe mee om te gaan

Pancreatic cystic lesions: PCL Incidentie

24% in prospectieve autopsie serie.

Kimura W, Int J Pancreatol 1995

20% op CT gemaakt voor een andere indicatie.

Zhang X.M et al. Radiology 2002

13,5% MR imaging examinations of 616 consecutive patients

Lee KS, Am J Gastroenterol. 2010

2,4% High prevalence of pancreatic cysts detected by screening magnetic resonance imaging examinations

De Jong K, Clin Gastroenterol Hepatol 2010

Classification
Pancreatic Cystic Lesions

Pseudocysts 80-90 %

Neoplastic 5-10 %

Serous cystadenoma
Mucinous cystadenoma
Mucinous cystadenocarcinoma
Intraductal papillary mucinous neoplasm
Cystic endocrine tumor
Solid and pseudopapillary neoplasm
Acinar cell cystadenocarcinoma

Congenital 5-10 %

"Simple" cyst
Polycystic disease
Cystic fibrosis
Von Hippel–Lindau–associated cysts

Other

Lymphoepithelial cyst
Parasitic infection (e.g., amebiasis, *Ascaris* infection) Rare

Penman ID, textbook endosonography

Pancreatic Cystic Lesions

Serous cystadenoma

- Variable, usually 5th to 7th decade
- Females > males
- Incidental or abdominal pain or mass effect
- Microcystic/ honeycomb appearance
- Oligocystic appearance less common
- Aspirate: thin, often bloody
- Cuboidal cells that stain positive for glycogen; yield <50 %
- CEA<5-20 ng/mL in majority of lesions
- Relative malignant potential is negligible
- Resect if symptomatic

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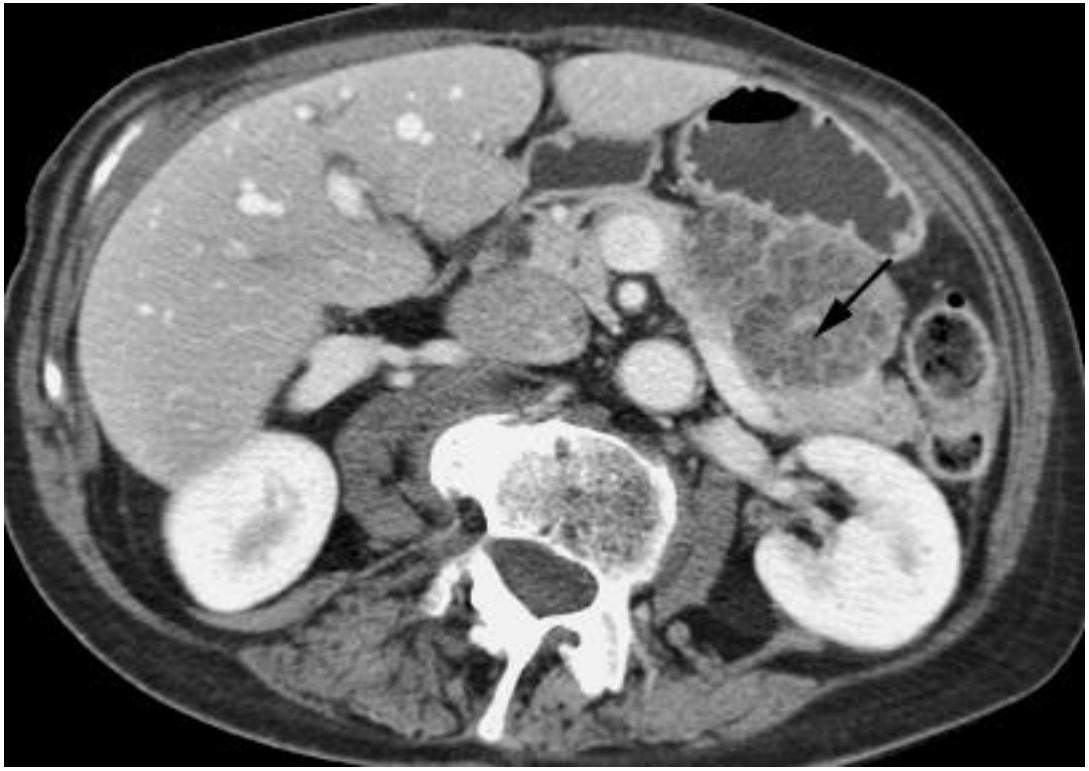
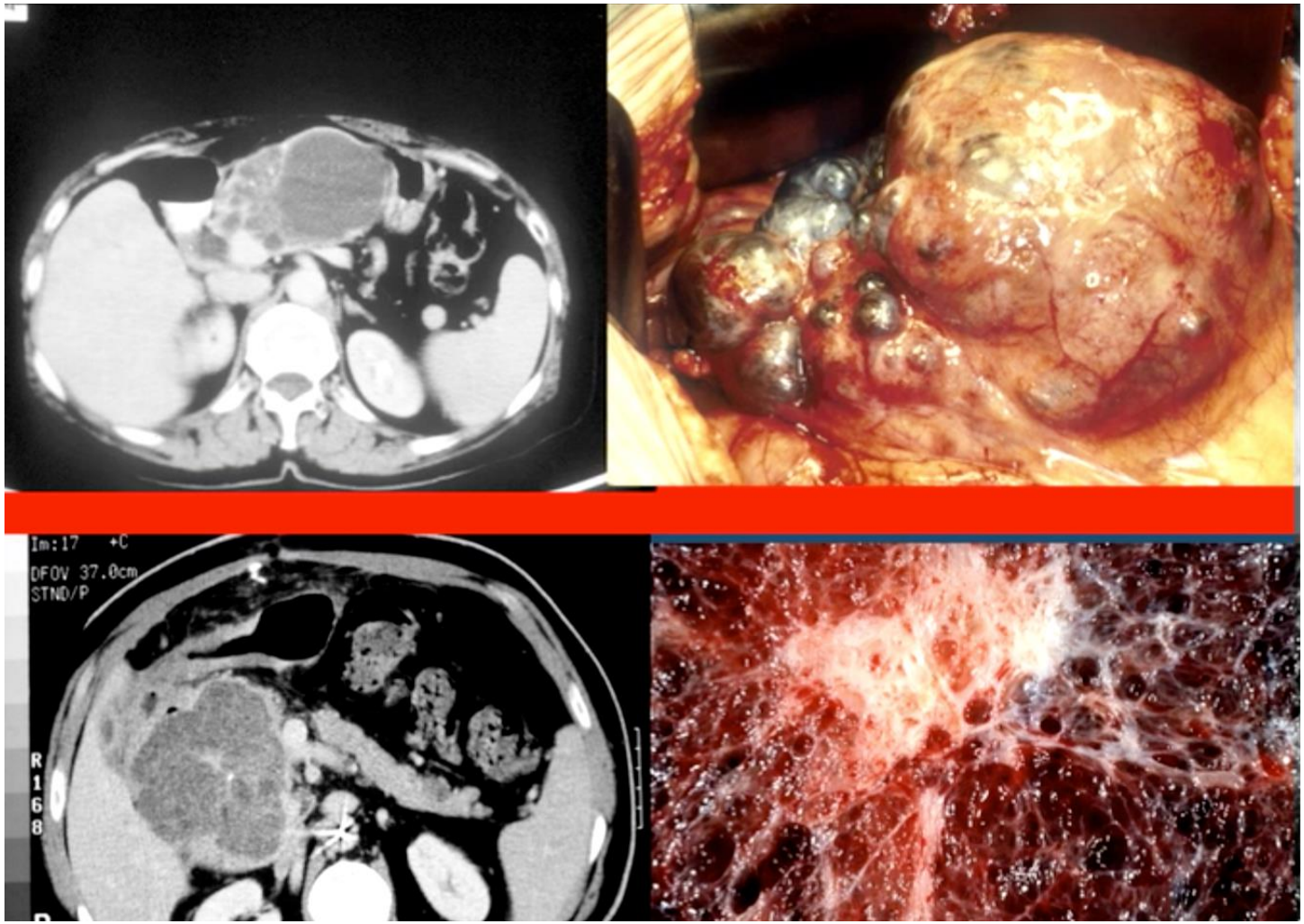
Pancreatic Cystic Lesions

Serous cystadenoma



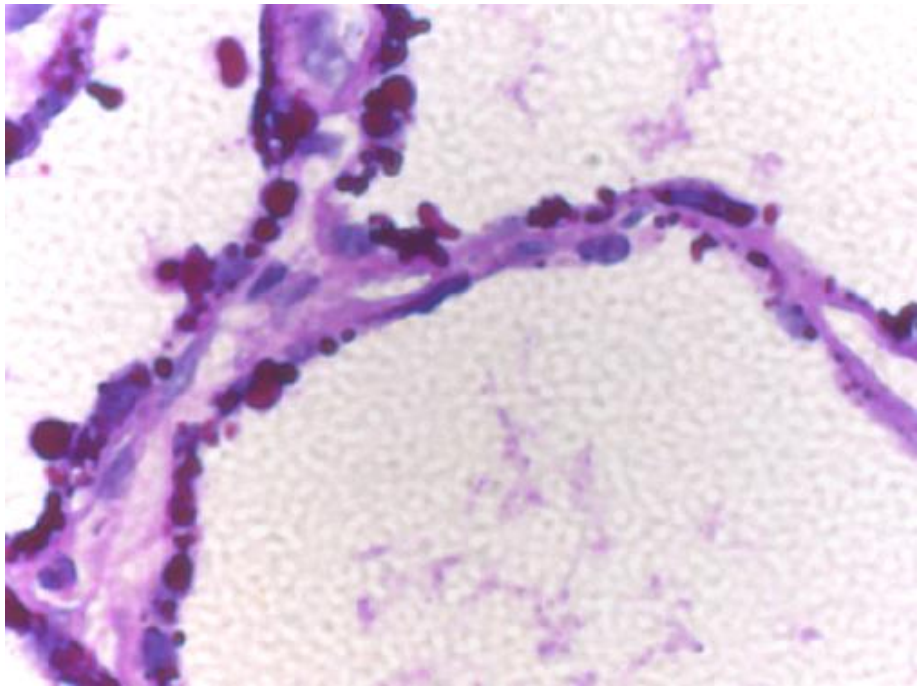
Pancreatic Cystic Lesions

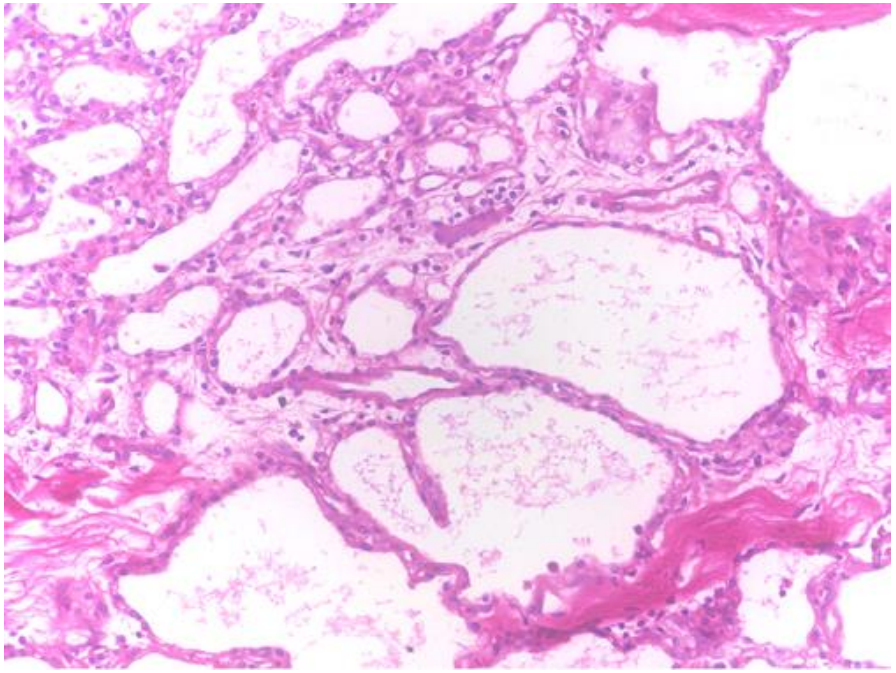
Serous cystadenoma



Pancreatic Cystic Lesions

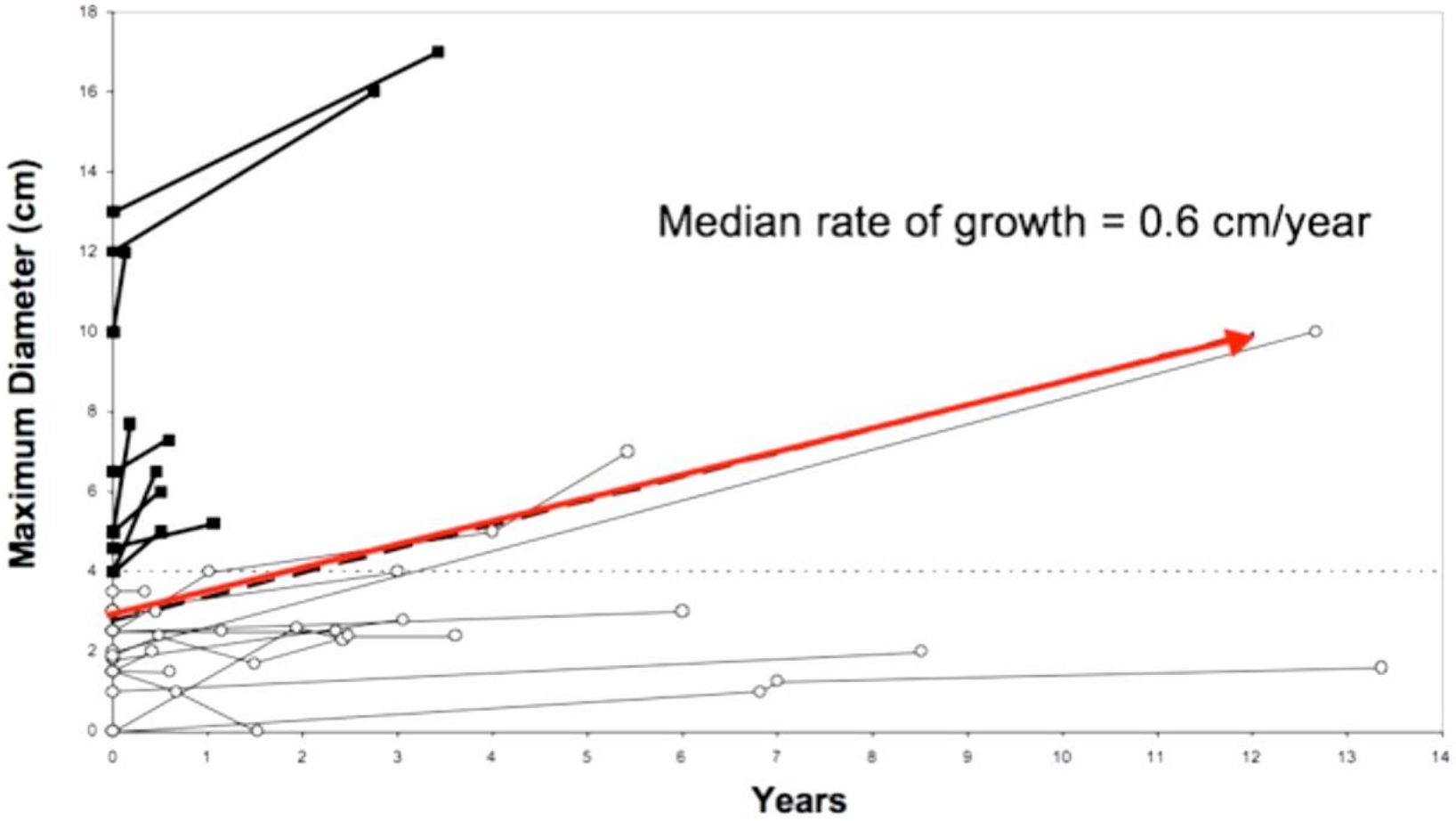
Serous cystadenoma





Pancreatic Cystic Lesions

Serous cystadenoma



Pancreatic Cystic Lesions

Mucinous cystadenoma

- Variable, usually 5th to 7th decade
- Predominant females
- Incidental or abdominal pain or malignancy related
- Unilocular or septated cyst +/- wall calcifications
  Solid component, if present, may suggest malignancy
- Columnar cells with variable atypia
  Stains positive for mucin; yield <50 percent
  High yield from solid component for malignancy
- Aspirate: viscous
- CEA >200 ng/mL in approximately 75 percent of lesions
- Relative malignant potential: moderate
- Resection

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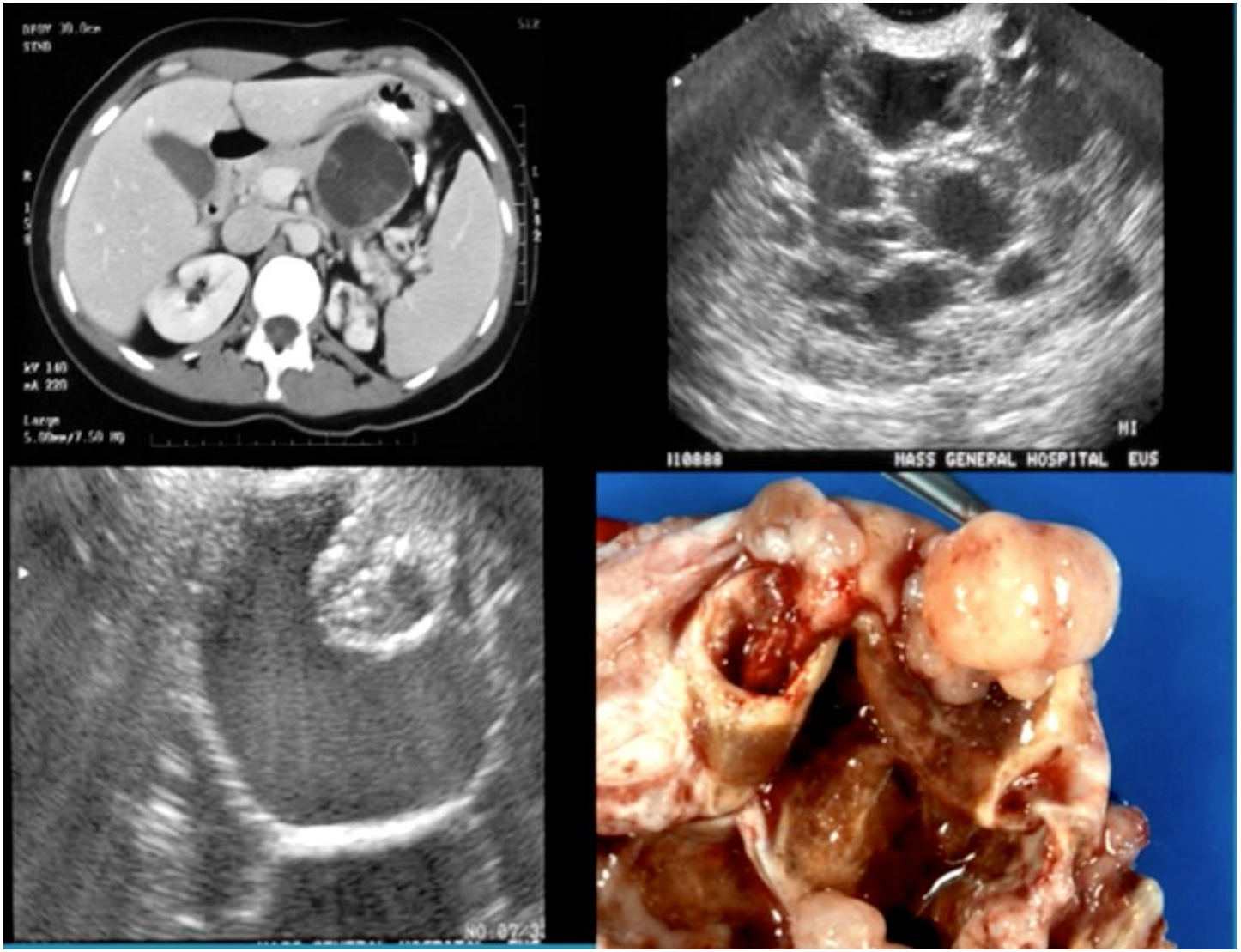
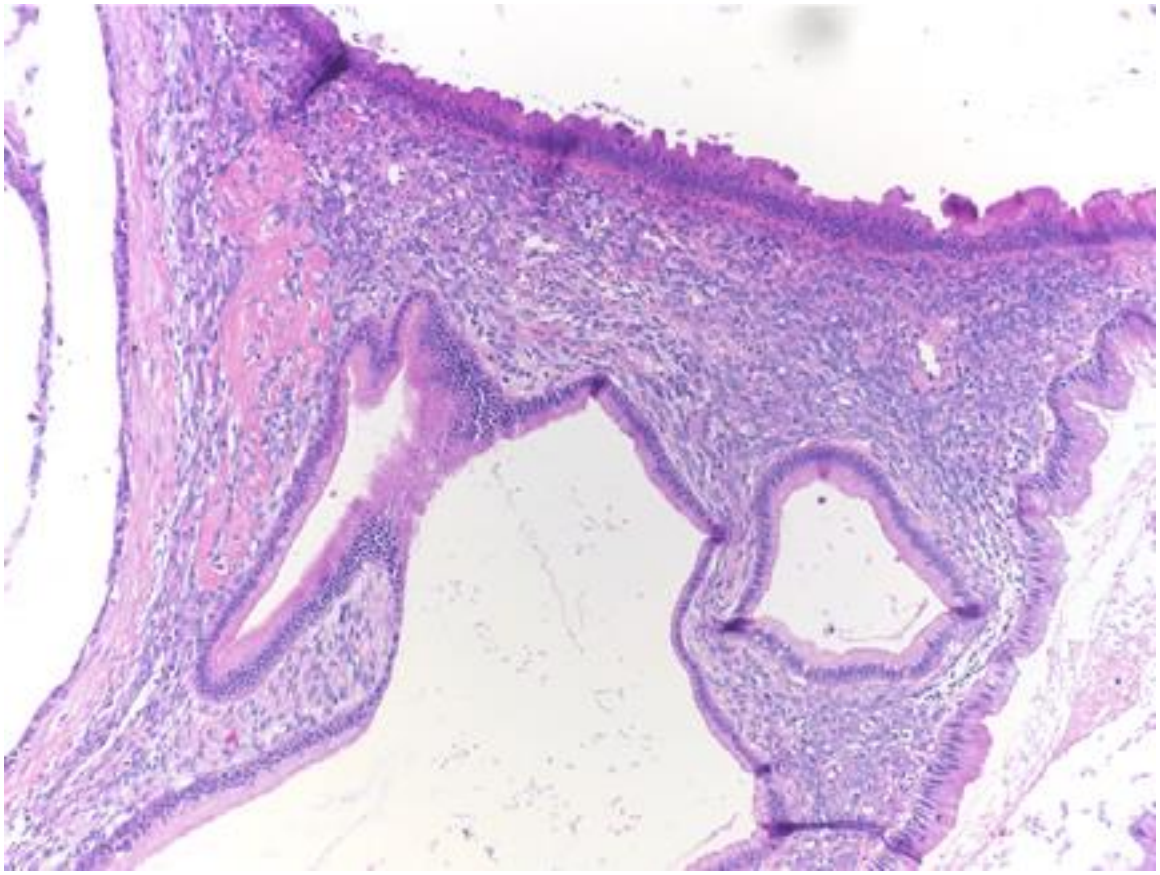
Mucinous cystadenoma

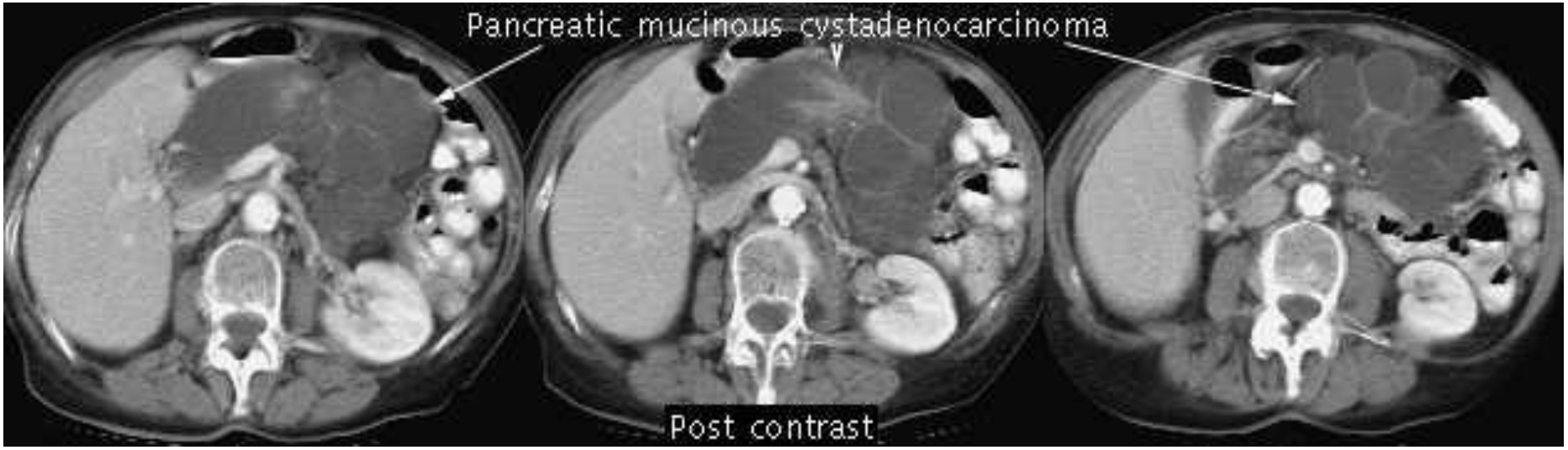


Pancreatic Cystic Lesions

Mucinous cystadenoma



Pancreatic Cystic Lesions
Mucineus Cystadenocarcinoom(MCAC)



Pancreatic Cystic Lesions

Main duct intraductal papillary mucinous neoplasm

IPMN

- Variable, usually 5th to 7th decade
- Females = males
- Incidental or pancreatitis or pancreatic insufficiency or malignancy related
- Dilated main pancreatic duct +/- parenchymal atrophy
- Solid component, if present, may suggest malignancy
- Aspirate is viscous
- Columnar cells with variable atypia stains positive for mucin; yield <50 percent
- High yield from solid component for malignancy
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Pancreatic Cystic Lesions

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- High yield from solid component for malignancy
- CEA >200 ng/mL in approximately 75 percent of lesions
- Relative malignant potential is high
- Resection and post resection surveillance

Pancreatic Cystic Lesions

Branch duct intraductal papillary mucinous neoplasm

IPMN

- Variable, usually 5th to 7th decade
- Females = males
- Incidental or pancreatitis or pancreatic insufficiency or malignancy related
- Dilated branch pancreatic duct +/- parenchymal atrophy
- Solid component, if present, may suggest malignancy
- Aspirate is viscous
- Columnar cells with variable atypia stains positive for mucin; yield <50 perce
- High yield from solid component for malignancy
- CEA >200 ng/mL in approximately 75 percent of lesions
- Relative malignant potential is moderate / low
- surveillance

Pancreatic Cystic Lesions

Branch duct intraductal papillary mucinous neoplasm IPMN

- Variable, usually 5th to 7th decade
- Females = males
- Incidental or pancreatitis or pancreatic insufficiency or malignancy related
- Dilated branch pancreatic duct +/- parenchymal atrophy
- Solid component, if present, may suggest malignancy
- Aspirate is viscous
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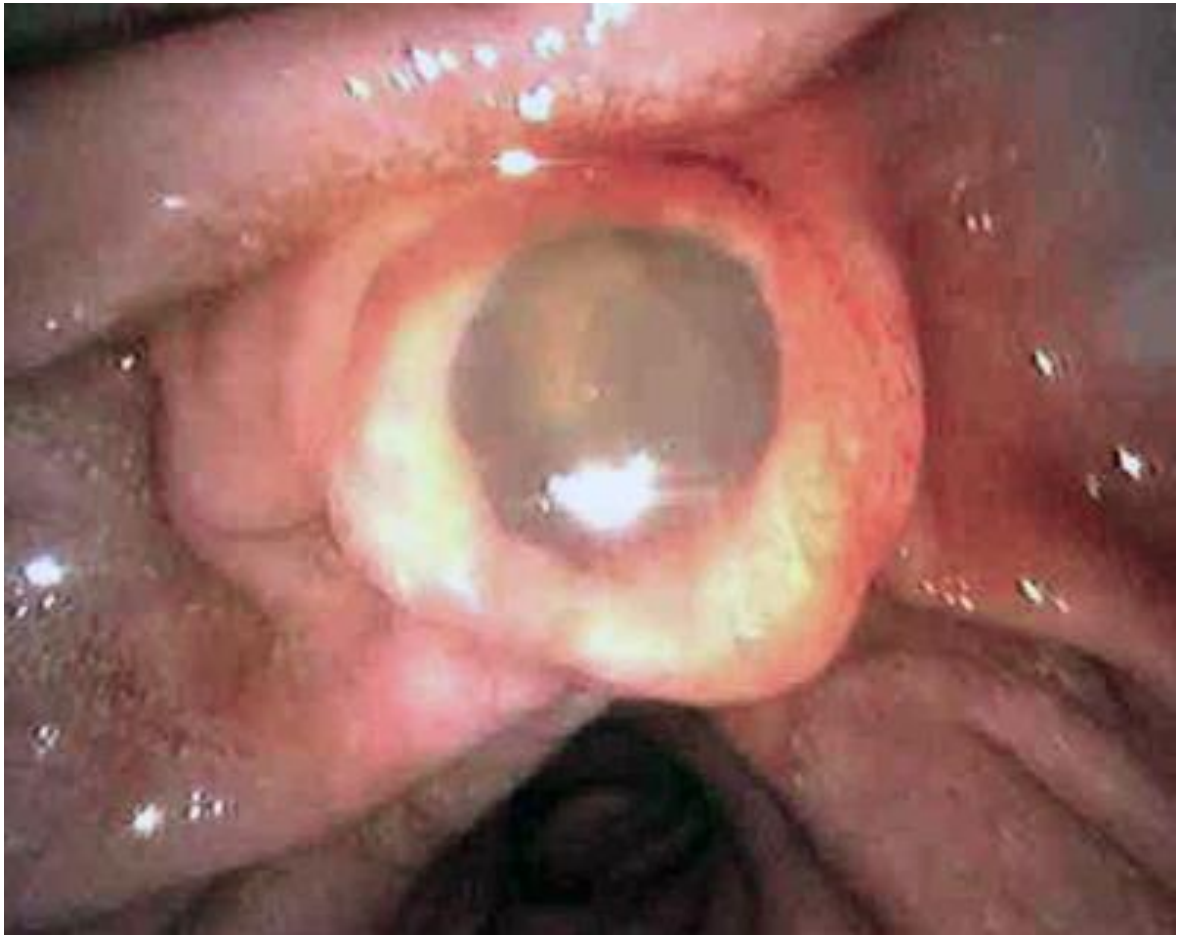
- surveillance

Pancreatic Cystic Lesions

intraductal papillary mucinous neoplasm

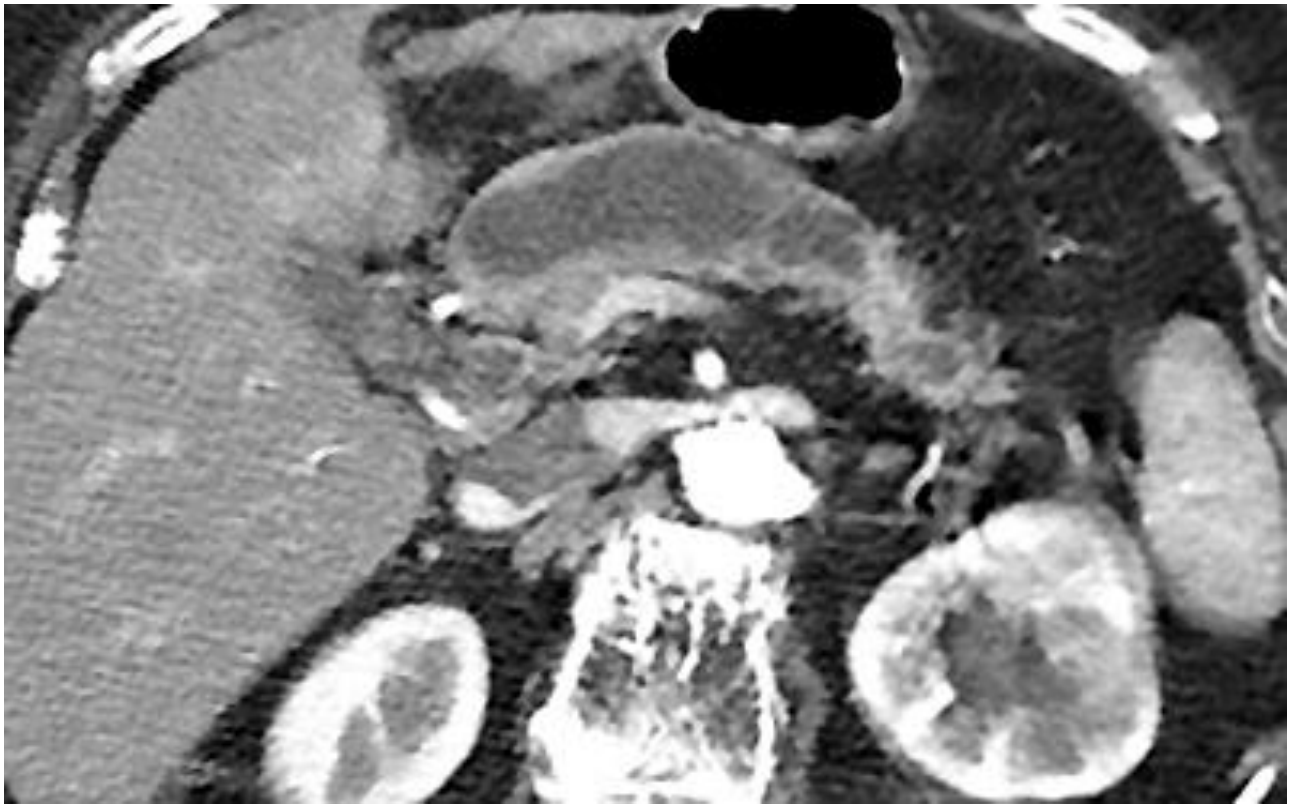
IPMN



Pancreatic Cystic Lesions

intraductal papillary mucinous neoplasm

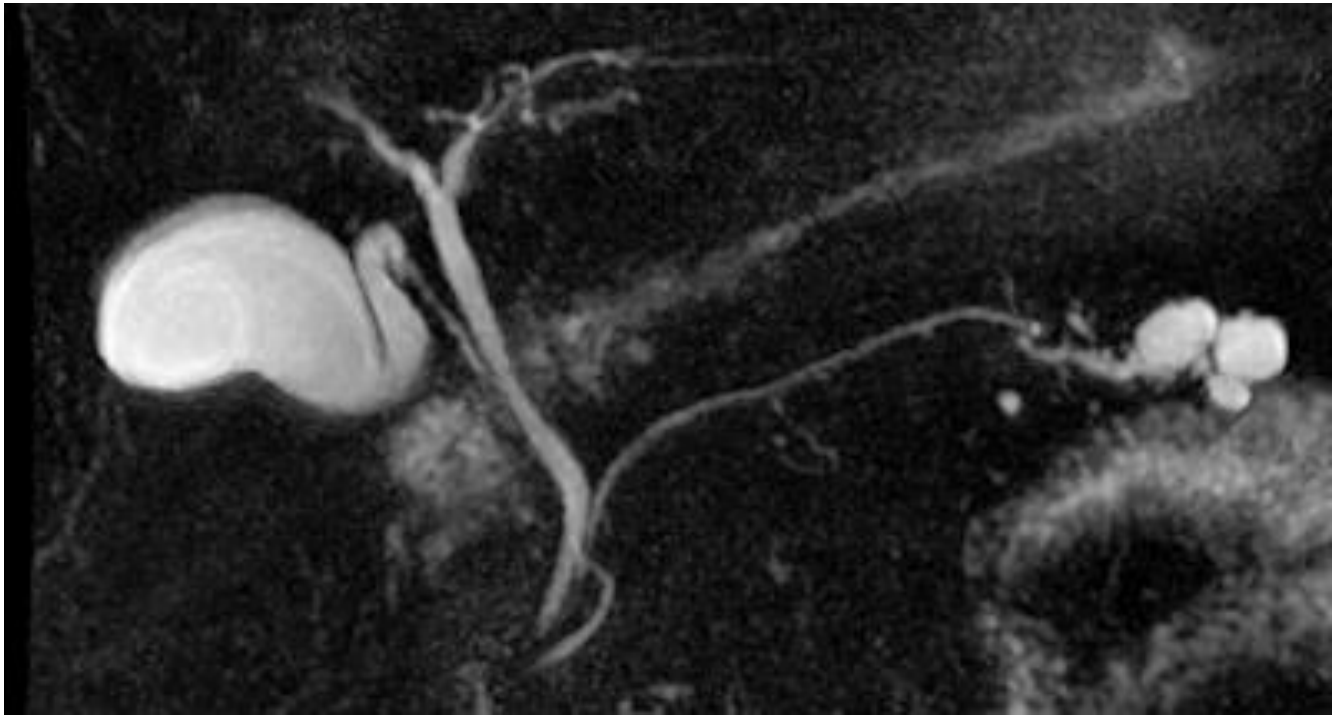
IPMN



Pancreatic Cystic Lesions

intraductal papillary mucinous neoplasm

IPMN



Pancreatic Cystic Lesions

Solid pseudopapillary neoplasm

- Usually 2nd to 3rd decade
- Females > males
- Association hep B
- Incidental or abdominal pain or mass effect
- Imaging: solid and cystic mass +/- calcifications
- Aspirate: bloody
- Characteristic branching papillae with myxoid stroma
  High yield from solid component
- Typical CEA level in aspirate: Insufficient data
- Relative malignant potential is moderate to high
- Resection

Pancreatic Cystic Lesions

Solid pseudopapillary neoplasm

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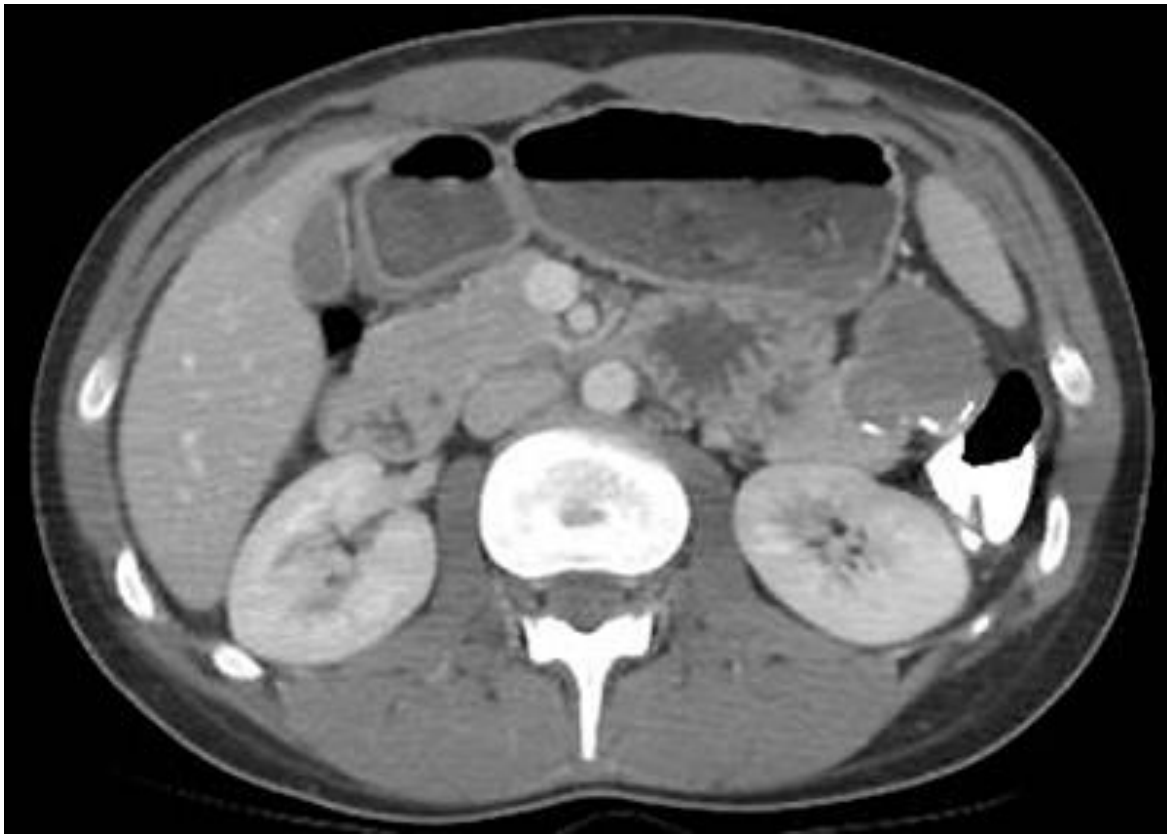
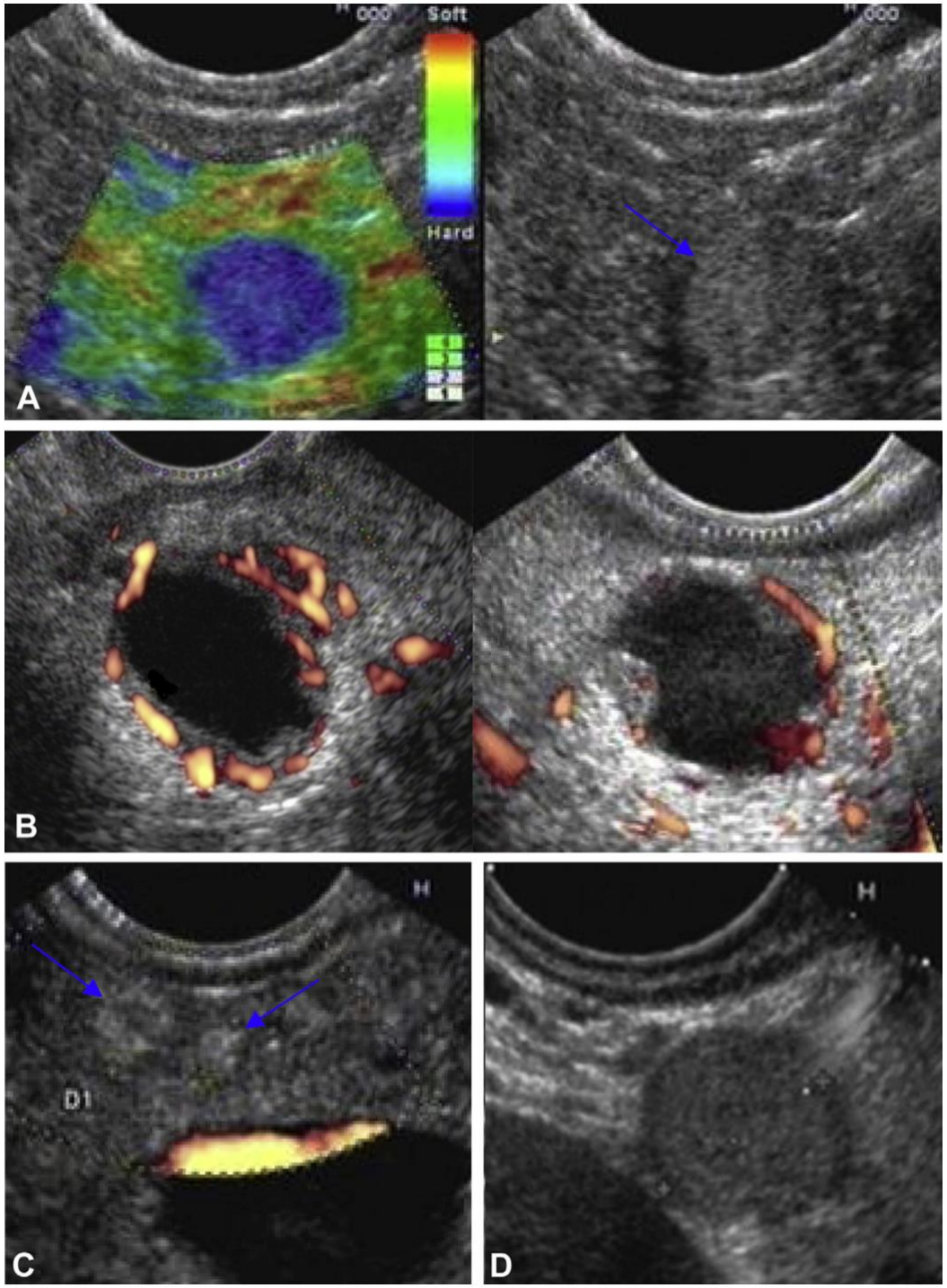
Pancreatic Cystic Lesions

Solid pseudopapillary neoplasm



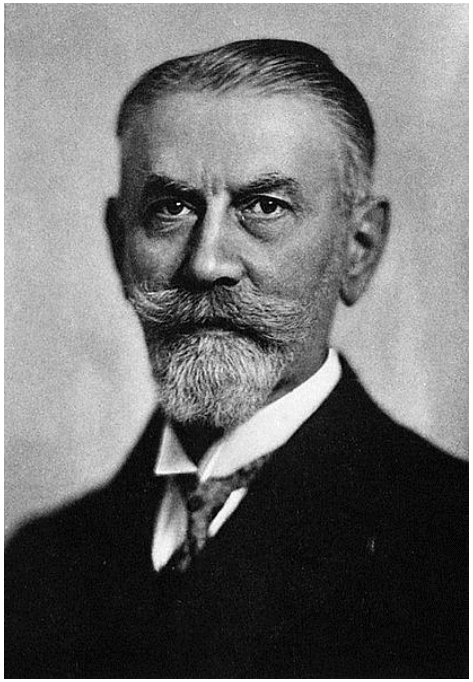
Neuroendocriene tumor pancreas


Soft
Hard
A
B
D1
C
H
H
D

Ziekte van Von Hippel-Lindau

- ✓ Incidentie 1:36.000
- ✓ 90% penetrantie op 65 jarige leeftijd
- ✓ de-novo mutaties 20%
- ✓ Nederland 400 patiënten
- ✓ Autosomaal dominant

(VHL tumor suppressor gen Chromosoom 3 p 25-26; 3 exonen)



Eugen von Hippel.

Arvid Lindau

- ✓ In 1904, von Hippel described a rare disorder of the retina, and in 1911 discovered the anatomical basis of this disease, which he named "angiomatosis retinae".

Klinische manifestaties

	Mean (range) age of onset (years)	Frequency in patients (%)
CNS		
Retinal haemangioblastomas	25 (1–67)	25–60%
Endolymphatic sac tumours	22 (12–50)	10%
Craniospinal haemangioblastomas		
Cerebellum	33 (9–78)	44–72%
Brainstem	32 (12–46)	10–25%
Spinal cord	33 (12–66)	13–50%
Lumbosacral nerve roots	Unknown (..)	<1%
Supratentorial	Unknown (..)	<1%
Visceral		
Renal cell carcinoma or cysts	39 (16–67)	25–60%
Phaeochromocytomas	30 (5–58)	10–20%
Pancreatic tumour or cyst	36 (5–70)	35–70%
Epididymal cystadenoma	Unknown (..)	25–60%
Broad ligament cystadenoma	Unknown (16–46)	Unknown

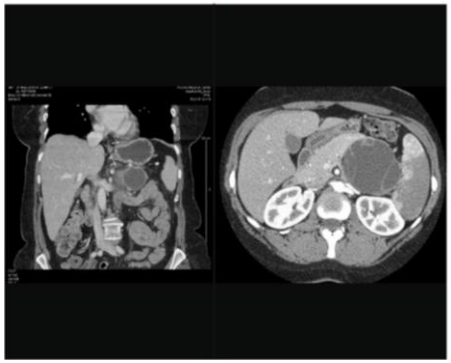
Pancreatic Cystic Lesions

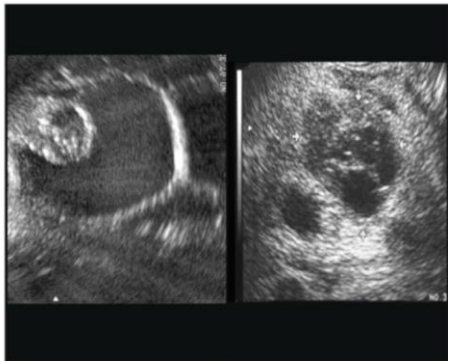
- PCL zijn niet zeldzaam.
- Vaak per toeval ontdekt.

VOMIT: victims of modern imaging technology an acronym for our times *BMJ* 2003;326:1273.1

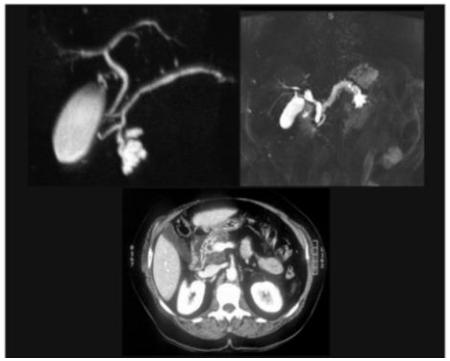
Landelijke toetsvraag?

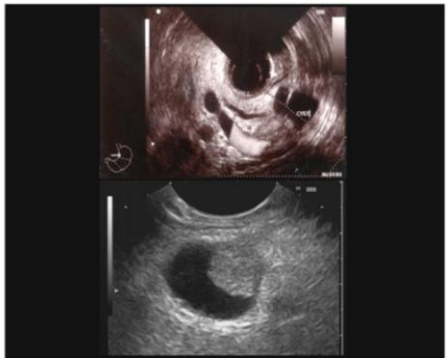
A. Mucinous cystic neoplasm



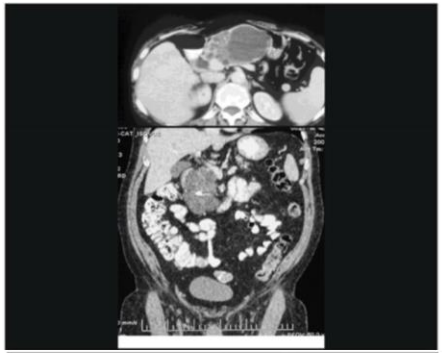


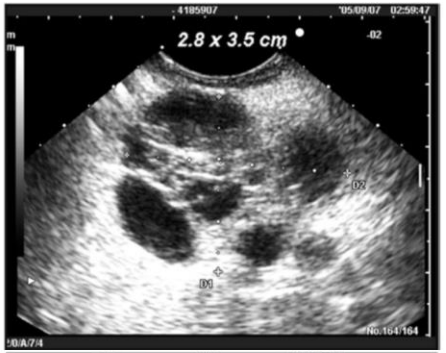
B. IPMN



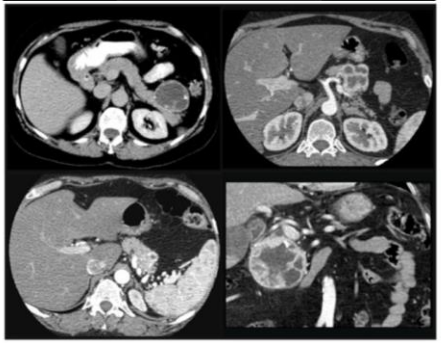


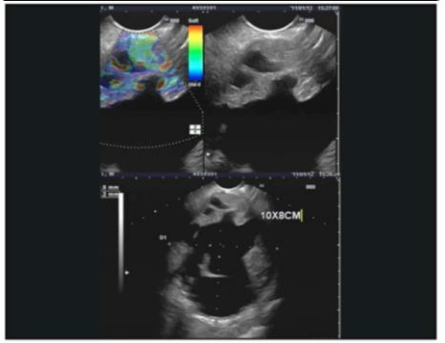
C. Serous cystadenoma





D.Cystic neuroendocrine tumor





Classification
Pancreatic Cystic Lesions

Hoe betrouwbaar is onze diagnostiek?

Endo-echo met/zonder FNA/FNB en aspiratie

CT-abdomen

MRI

No malignant potential

Key demographic and clinical features of patients with pancreatic cystic neoplasms

	Serous cystadenoma	Mucinous cystadenoma	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	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 Oligocystic appearance less common	Unilocular or septated cyst +/- wall calcifications Solid component, if present, may suggest malignancy	Dilated main pancreatic duct +/- parenchymal atrophy Solid component, if present, may suggest malignancy	Dilated pancreatic duct branch or branches Solid component, if present, may suggest malignancy	Solid and cystic mass +/- calcifications
Typical aspirate characteristic	Thin, often bloody	Viscous	Viscous	Viscous or thin	Bloody
Typical cytology findings	Cuboidal cells that stain positive for glycogen; yield <50 percent	Columnar cells with variable atypia Stains positive for mucin; yield <50 percent High yield from solid component for malignancy	Columnar cells with variable atypia Stains positive for mucin; yield <50 percent High yield from solid component for malignancy	Columnar cells with variable atypia Stains positive for mucin; yield <50 percent High yield from solid component for malignancy	Characteristic branching papillae with myxoid stroma High yield from solid component
Typical carcinoembryonic antigen (CEA) level	<5-20 ng/mL in majority of lesions	>200 ng/mL in approximately 75 percent of lesions	>200 ng/mL in approximately 75 percent of lesions	>200 ng/mL in approximately 75 percent of lesions	Insufficient data
Typical DNA analysis	Allelic loss affecting chromosome 3p rarely detected	K-ras mutation specific (>90 percent), not sensitive (<50 percent) High DNA amount or high amplitude allelic loss seen in malignancy	K-ras mutation specific (>90 percent), not sensitive (<50 percent) High DNA amount or high amplitude allelic loss seen in malignancy	K-ras mutation specific (>90 percent), not sensitive (<50 percent) High DNA amount or high amplitude allelic loss seen in malignancy	Insufficient data
Relative malignant potential	Negligible	Moderate	High	Low to moderate	Moderate to high
Treatment	Resect if symptomatic	Resection	Resection and post resection surveillance	Closely monitor or resect Post resection surveillance required	Resection

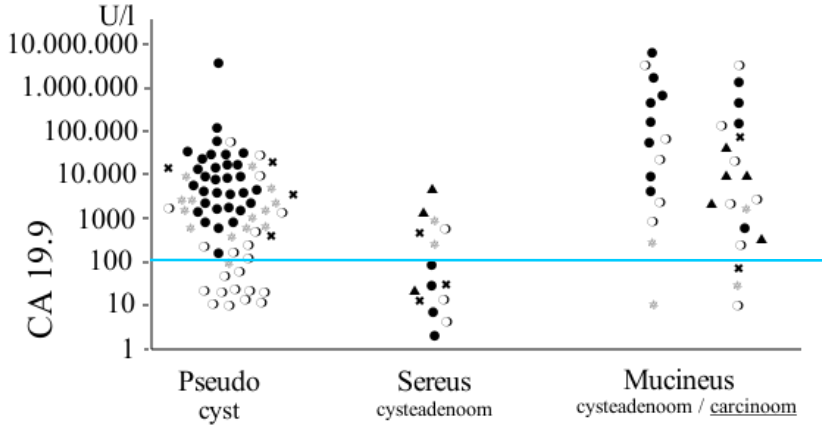
Cyste vloeistof diagnostiek

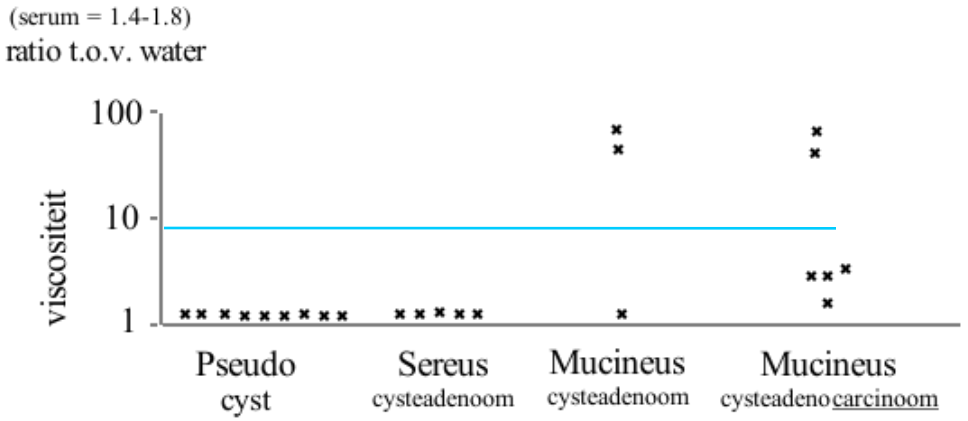
Wie:

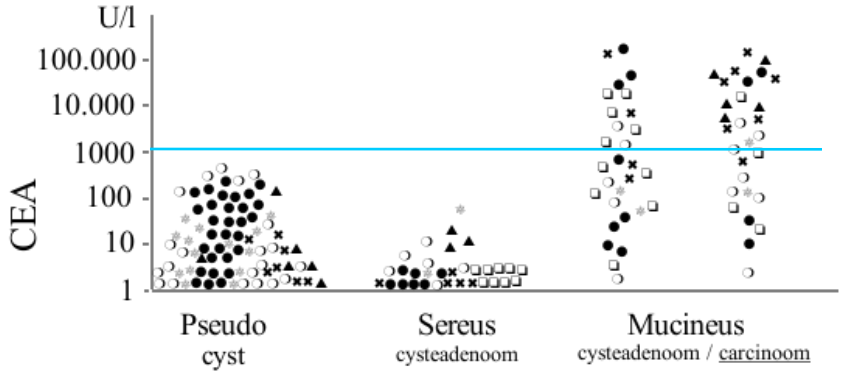
- asymptomatische patienten
- verhoogd OK risico
- mogelijk een pseudocyste (transgastrische drainage)

Wat:

- CEA
- amylase
- cytologie
- CA 19.9
- (viscositeit)


U/l
10.000.000
1.000.000
100.000
10.000
1000
100
10
1
CA 19.9
Pseudo cyst
Sereus cysteadenoom
Mucineus cysteadenoom / carcinoom


(serum = 1.4-1.8)
ratio t.o.v. water
100
10
1
viscositeit
Pseudo cyst
Sereus cysteadenoom
Mucineus cysteadenoom
Mucineus cysteadenocarcinoom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1000
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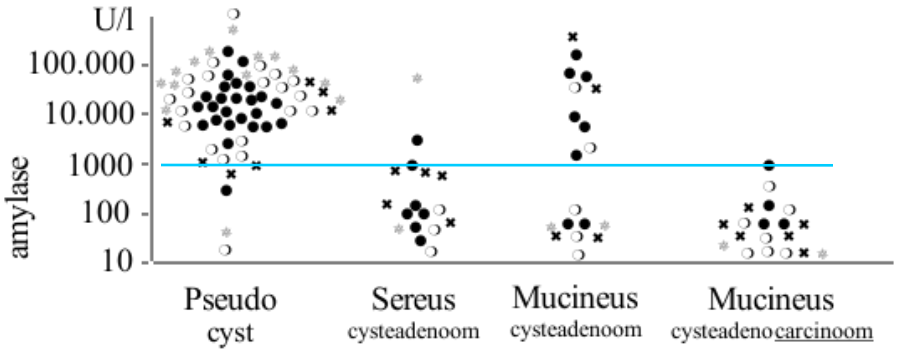
10
1
CEA
Pseudo cyst
Sereus cysteadenoom
Mucineus cysteadenoom / carcinoom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amylase
Pseudo cyst
Sereus cysteadenoom
Mucineus cysteadenoom
Mucineus cysteadenocarcinoom

Pancreatic Cystic Lesions
CT-scan

Authors (yr)	Patients (*n*)	Comparisons	Accuracy (%)
Johnson et al[4] (1988)	35	SCA, MCN	93-95 for SCA and MCN
Procacci et al[6] (1997)	26	SCA	61
Procacci et al[7] (1999)	100	SCA, MCN	60
Le Borgne et al[3] (1999)	349	SCA, MCA, MCAC	20-30
Curry et al[8] (2000)	50	SCA, MCN	23-41 for SCA
Walsh et al[9]* (2002)	34	SCA, MCN, PC	38-78
Cohen-Scali et al[10] (2003)	33	Macrocystic SCA, PC/MCA	83 for SCA
Bassi et al[5]* (2003)	100	SCA	54
Gerke et al[11] (2006)	41	Benign vs M/PM	71

Penman ID, textbook endosonography

Pancreatic Cystic Lesions
EUS

Authors (yr)	Technique	Patients (*n*)	Histologic Confirmation	Accuracy of EUS (%)	Accuracy of Cytology (%)
Brugge et al[13]* (2004)	EUS FNA	341	112	51	59
Frossard et al[14]* (2003)	EUS FNA	127	67	77	97
Sedlack et al[39] (2002)	EUS FNA	34	34	82	55
Hernandez et al[40] (2002)	EUS FNA	43	9	Predicted malignancy in 8/9	Sensitivity for malignancy 2/9
Gress et al[21] (2000)	EUS	35	35	Not stated	—
Koito et al[41] (1997)	EUS	52	52	92-96 (for neoplastic lesions)	—
Ahmad et al[42] (2001)	EUS	98	48	No features predictive of malignancy	—
Ahmad et al[43] (2003)	EUS	31	31	40-93 Interobserver variation ++	—
Chatelain et al[44] (2002)	EUS	8	8	Not stated	—
Gerke et al[45] (2006)	EUS	66	43	65	—

Penman ID, textbook endosonography

Classification
Pancreatic Cystic Lesions

Hoe betrouwbaar is onze diagnostiek?

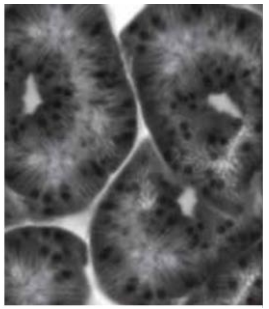
Endo-echo met/zonder FNA/FNB en aspiratie

CT-abdomen

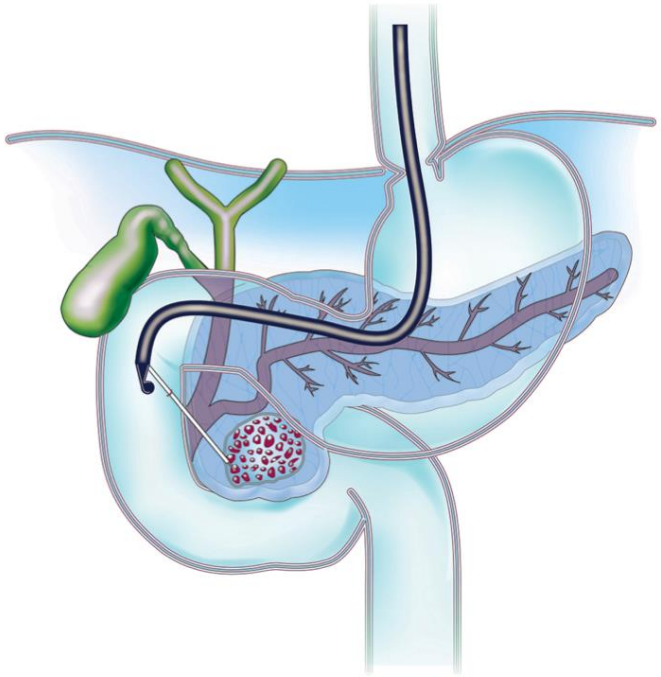
MRI

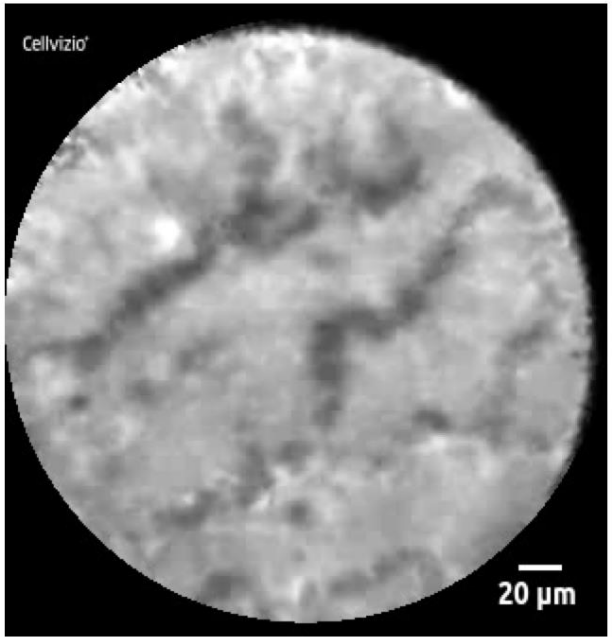
Confocal laser endoscopie New!

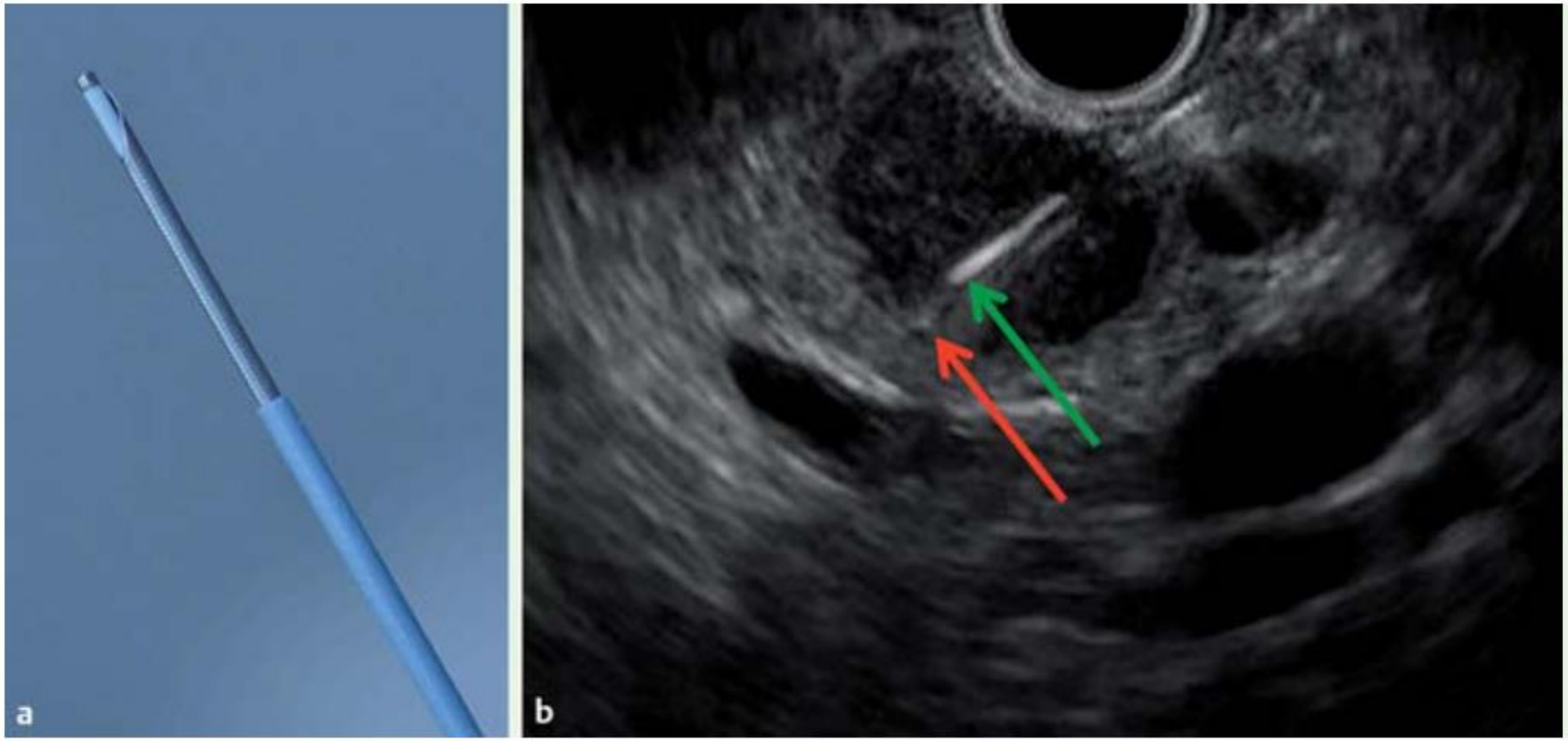
Confocal laser endoscopt

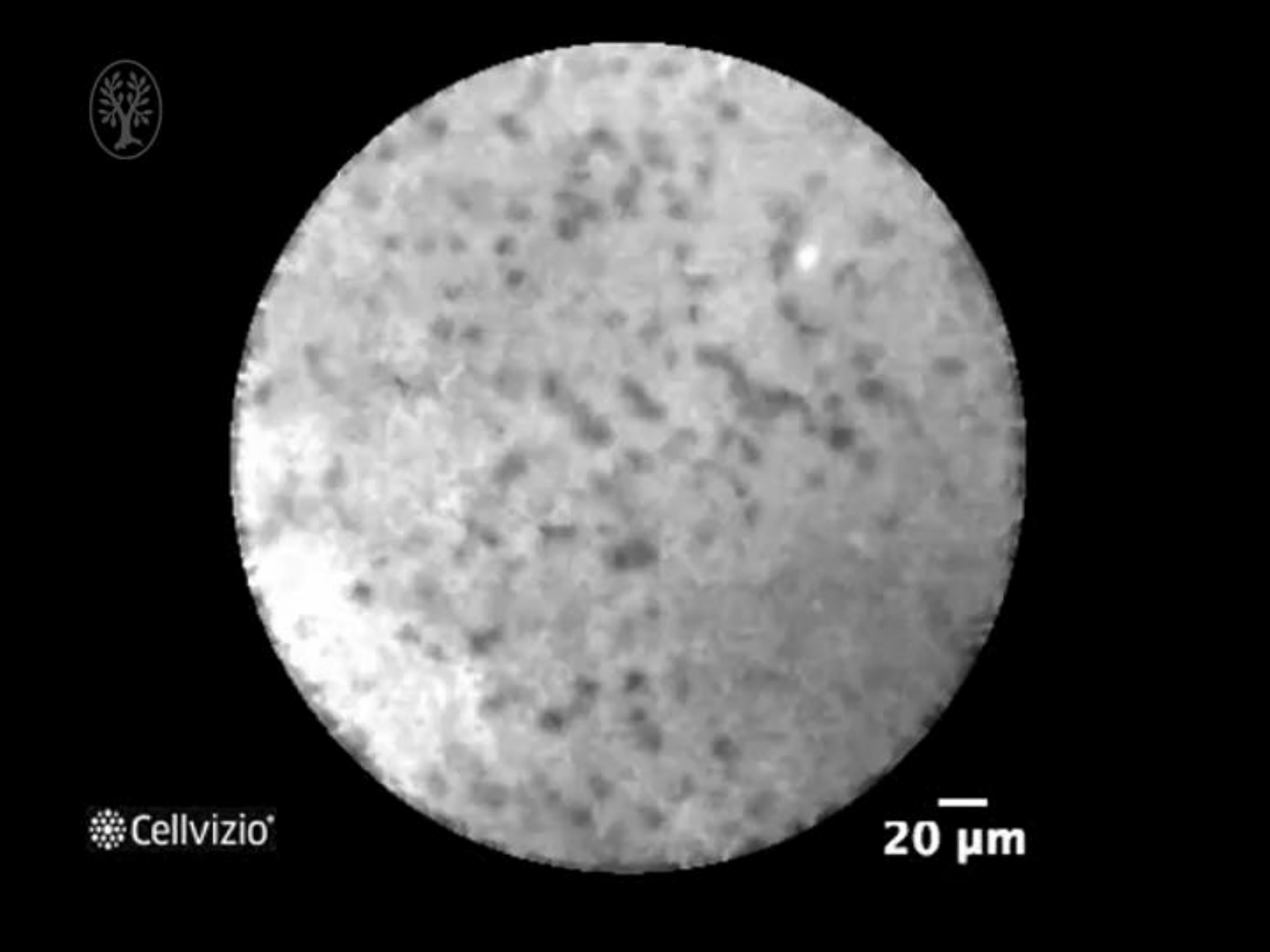


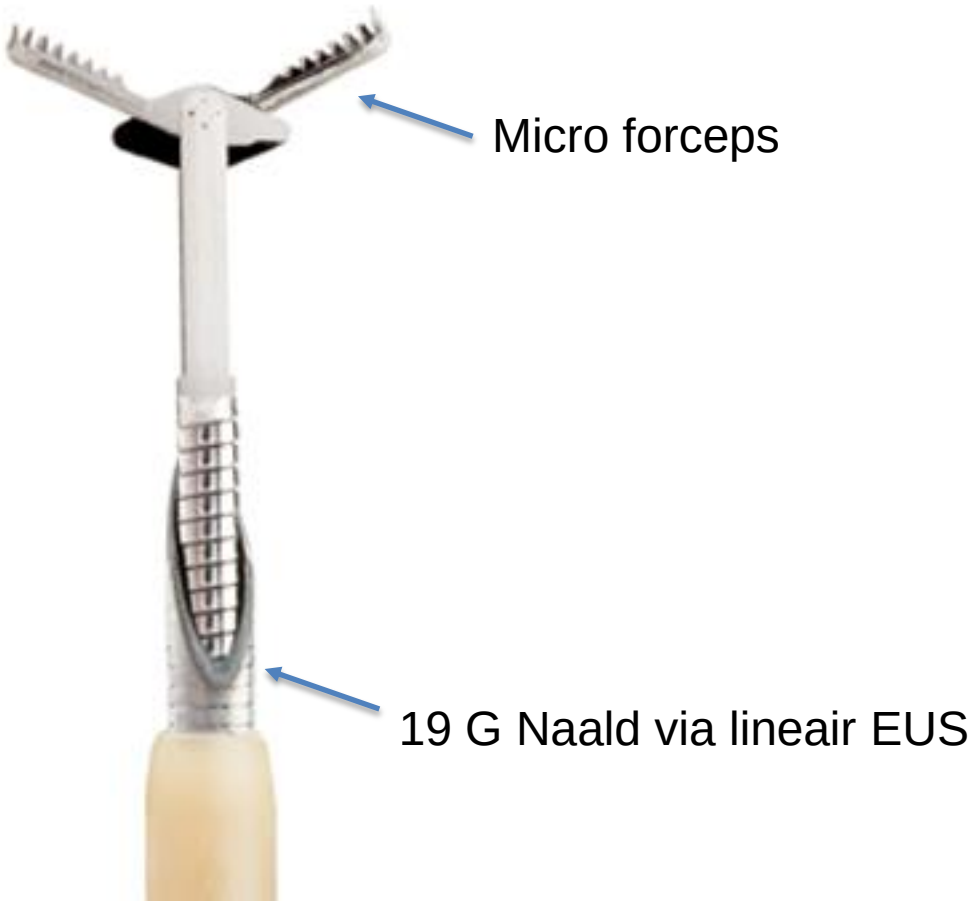
In vivo cellular visualization of molecular tracers using confocal laserendomicroscopy (CLE)






a
b


Cellvizio
20 µm


Micro forceps
19 G Naald via lineair EUS

Pacyfic Study

Erasmus MC
Universitair Medisch Centrum Rotterdam

Achtergrond:

Asymptomatische pancreascysten worden steeds vaker ontdekt in het huidige tijdperk van frequente beeldvorming.

De maligne potentie van dergelijke cystes is waarschijnlijk klein, hoewel exacte gegevens ontbreken.

Een recent gepubliceerde Europese consensus richtlijn adviseert dergelijke patiënten levenslang, half jaarlijks tot jaarlijks, te controleren.

Hoewel het nut van deze surveillance is niet bewezen is.

Pacyfic Study

Erasmus MC
Universitair Medisch Centrum Rotterdam

De studie is opgezet als een internationale cohort studie en zal 10 jaar in beslag nemen. De eerste analyse vindt plaats na 3 jaar.

Patiënten

met 1. Recent (< 6 maanden) of 2. eerder gediagnostiseerde pancreascyste, of een geopereerd Intraductaal Papillair Mucineus Neoplasma (IPMN), met een indicatie voor surveillance volgens de behandelend arts.

Exclusie:

chronische pancreatitis, pseudocyste of sereus cyste adenoom

Mucineus Cystadenoom waarschijnlijk: dus resectie!?

Mucineus Cystadenoom waarschijnlijk: dus resectie!?

GUIDELINE

ASGE guideline: the role of endoscopy in the diagnosis and the management of cystic lesions and inflammatory fluid collections of the pancreas

Gastroenterology 2015;148:819–822

AGA SECTION

American Gastroenterological Association Institute Guideline on the Diagnosis and Management of Asymptomatic Neoplastic Pancreatic Cysts

Santhi Swaroop Vege,[1] Barry Ziring,[2] Rajeev Jain,[3] Paul Moayyedi,[4] and the Clinical Guidelines Committee

[1]Division of Gastroenterology and Hepatology, Mayo Clinic, Rochester, Minnesota; [2]Division of Internal Medicine, Sidney Kimmel College of Medicine, Thomas Jefferson University, Philadelphia, Pennsylvania; [3]Texas Digestive Disease Consultants, Dallas, Texas; [4]Division of Gastroenterology, Hamilton Health Sciences, McMaster University, Hamilton, Ontario, Canada

1. The AGA recommends that before starting any pancreatic cyst surveillance program, patients should have a clear understanding of programmatic risks and benefits.

2. The AGA suggests that patients with pancreatic cysts <3 cm without a solid component or a dilated pancreatic duct undergo MRI for surveillance in 1 year and then every 2 years for a total of 5 years if there is no change in size or characteristics. (Con- ditional recommendation, Very low quality evidence)

3. The AGA suggests that pancreatic cysts with at least 2 high-risk features, such as size ‡3 cm, a dilated main pancreatic duct, or the presence of an associated solid component, should be examined with EUS-FNA. (Conditional recommendation, Very low quality evidence)

4. The AGA suggests that patients without concern- ing EUS-FNA results should undergo MRI surveil- lance after 1 year and then every 2 years to ensure no change in risk of malignancy. (Conditional recommendation, Very low quality evidence)

5. The AGA suggests that significant changes in the characteristics of the cyst, including the develop- ment of a solid component, increasing size of the pancreatic duct, and/or diameter ‡3 cm, are in- dications for EUS-FNA. (Conditional recommendation, Very low quality evidence)

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6. The AGA suggests against continued surveillance of pancreatic cysts if there has been no significant change in the characteristics of the cyst after 5 years of surveillance or if the patient is no longer a sur- gical candidate. (Conditional recommendation, Very low quality evidence)

7. The AGA suggests that patients with both a solid component and a dilated pancreatic duct and/or concerning features on EUS and FNA should undergo surgery to reduce the risk of mortality from carci- noma. (Conditional recommendation, Very low quality evidence)

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- VOMIT
- Pancreascysten zijn niet zeldzaam
- Determinatie cysten is lastig
- CLE en biopten cysten: nieuwe aanvulling
- Niet alles is bekend mbt natuurlijk beloop cysten
  Pacific studie
- Voorlopig moet u het maar met een richtlijn doen