Review of New Pancreatic ACR Incidental Findings Recommendations

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Disclosure

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New White Paper, Updated from 2010

SA-CME

Management of Incidental Pancreatic Cysts: A White Paper of the ACR Incidental Findings Committee

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Abstract

The ACR Incidental Findings Committee (IFC) presents recommendations for managing pancreatic cysts that are incidentally detected on CT or MRI. These recommendations represent an update from the pancreatic component of the JACR 2010 white paper on managing incidental findings in the adrenal glands, kidneys, liver, and pancreas. The Pancreas Subcommittee—which included abdominal radiologists, a gastroenterologist, and a pancreatic surgeon—developed this algorithm. The recommendations draw from published evidence and expert opinion, and were finalized by informal iterative consensus. Algorithm branches successively categorize pancreatic cysts based on patient characteristics and imaging features. They terminate with an ascertainment of benignity and/or indolence (sufficient to discontinue follow-up), or a management recommendation. The algorithm addresses most, but not all, pathologies and clinical scenarios. Our goal is to improve quality of care by providing guidance on how to manage incidentally detected pancreatic cysts.

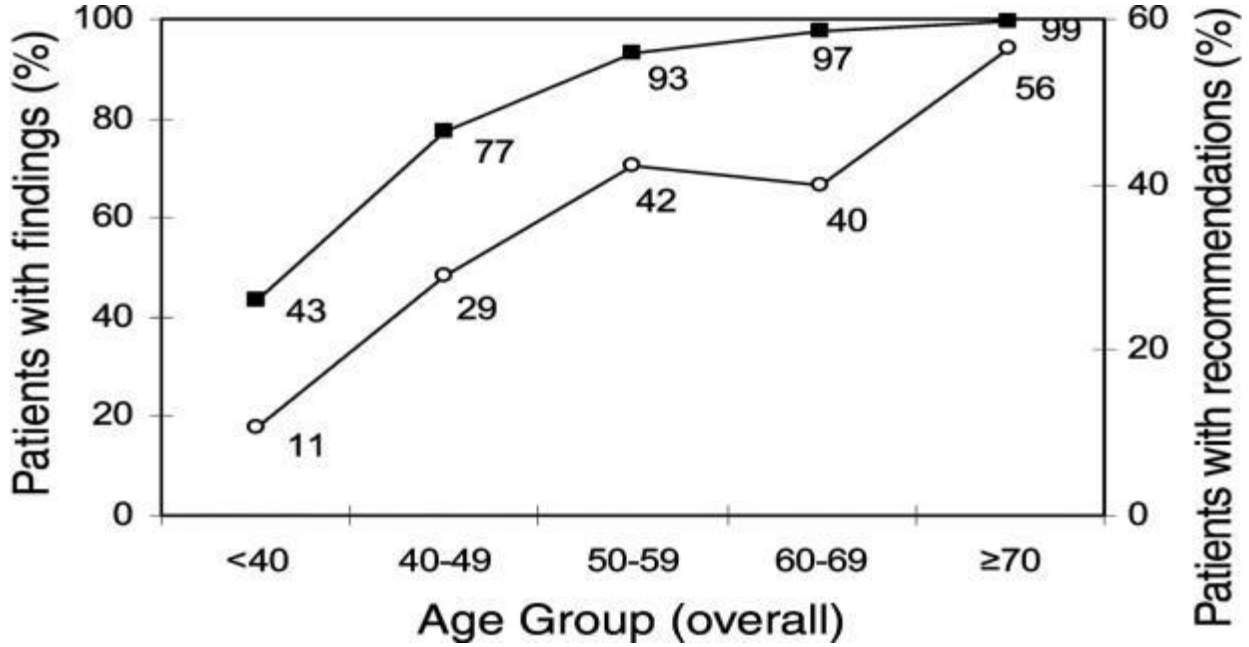
Key Words: Pancreas, cyst, intraductal papillary mucinous neoplasm (IPMN), incidental finding

J Am Coll Radiol 2017;■:■-■.

Reasons for Changes in 2017

- No prior consensus on measurement
- No prior detailed reporting recommendations
- No prior definition of growth
- Increased utilization of EUS/aspiration
- Follow-up interval changes (substantial)

Frequency of Findings, Recommendations



Furtado, C. D. et al. Whole-Body CT Screening: Spectrum of Findings and Recommendations in 1192 Patients. Radiology 2005;237:385-394

Radiology

Estimate of Cyst Prevalence

- Almost 3.5 M cysts in 137 M patients
- Increased prevalence with age
- JACR: June, 2017 (3 yrs before/after white paper):
  - 2.4 fold difference in recommendations across rads
  - Decrease in FU recs from 23.7% to 13.5%
  - Adhered to guidance in 47.4% cases

Bobbin MD, et al. Focal Cystic Pancreatic Lesion Follow-up Recommendations After Publication of ACR White Paper on Managing Incidental Findings. JACR 2017;14:757-764

Why is Diagnosing Type of Cyst Important?

- Not malignant:
  - Serous cystadenoma, epithelial, lymphoepithelial cysts, pseudocyst
- Malignant potential
  - MCT (10-17%)
  - Main duct, combined IPMN (38-68%)
  - BD-IPMN (12-47%)
    - ~10% progress, ~22% of those malignant

What to Report

- Cyst morphology, location, number, size
  - Measure largest cyst and use for FU
- Relation to MPD
- Suspicious features
- Growth

Size Most Important Feature

- Consensus proposal in this paper:
  - Single measurement in longest axis: coronal or axial
- 3-D volume useful to predict success of aspiration
- Changed categories for this paper:
  - 0.5-1.5 cm
  - 1.5-2.5 cm
  - >2.5 cm

Growth

- Often slow and not linear
- Benign lesions grow-particularly pseudocysts
- Growth *rate*:
  - >2 mm/yr: higher likelihood malignancy
  - Cyst in year 1 may receive more attention
- Definitions of growth:
  - Cyst ≤ 0.5 cm: 100% increase in long axis from baseline
  - Cyst between 0.5-1.5 cm: 50% increase long axis from baseline
  - Cyst >1.5 cm: 20% increase in long axis from baseline

Suspicious Features

- Suspicious features
  - Cyst ≥3 cm,
  - MPD ≥5 mm
  - Thickened, enhanced cyst walls
  - Non-enhanced mural nodules
- High Risk Stigmata
  - Jaundice
  - Enhanced Solid Component/mural nodule
  - MPD ≥10 mm

EUS and Follow-up

- EUS
  - Detailed information in paper
- Follow up *considerably* lengthened from 2010
  - Up to *15 years* if asymptomatic cyst found in patient <65 yrs., but *can* stop at 80 yrs.
- Extended follow-up because:
  - New studies show delayed growth after 4 years of stability
  - Development of PDAC
    - Estimated risk is 5.08 per 1000 pt. yrs. vs.0.32 without cysts

Flowcharts

Principles of Using Algorithms

- Considered all incidental cysts mucinous unless definitively otherwise
- Cyst *size* directs follow-up or intervention
- Flowcharts defined by cyst size, growth may lead to different chart
- Development of suspicious features or high-risk stigmata lead to surgical consultation
- Compare to prior imaging
- Special consideration (*but not rule!*) for patients >80 yrs.

Figure 1

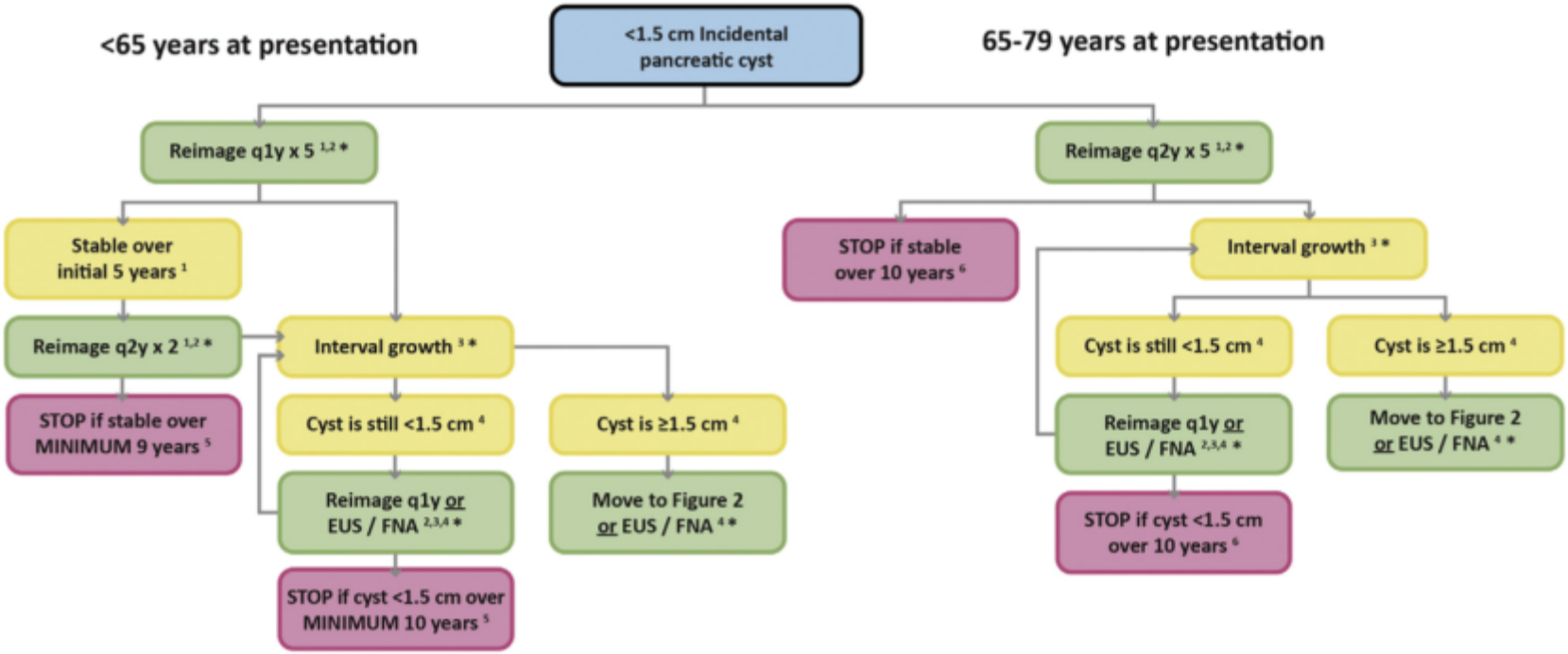

<1.5 cm Incidental pancreatic cyst
<65 years at presentation
65-79 years at presentation
Reimage q1y x 5 [1,2] *
Reimage q2y x 5 [1,2] *
Stable over initial 5 years [1]
Reimage q2y x 2 [1,2] *
STOP if stable over MINIMUM 9 years [5]
Interval growth [3] *
Cyst is still <1.5 cm [4]
Reimage q1y or EUS / FNA [2,3,4] *
STOP if cyst <1.5 cm over MINIMUM 10 years [5]
Cyst is ≥1.5 cm [4]
Move to Figure 2 or EUS / FNA [4] *
STOP if stable over 10 years [6]
Interval growth [3] *
Cyst is still <1.5 cm [4]
Reimage q1y or EUS / FNA [2,3,4] *
STOP if cyst <1.5 cm over 10 years [6]
Cyst is ≥1.5 cm [4]
Move to Figure 2 or EUS / FNA [4] *

Figure 2A

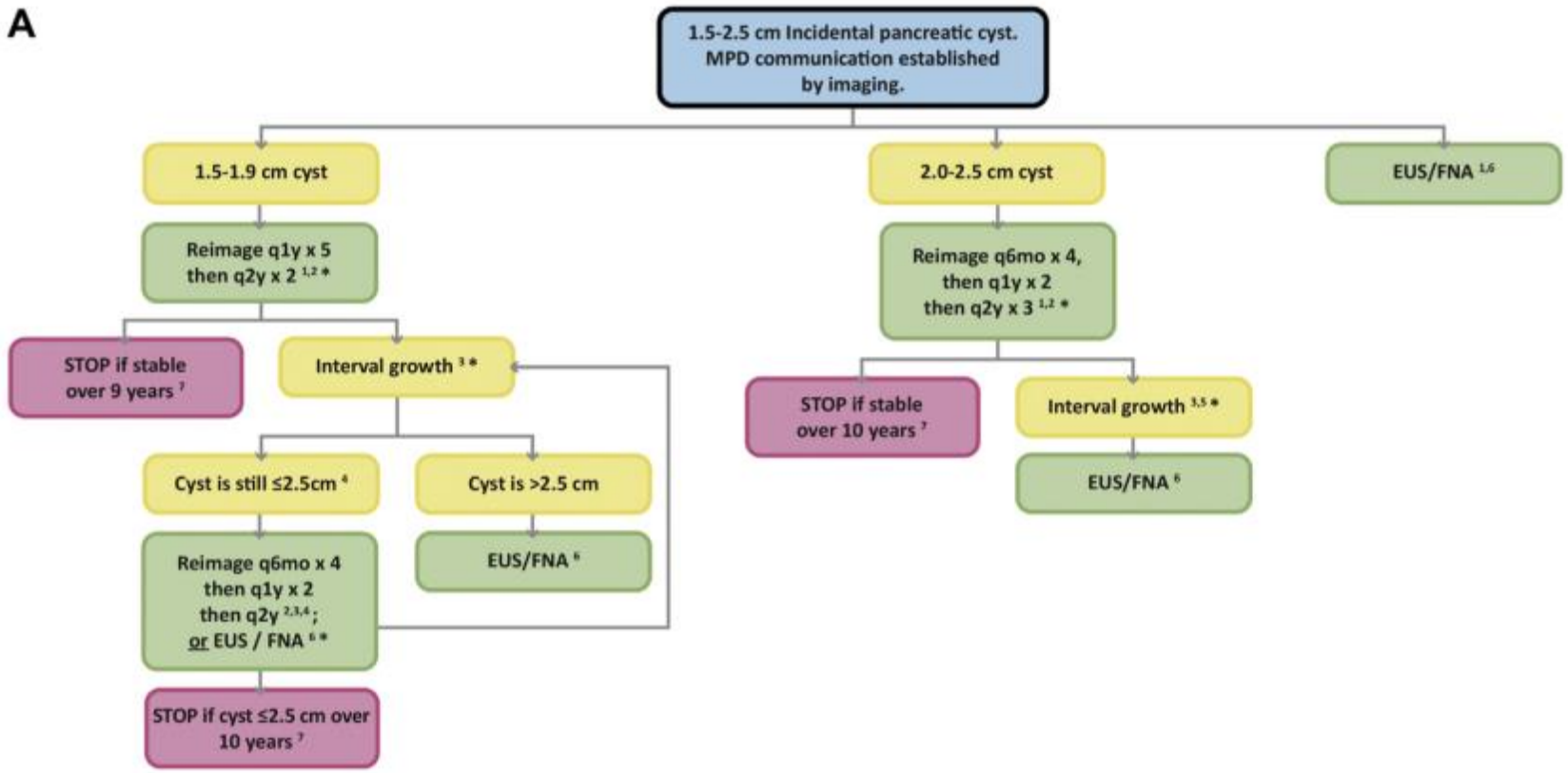

A
1.5-2.5 cm Incidental pancreatic cyst. MPD communication established by imaging.
1.5-1.9 cm cyst
2.0-2.5 cm cyst
EUS/FNA [1,6]
Reimage q1y x 5 then q2y x 2 [1,2] *
Reimage q6mo x 4, then q1y x 2 then q2y x 3 [1,2] *
STOP if stable over 9 years [7]
Interval growth [3] *
STOP if stable over 10 years [7]
Interval growth [3,5] *
Cyst is still ≤2.5cm [4]
Cyst is >2.5 cm
EUS/FNA [6]
EUS/FNA [6]
Reimage q6mo x 4 then q1y x 2 then q2y [2,3,4]; or EUS / FNA [6] *
STOP if cyst ≤2.5 cm over 10 years [7]

Figure 2B

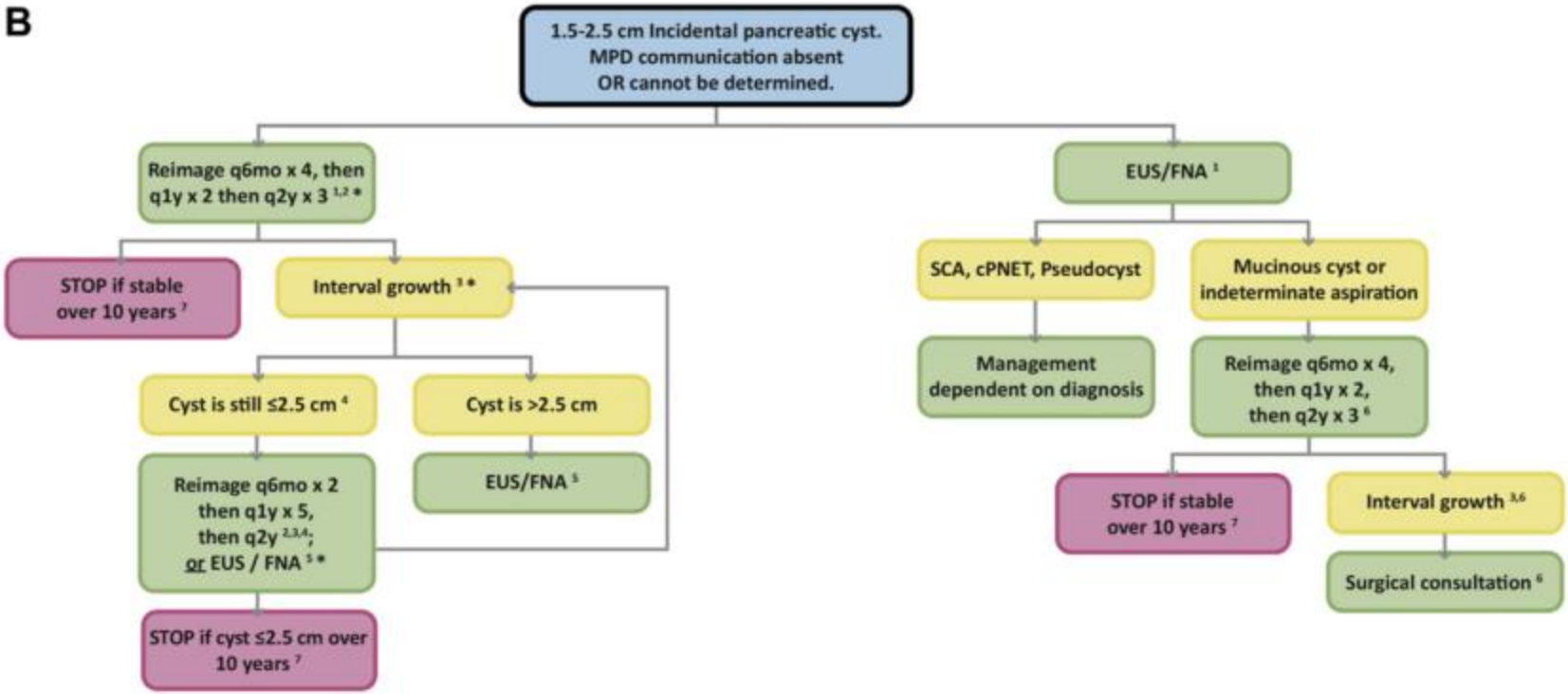

B
1.5-2.5 cm Incidental pancreatic cyst.
MPD communication absent
OR cannot be determined.
Reimage q6mo x 4, then q1y x 2 then q2y x 3 [1,2] *
EUS/FNA [1]
STOP if stable over 10 years [7]
Interval growth [3] *
SCA, cPNET, Pseudocyst
Mucinous cyst or indeterminate aspiration
Cyst is still ≤2.5 cm [4]
Cyst is >2.5 cm
Management dependent on diagnosis
Reimage q6mo x 4, then q1y x 2, then q2y x 3 [6]
Reimage q6mo x 2 then q1y x 5, then q2y [2,3,4]; or EUS / FNA [5] *
EUS/FNA [5]
STOP if stable over 10 years [7]
Interval growth [3,6]
STOP if cyst ≤2.5 cm over 10 years [7]
Surgical consultation [6]

Figure 3

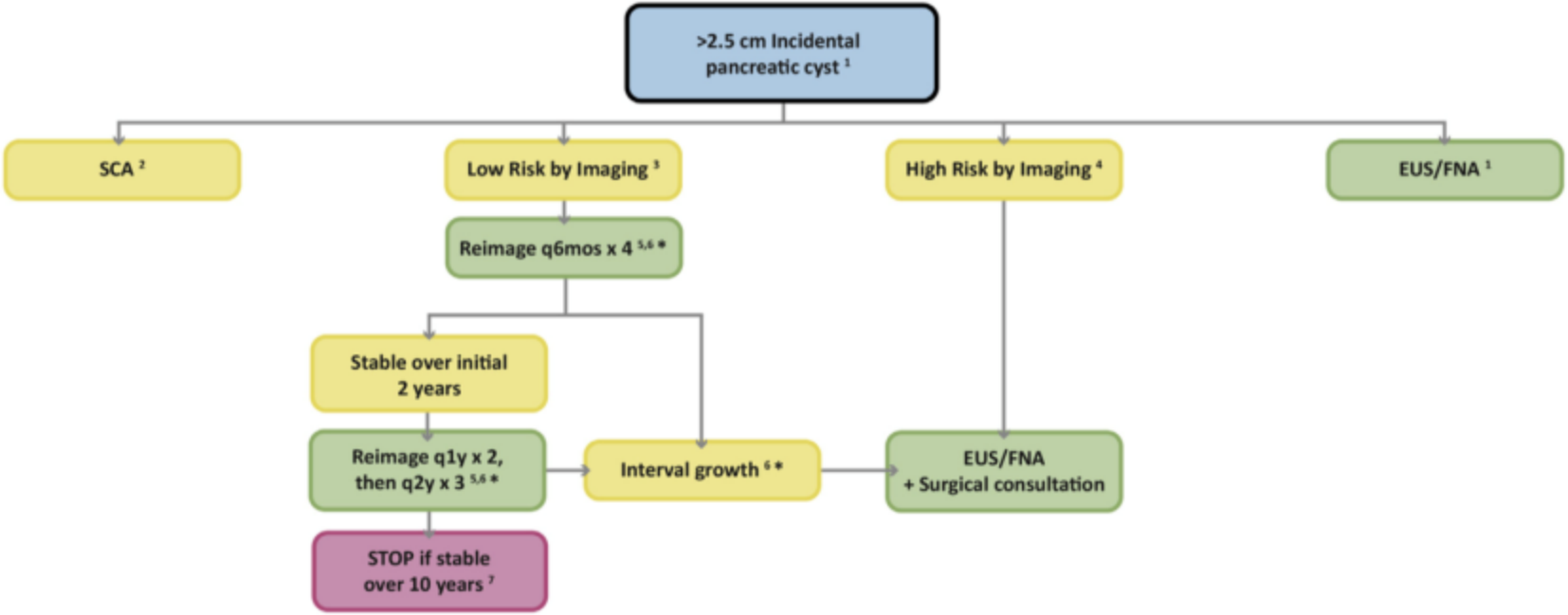
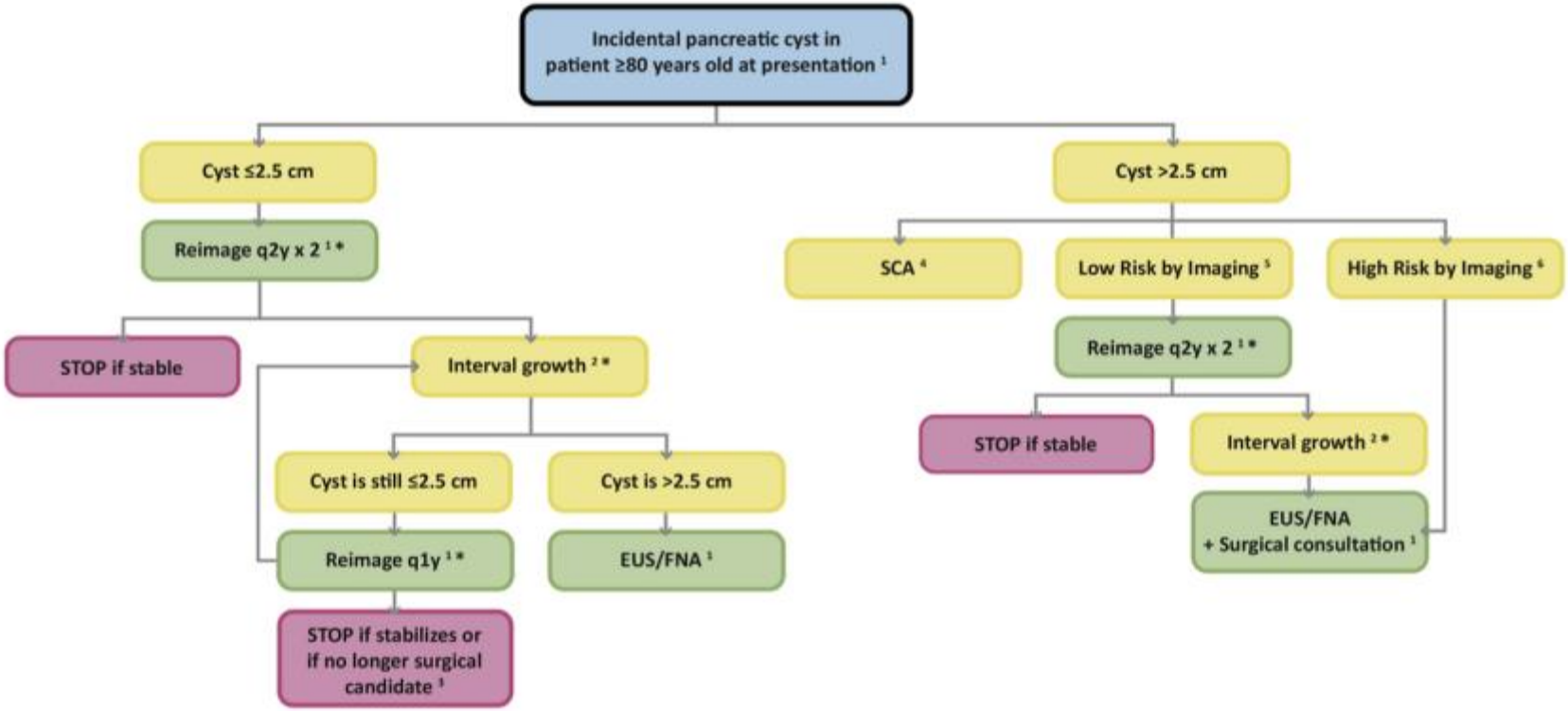

>2.5 cm Incidental pancreatic cyst [1]
SCA [2]
Low Risk by Imaging [3]
High Risk by Imaging [4]
EUS/FNA [1]
Reimage q6mos x 4 [5,6] *
Stable over initial 2 years
Reimage q1y x 2, then q2y x 3 [5,6] *
Interval growth [6] *
EUS/FNA + Surgical consultation
STOP if stable over 10 years [7]

Figure 4


Incidental pancreatic cyst in patient ≥80 years old at presentation [1]
Cyst ≤2.5 cm
Reimage q2y x 2 [1] *
STOP if stable
Interval growth [2] *
Cyst is still ≤2.5 cm
Reimage q1y [1] *
STOP if stabilizes or if no longer surgical candidate [1]
Cyst is >2.5 cm
EUS/FNA [1]
Cyst >2.5 cm
SCA [4]
Low Risk by Imaging [5]
Reimage q2y x 2 [1] *
STOP if stable
Interval growth [2] *
EUS/FNA + Surgical consultation [1]
High Risk by Imaging [6]

Conclusions

- Natural history of small cysts remains observational
- Assume incidental cyst is mucinous
- EUS/FNA should be used liberally
- Define measurement method and growth
- Extended follow-up because recognition of increased long-term risk
- Modified management for pts. >80 yrs.