

ACR Lung-RADS® v2022

Case Review

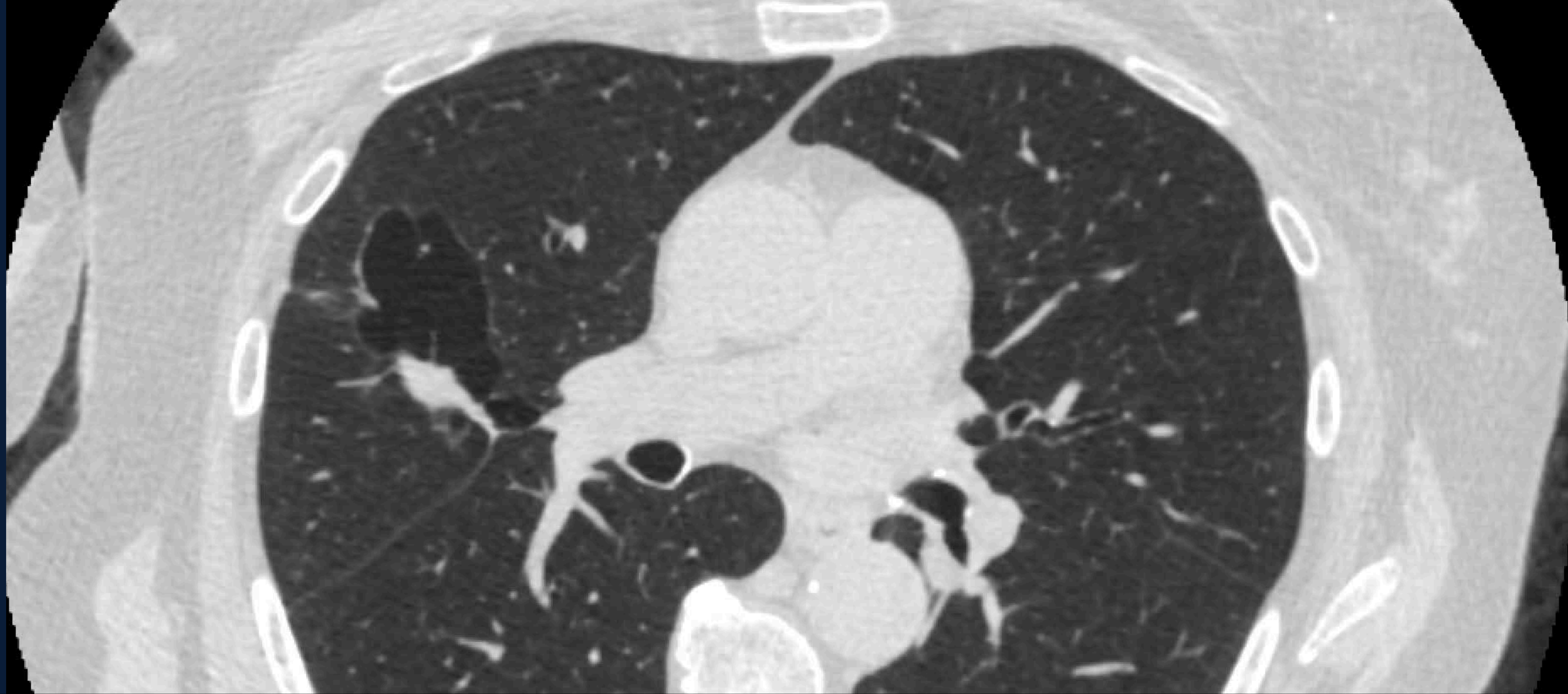
Ella Kazerooni, MD, MS

Jared Christensen, MD, MBA

CLINICAL HISTORY

1

- 71-year-old man
- 42 pack-year smoking hx
- Baseline LCS



How would you classify this lesion?

ATYPICAL PULMONARY CYSTS

Lung-RADS **3**

- Growing cystic component of a thin or thick-walled cyst (total mean diameter)

6-month LDCT

Lung-RADS **4A**

- Thick-walled cyst
- Multilocular cyst at baseline **OR** growing
- Thin- or thick-walled cyst that becomes multilocular

3-month LDCT; PET-CT

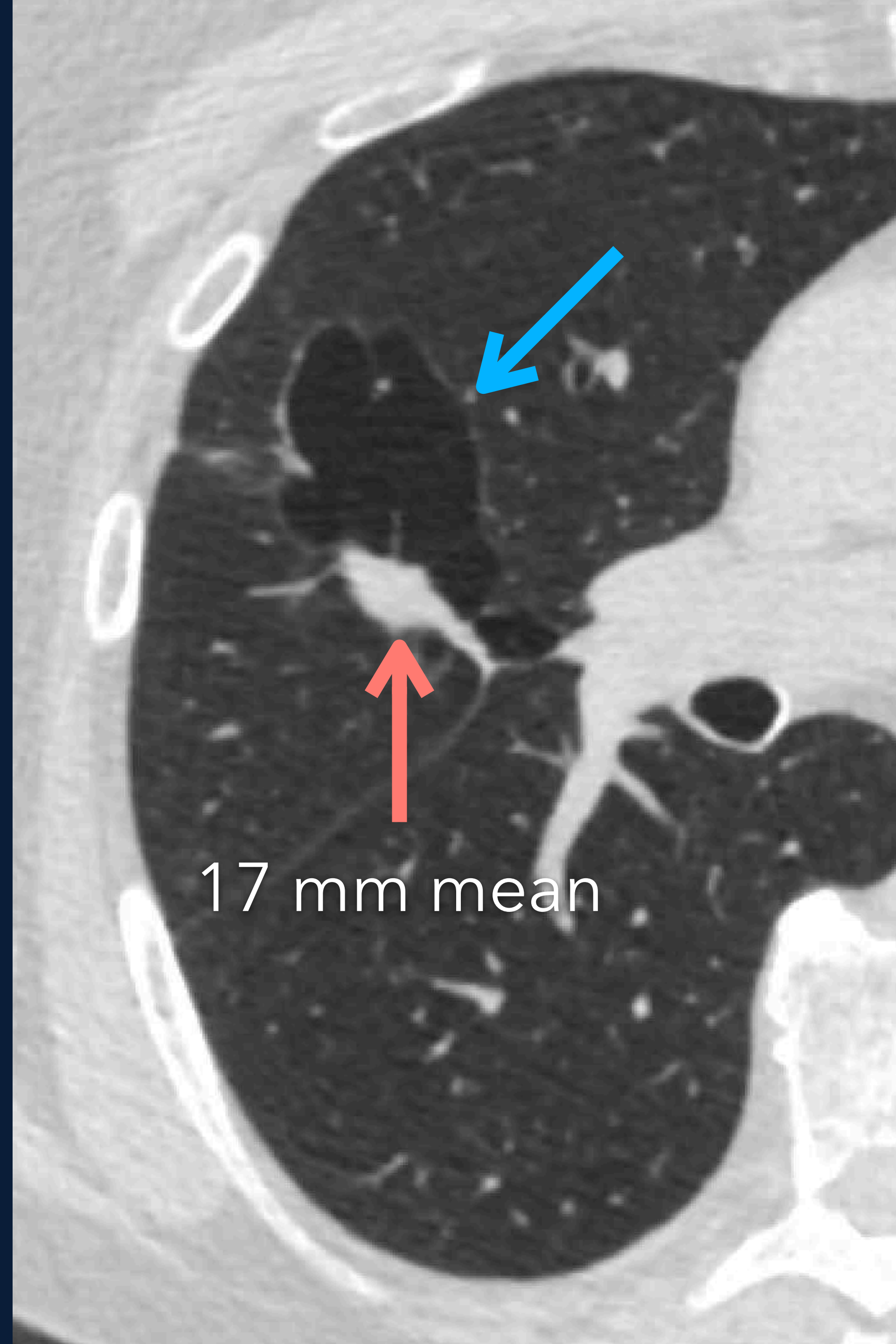
Lung-RADS **4B**

- Increasing loculation **OR**
- New or growing wall thickness/nodularity **OR**
- New/increased opacity (nodular, ground glass, or consolidation)

CT; PET-CT; Bx; Referral

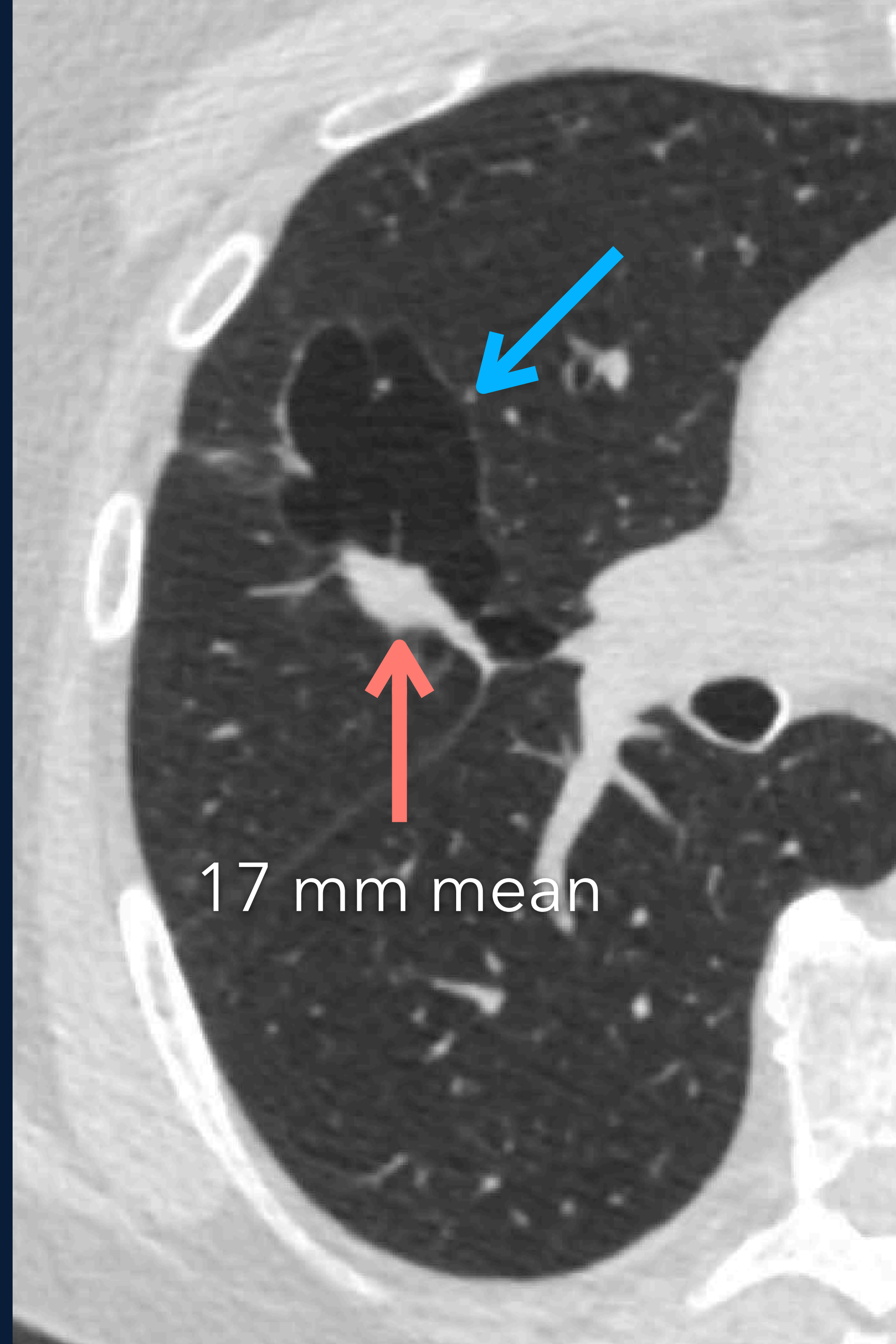
FINDINGS

- Multilocular cyst
- Thick wall



FINDINGS

- Multilocular cyst LR 4A
- Thick wall LR 4A

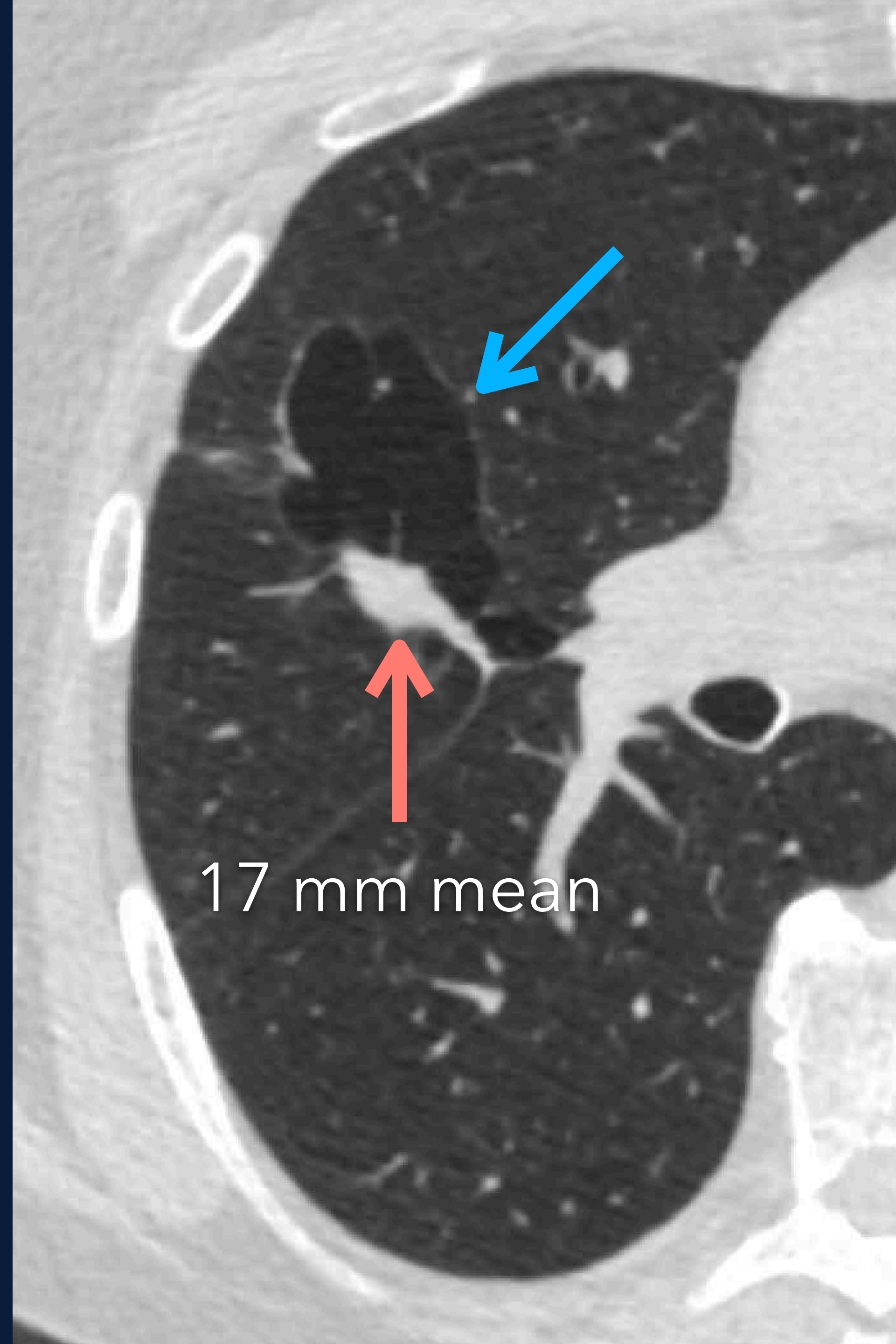


FINDINGS

- Multilocular cyst
- Thick wall
- Discrete nodule

LR 4A

LR 4A



FINDINGS

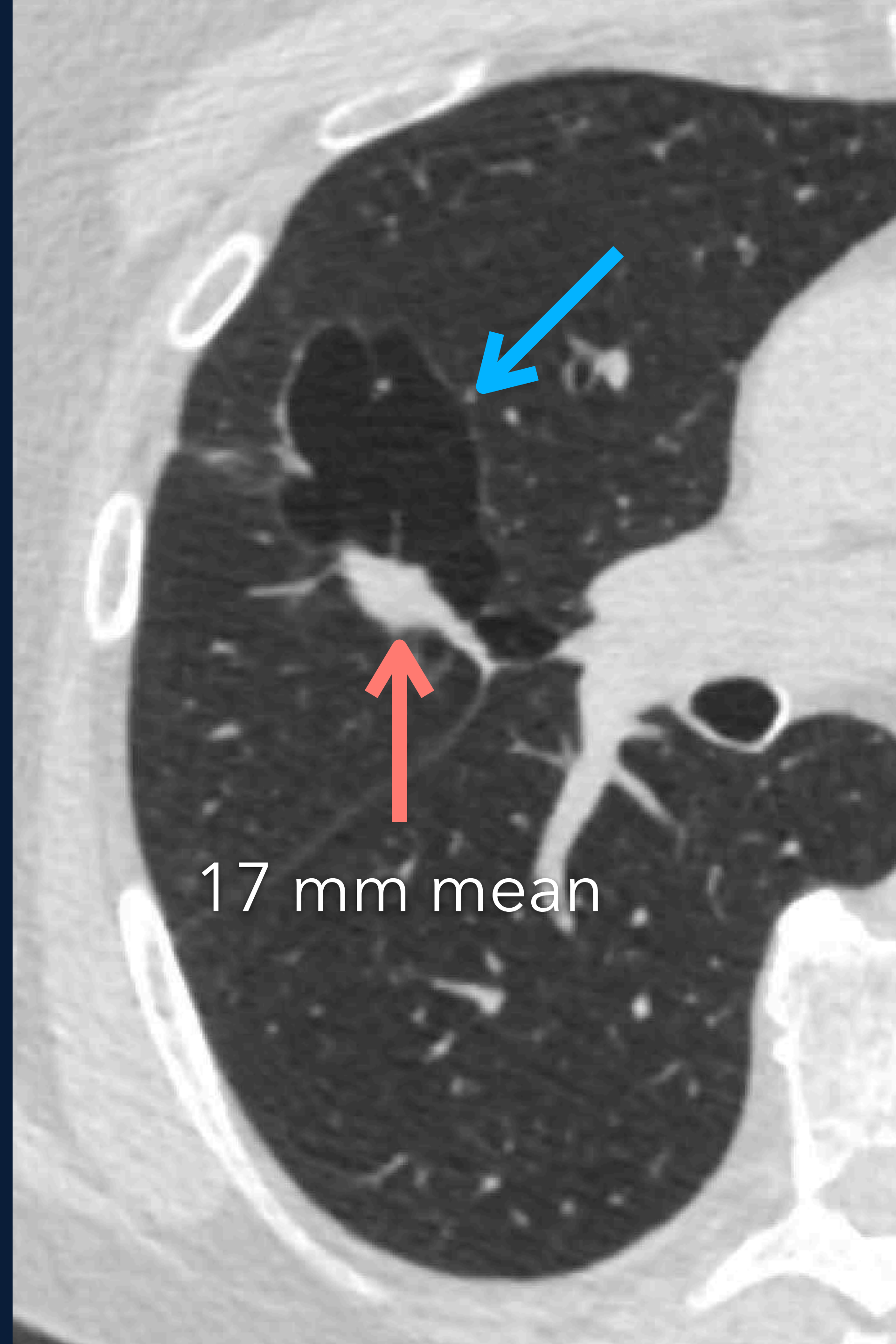
- Multilocular cyst
- Thick wall
- Discrete nodule

LR 4A

LR 4A

Manage by most
concerning feature

LR 4B

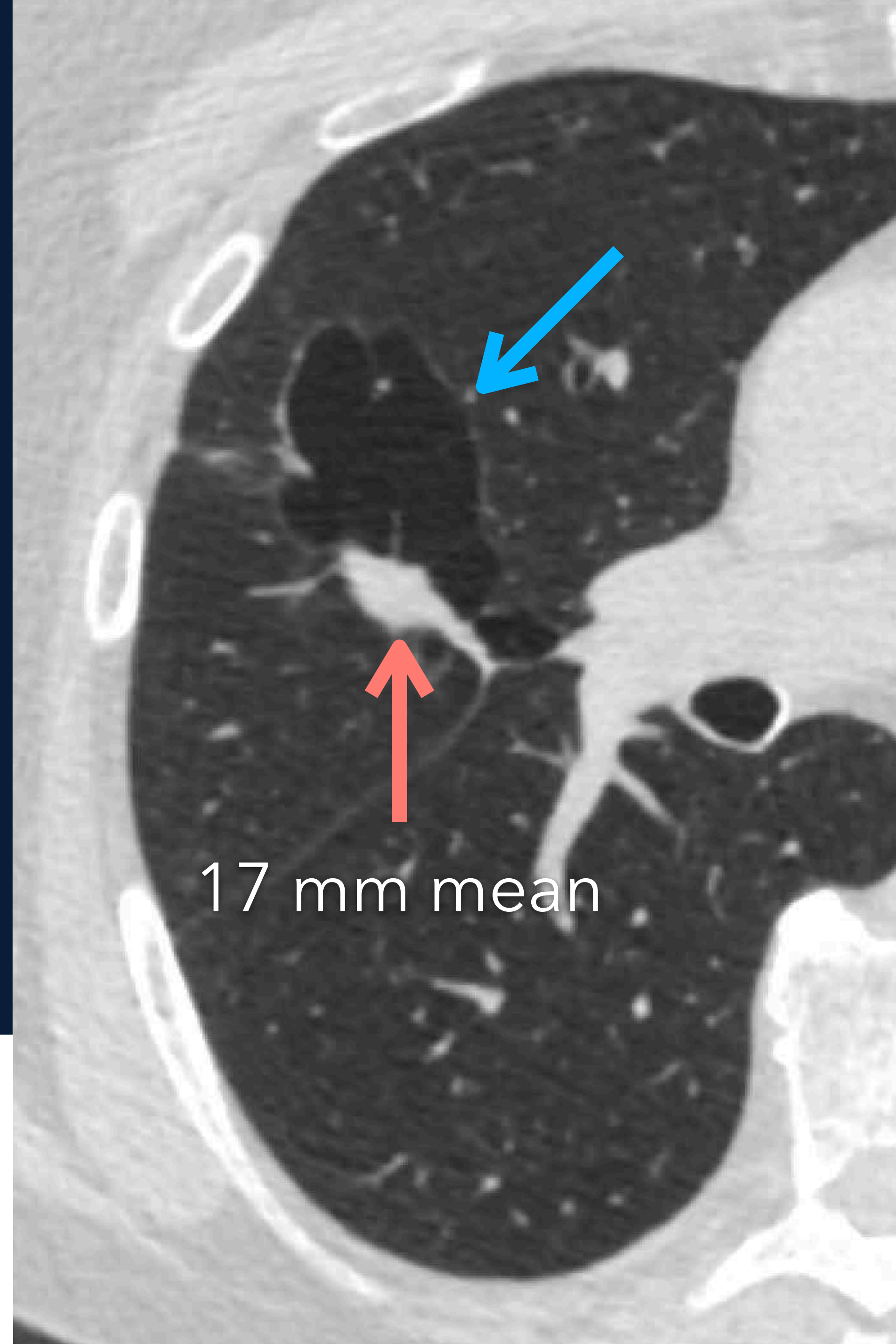


MANAGEMENT

- Multilocular cyst
- Thick wall
- Discrete nodule

Lung-
RADS **4B**

CT; PET-CT; Bx;
Referral



TAKE HOME

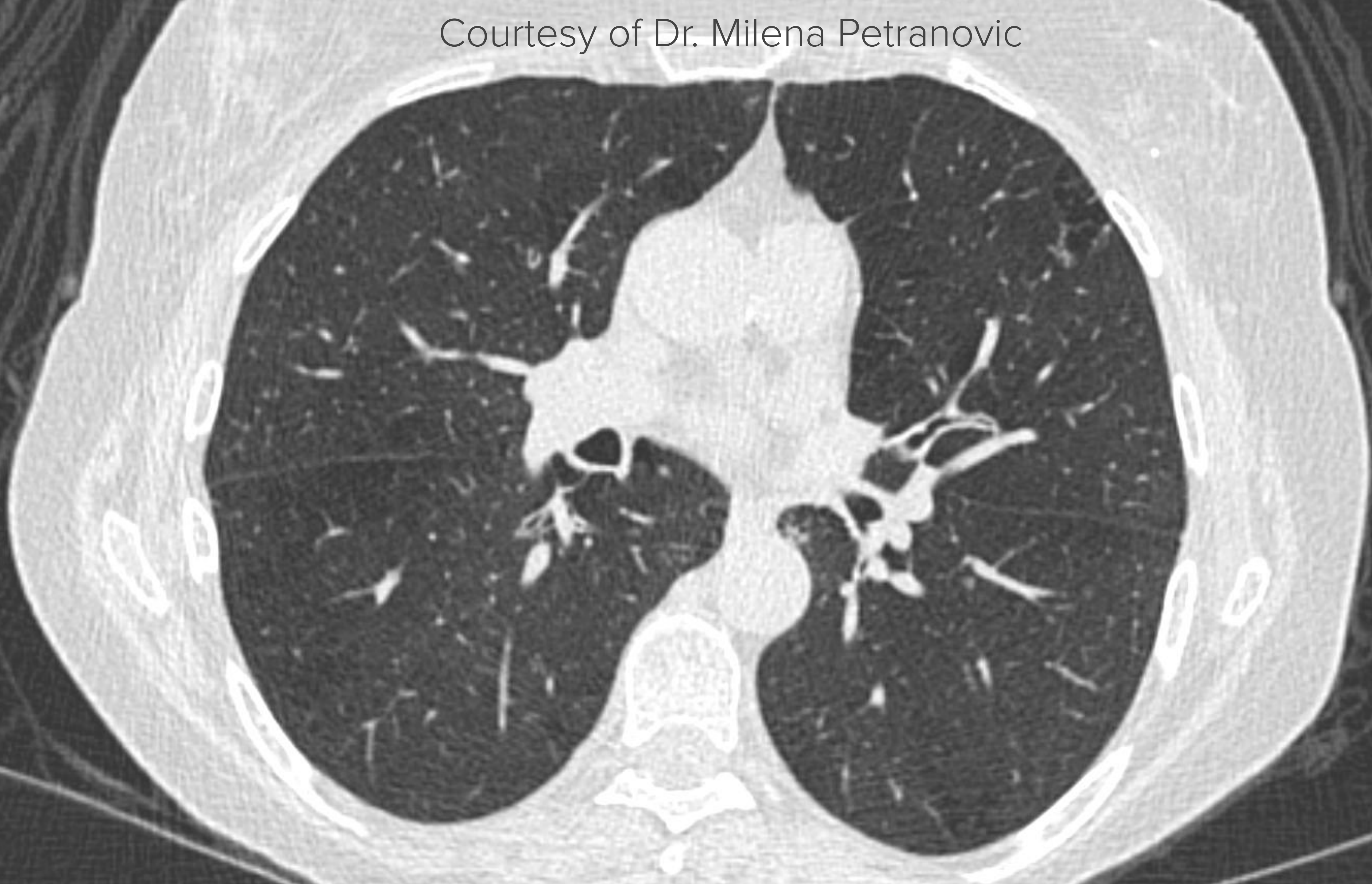
- Lung-RADS v2022 adds classification criteria for atypical pulmonary cysts
- Based on thin vs. thick-wall; unilocular vs. multilocular; associated nodules; and growth criteria

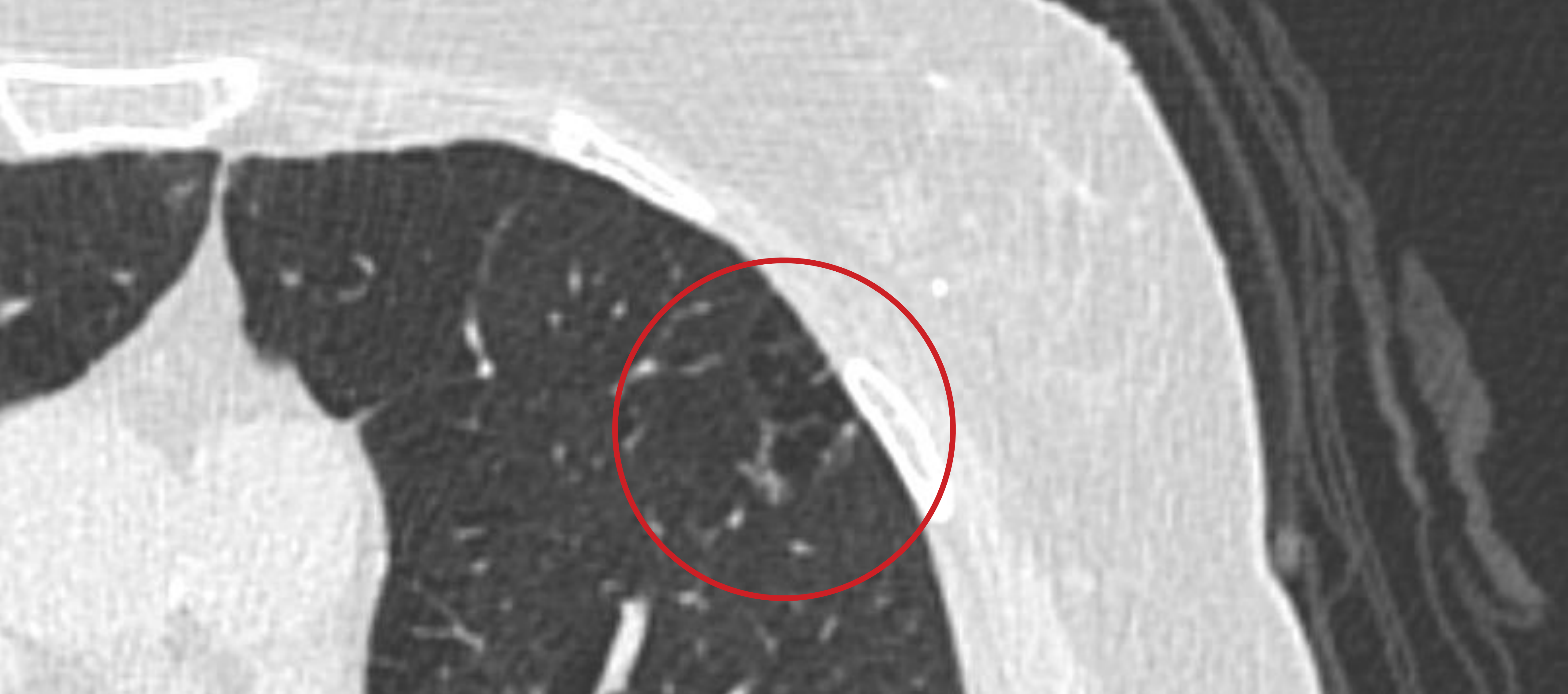
CLINICAL HISTORY

2

- 68-year-old woman
- Baseline LCS

Courtesy of Dr. Milena Petranovic





How would you classify this lesion?

ATYPICAL PULMONARY CYSTS

Lung-RADS **3**

- Growing cystic component of a thin or thick-walled cyst (total mean diameter)

6-month LDCT

Lung-RADS **4A**

- Thick-walled cyst
- Multilocular cyst at baseline **OR** growing
- Thin- or thick-walled cyst that becomes multilocular

3-month LDCT; PET-CT

Lung-RADS **4B**

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CT; PET-CT; Bx; Referral

Lung-
RADS **4A**

3-month LDCT

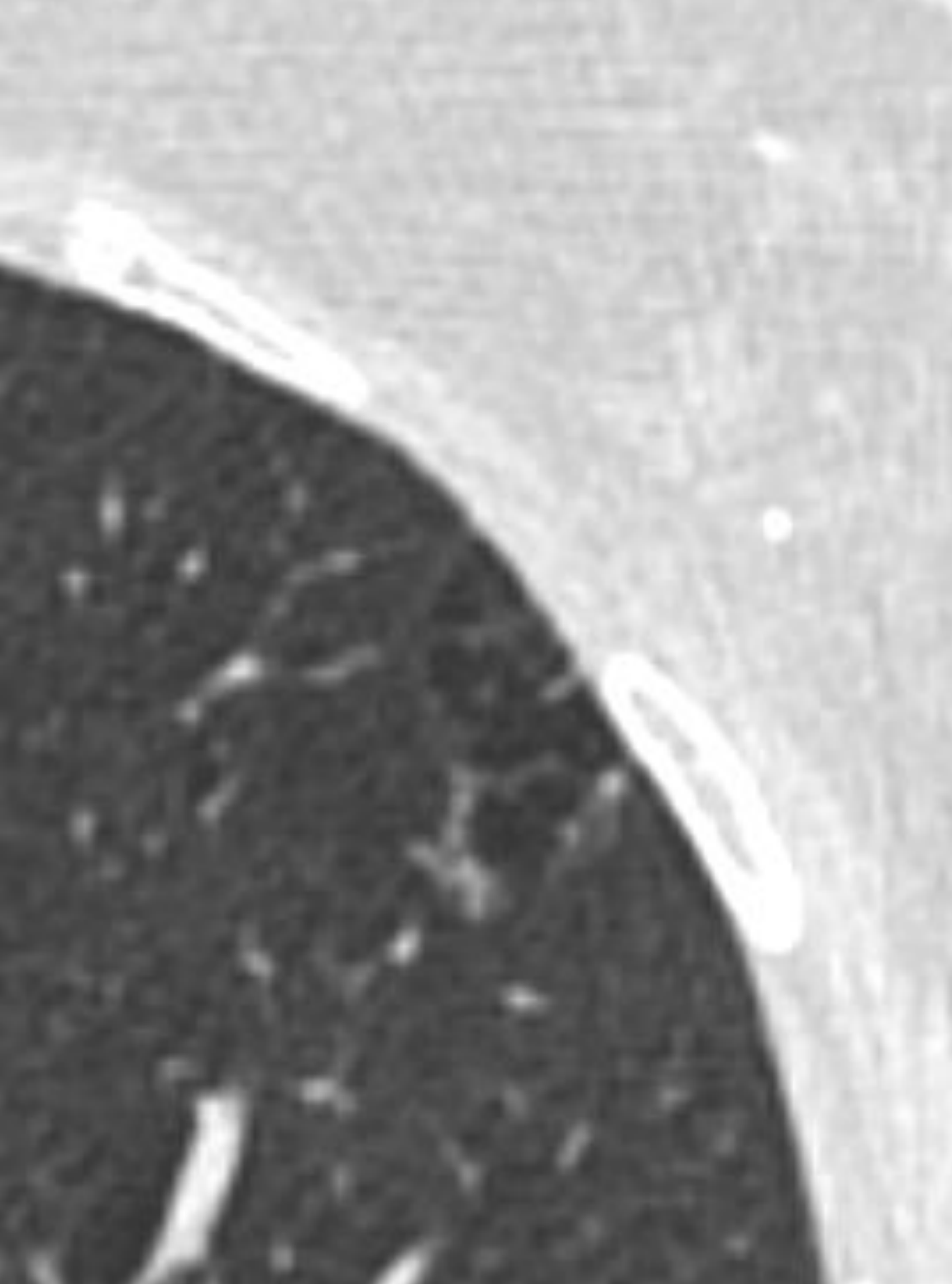


- Multilocular cyst
- Possible thick wall

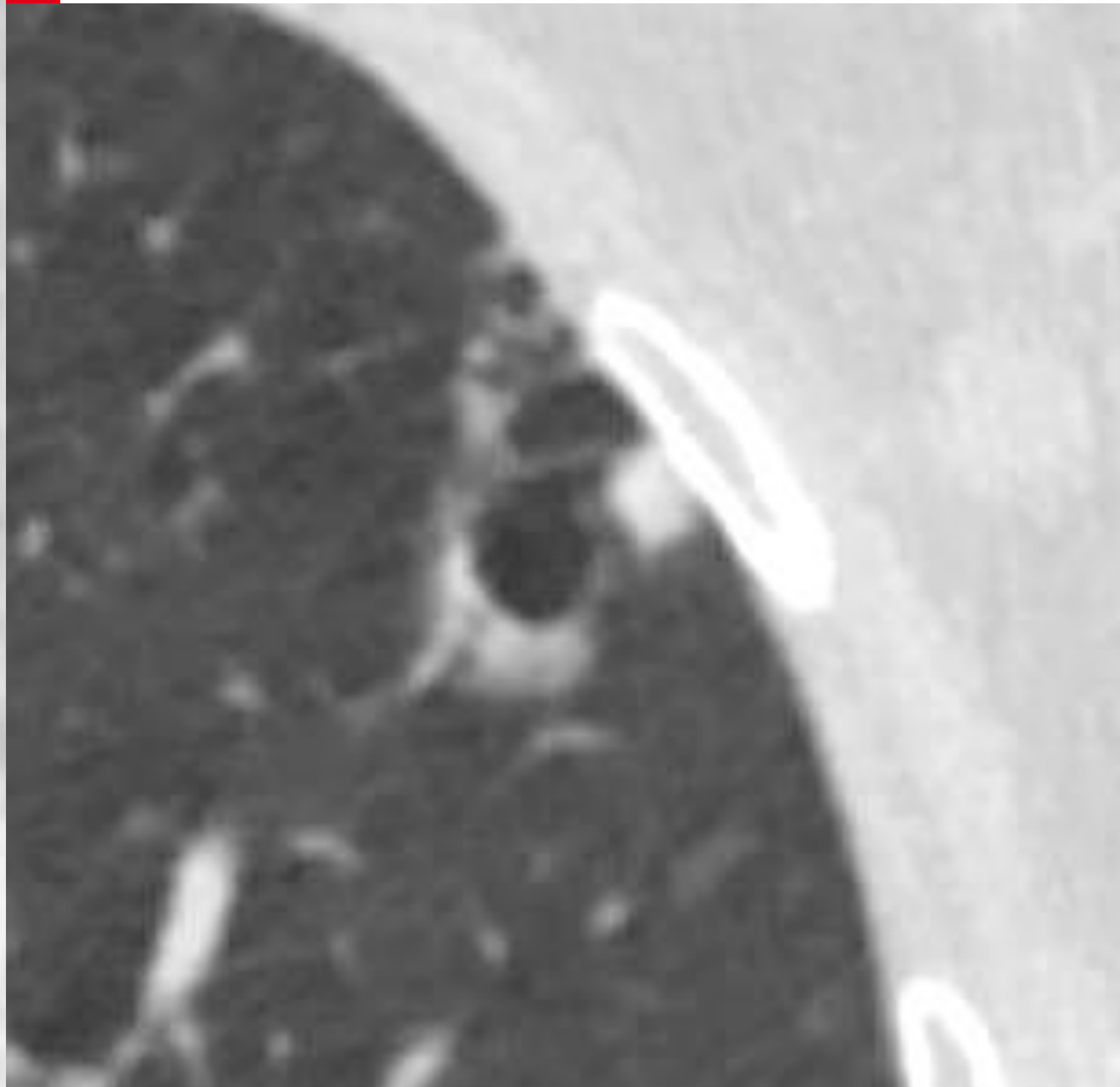
Baseline

Lung-
RADS **4B**

Diagnostic eval



Baseline



12 months

- Increasing loculation
OR
- New or growing wall thickness/nodularity
OR
- New/increased opacity (nodular, ground glass, or consolidation)

Lung-
RADS **4X**

Baseline

12 months

18 months

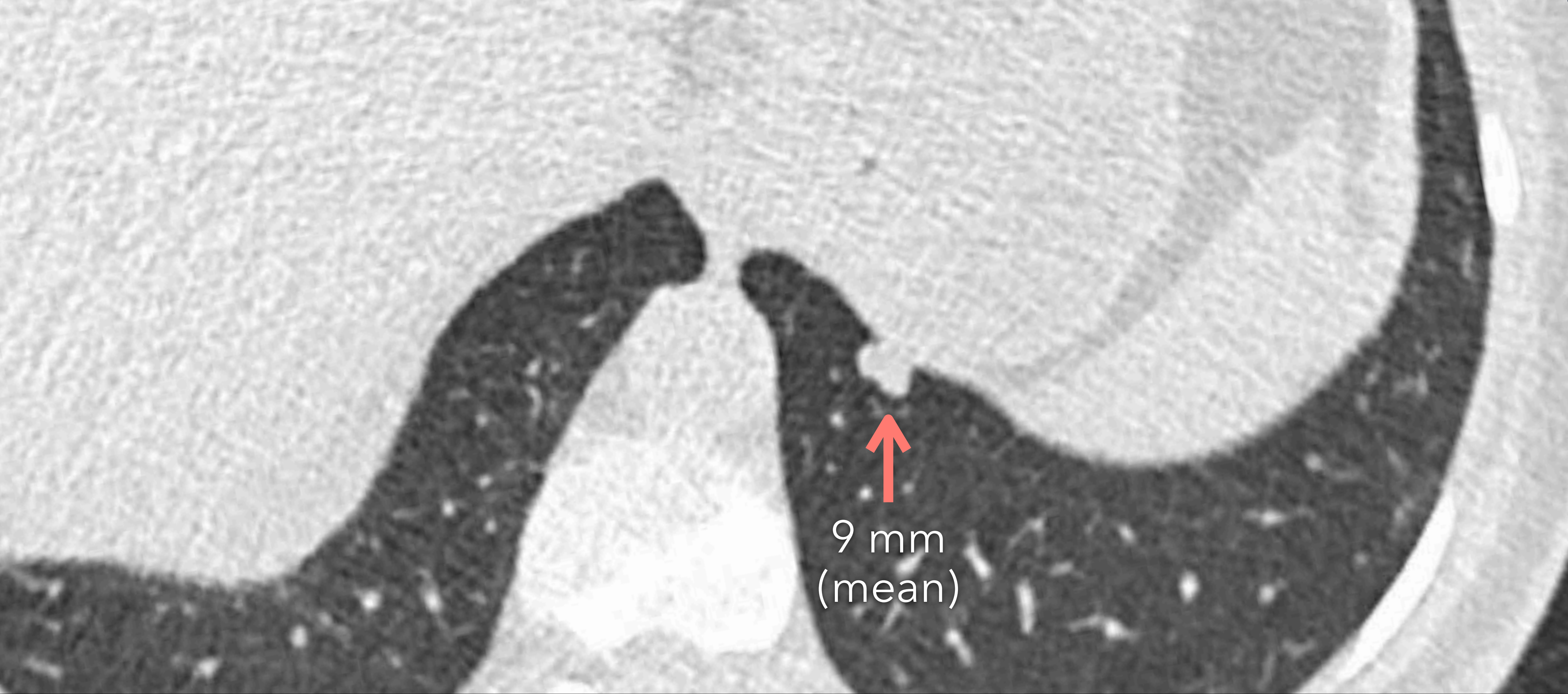
TAKE HOME

- Multilocular cysts LR 4A
- Increased loculation, new or growing wall thickness, or new or increasing opacity LR 4B

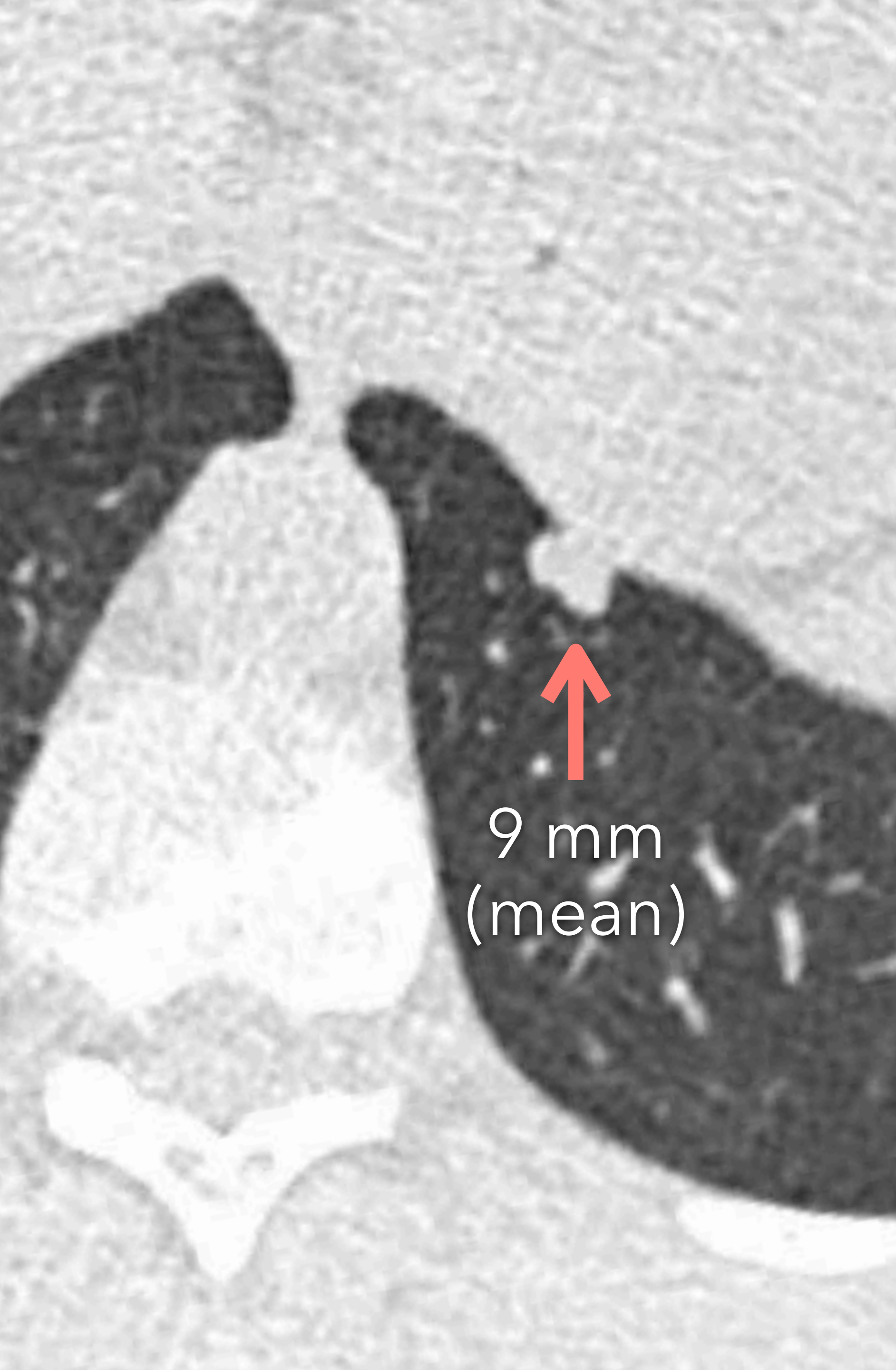
CLINICAL HISTORY

3

- 55-year-old man
- 60+ pack-year smoking hx
- Baseline LCS



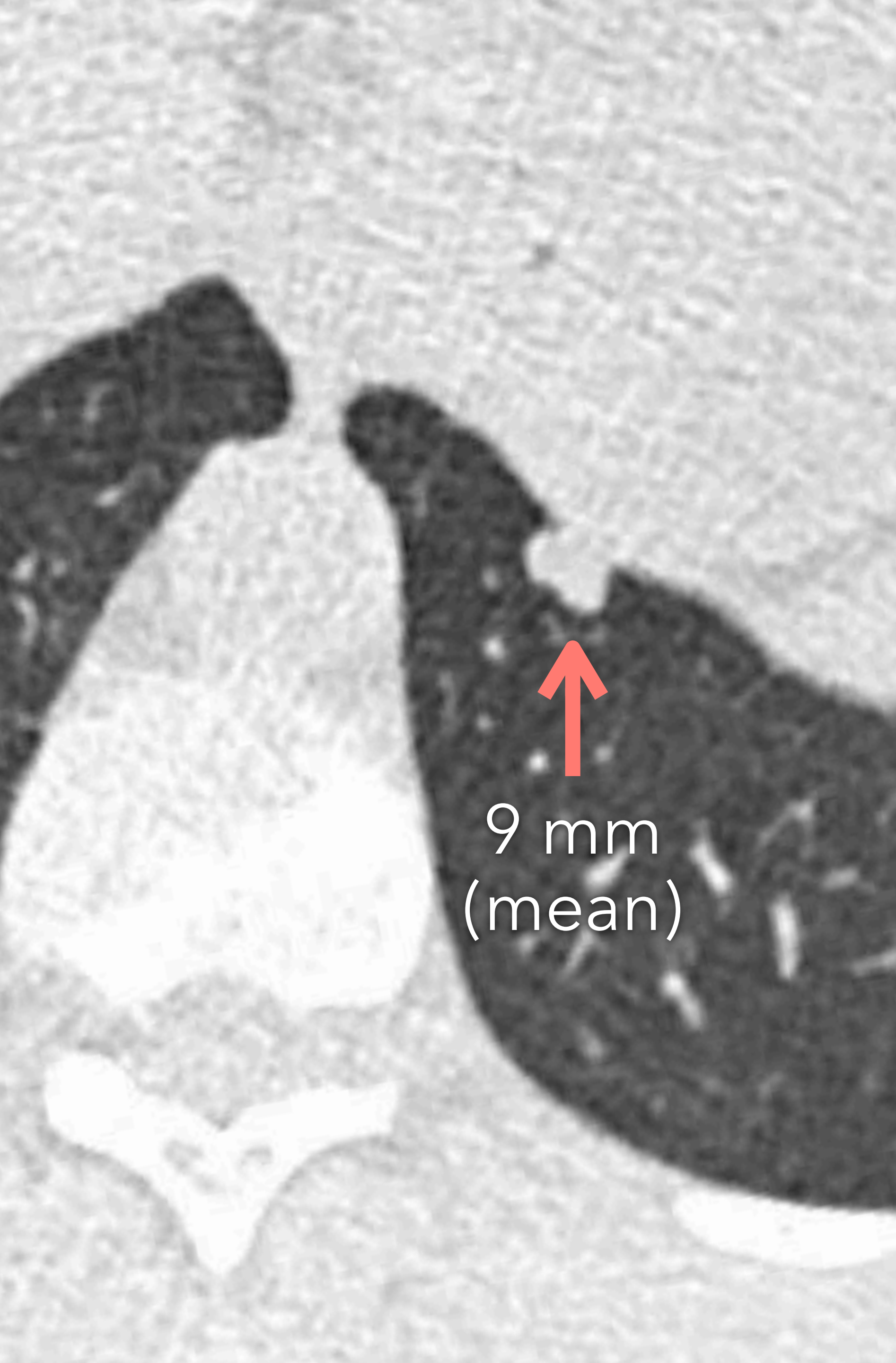
How would you classify this nodule?



FINDINGS

- 9 mm solid nodule
- LLL peridiaphragmatic
- Lobular

**Does not meet benign
juxtapleural criteria**



9 mm
(mean)

FINDINGS

- 9 mm solid nodule
- LLL peridiaphragmatic
- Lobular

Lung-
RADS **4A**

3-month LDCT

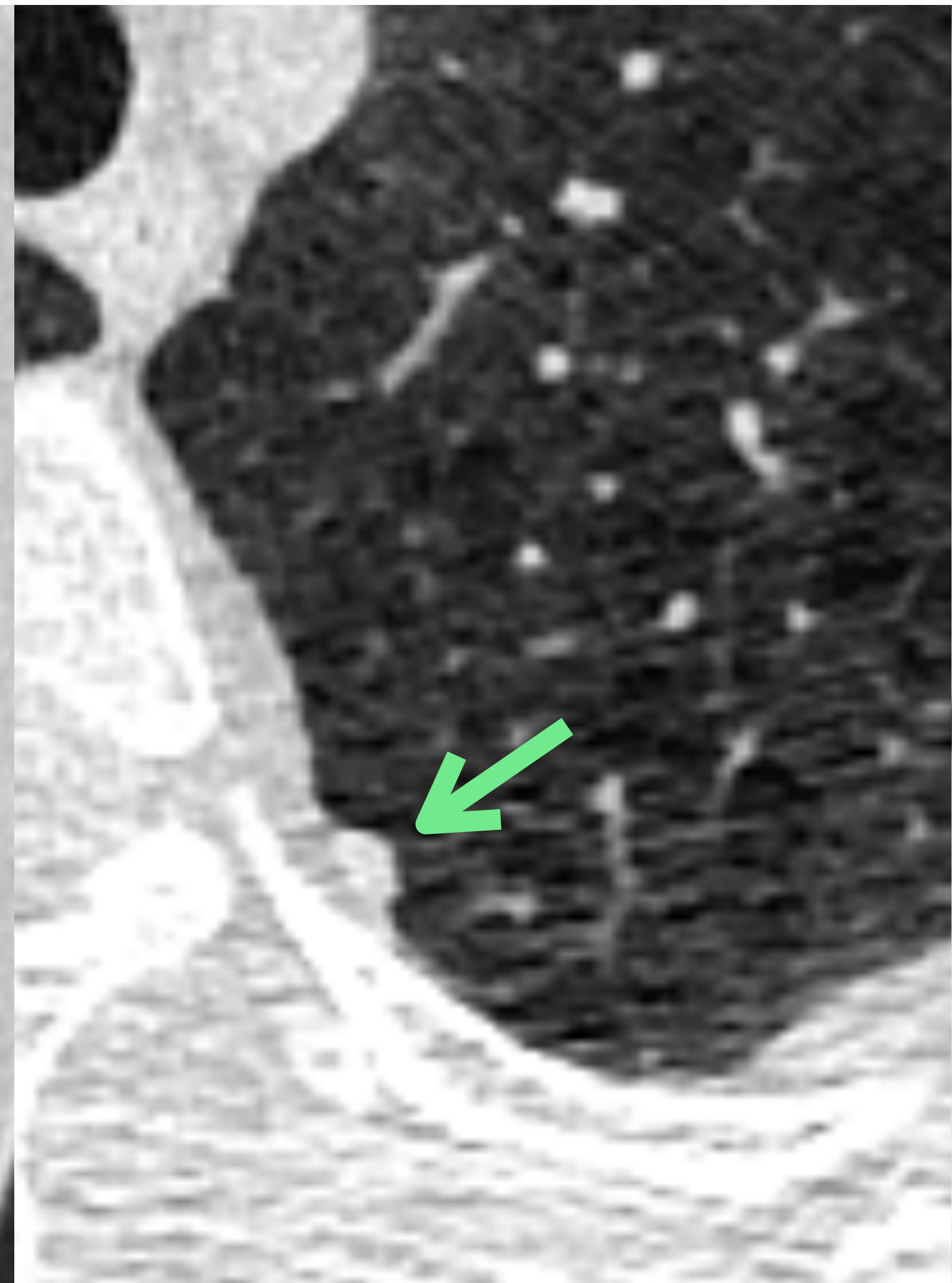
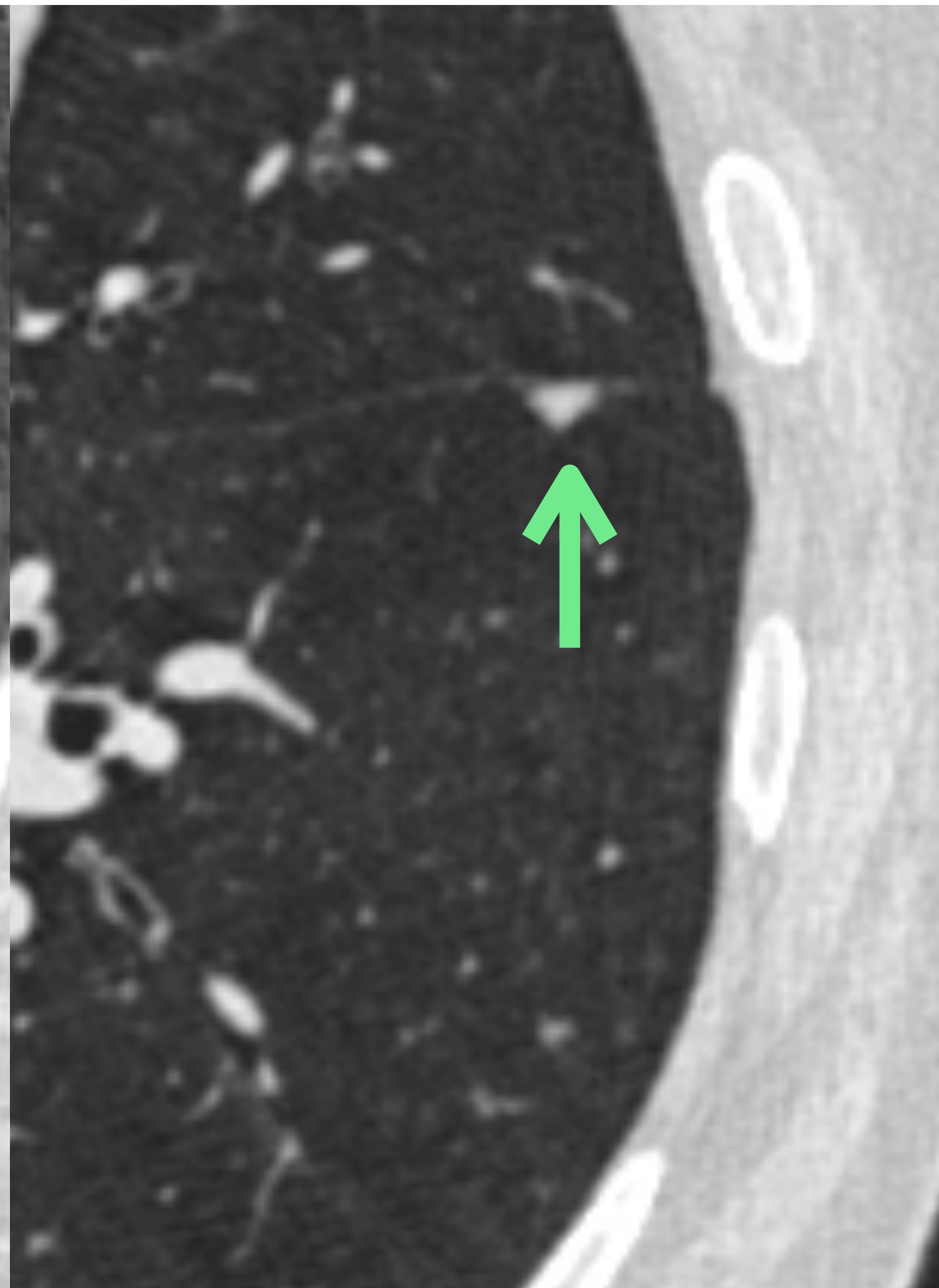
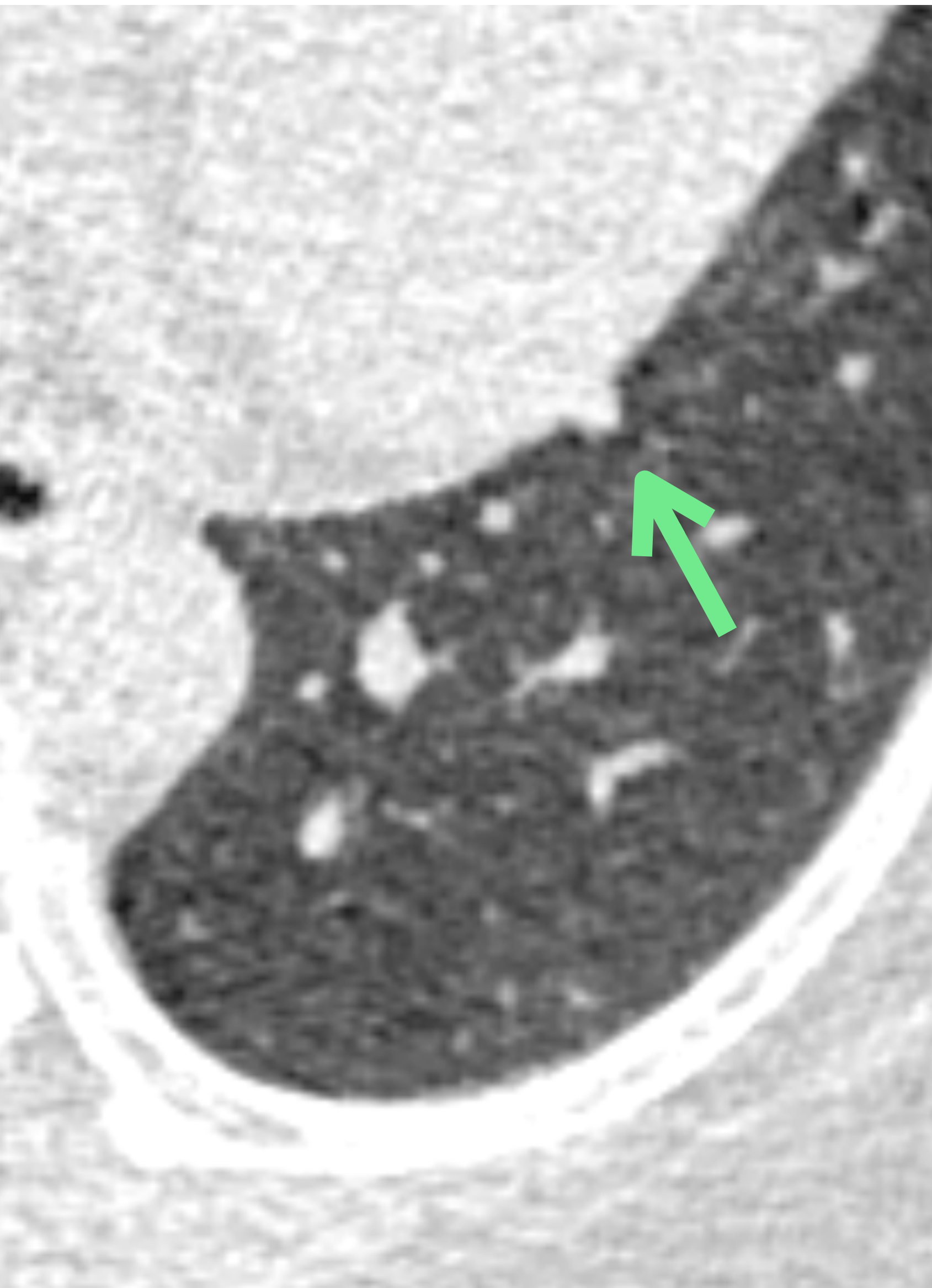
JUXTAPLEURAL NODULES

Lung-RADS 2

- < 10 mm mean diameter at baseline or new **AND**
- Solid; smooth margins **AND**
- Oval, lentiform, or triangular shape

12-month LDCT

Lung-RADS 2



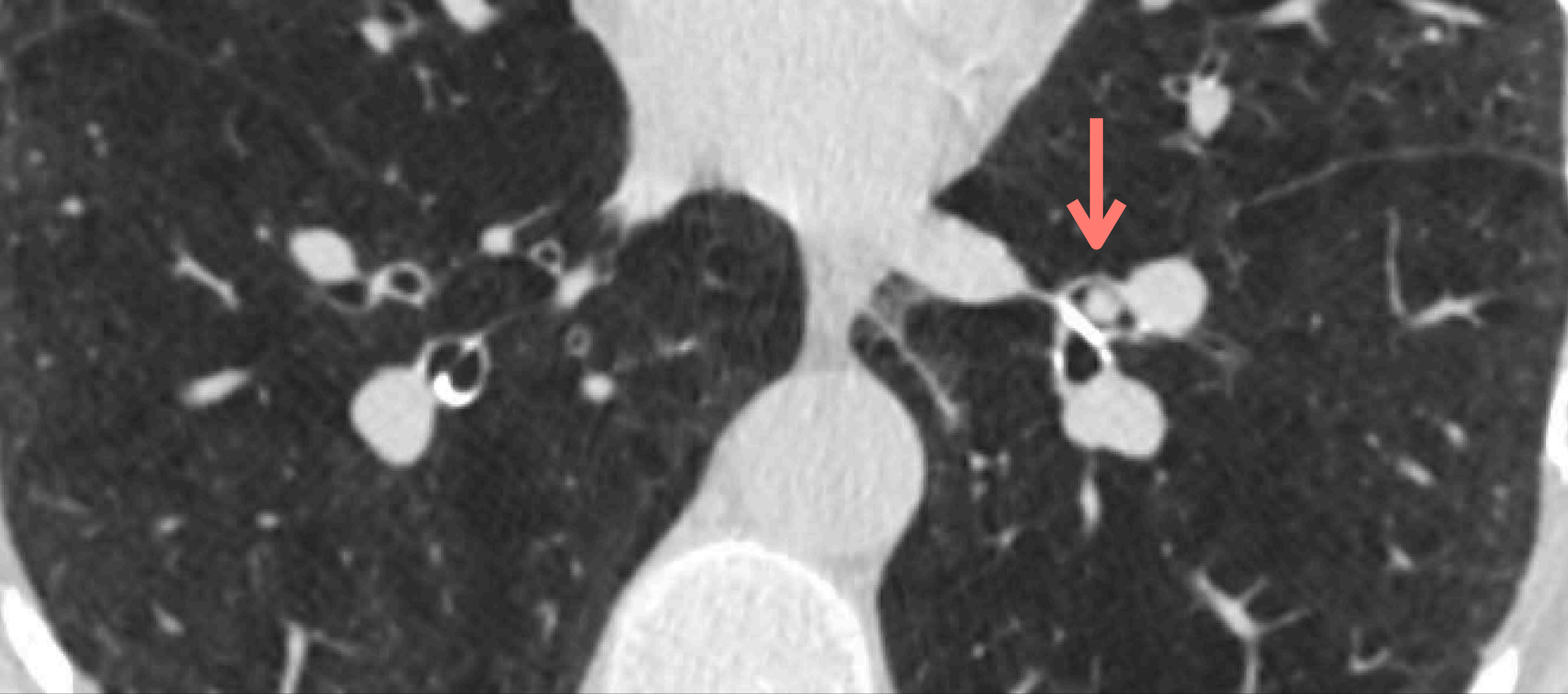
TAKE HOME

- Juxtapleural solid nodules < 10 mm mean diameter, with smooth margins, & lentiform, ovoid, or triangular in shape
 - 0% risk of malignancy
 - LR 2

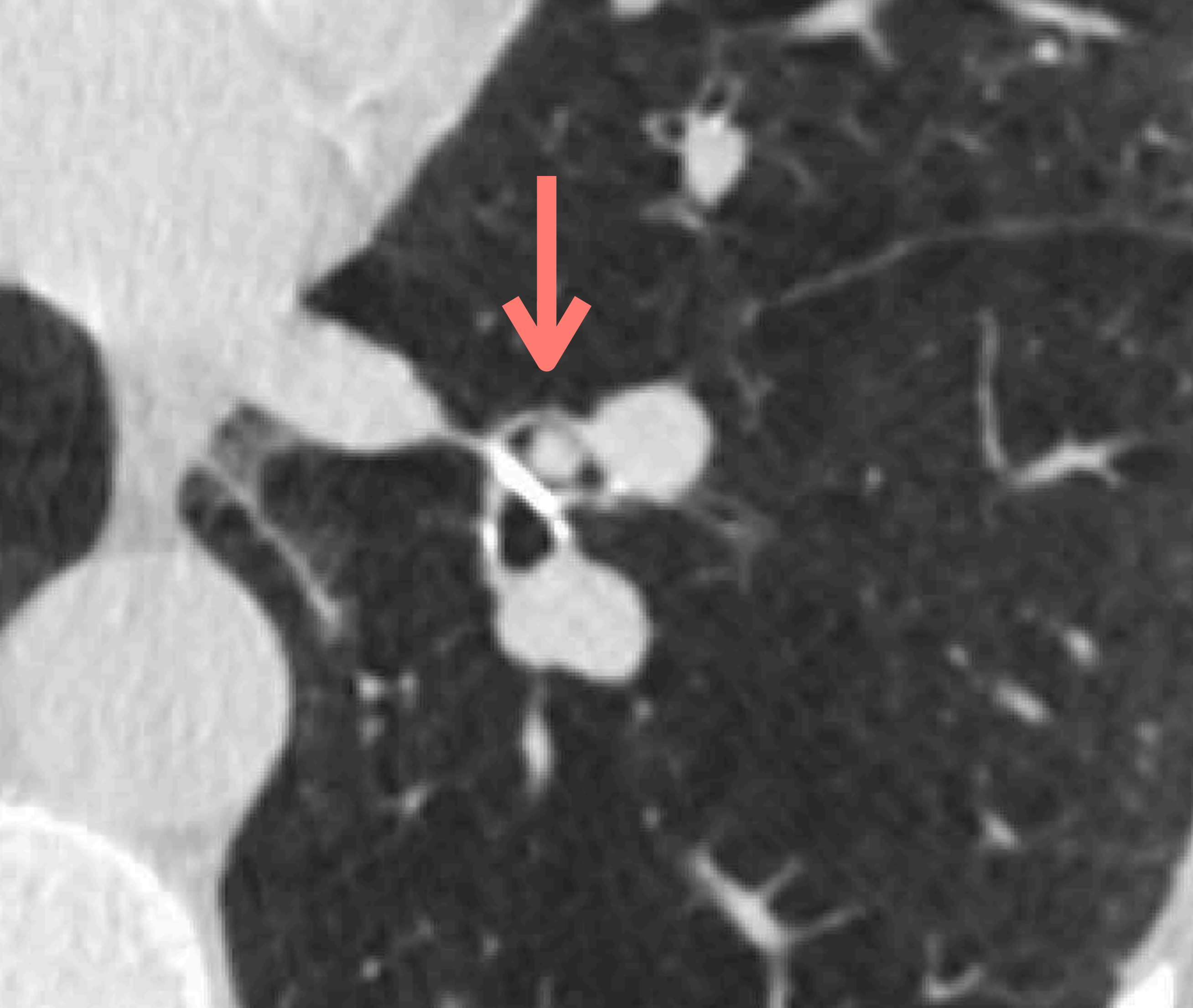
CLINICAL HISTORY

4

- 62-year-old woman
- Annual LCS



How would you classify this nodule?



Baseline

FINDINGS

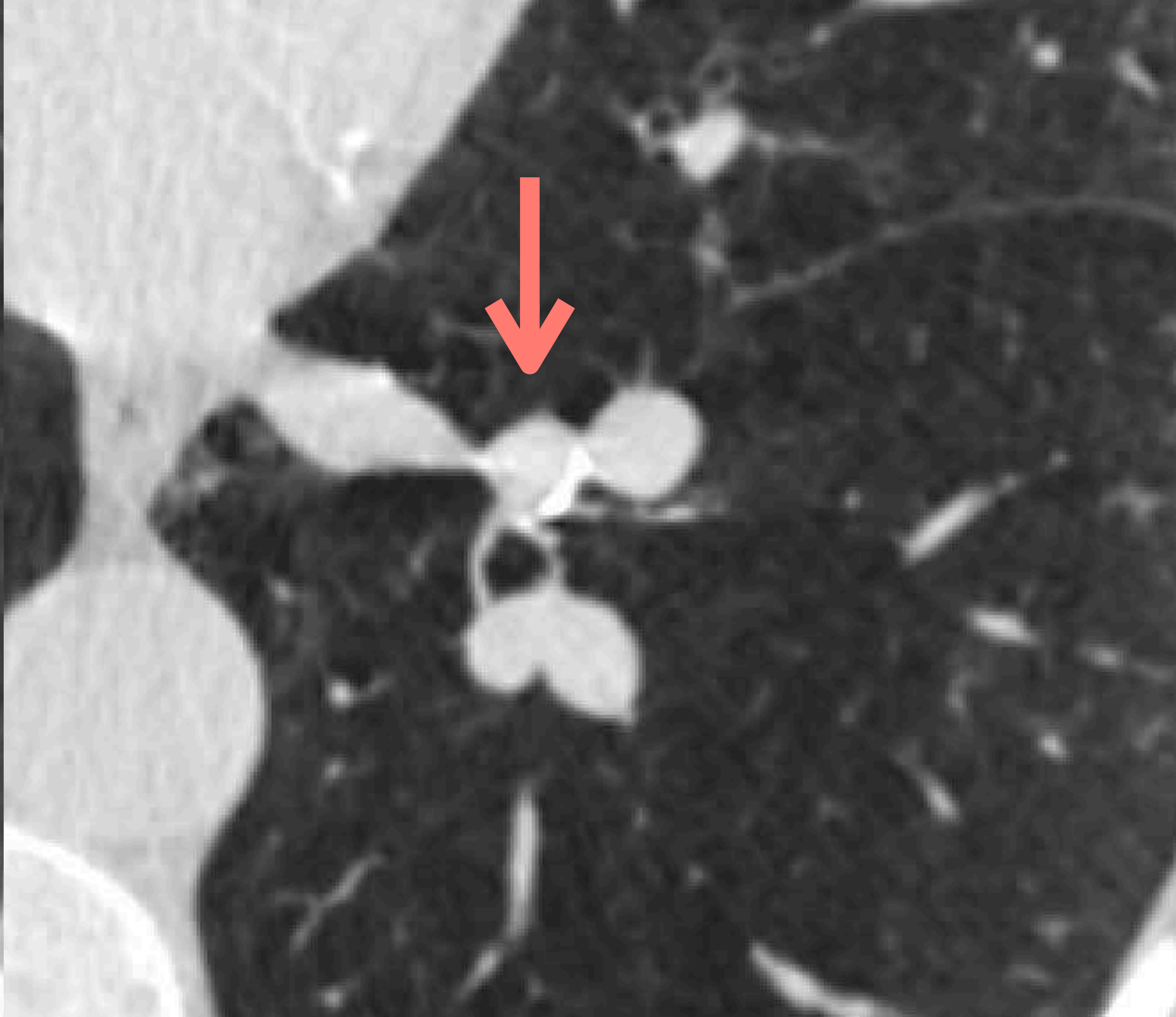
- New, solid LLL airway nodule
- Proximal segmental

Lung-
RADS **4A**

3-month
LDCT



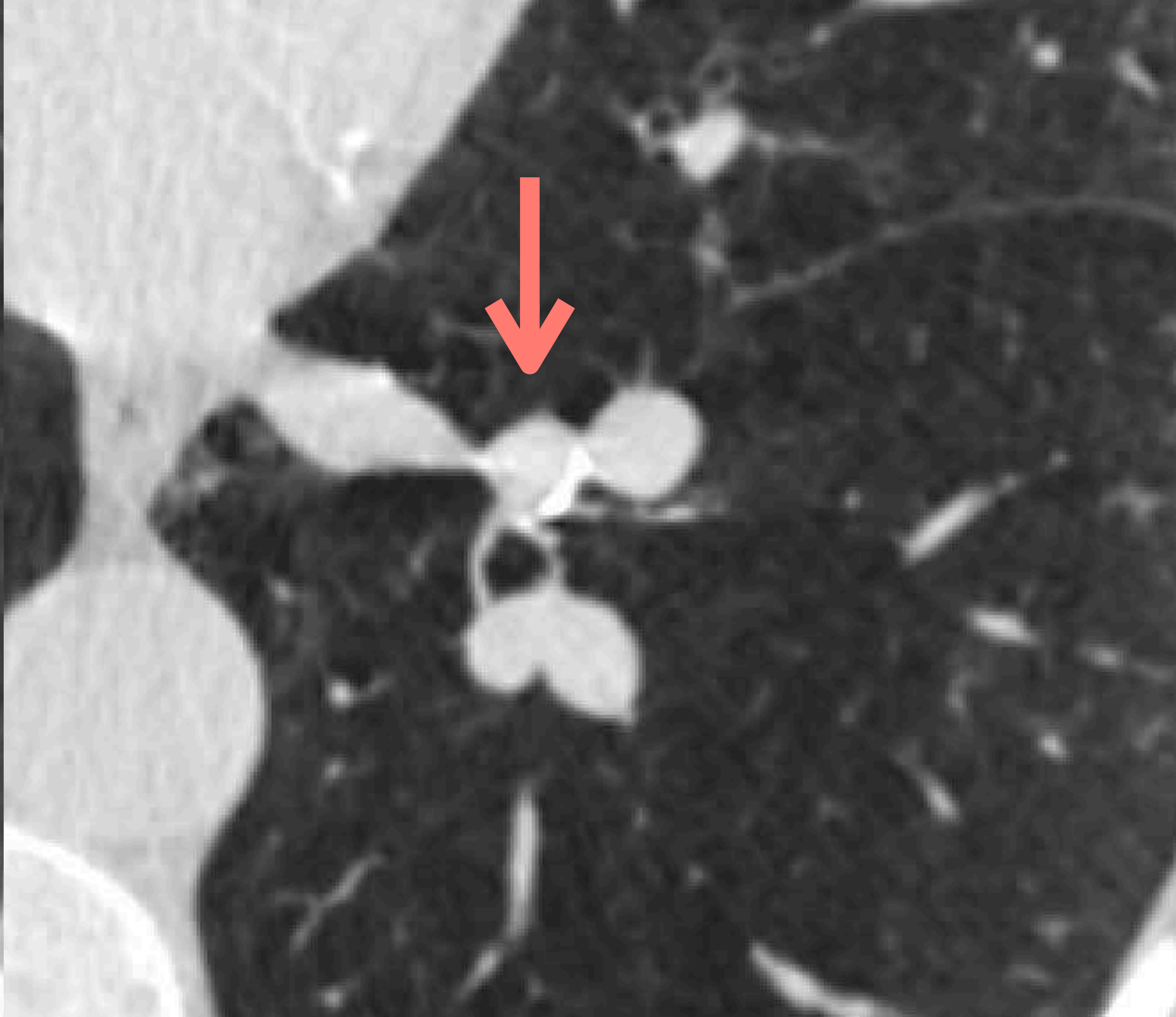
Baseline



Persistent & growing



Baseline



Lung-
RADS **4B**

Clinical
referral

LUNG-RADS

- Persistent airway nodules are **NOT** downgraded



Lung-
RADS **4B**

Clinical
referral

TAKE HOME

- Airway nodules characterized by location, morphology, and persistence
- Segmental or more proximal = LR 4A
- Subsegmental = LR 2
- Persistent at follow-up = LR 4B

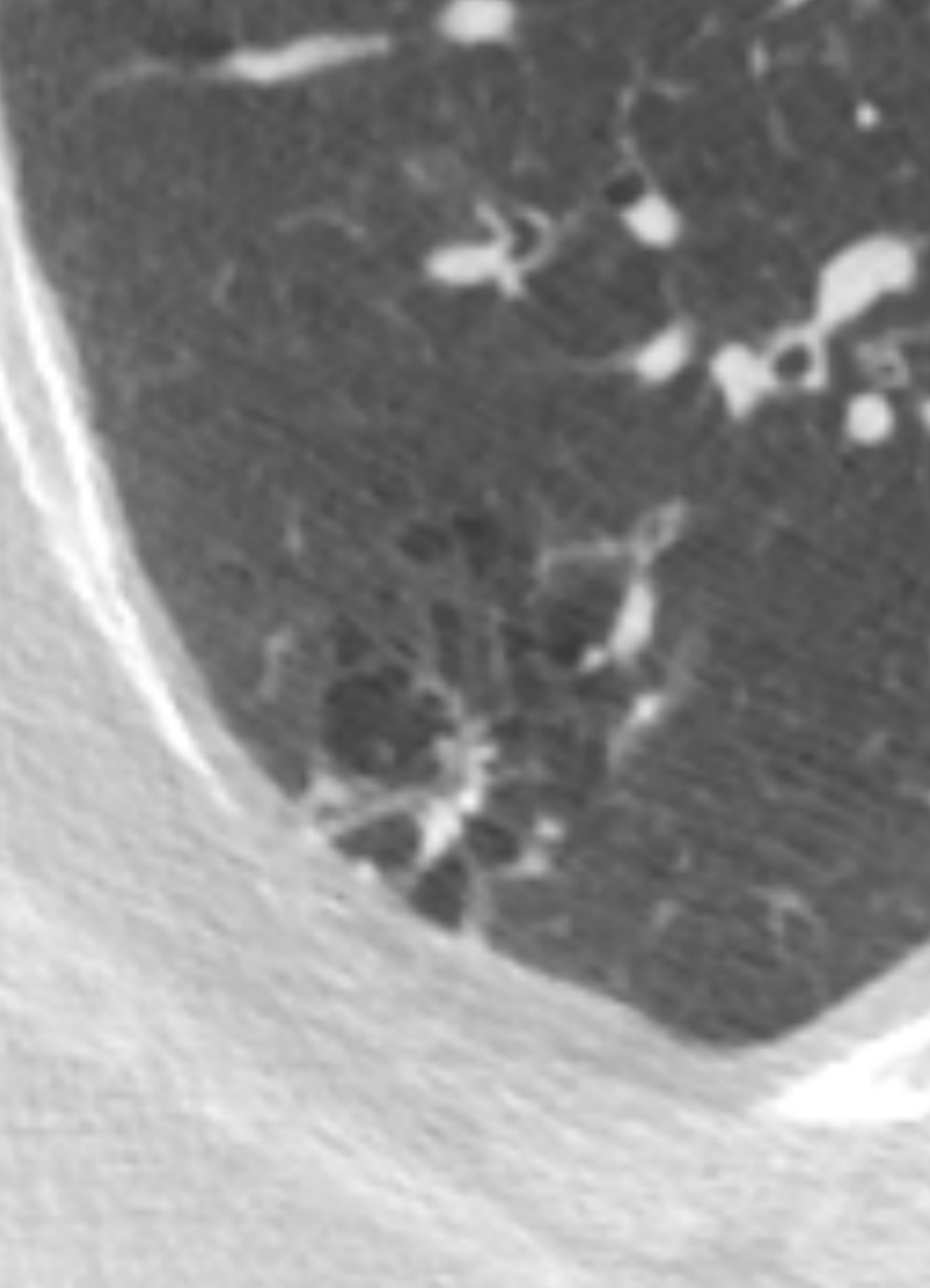
CLINICAL HISTORY

5

- 54-year-old woman
- Baseline LCS

How would you classify this nodule?

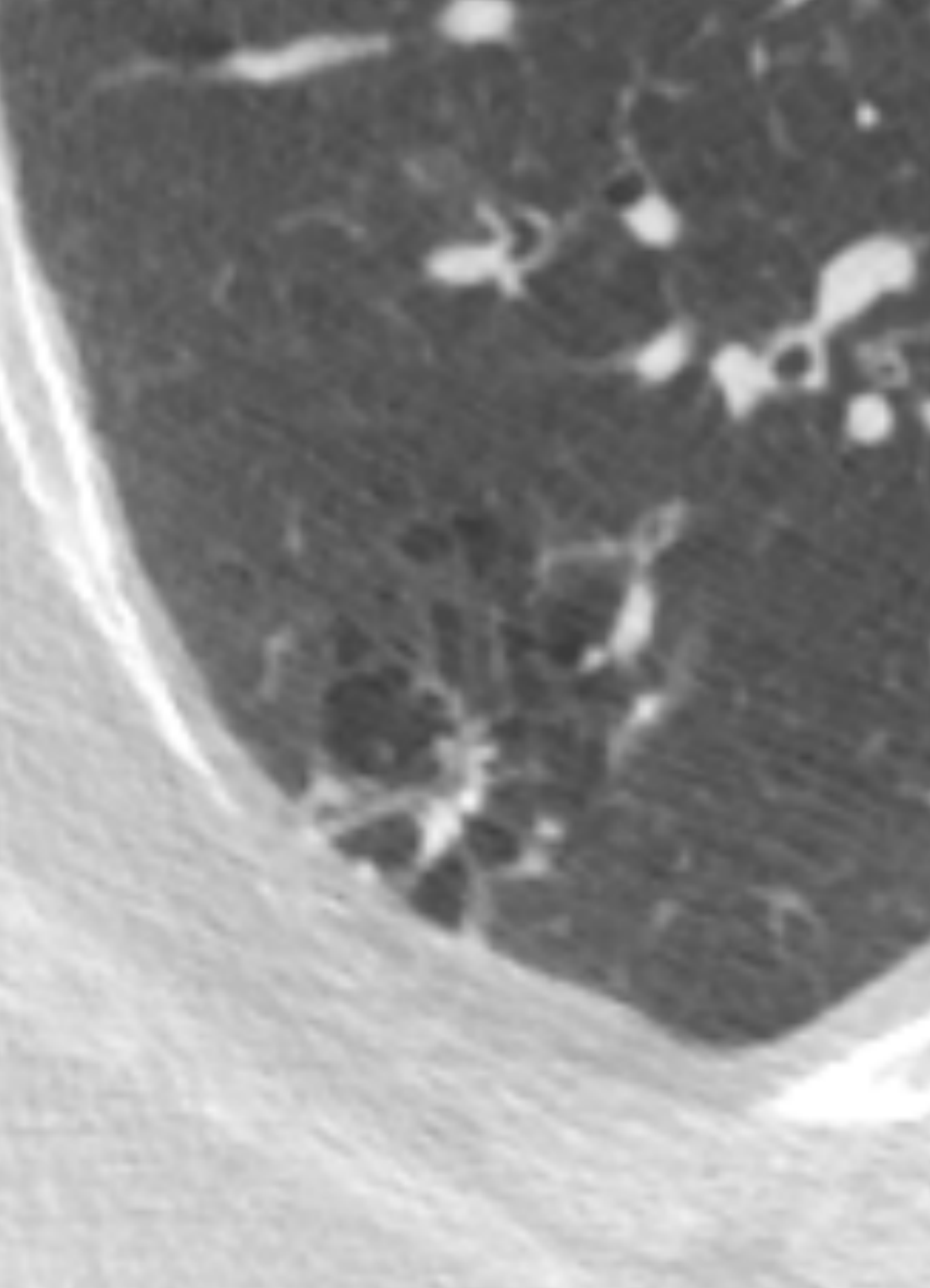




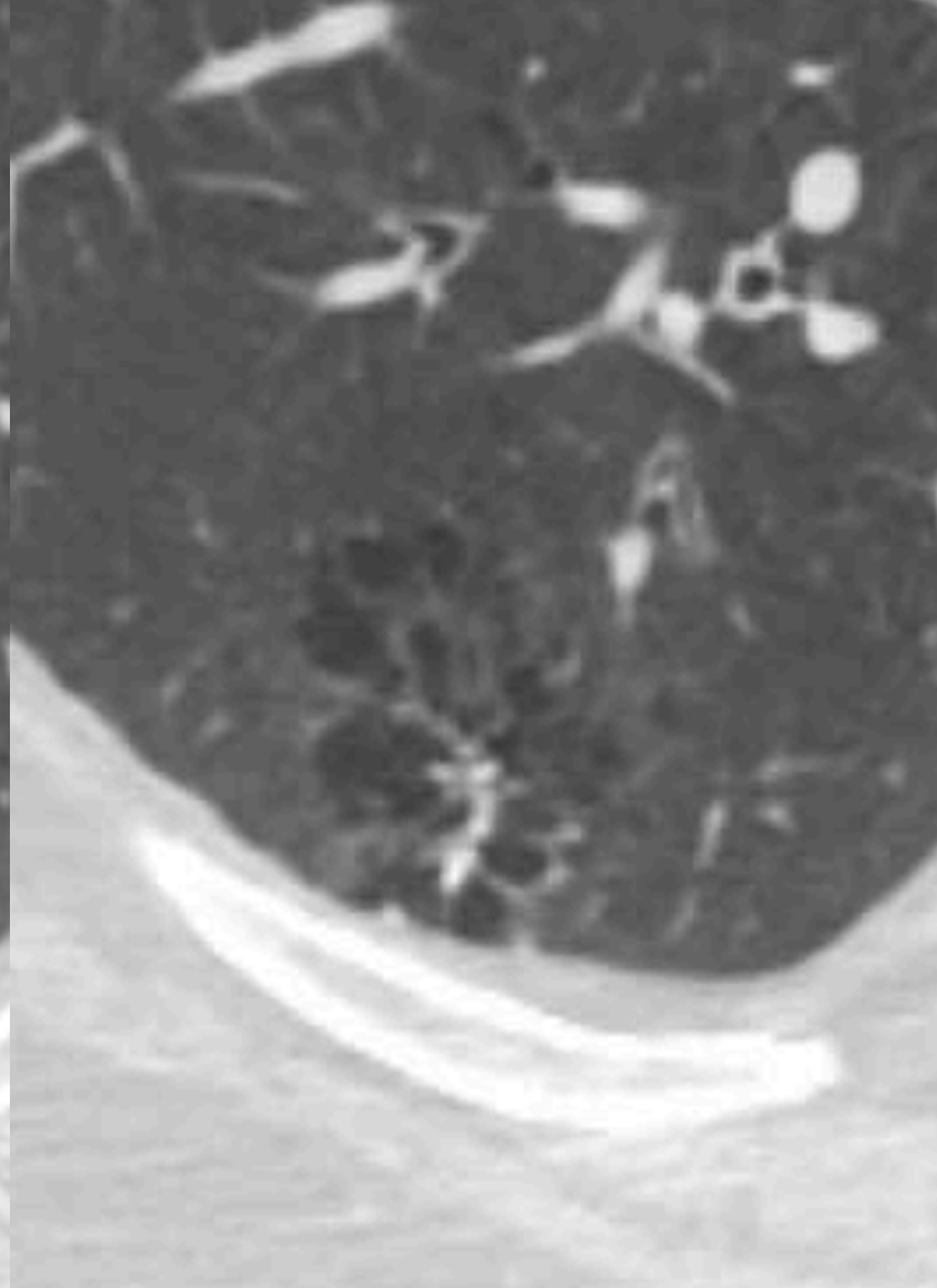
FINDINGS

- Multilocular cyst
- Solid component < 6 mm

BL **4A** 3-m

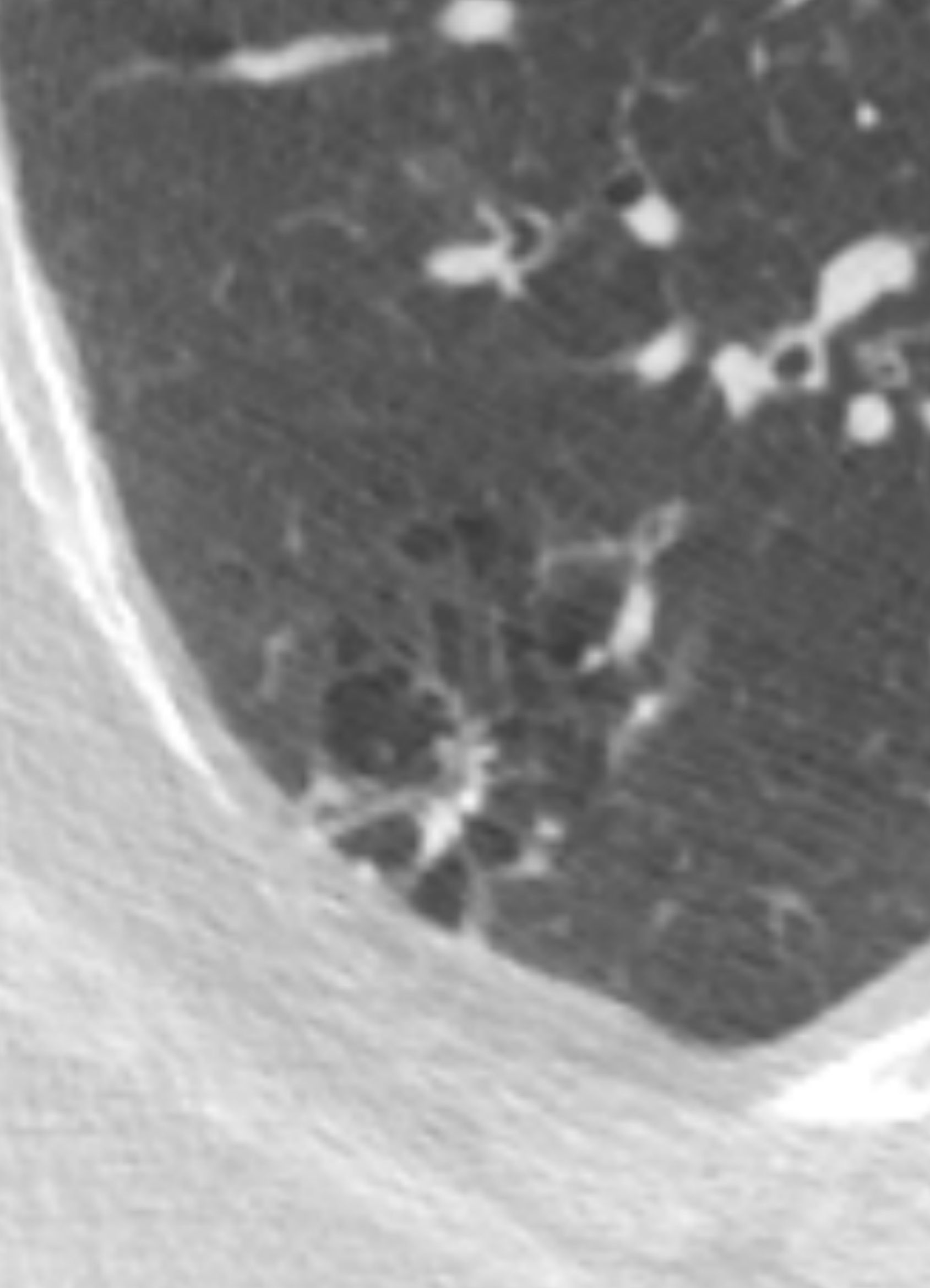


BL **4A** 3-m

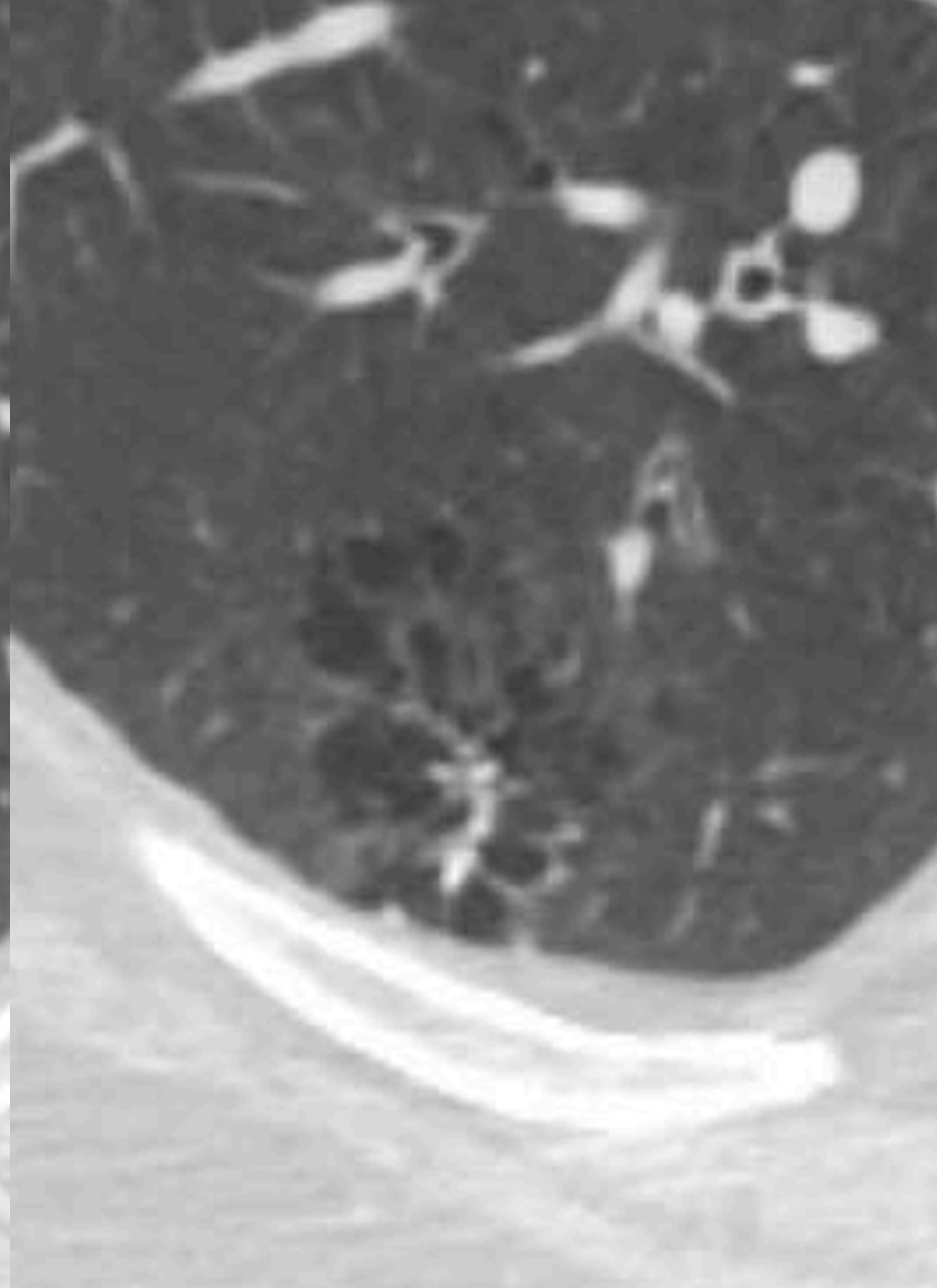


Stable **3** 6-m

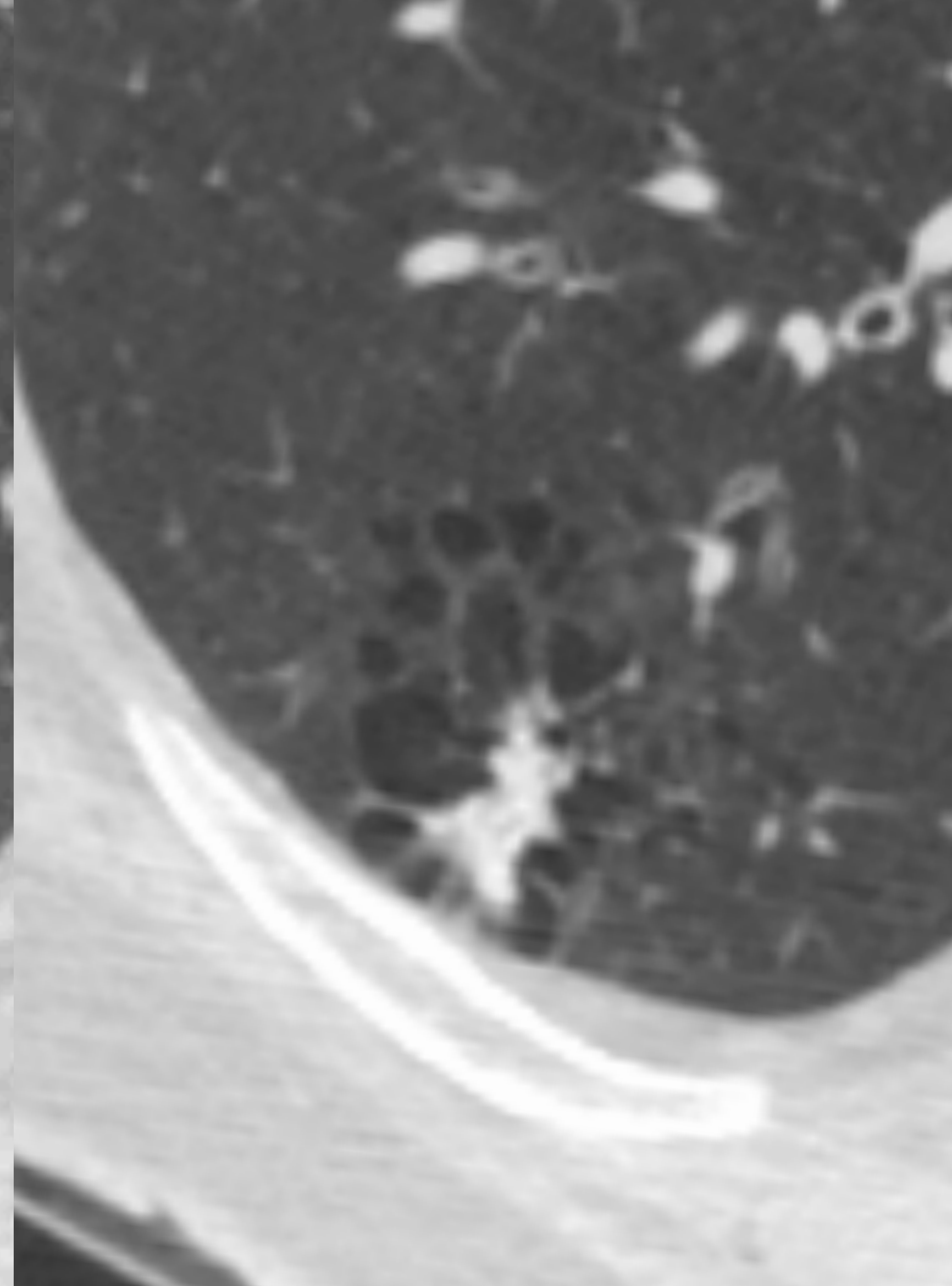
- Stable at 3 months
- Downgrade to next lowest Lung-RADS category
- Follow-up from date of current exam



BL **4A** 3-m



Stable **3** 6-m



4B Dx

TAKE HOMES

- Nodules that are stable or decreased at follow-up can be downgraded to the next lower Lung-RADS category:



CLINICAL HISTORY

6

- 70-year-old man
- Annual LCS
- Previously Lung-RADS 2
for stable nodules < 6 mm

How would you classify this nodule?





FINDINGS

- New lobular nodule
- If cancer, is very fast growing
- Could be infectious or inflammatory

- 
- By size and composition

Lung-
RADS **4B**

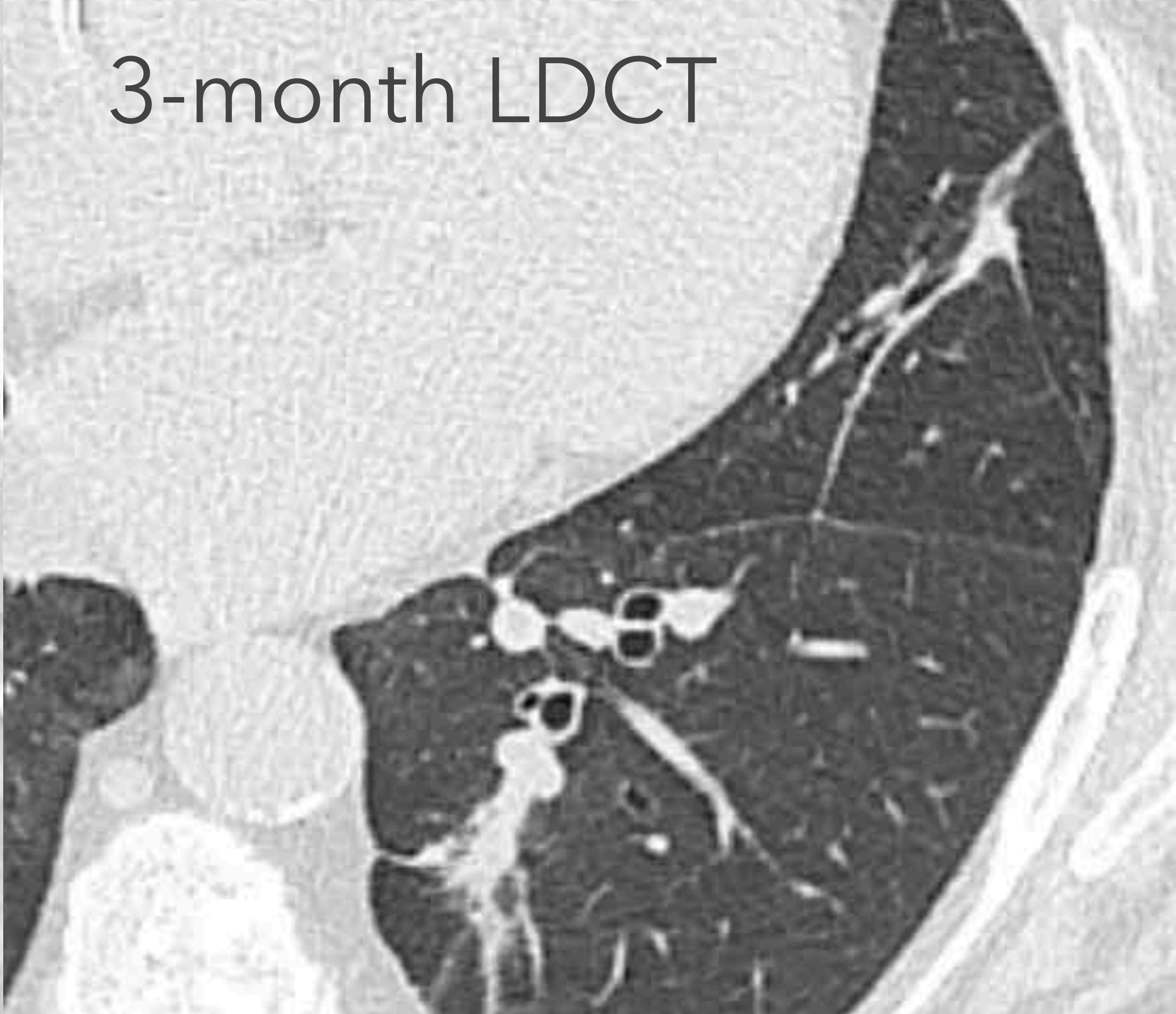
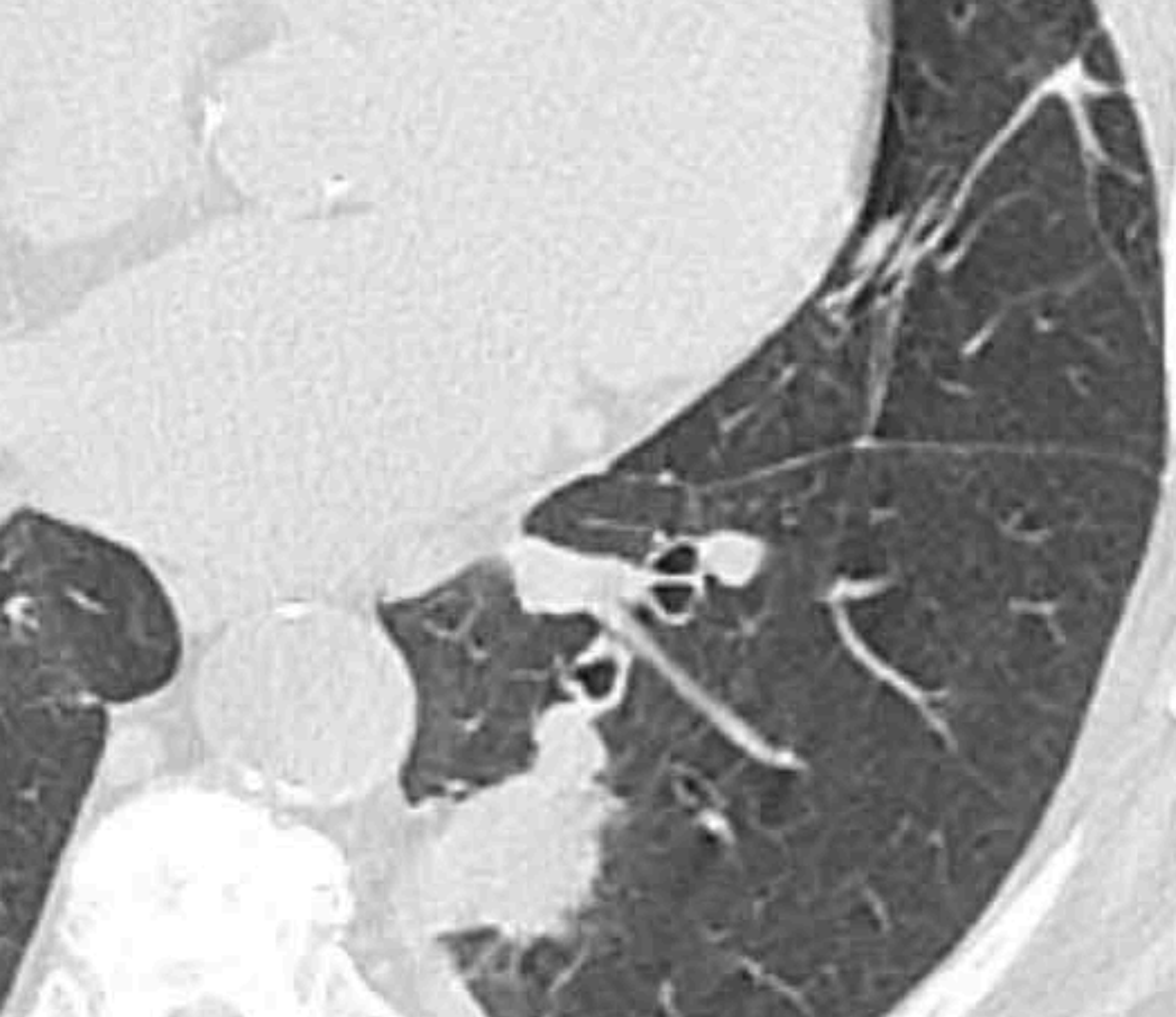
Diagnostic eval

- 
- Infectious or inflammatory

Lung-
RADS **0**

1-3 month LDCT

At follow-up, reclassify based on the most suspicious finding



3-month LDCT

Lung-
RADS **0**

1-3 month
LDCT

Lung-
RADS **2**

12-month
LCS CT

TAKE HOME

- Inflammatory or infectious nodules can be managed in several ways:
 - LR 0
 - LR 2
 - by size & composition criteria

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Case Review

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*Thank
You!*