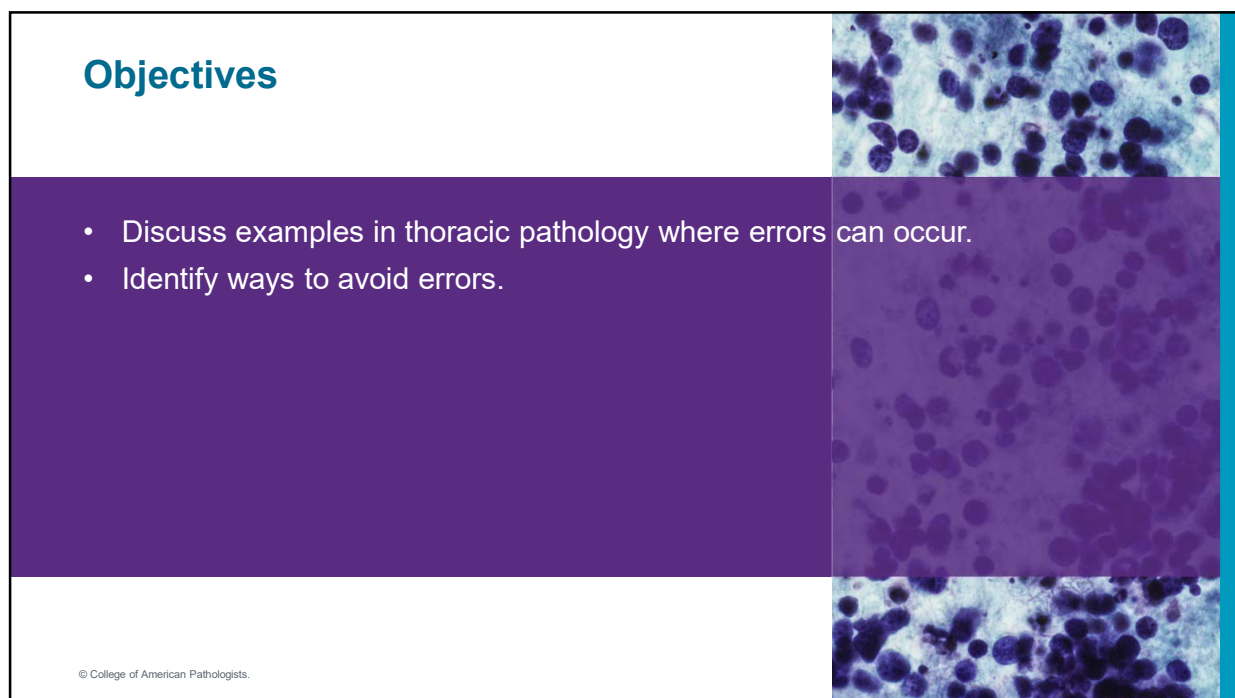


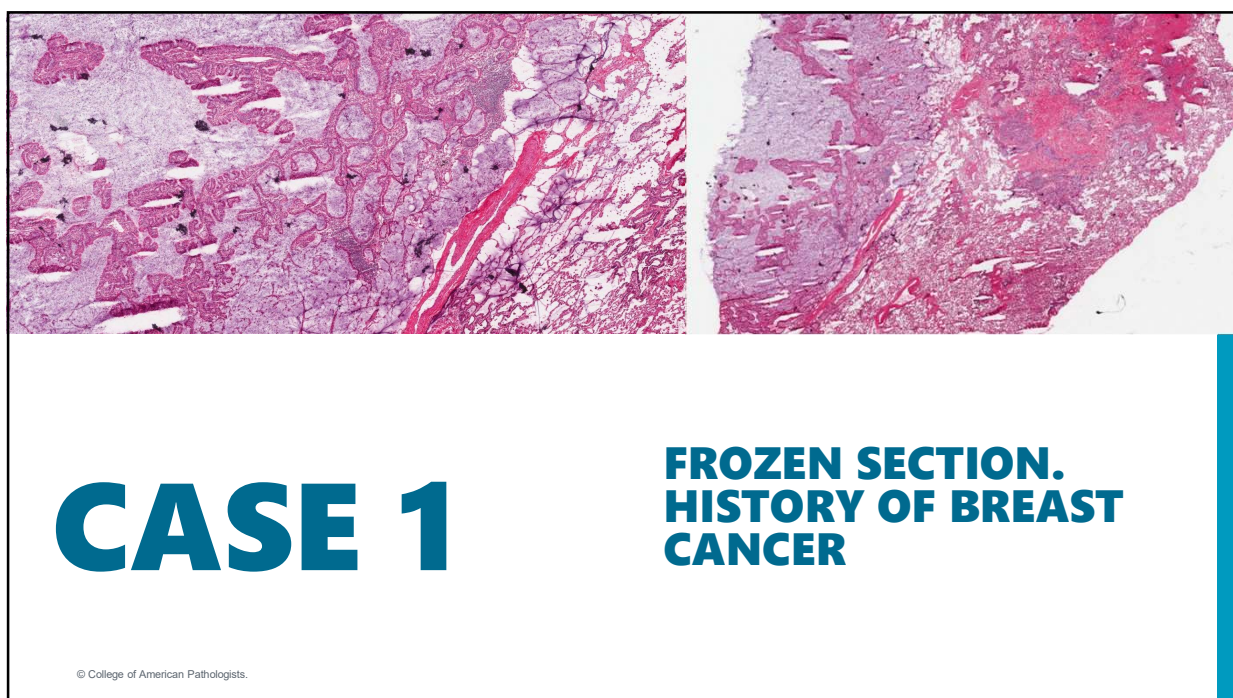
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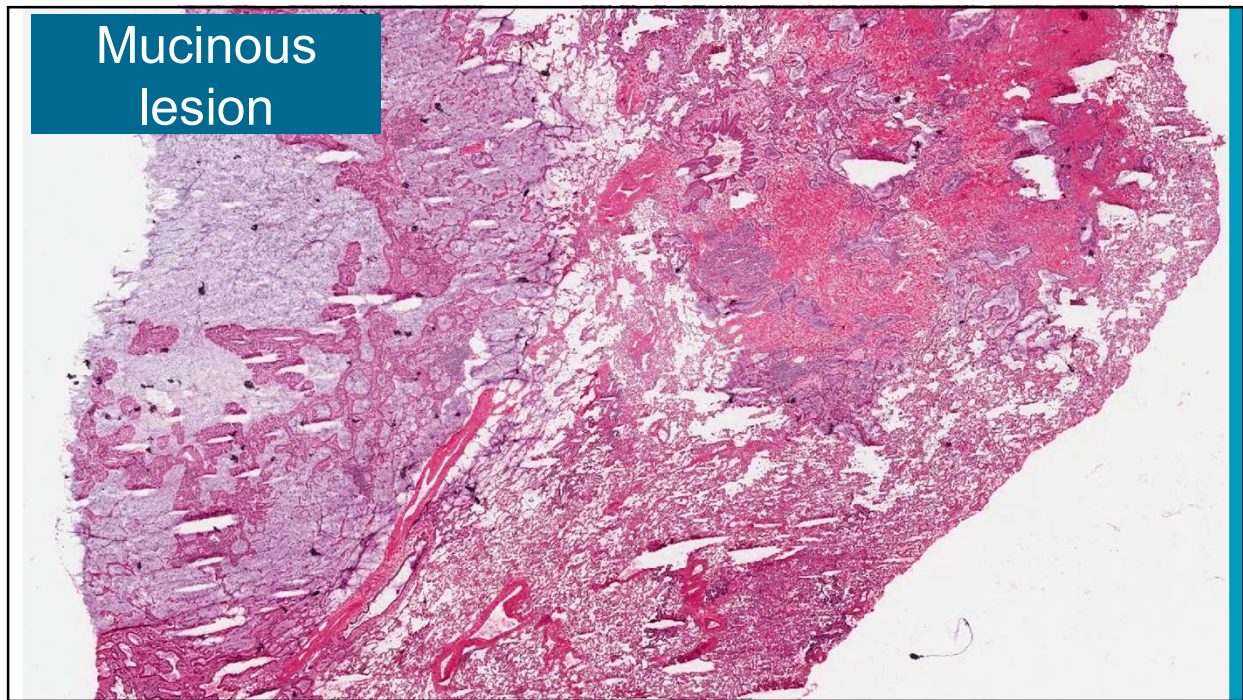
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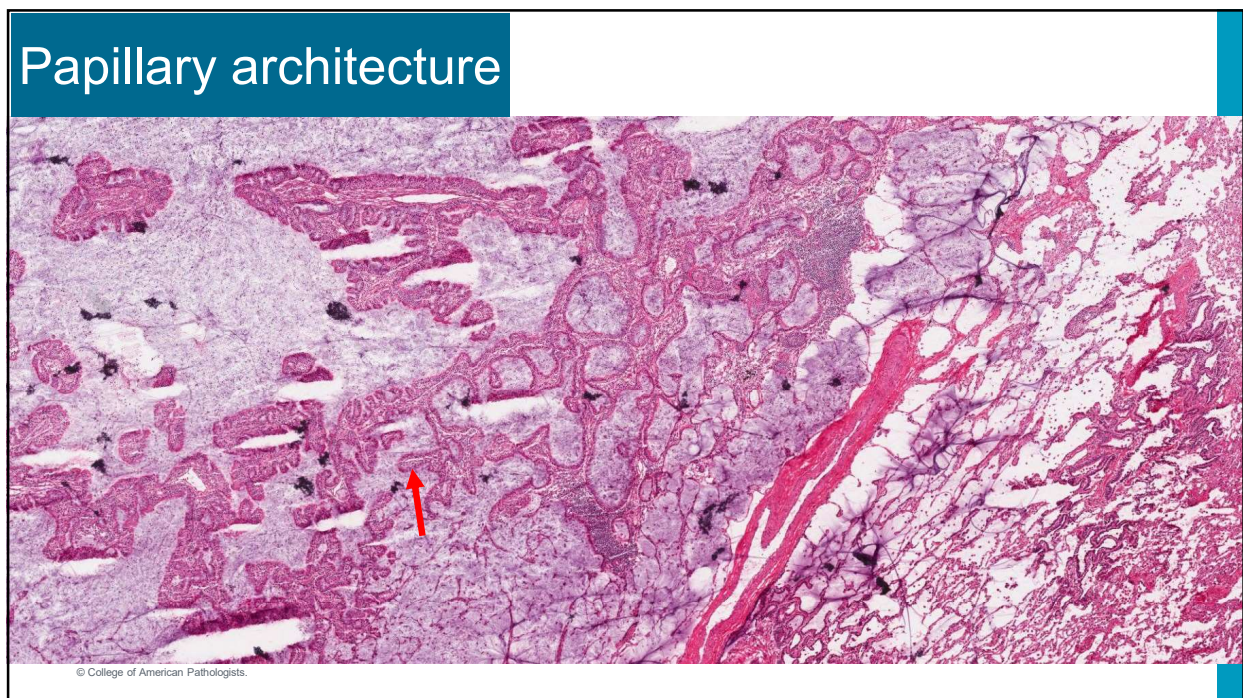
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4

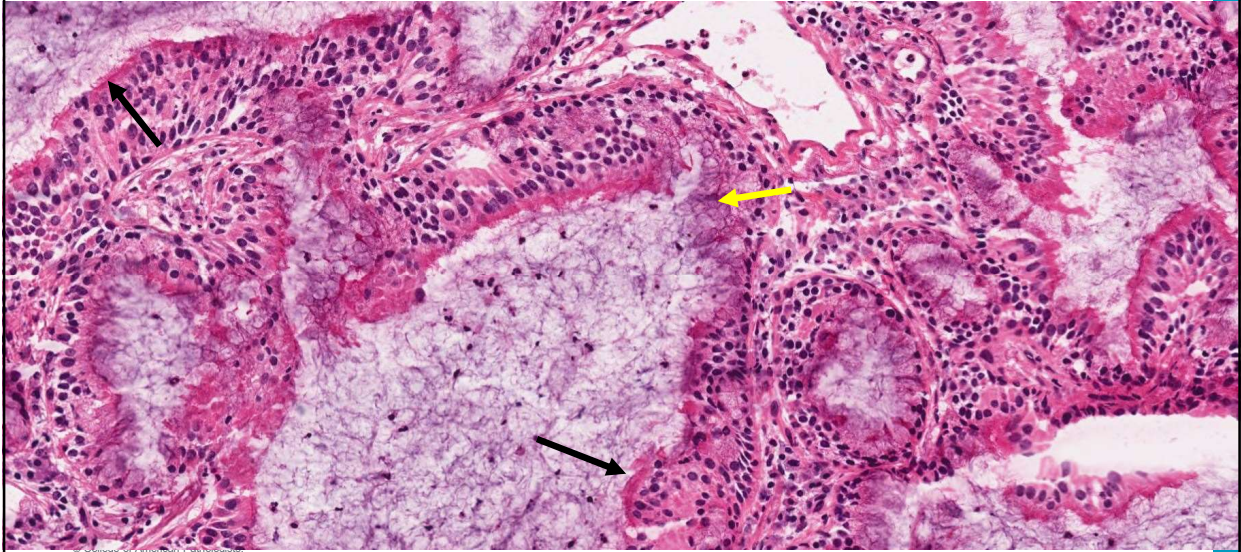


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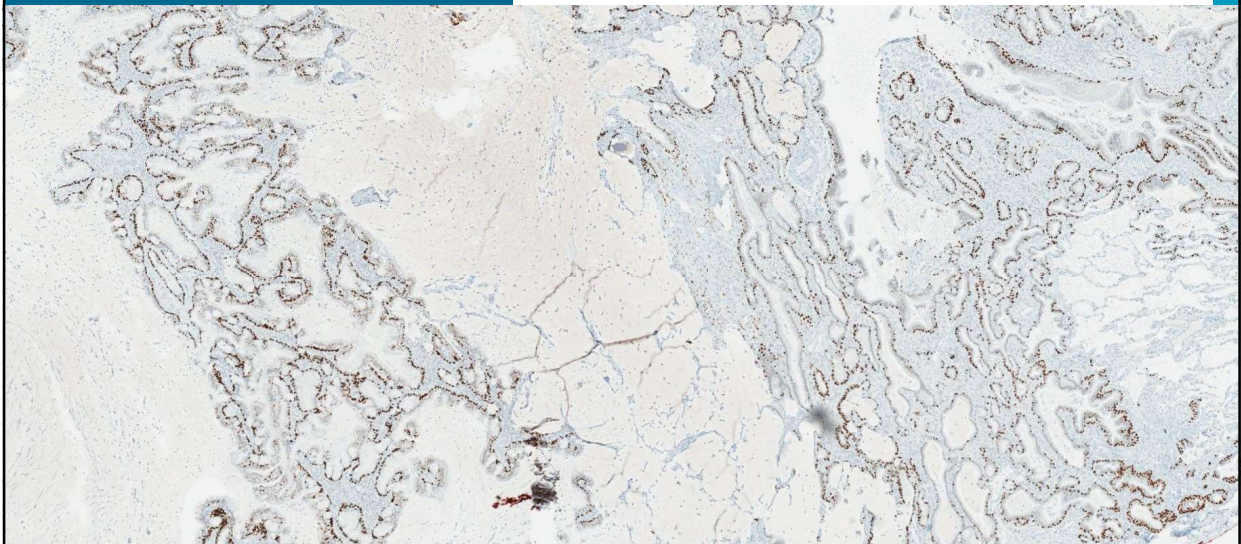
6

Cilia, mucinous cells, bilayered epithelium



7

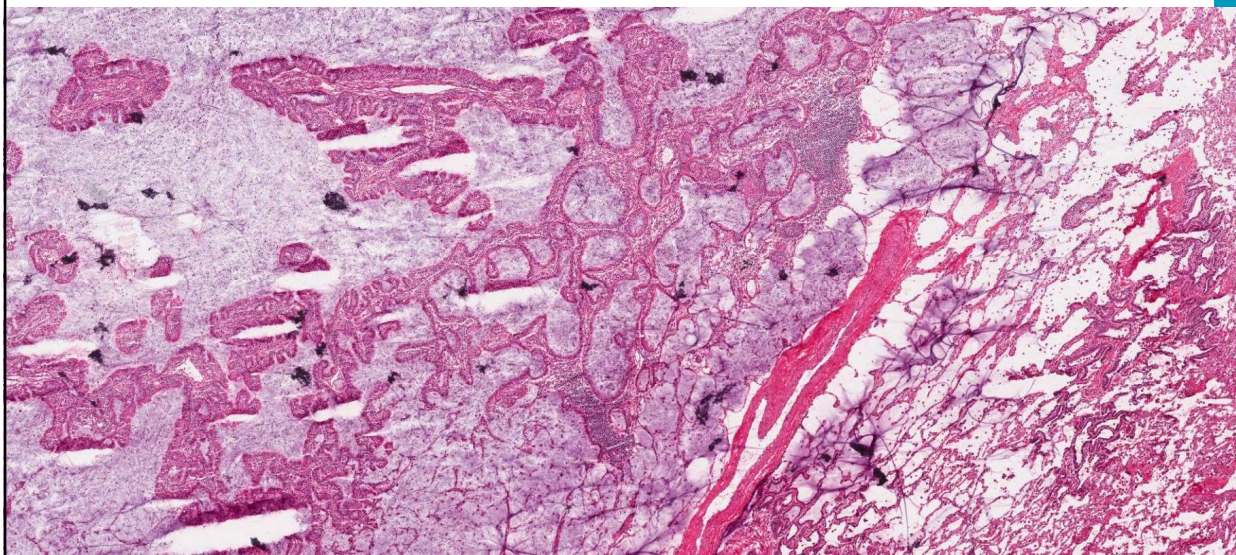
p63: basal cell layer



Ciliated muconodular papillary tumor

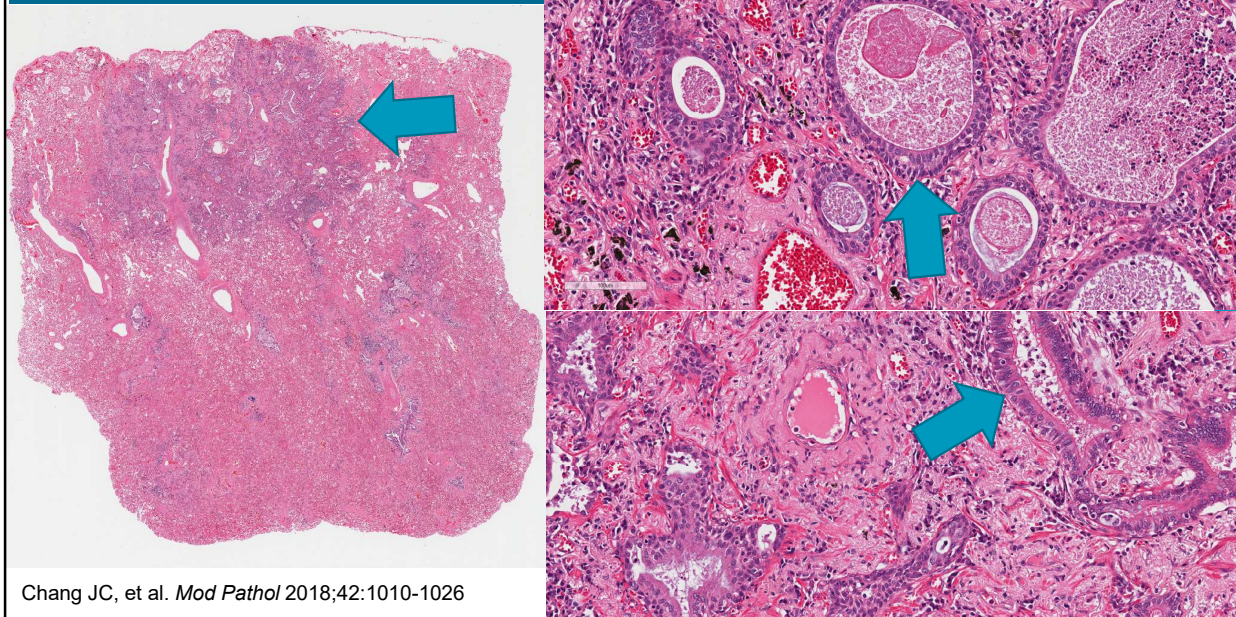
8

Beware of mucinous lung lesions on frozen section



9

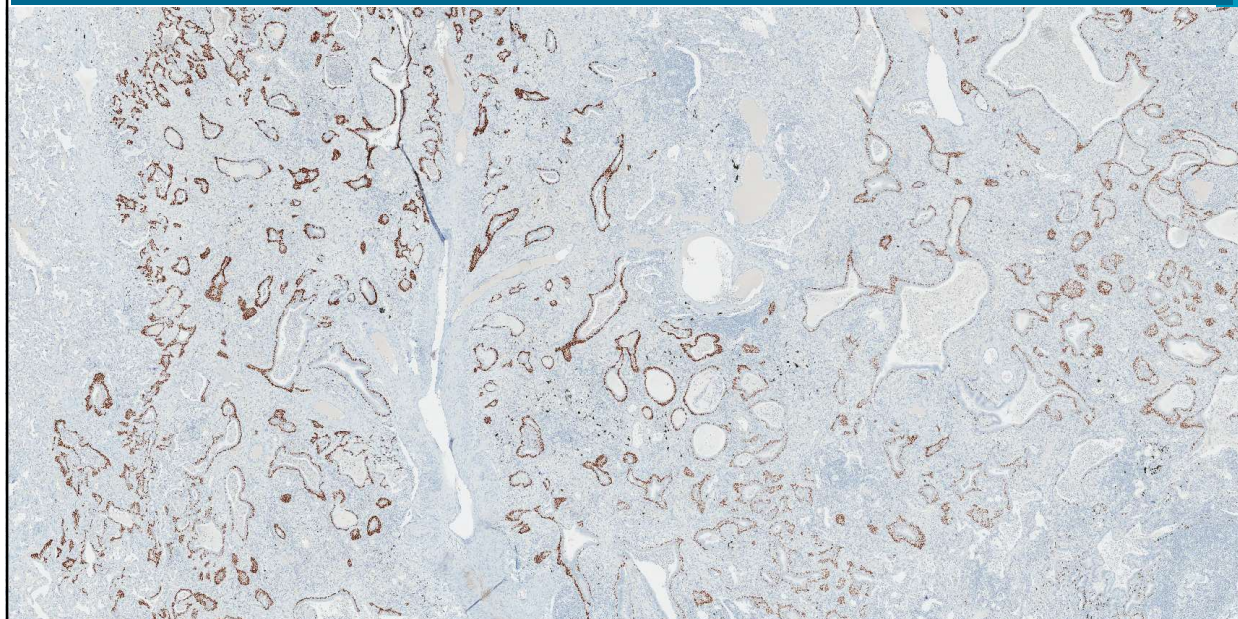
Bronchiolar adenoma



Chang JC, et al. *Mod Pathol* 2018;42:1010-1026

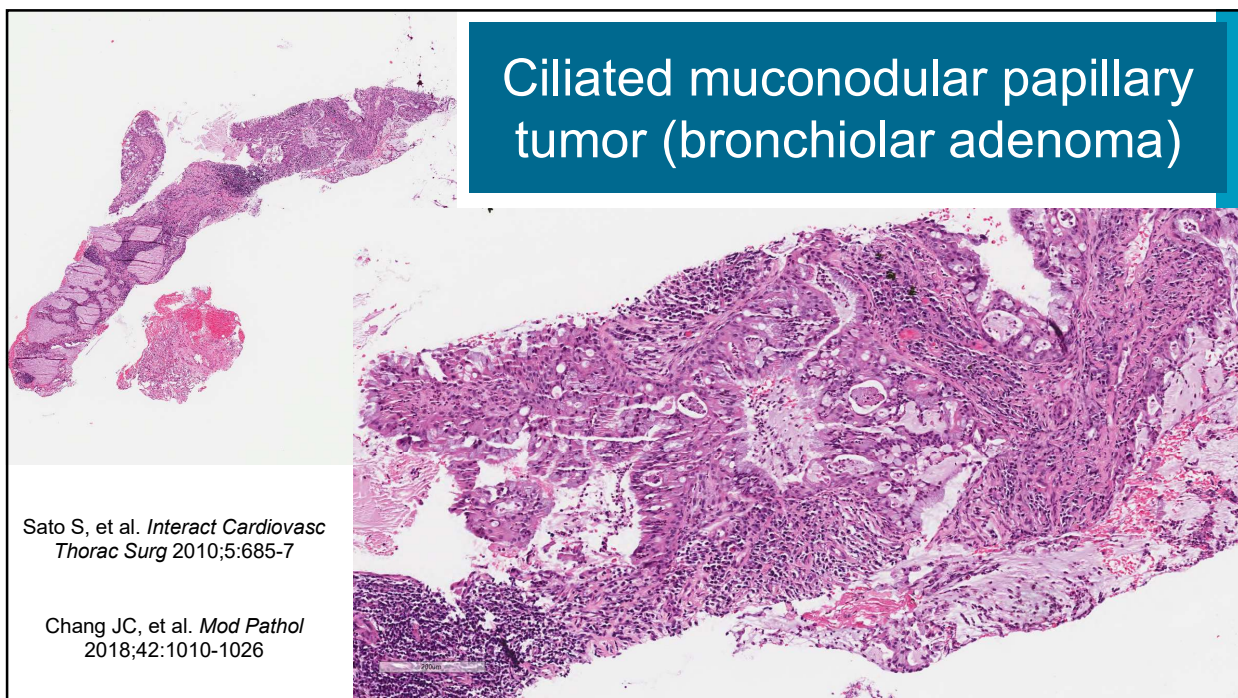
10

Bronchiolar adenoma: p40 highlights basal cell layer

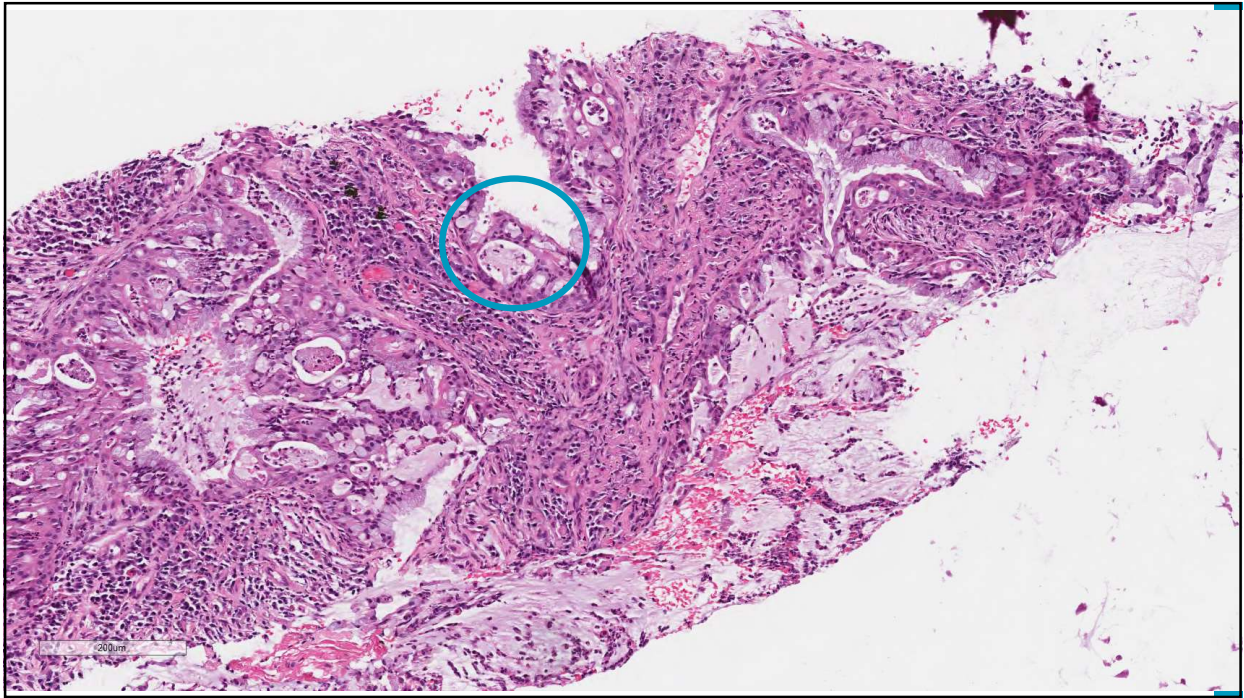


11

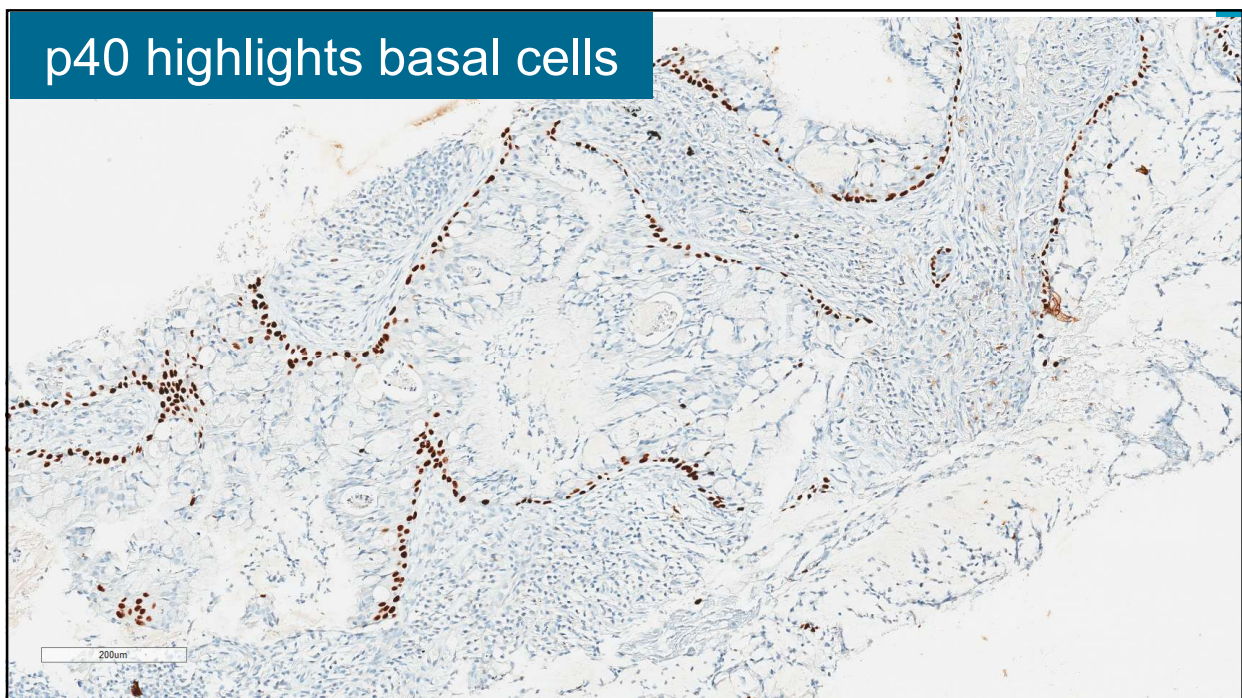
Ciliated muconodular papillary tumor (bronchiolar adenoma)



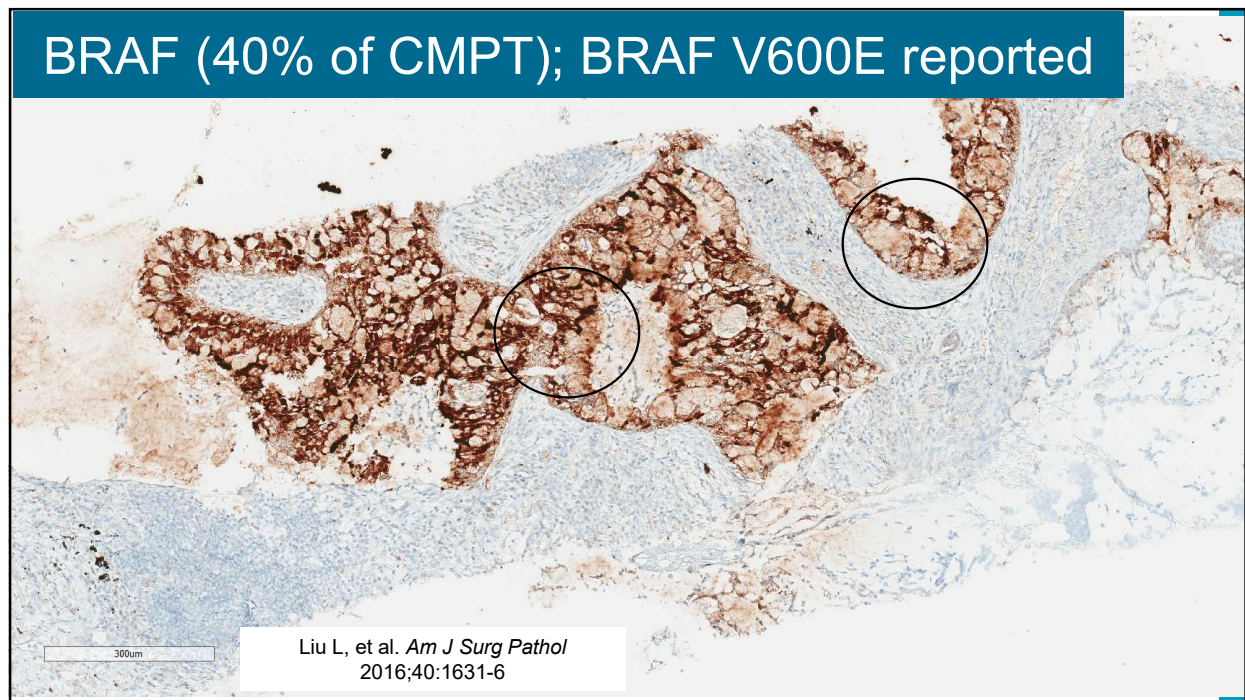
12



13



14



15

FOLLOW-UP

- **Patient had a lobectomy for presumed lung cancer**

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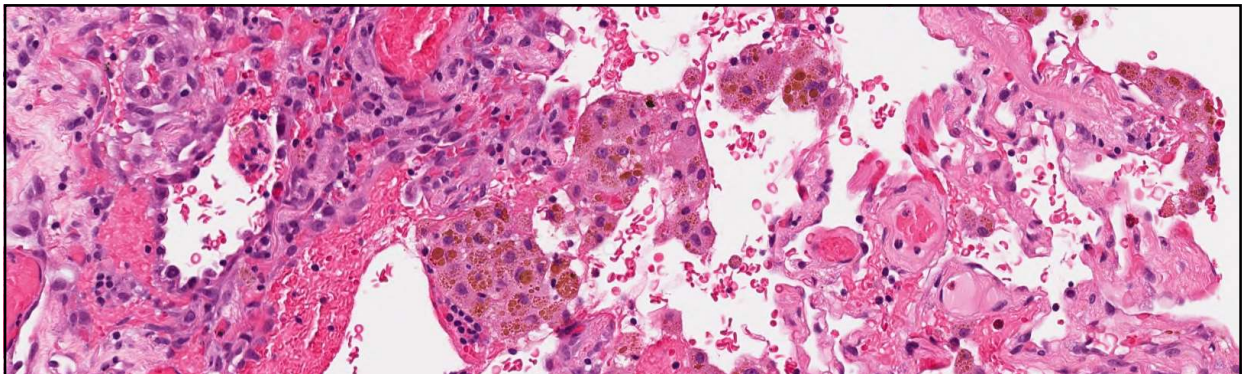
16

WHAT DID I LEARN?

- **Look carefully for cilia in bland mucinous lung lesions!**

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17



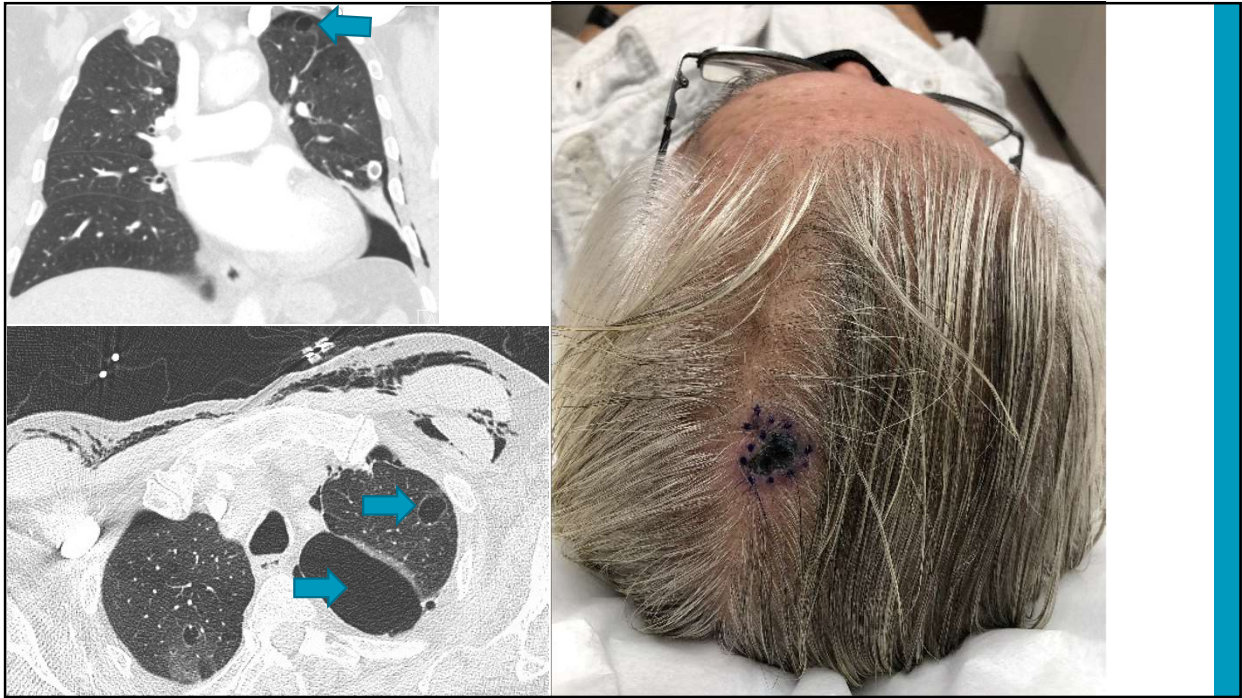
CASE 2

**84/M WITH RECURRENT
PNEUMOTHORAX**

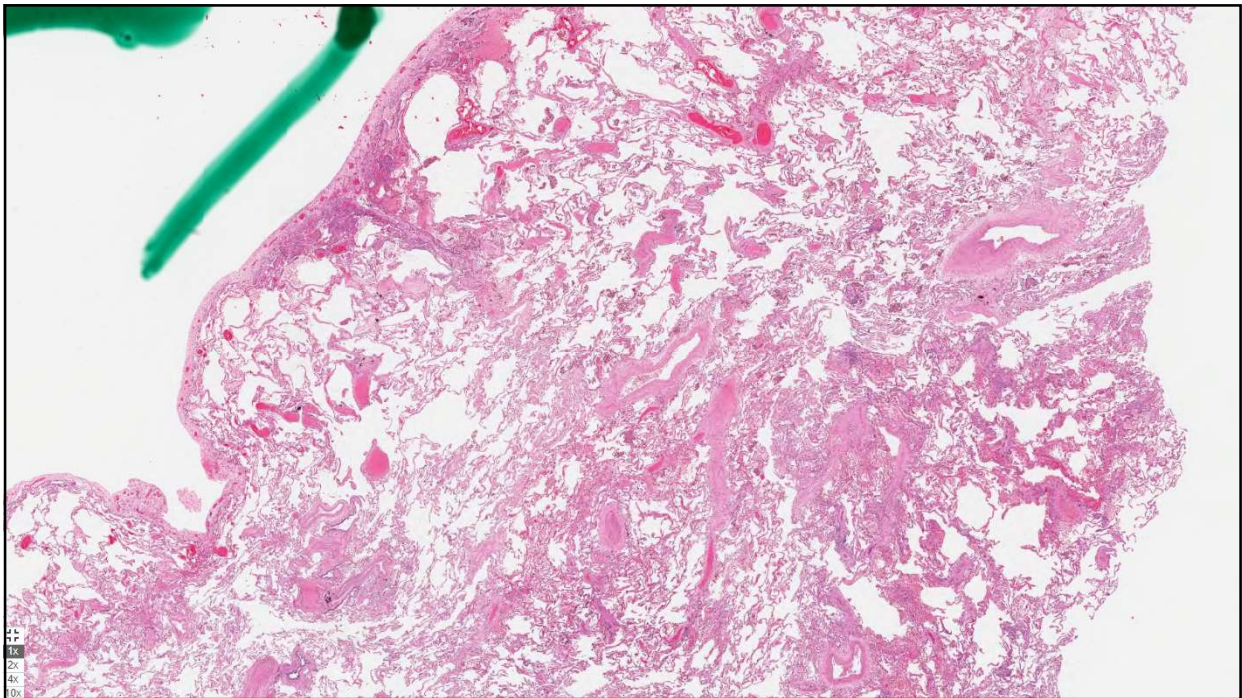
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Mistakes in Thoracic Pathology and What I Learned from Them,
Dr. Sanjay Mukhopadhyay, MD, FCAP, June 11, 2025



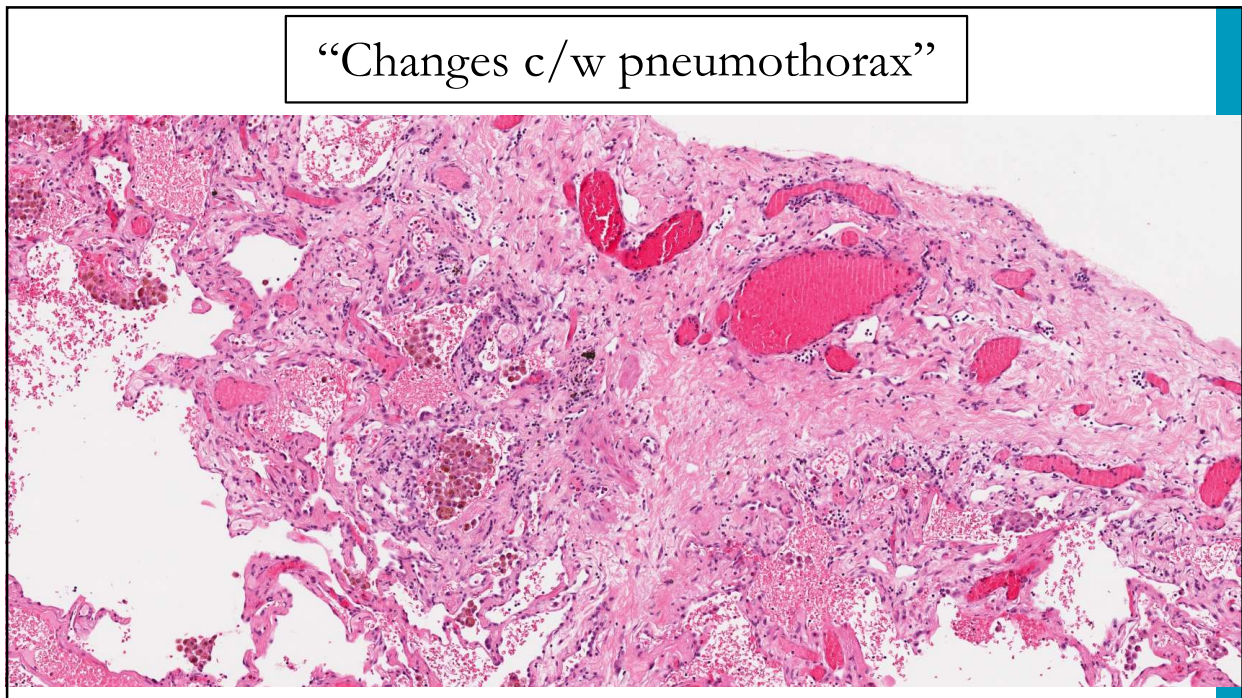
19



20



21



22

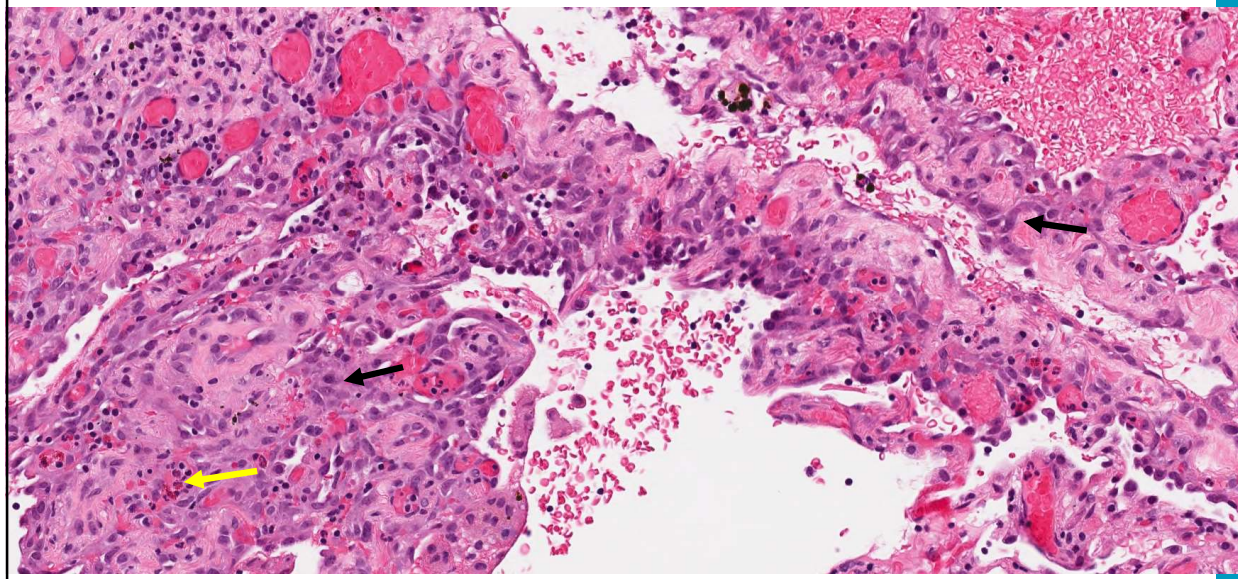
AFTER CASE IS SIGNED OUT

- Pulmonologist calls: “patient has cystic lesions”
- Surgeon calls: “lesions are growing”

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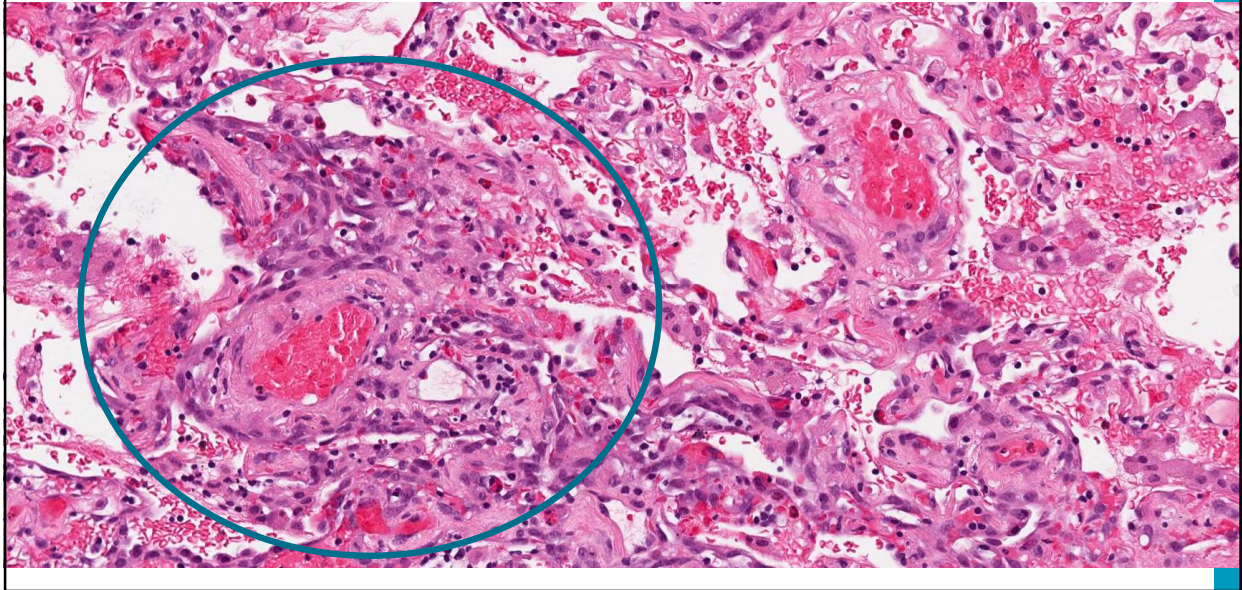
23

This can't be malignant?!



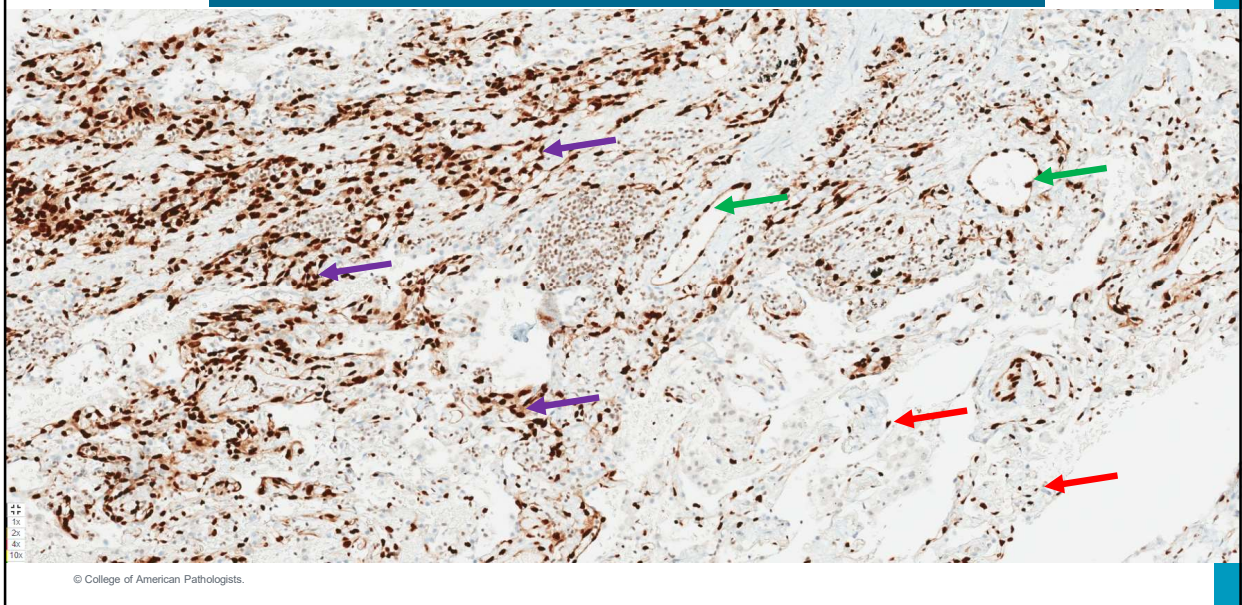
24

Could this be malignant?

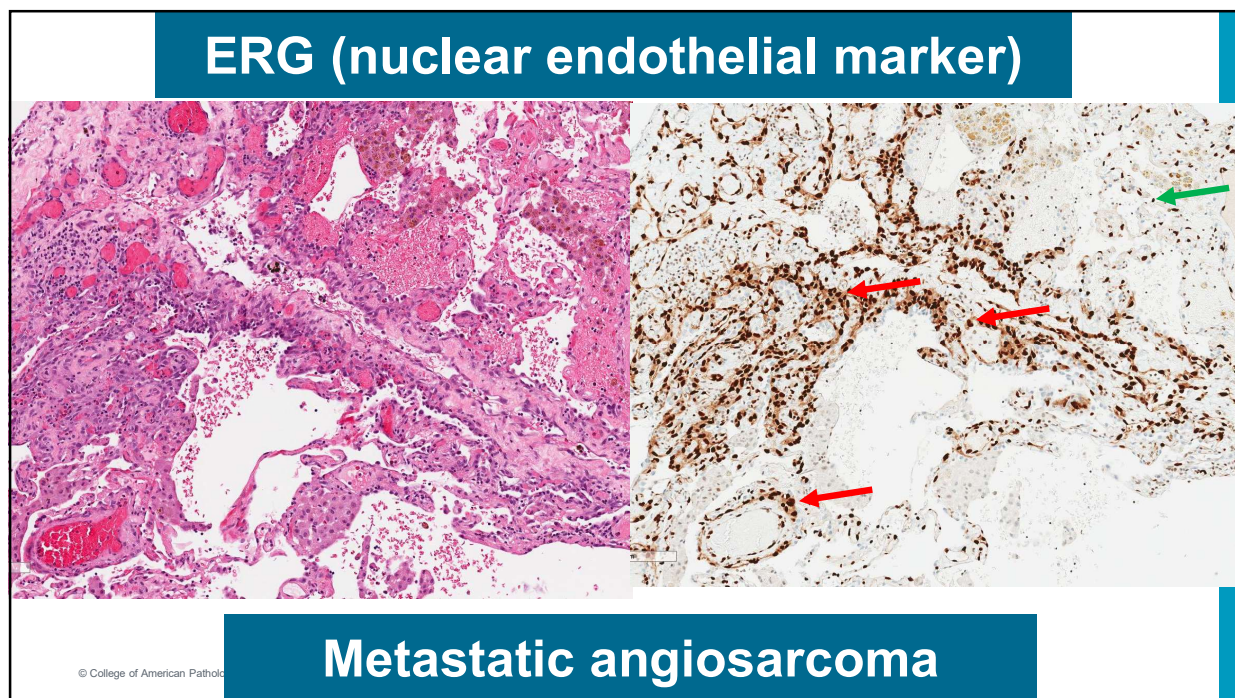


25

ERG (nuclear endothelial marker)



26



27

FOLLOW-UP

- **Pathologic diagnosis was amended to metastatic angiosarcoma**
- **Patient was briefly treated with palliative chemotherapy**
- **Eventually elected transition to hospice, where he died**

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WHAT DID I LEARN?

- **Angiosarcoma metastases to lung can be cystic**
- **Have a very high index of suspicion (i.e., very low threshold for IHC) in patients with ANY lung lesion and a history of angiosarcoma**
- **Pathologic findings can be very subtle (in retrospect, hemosiderin + atypical cells along interlobular septa were clues)**

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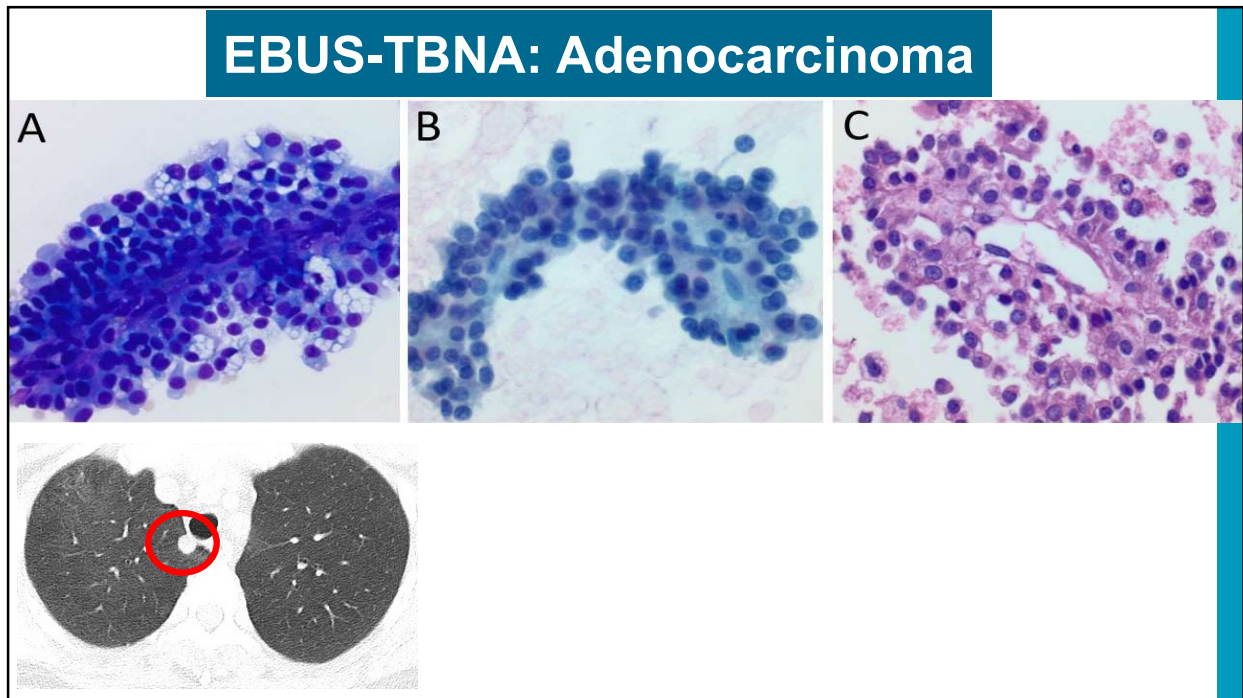
29

CASE 3

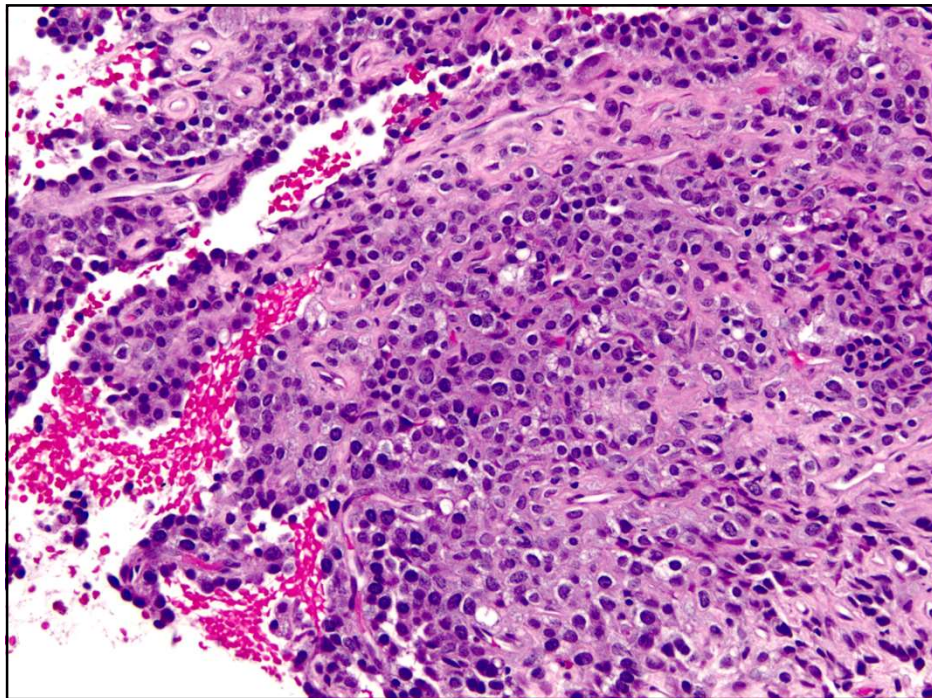
**54/F, ACTIVE SMOKER WITH LUNG
NODULE: EBUS-TBNA AND BIOPSY**

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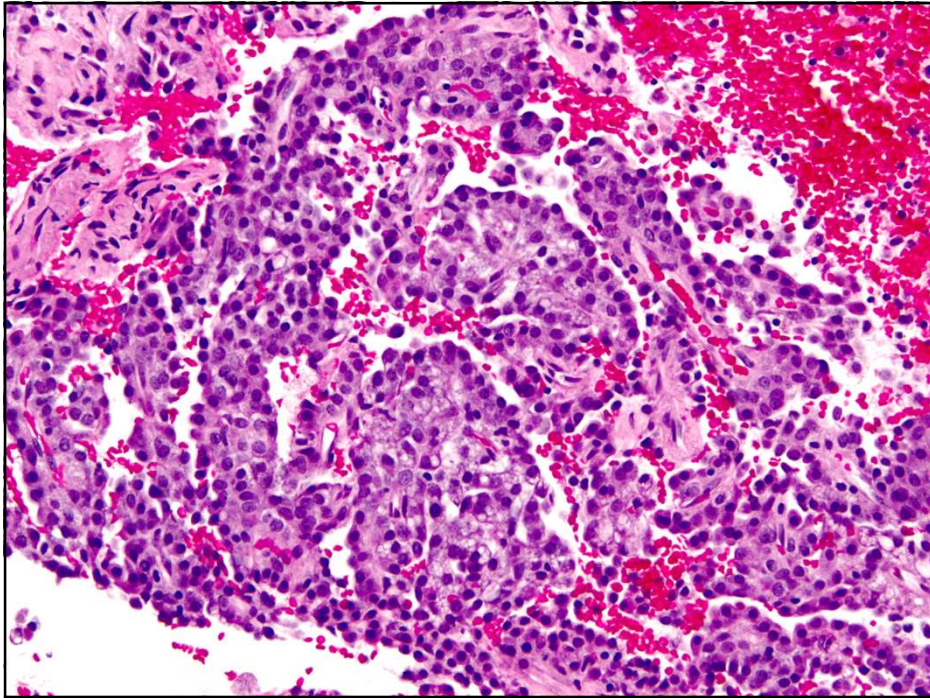
30



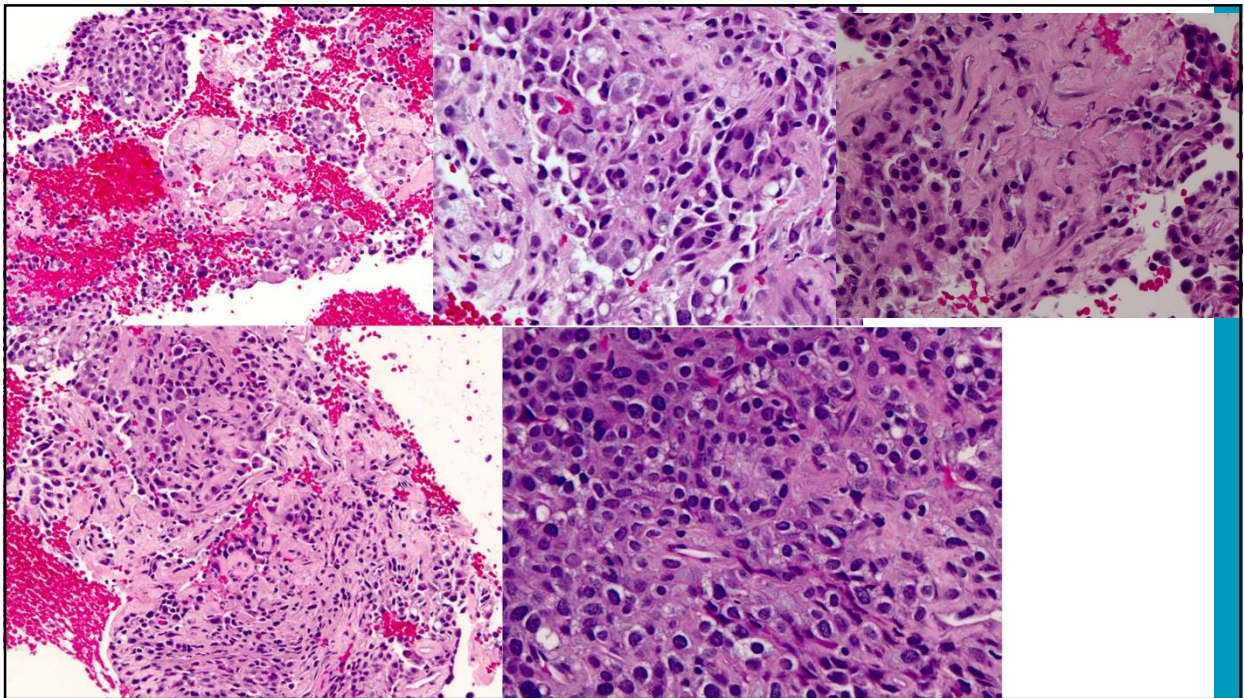
31



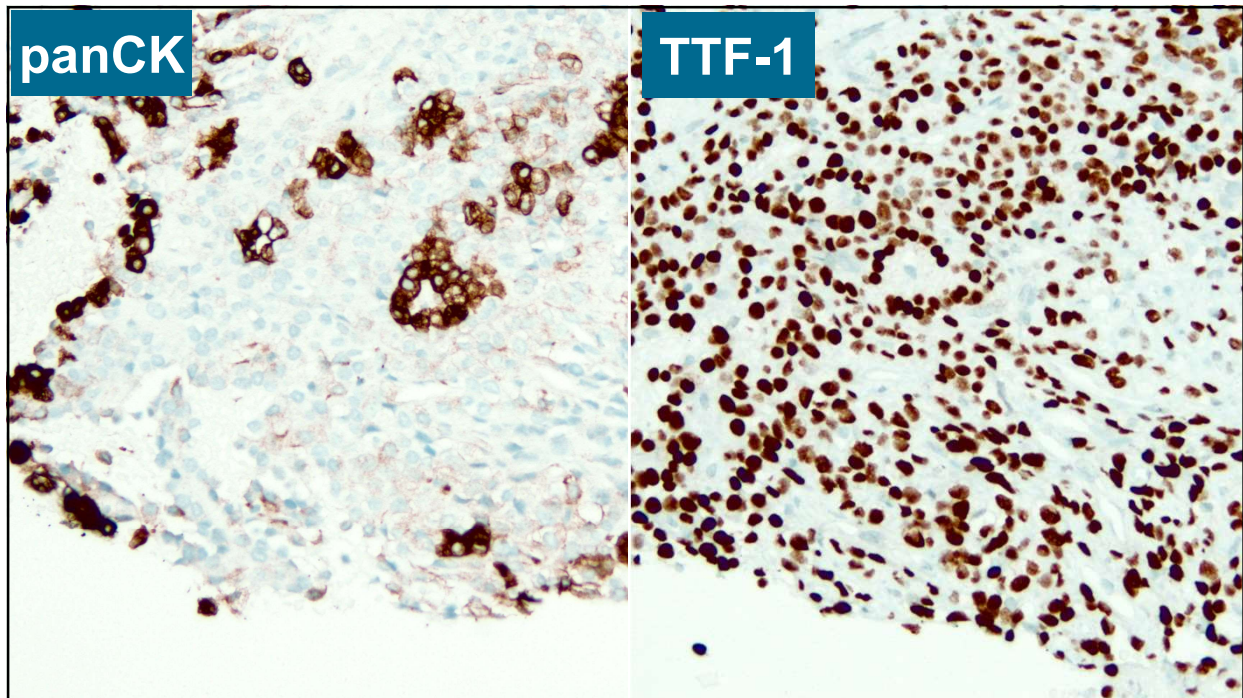
32



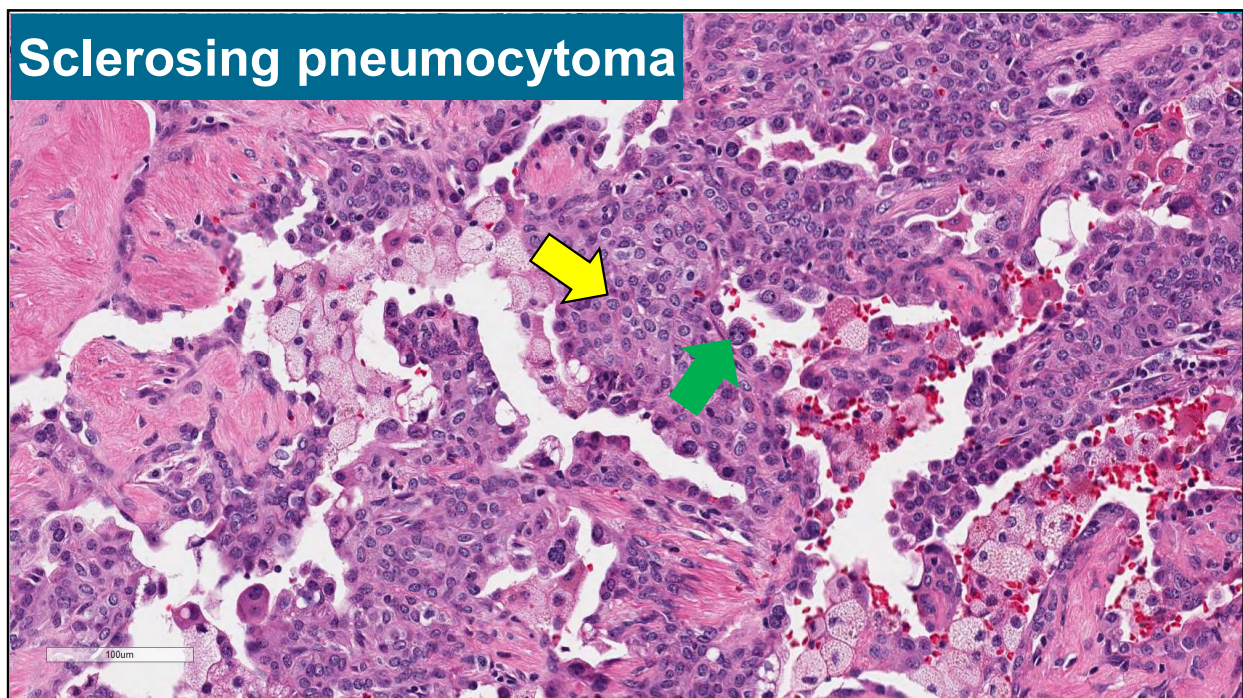
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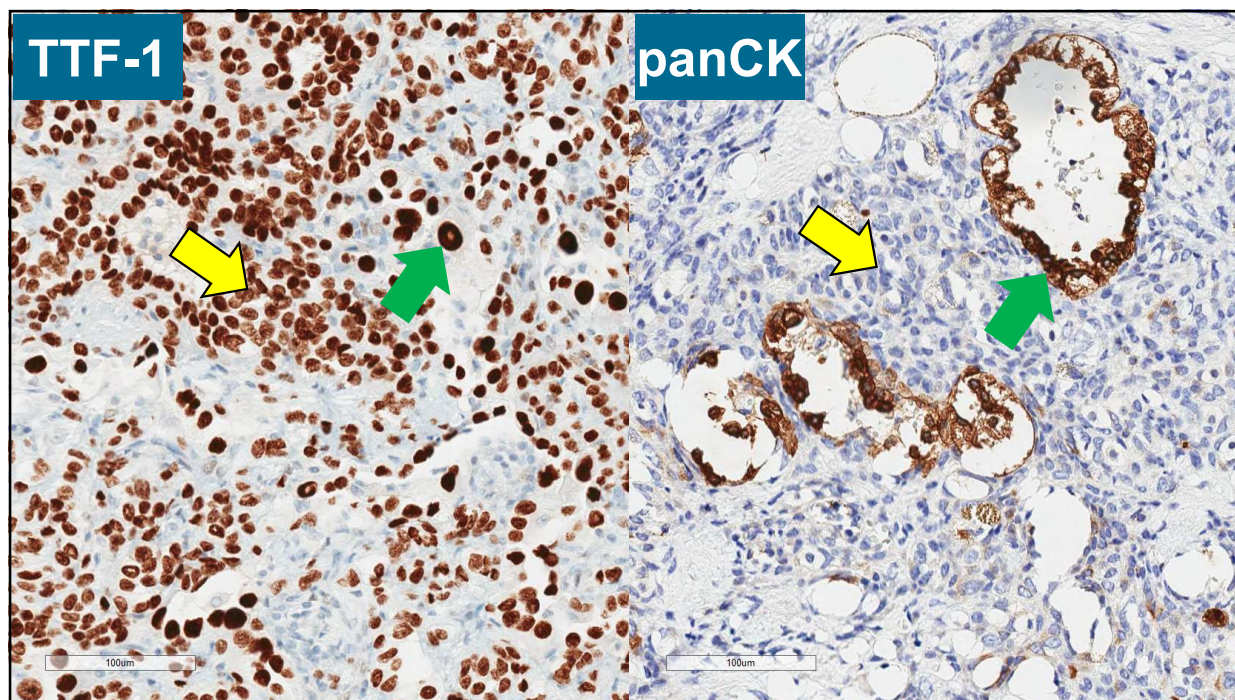
34



35



36



37

FOLLOW-UP

- Cytologic diagnosis was amended from adenocarcinoma to sclerosing pneumocytoma
- We discussed the case with the clinician, and lobectomy was averted (wedge resection showed sclerosing pneumocytoma)

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38

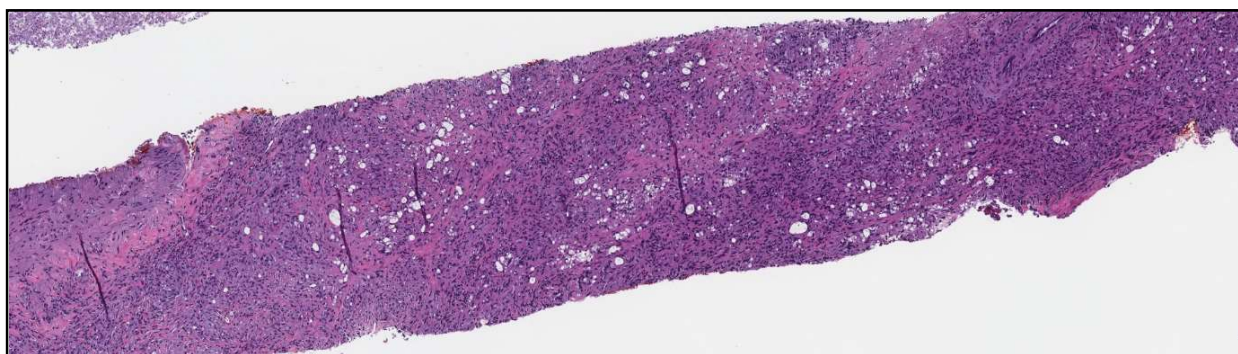
WHAT DID I LEARN?

- **Cytologic diagnosis of sclerosing pneumocytoma can be extremely challenging: close mimic of adenocarcinoma**
- **Clues: foamy macrophages, cuboidal cells, immunohistochemical profile**

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Maleki Z, et al. *Cancer Cytopathol* 2020;128(6):414-423

39



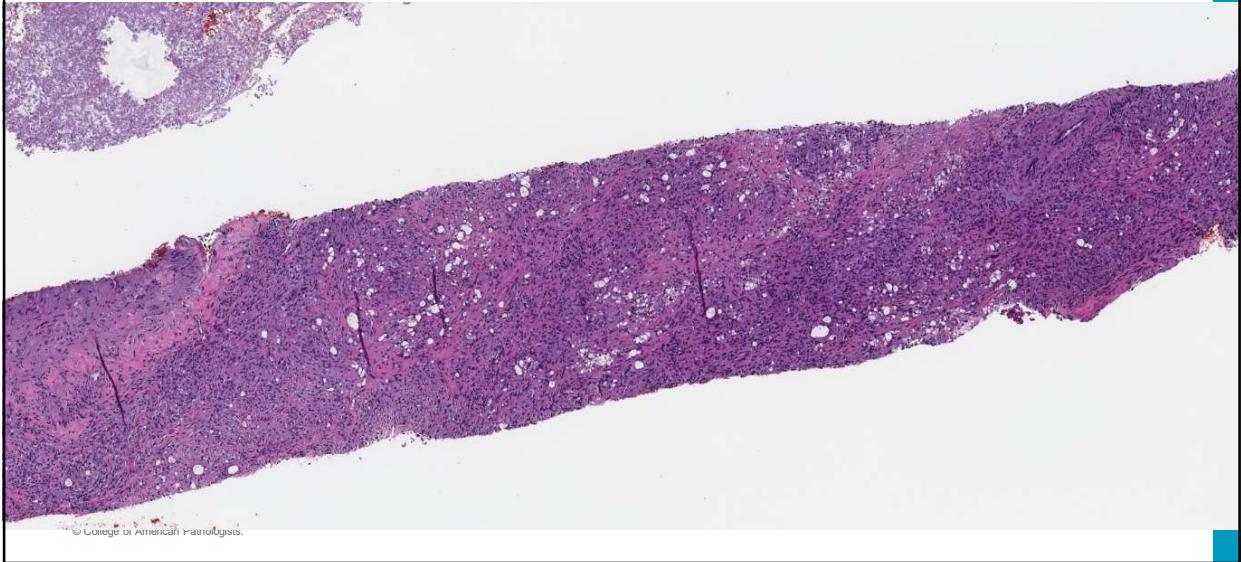
CASE 4

**72/M WITH RIGHT
LOWER LOBE LUNG MASS**

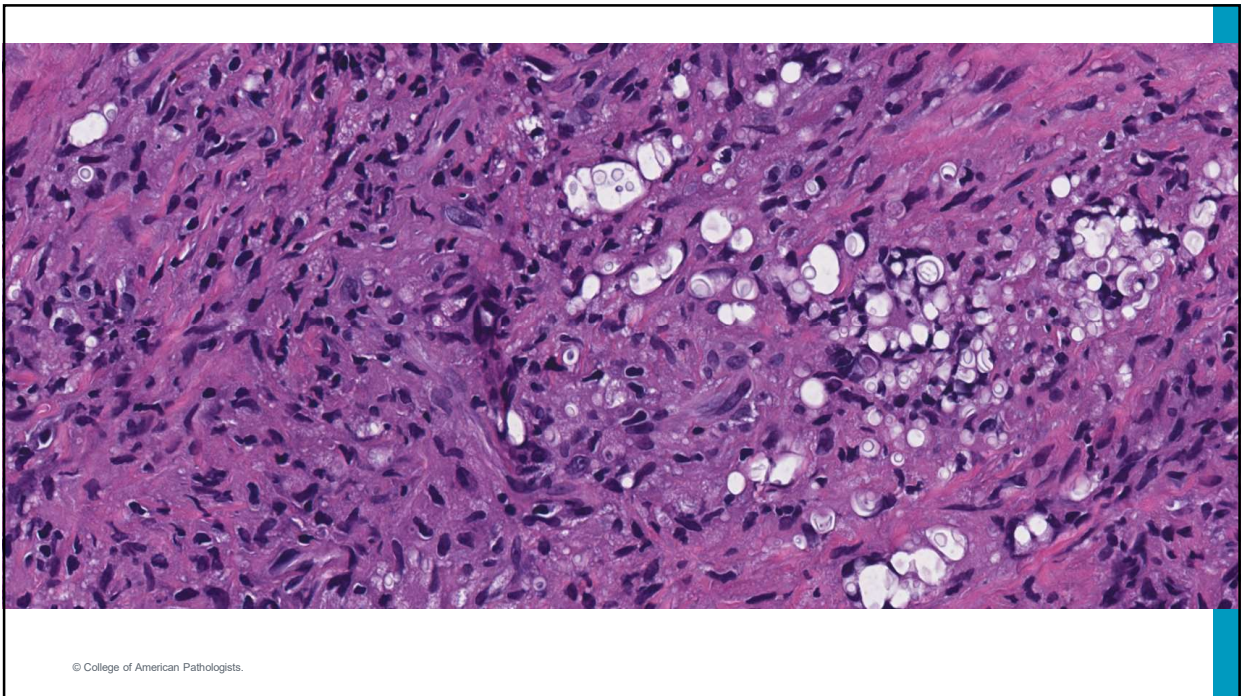
© College of American Pathologists.

40

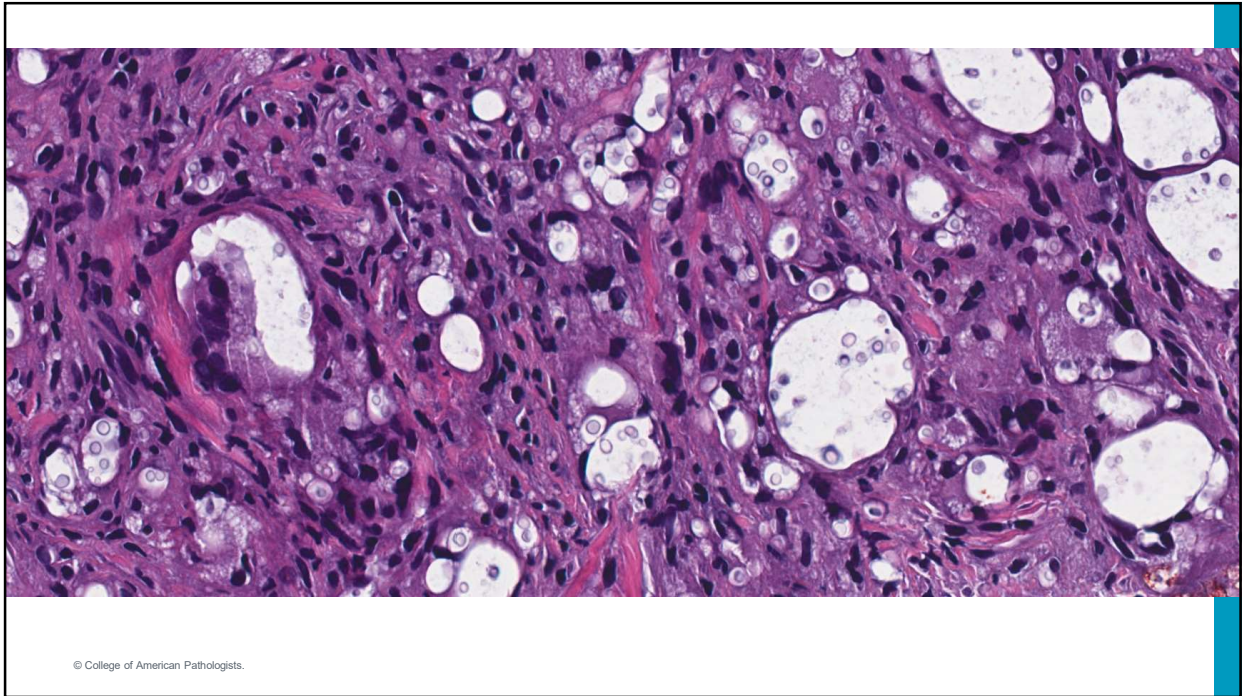
Outside diagnosis: “lipid pneumonia”



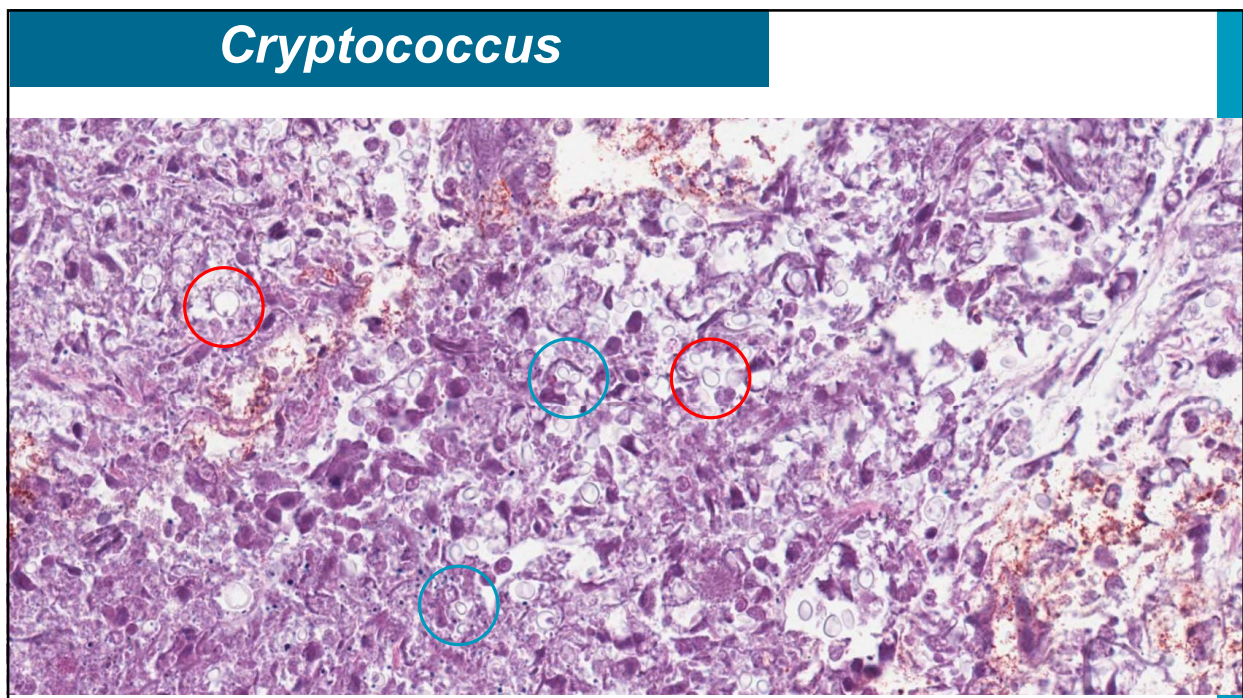
41



42



43



44

FOLLOW-UP

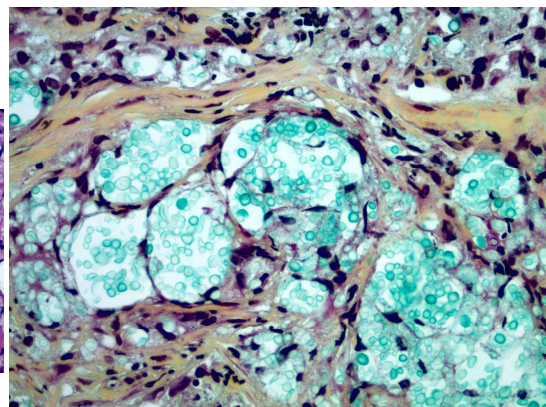
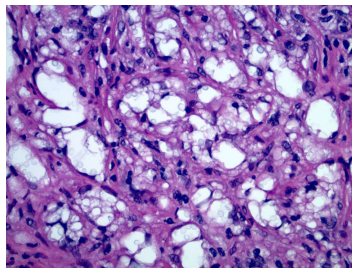
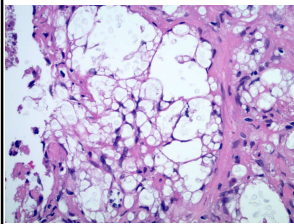
- None

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45

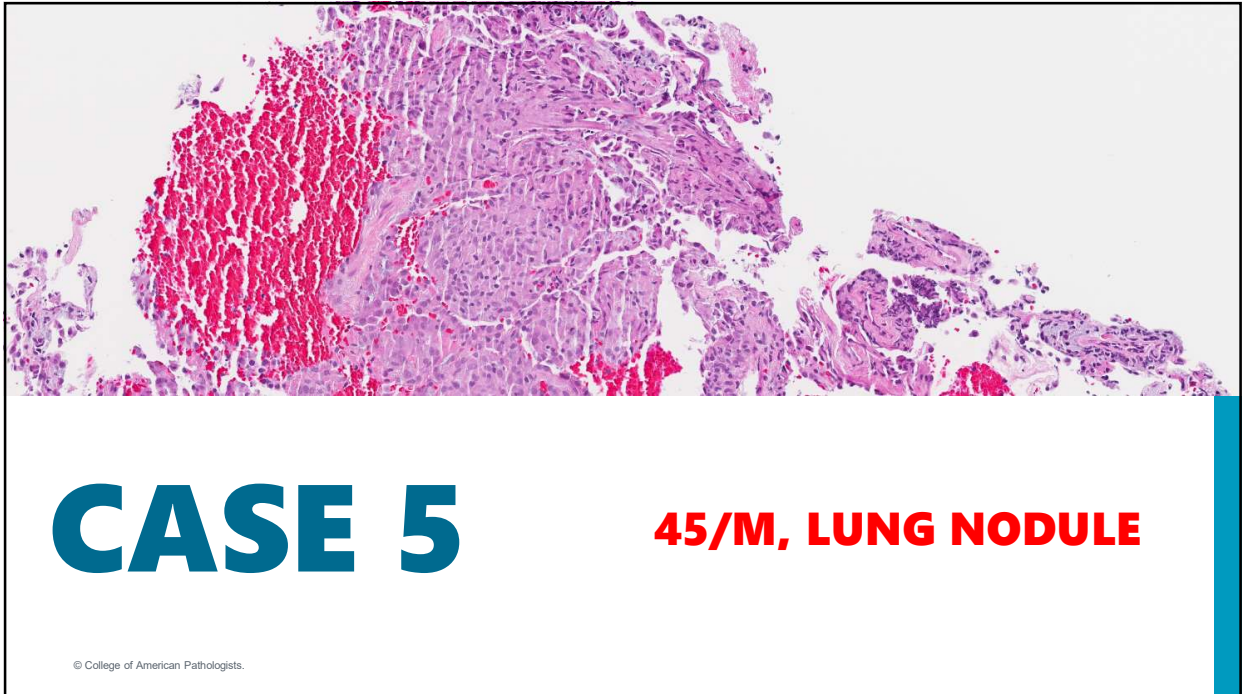
WHAT DID I LEARN?

- **“Holes” in tissue in cryptococcosis can be misinterpreted as lipid**

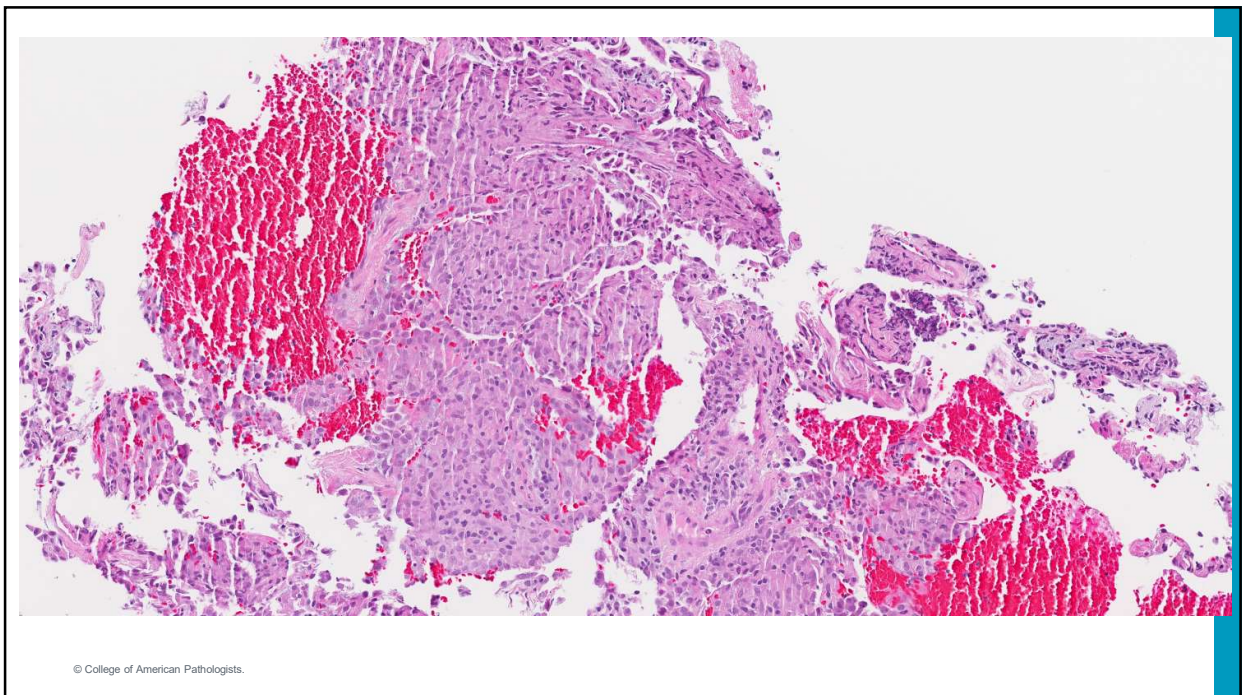


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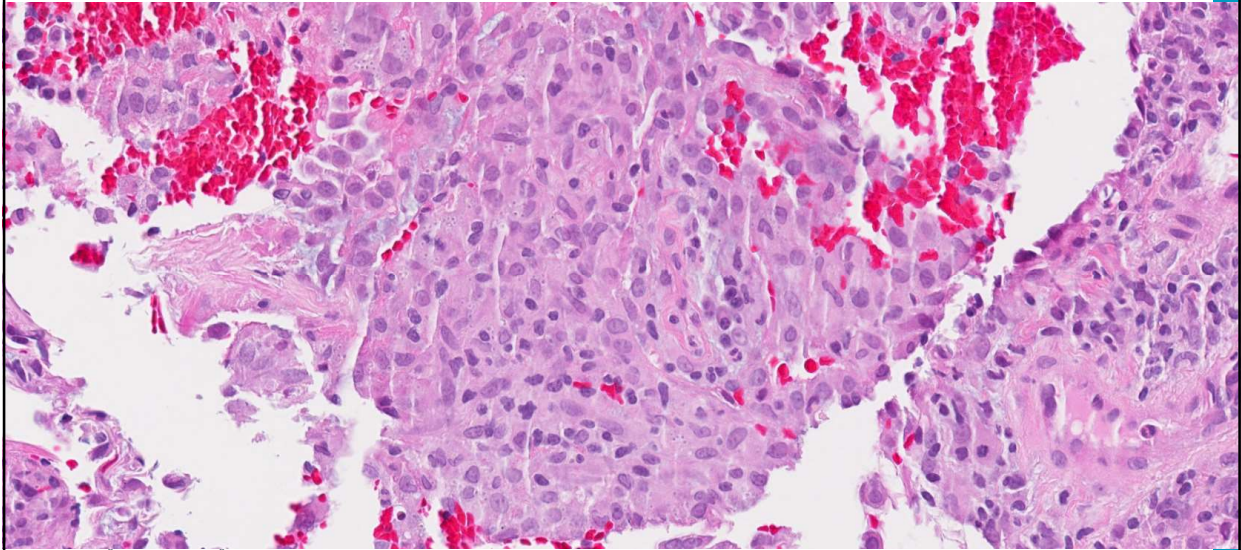


47



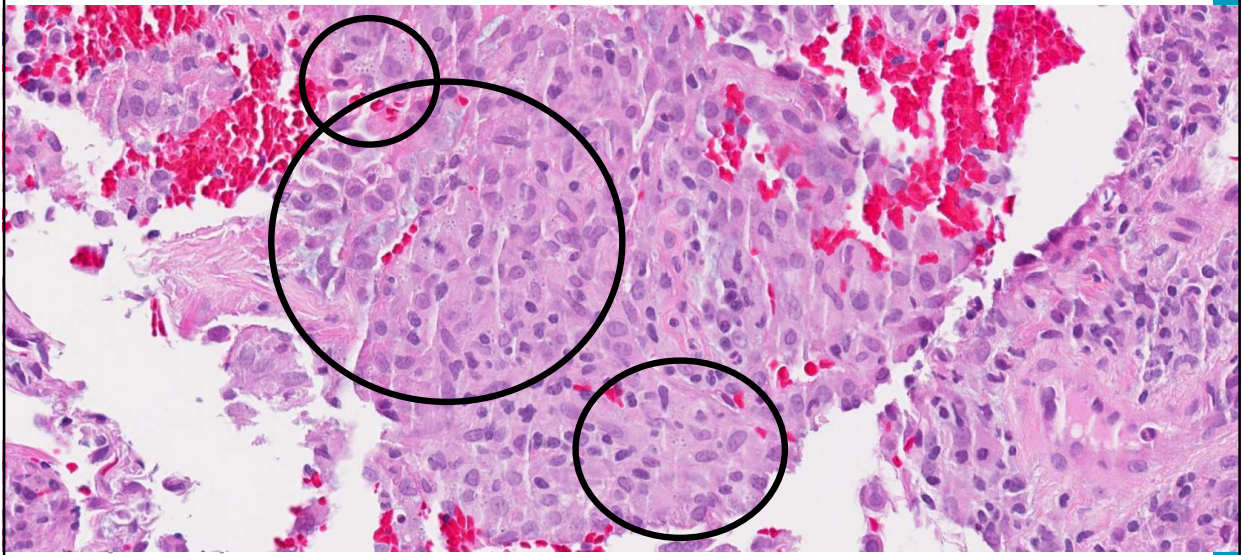
48

Outside diagnosis: granulomas



49

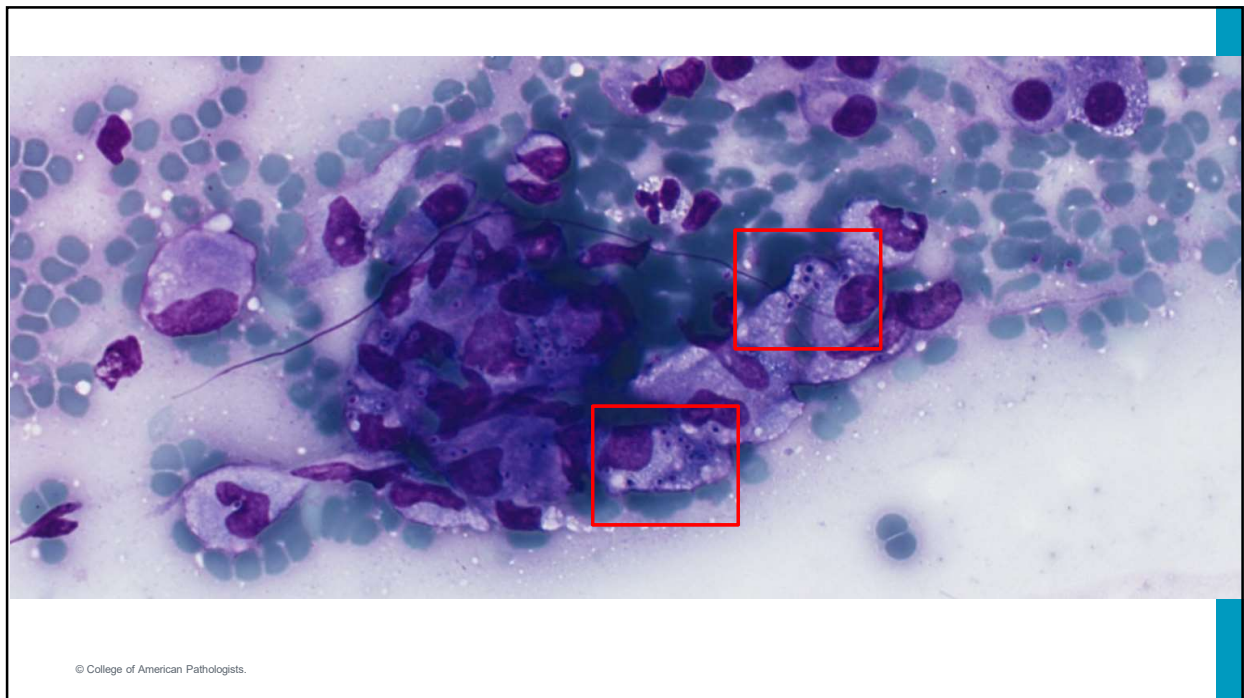
Outside diagnosis: granulomas



50

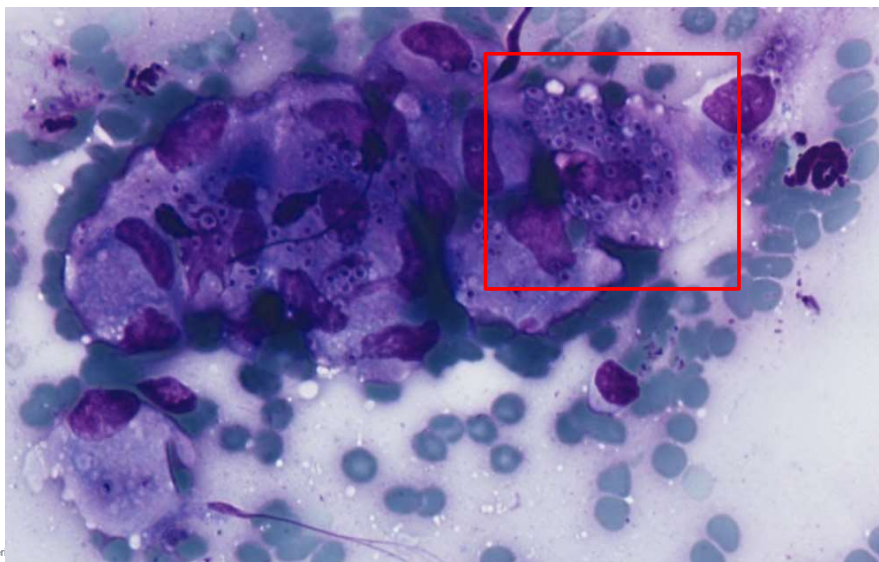


51



52

Suspicious for disseminated histoplasmosis



53

FOLLOW-UP

- I called the clinician, who said: “histoplasmosis makes sense because patient is diabetic with unintended weight loss, bilateral lung nodules and fever”

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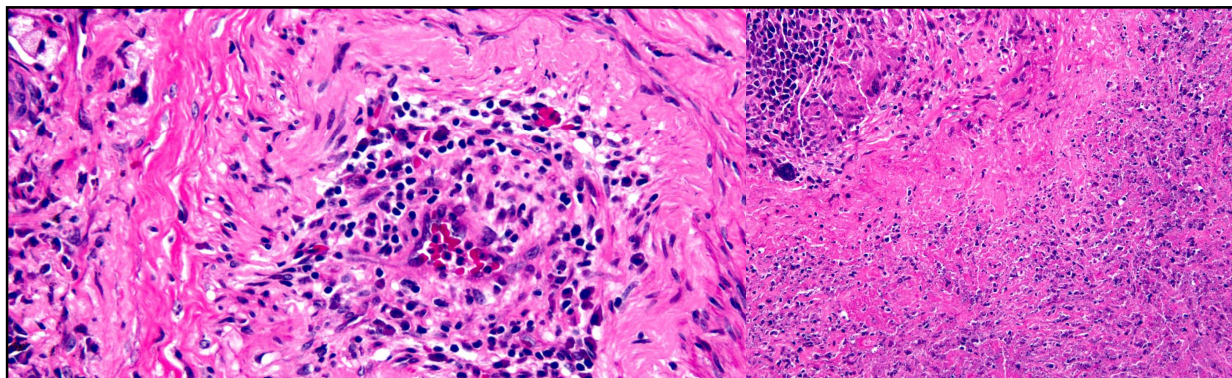
54

WHAT DID I LEARN?

- **Poorly formed granulomas: be on the lookout for organisms**
- **H&E/Diff-Quik can be diagnostic!**

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CASE 6

**HEMOPTYSIS AND
POSITIVE ANCA**

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56

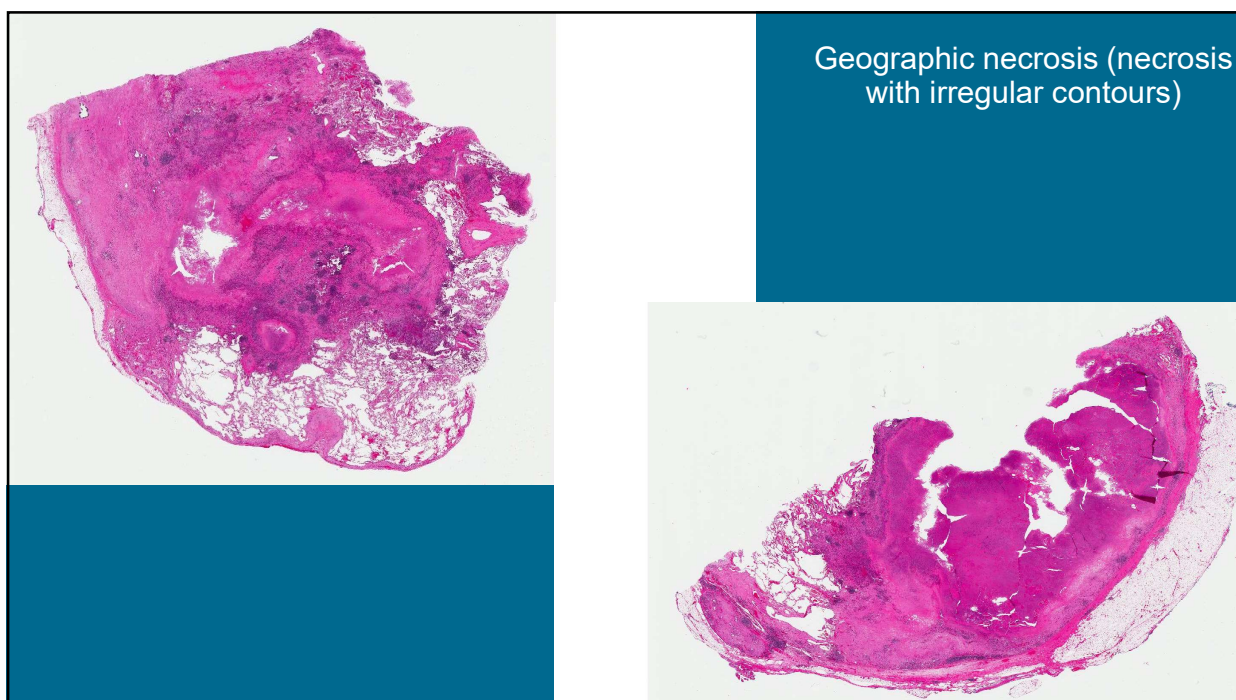
Clinical/radiologic information

- 68/F with hemoptysis
- Radiology: large cavitary lesion surrounded by small satellite lesions throughout LUL
- Serum QuantiFERON-TB: negative
- Serology for p-ANCA: weakly positive (1:20)
- LUL apical segmentectomy: ?Wegener's

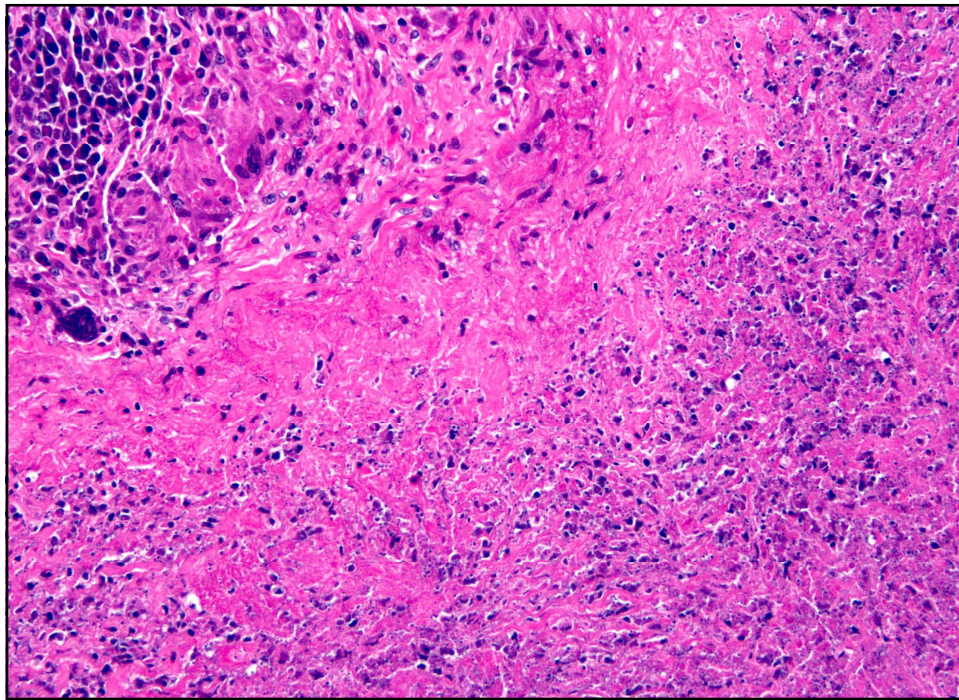
Clinical/radiologic impression: Large cavitary lesion

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57



58

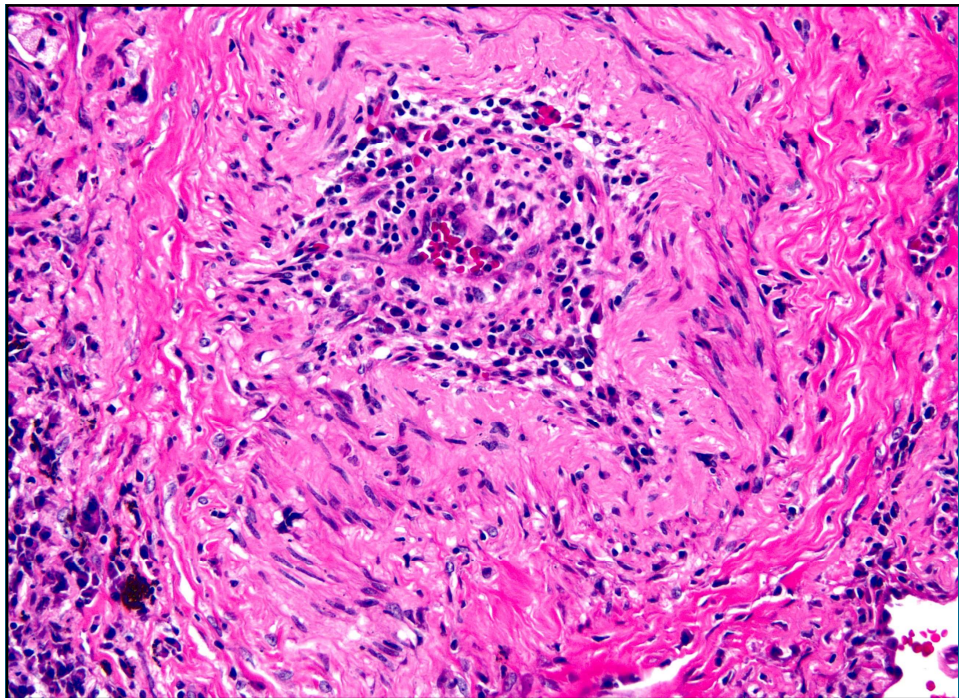


Necrotizing
granulomatous
inflammation

Basophilic dirty
necrosis

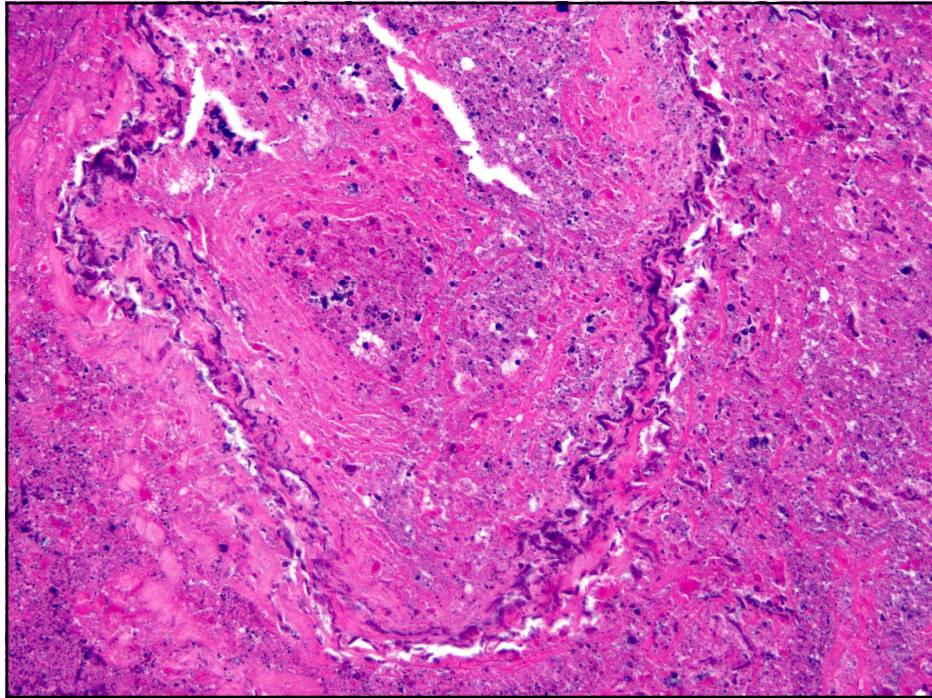
“Distinctive” giant
cells

59



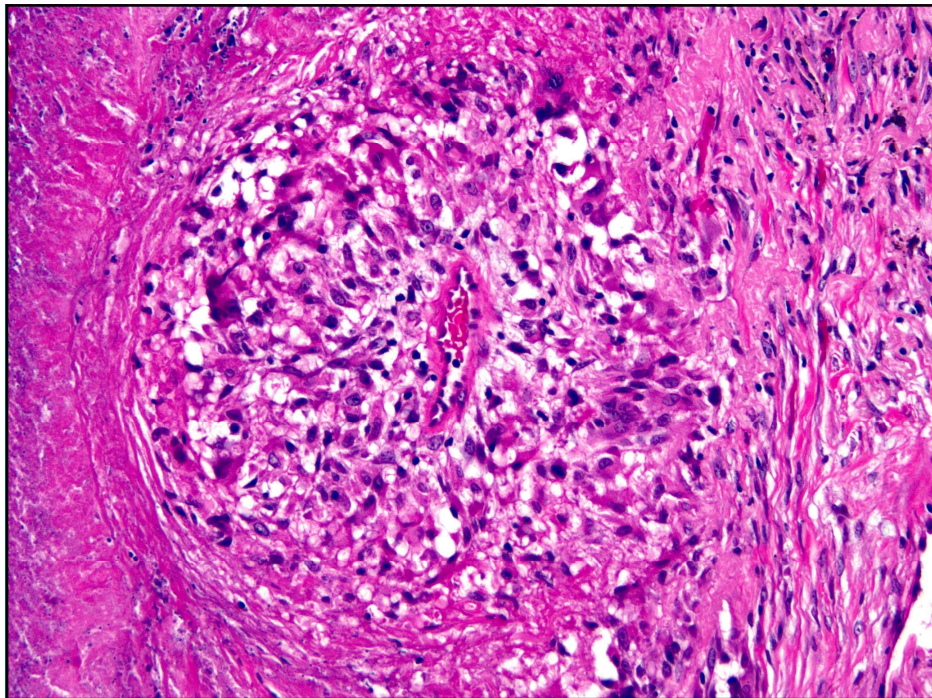
Vasculitis

60



Necrotic blood
vessel

61



Granulomatous
vasculitis

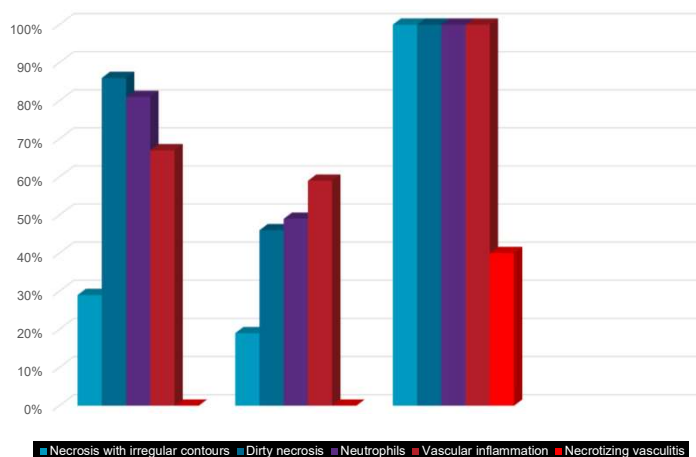
62

Which histologic feature is most specific for GPA (Wegener's)?

Pulmonary Necrotizing Granulomas of Unknown Cause

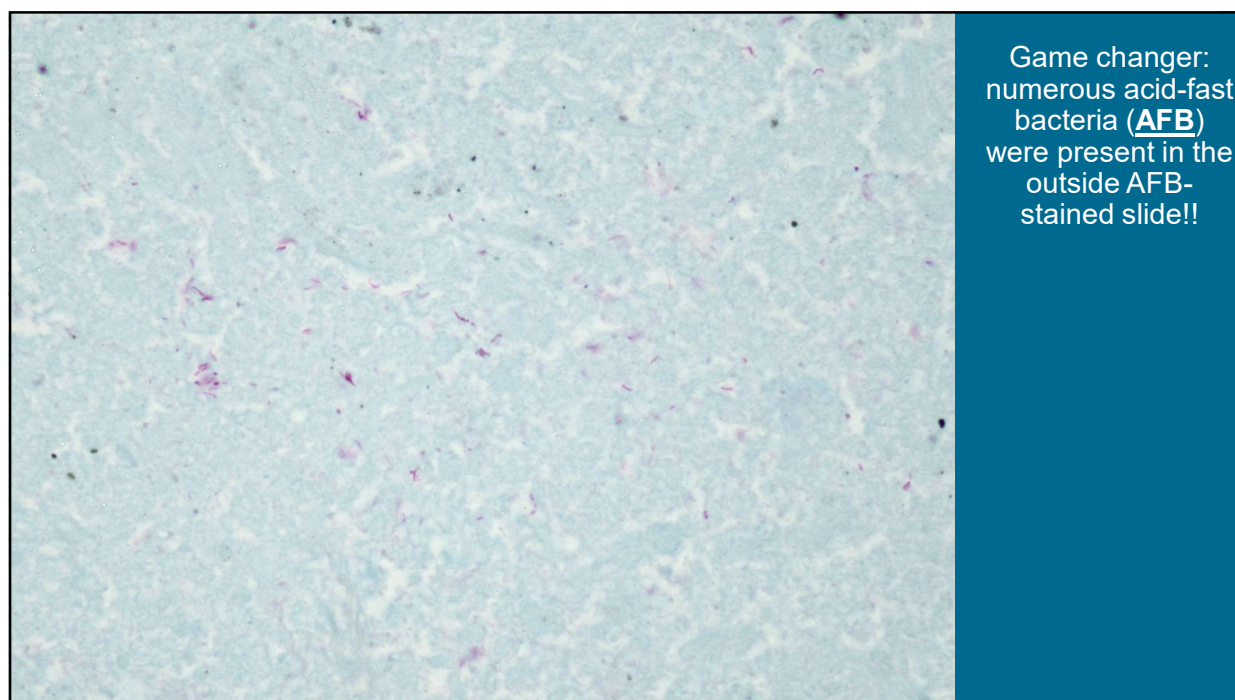
Clinical and Pathologic Analysis of 131 Patients With Completely Resected Nodules

Sanjay Mukhopadhyay, MD; Bradley E. Wilcox, DO; Jeffrey L. Myers, MD, FCCP;
Sandra C. Bryant, MS; Seanne P. Buckwalter, MS; Nancy L. Wengenack, PhD;
Eunhee S. Yi, MD; Gregory L. Aughenbaugh, MD; Ulrich Specks, MD;
and Marie-Christine Aubry, MD, FCCP



Chest 2013;144:813-24

63



64

Diagnosis: Necrotizing granulomatous inflammation (mycobacteria present)

Follow-up

- **Cultures from “lung tissue” grew MAI**

What did we learn?

- **ANCA+ does not necessarily mean GPA (Wegener's)**
- **Basophilic necrosis, giant cells, vasculitis all occur in mycobacterial/fungal infections**
- **Examine your special stains carefully**

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Thank you!

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Questions?

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September 25, 2023

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67



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