62-year-old female with increased dyspnea, increased work of breathing, and hemoptysis

Bowen Anderson, MS3

Racquel Helsing, MD

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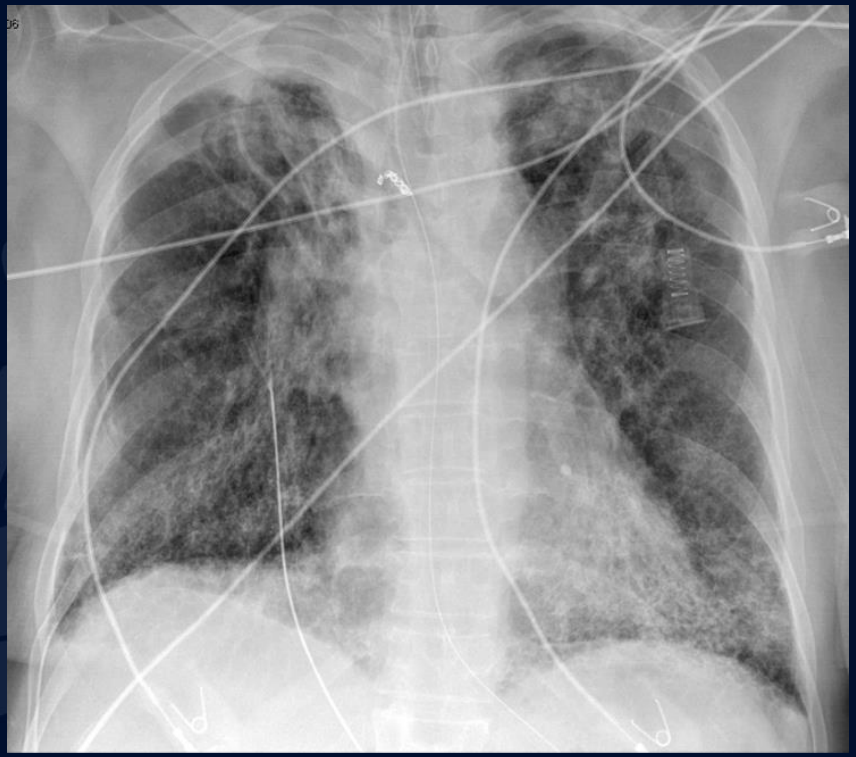
AP Radiograph



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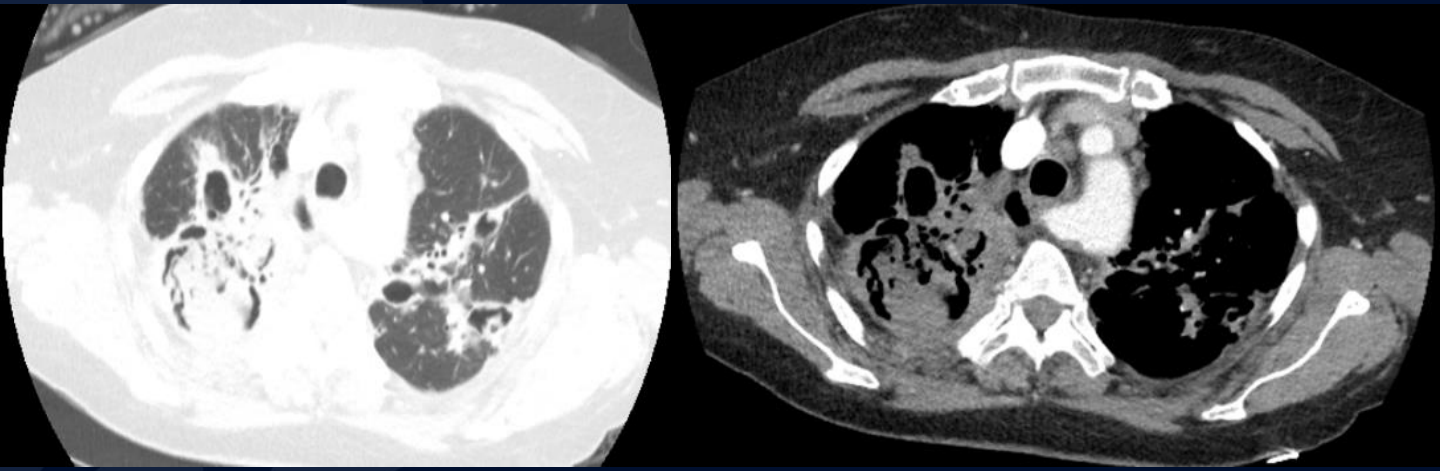
CT IV Contrast



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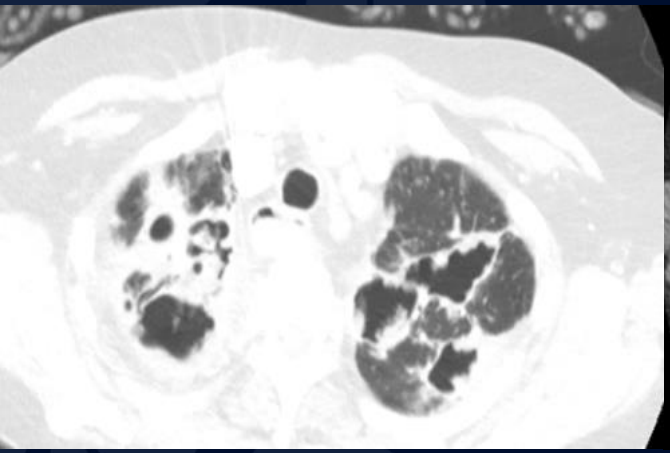
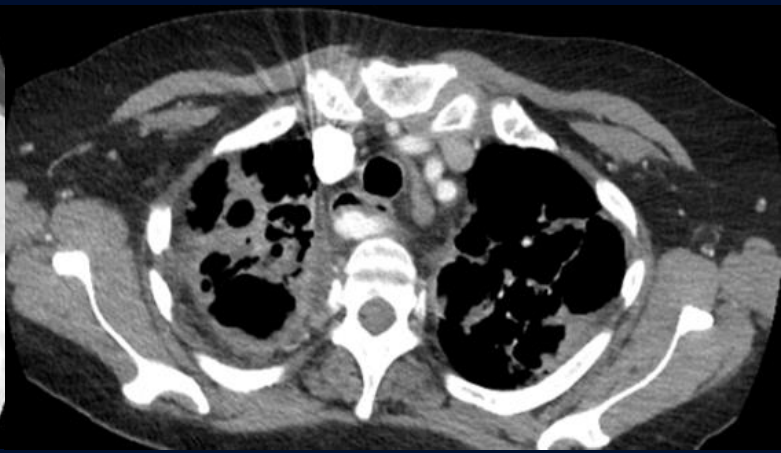
CT IV Contrast





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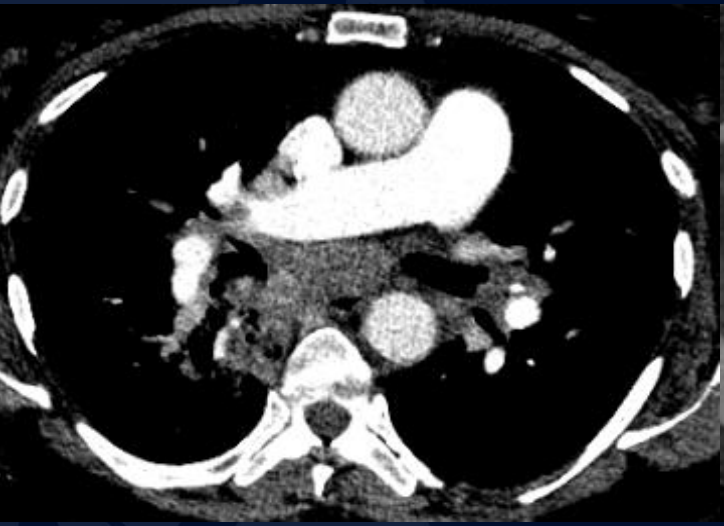

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CT IV Contrast

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Subacute Invasive Pulmonary Aspergillosis (SIPA)

Formerly Chronic Necrotizing Pulmonary Aspergillosis

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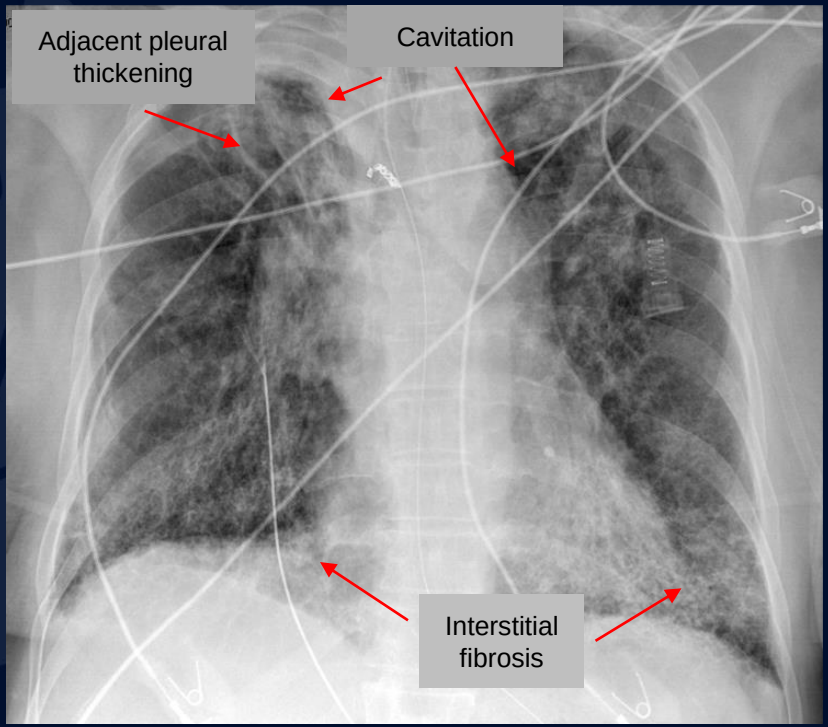
AP Radiograph



Numerous bilateral upper lobe cavitary nodules and masses → suspicious for fungal or mycobacterium infection

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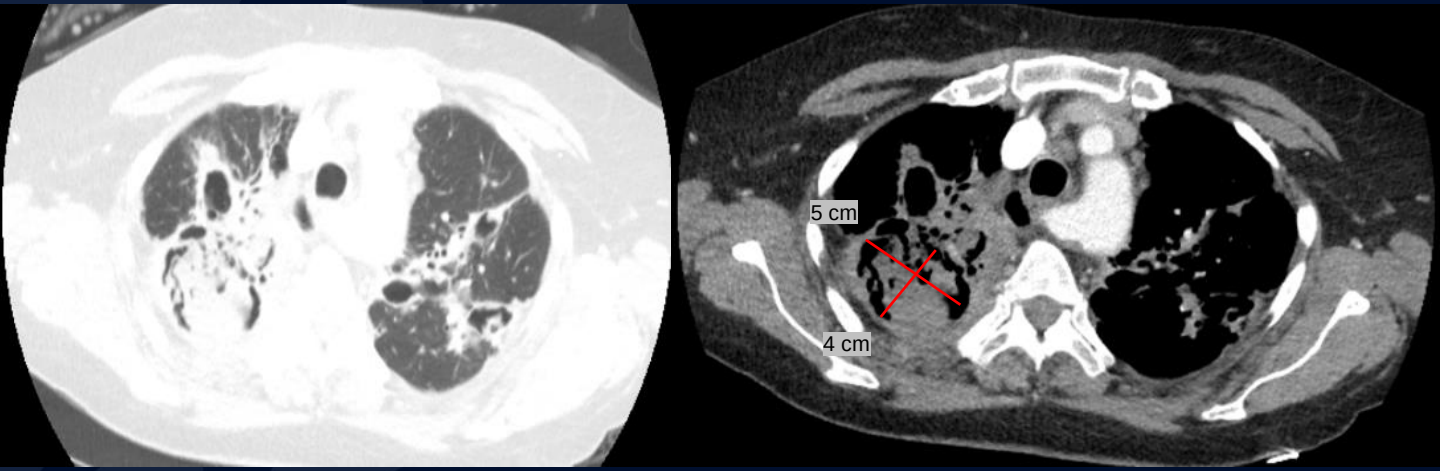
CT IV Contrast



RUL cavities containing air and internal debris

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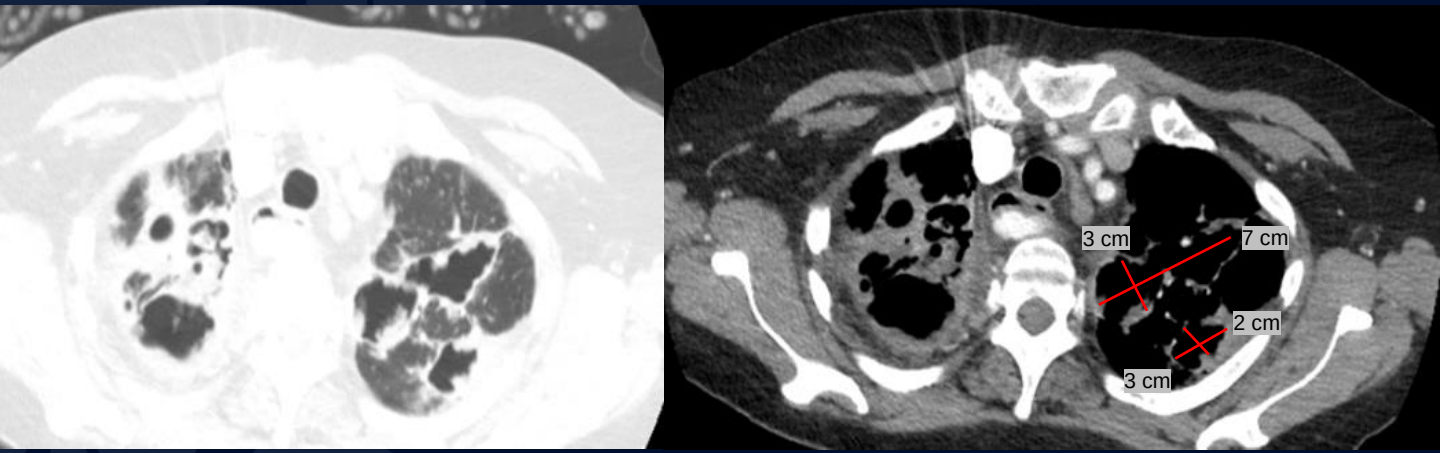
CT IV Contrast



LUL cavities containing air and internal debris

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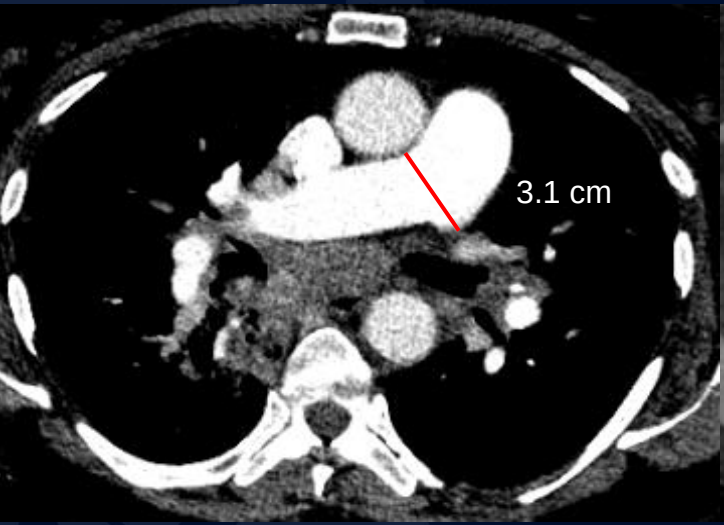

Main pulmonary artery diameter 3.1 cm (> 2.9 cm general predictive cut off for pulmonary hypertension); likely due to chronic lung disease

No filling defects are present within the pulmonary arteries → no pulmonary embolism present

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CTA

No filling defects within the pulmonary arteries → no pulmonary embolism present

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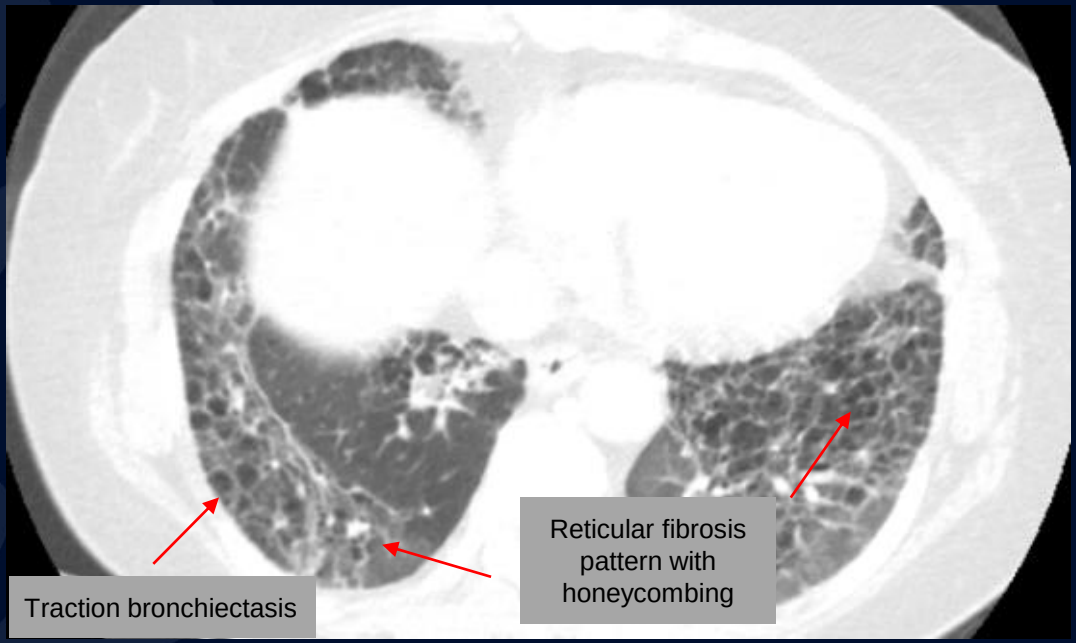
CT IV Contrast



Fibrotic changes throughout the lungs with honeycombing and traction bronchiectasis at the lung bases

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Subacute Invasive Pulmonary Aspergillosis (SIPA)

Pathophysiology: invasive Pulmonary Aspergillosis is a rare pulmonary infection ranging from chronic (months-years) to subacute (weeks-months)

- Different from Aspergillomas, as the fungus is causing cavitation to occur rather than colonizing pre-existing cavities

Risk Factors: typically occurs in immunosuppressed patients (i.e., 80% cases with pre-existing pulmonary conditions such as Sarcoidosis, COPD, pulmonary fibrosis, and asthma; chronic steroid use; diabetes, etc.)

Clinical Presentation: several months (subacute) to years (chronic) progressive respiratory (cough, dyspnea, sputum production, hemoptysis) and constitutional symptom (e.g., fever, fatigue, weight loss, loss appetite

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Imaging Findings

- Usually involves upper lung zones
- Begins as an opacity
- Over weeks to months becomes centrally necrotic and separates from surrounding lung parenchyma creating an “air crescent sign”
- Cavitation
  - +/- central mycetoma
  - Thick-walled
  - Often multiple
- May have adjacent pleural thickening, local pulmonary fibrosis, surrounding ground-glass infiltrates, and invasion into pulmonary vasculature

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