

# AMSER Case of the Month: November 2018

60-yo HIV-positive male with chronic cough



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Allegheny Health Network



Allegheny  
Health Network



# Patient Presentation

- **HPI:** 60yo male presents to PCP with 6-month history of chronic cough. History of resolved viral URI 6 months prior, but reports persistent spastic coughing fits. Treatment with albuterol and cetirizine have been unsuccessful.
- **PMHx:** HIV-positive, treated with Genvoya. Prostate cancer treated with radiation. Treated hepatitis C. HTN.
- **SHx:** No tobacco or inhalation drug use history. History of occupational benzene exposure 30 years prior. No travel history. Drinks a pint of whiskey daily.
- **Physical exam:** Normal breath sounds, no respiratory distress, no rales
- **Vitals:** BP 128/80, HR 120, RR 18, SpO<sub>2</sub> 98%
- **ROS:** Positive for sore throat, shortness of breath, wheezing; Negative for chest pain, fever, weight loss, fatigue

# Pertinent Labs

- **CBC**

WBC 3.79 (4.4-11.3 k/mcL)

Hgb 12.2 (14.0-17.4 g/dL)

Hct 35.0 (41.5-50.4%)

Plts 129 (145-445 k/mcL)

RBC 3.69 (4.5-5.9 m/mcL)

Remainder of CBC within range

- **CMP**

Glucose 114 (70-99 mg/dL)

BUN 21 (9-20 mg/dL)

Alk phos 208 (35-140 U/L)

ALT 19 (21-71 U/L)

Remainder of CMP within range

- **Viral load** <20cp/mL (CD4 N/A)
- **PFT** – reduced diffusion capacity

What Imaging Should We Order?

# Select the applicable ACR Appropriateness Criteria

American College of Radiology  
ACR Appropriateness Criteria®  
Chronic Dyspnea-Noncardiovascular Origin

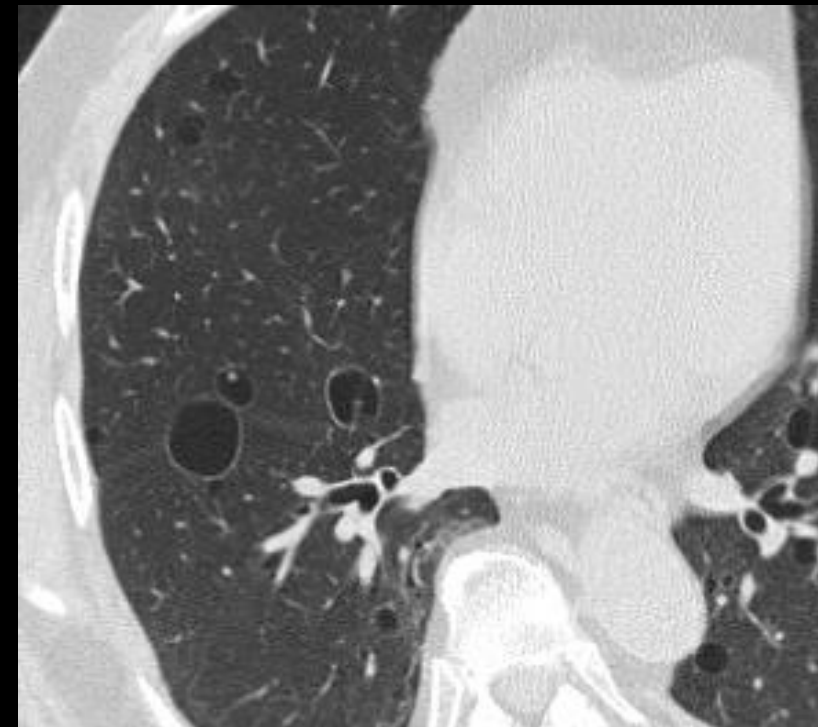
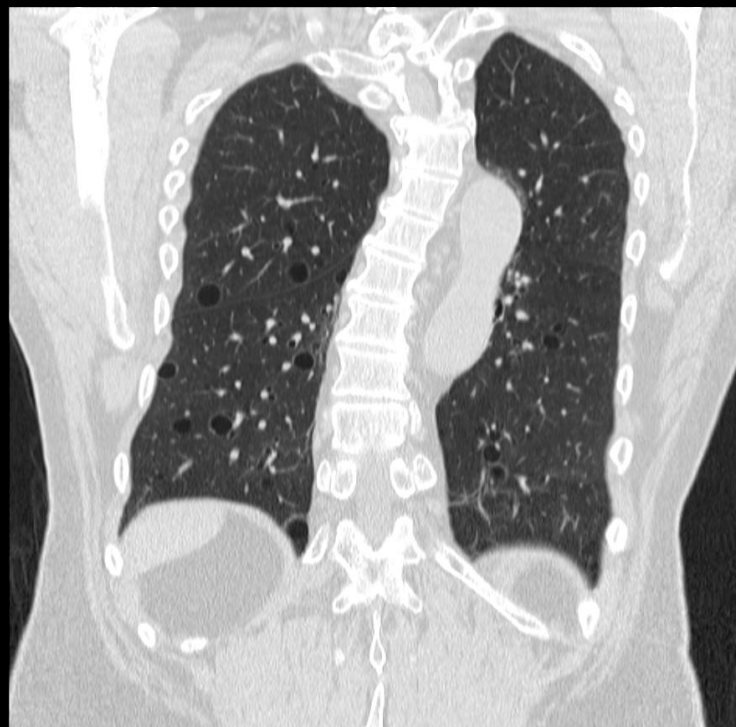
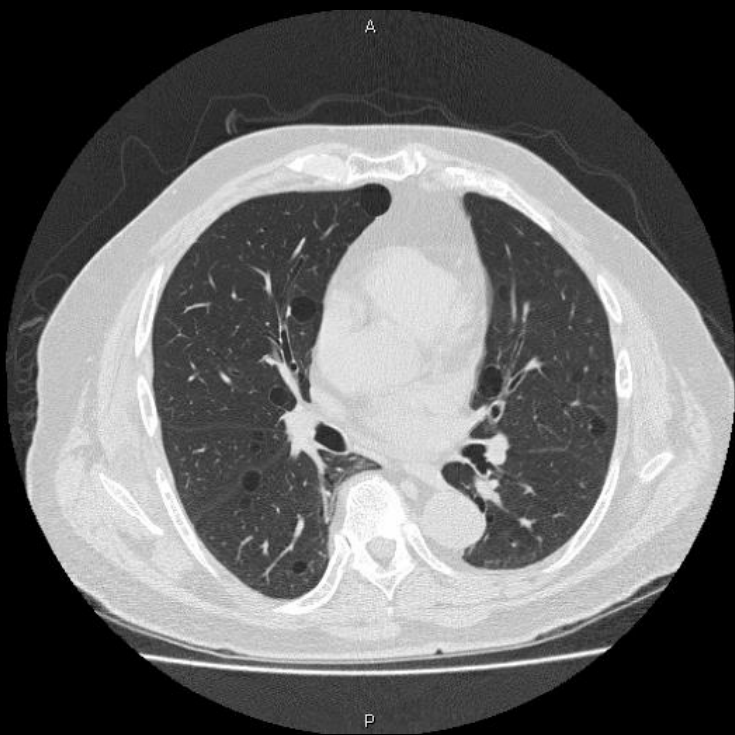
**Variant 4:** Chronic dyspnea. Suspected interstitial lung disease. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
CT chest without IV contrast	Usually Appropriate	☼☼☼
Radiography chest	Usually Appropriate	☼
CT chest with IV contrast	May Be Appropriate (Disagreement)	☼☼☼
MRI chest without and with IV contrast	Usually Not Appropriate	○
MRI chest without IV contrast	Usually Not Appropriate	○
US chest	Usually Not Appropriate	○
CT chest without and with IV contrast	Usually Not Appropriate	☼☼☼
FDG-PET/CT skull base to mid-thigh	Usually Not Appropriate	☼☼☼☼

This imaging modality was ordered by the physician

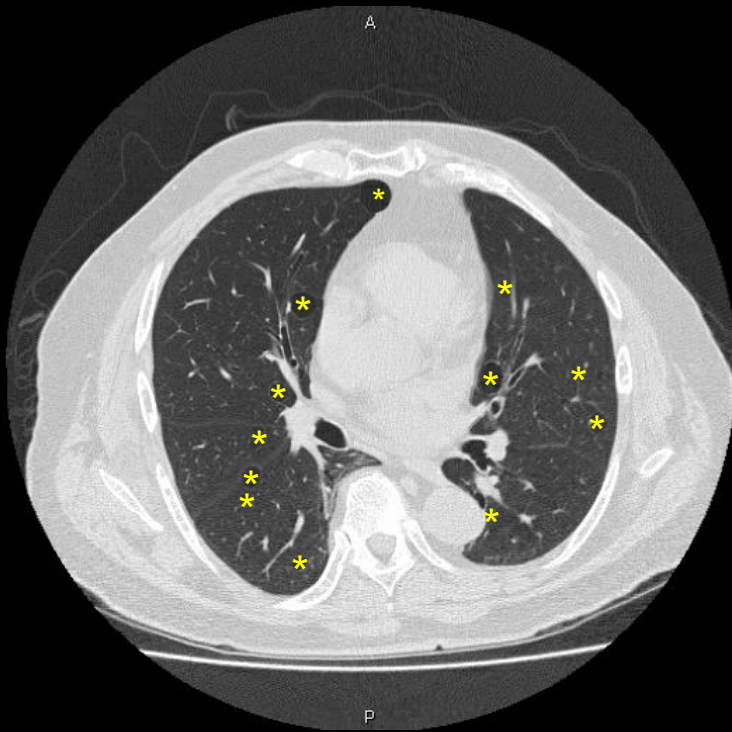


# Findings: (unlabeled)

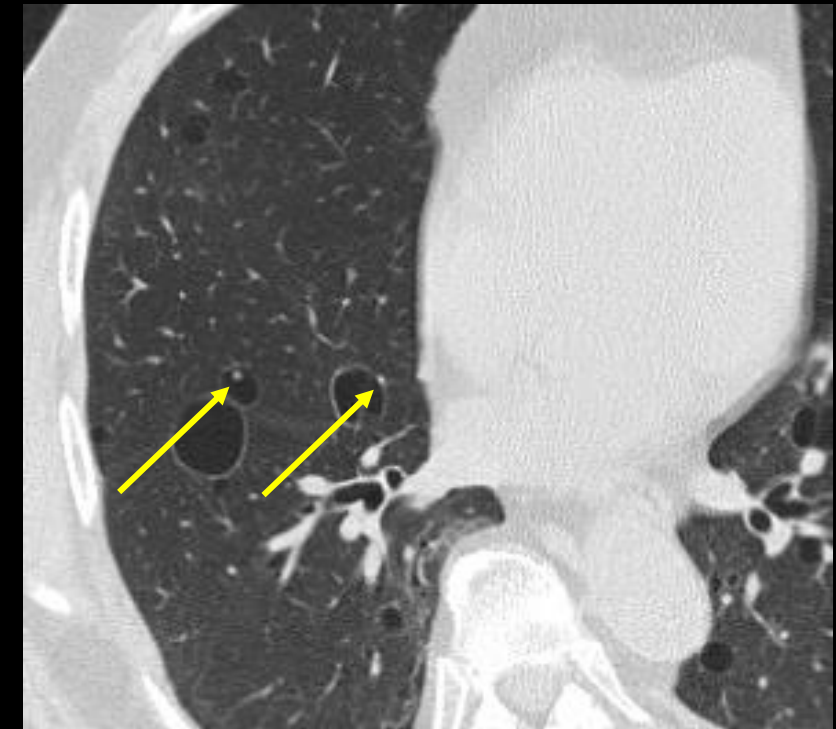
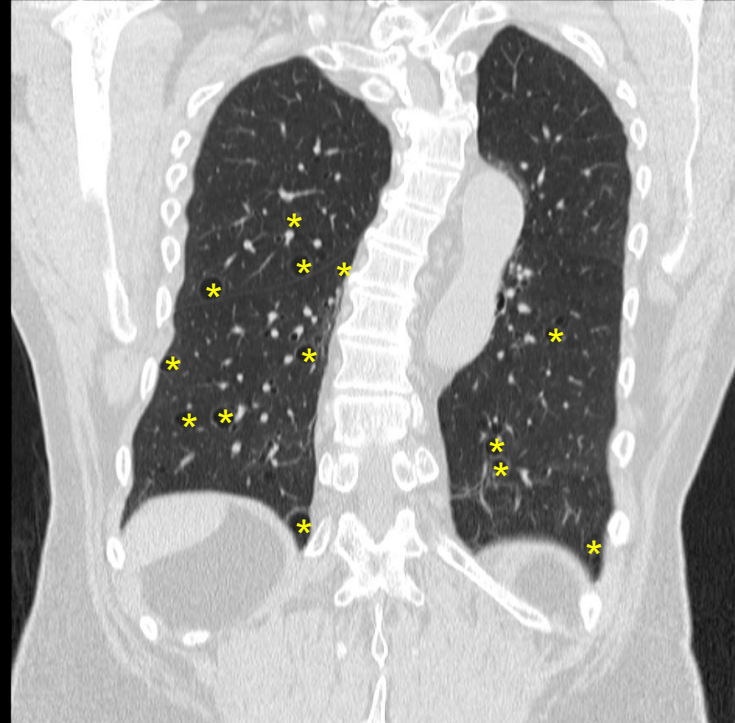




# Findings (labeled)



Multiple round, thin-walled cysts (\*) scattered throughout the lungs, the largest measuring 2.4cm.



Small pulmonary arteries indicating perivascular location of cysts.

# Case Differentials

## HIV and pulmonary disease

- Bacterial pneumonia
- Pneumocystis pneumonia
- Lymphoid interstitial pneumonia
- Herpes-related
  - Lymphoma
  - Kaposi sarcoma

## Cystic lung disease

- Langerhans cell histiocytosis
- Lymphangiomyomatosis
- Birt-Hogg-Dubé syndrome
- Lymphoid interstitial pneumonia



Final Dx:

Lymphoid Interstitial Pneumonia (LIP)

# Case Discussion

- **Lymphoid interstitial pneumonia (LIP)**
  - Interstitium and alveolar spaces infiltrated by lymphocytes and plasma cells
  - Diagnosis could be confirmed with lung biopsy
- **Epidemiology**
  - Mean age 50yo
  - Female predilection due to association of LIP with autoimmune diseases
  - LIP in a child can be indicative of AIDS
- **Markers**
  - IgM monoclonal or polyclonal gammopathy found (80%)

# Case Discussion

- **Treatment**

- Depends on patient's symptoms, degree of impairment, and comorbid conditions
- In HIV-positive patient:
  - Start anti-retroviral therapy (ART) if patient has not been previously treated
  - If patient was previously treated with ART, consider modification of ART regimen
  - Add glucocorticoids if ART therapy alone is not effective

- **Prognosis**

- Variable progression despite treatment – full resolution to progressive disease
- Possible transformation to lymphoma (5%)
- Possible progression to pulmonary fibrosis with respiratory insufficiency (30%)

# References:

American College of Radiology. ACR Appropriateness Criteria®. Available at <https://acsearch.acr.org/list>. Accessed October 30, 2018.

Baldi, Bruno Guedes. "Diffuse Cystic Lung Diseases: Differential Diagnosis." *PubMed Central (PMC)*, 1 Apr. 2017, [ncbi.nlm.nih.gov/pmc/articles/PMC5474378/](https://pubmed.ncbi.nlm.nih.gov/pmc/articles/PMC5474378/).

"Cystic Lung Disease | Radiology Reference Article | Radiopaedia.Org." *Radiopaedia*, [radiopaedia.org/articles/cystic-lung-disease-1](https://radiopaedia.org/articles/cystic-lung-disease-1).

"HIV/AIDS (Pulmonary and Thoracic Manifestations) | Radiology Reference Article | Radiopaedia.Org." *Radiopaedia*, [radiopaedia.org/articles/hivaids-pulmonary-and-thoracic-manifestations-1](https://radiopaedia.org/articles/hivaids-pulmonary-and-thoracic-manifestations-1).

Koo, Hyeon-Kyoung. "Multiple Cystic Lung Disease." *PubMed Central (PMC)*, 1 Mar. 2013, [ncbi.nlm.nih.gov/pmc/articles/PMC3617135/](https://pubmed.ncbi.nlm.nih.gov/pmc/articles/PMC3617135/).

*UpToDate*. [uptodate.com/contents/lymphoid-interstitial-pneumonia-in-adults/](https://www.uptodate.com/contents/lymphoid-interstitial-pneumonia-in-adults/).