AMSER Case of the Month: November 2018

60-yr HIV-positive male with chronic cough

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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, SpO₂ 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

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>Relative Radiation Level</th>
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<tbody>
<tr>
<td>CT chest without IV contrast</td>
<td>Usually Appropriate</td>
<td>****</td>
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<tr>
<td>Radiography chest</td>
<td>Usually Appropriate</td>
<td>⬤</td>
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<tr>
<td>CT chest with IV contrast</td>
<td>May Be Appropriate (Disagreement)</td>
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<tr>
<td>MRI chest without and with IV contrast</td>
<td>Usually Not Appropriate</td>
<td>O</td>
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<tr>
<td>MRI chest without IV contrast</td>
<td>Usually Not Appropriate</td>
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<td>US chest</td>
<td>Usually Not Appropriate</td>
<td>O</td>
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<tr>
<td>CT chest without and with IV contrast</td>
<td>Usually Not Appropriate</td>
<td>❌</td>
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<tr>
<td>FDG-PET/CT skull base to mid-thigh</td>
<td>Usually Not Appropriate</td>
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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
• Lymphangioleiomyomatosis
• 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%)


Koo, Hyeon-Kyoung. “Multiple Cystic Lung Disease.” PubMed Central (PMC), 1 Mar. 2013, ncbi.nlm.nih.gov/pmc/articles/PMC3617135/.

UpToDate. uptodate.com/contents/lymphoid-interstitial-pneumonia-in-adults/.