AMSER Case of the Month: August 2019

Dyspnea

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Patient Presentation

36 year-old Caucasian male presented to the emergency department with a five-day history of acute onset of dyspnea

• PMHx: dyspnea, recent bilateral pneumonia
• Social Hx:
  • 15 pack-year smoking history, quit 2 years ago. Currently vapes
  • Work: exposure to concrete and wood dust
  • No alcohol use or recent travel

Additional Workup

• Spirometry – Restrictive pathology
• Bronchoscopy
  • Biopsy → Non-caseating granulomatous inflammation
  • BAL → Macrophage predominant. Gram stain negative for organisms. No malignancy. Acid fast stain negative.
• Histoplasma UAT – negative
• HIV – non-reactive
What Imaging Should We Order?

ACR Appropriateness Criteria

Radiography was performed followed by Chest CT without IV contrast.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>Relative Radiation Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT chest without IV contrast</td>
<td>Usually Appropriate</td>
<td>💥💥💥</td>
</tr>
<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>
<td>💥💥💥</td>
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<tr>
<td>MRI chest without and with IV contrast</td>
<td>Usually Not Appropriate</td>
<td>☀️</td>
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<tr>
<td>MRI chest without IV contrast</td>
<td>Usually Not Appropriate</td>
<td>☀️</td>
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<tr>
<td>US chest</td>
<td>Usually Not Appropriate</td>
<td>☀️</td>
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<tr>
<td>CT chest without and with IV contrast</td>
<td>Usually Not Appropriate</td>
<td>💥💥</td>
</tr>
<tr>
<td>FDG-PET/CT skull base to mid-thigh</td>
<td>Usually Not Appropriate</td>
<td>💥💥</td>
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</table>
Bilateral hilar adenopathy

Tiny nodules in both lungs with upper lung predominance
Chest CT without IV contrast
Chest CT without IV contrast

- Nodules located at pleural surfaces (lung fissures)
- Upper lobe predominance
- Nodules located along bronchovascular bundle
Symmetric hilar lymph nodes

Enlarged mediastinal lymph nodes

Chest CT without IV contrast
Final Diagnosis:

Sarcoidosis
Case Discussion

Primary differential diagnosis:

• Pneumoconiosis
  • Coal Worker’s
  • Silicosis
• Disseminated infection
  • Miliary tuberculosis
  • Histoplasma

• Imaging findings suggestive of sarcoidosis
  • Bilateral 1-3 mm nodules
  • Upper and middle lung predominance
  • Perilymphatic distribution: at pleural surfaces (especially the fissures) and along the bronchovascular bundles
  • Hilar (classically, bilaterally and symmetrically) and mediastinal adenopathy

• Initial management: glucocorticoids
