Community-Acquired Pneumonia (CAP)

When to Think Fungus: Blastomycosis

Patient living in or having traveled to a disease-endemic area

- Areas Blastomyces is more likely to live
- Potential range of Blastomyces

These maps are approximations. Blastomyces is not distributed evenly and may not be present everywhere within the shaded areas. It may also be present outside of the areas indicated.

Initial CAP visit if:
- Skin lesions present* OR
- Link to known blastomycosis outbreak

Consider enzyme immunoassay (EIA) urine antigen testing

- Antigen positive
  - Probable acute pulmonary blastomycosis†
  - High degree of suspicion
    - Additional testing‡
    - Consider consulting infectious diseases or pulmonology
  - Positive
  - Consider alternative diagnoses

- Antigen negative
  - Consider alternative diagnoses

CAP of unknown etiology not responding to a course of empiric antibiotics

Patient living in or having traveled to a disease-endemic area

- Initial CAP visit if:
  - Skin lesions present* OR
  - Link to known blastomycosis outbreak

Consider alternative diagnoses

* Skin lesions could be indicative of late disease or traumatic inoculation rather than acute pulmonary blastomycosis.
† Blastomyces antigen tests have extensive cross-reactivity with Histoplasma. However, both infections are typically treated in a similar manner for most clinical manifestations.
‡ Sputum or bronchoalveolar lavage (BAL) culture and microscopy; skin biopsy (if lesion exists) for histopathology; or serologic antibody tests. Evaluation of other non-pulmonary manifestations in the bone, genitourinary tract, and central nervous system may be helpful in diagnosis.
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<th>Test</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Population studied</th>
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<tr>
<td>Antibody tests</td>
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<tr>
<td>Complement fixation (CF) antibody&lt;sup&gt;13,15,16&lt;/sup&gt;</td>
<td>9%–57%</td>
<td>30%–100%</td>
<td>Adult populations, outbreak settings</td>
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<td>Immunodiffusion (ID) antibody&lt;sup&gt;8,13–17&lt;/sup&gt;</td>
<td>28%–65%</td>
<td>100%</td>
<td>Adult populations, outbreak settings</td>
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<td>Antigen tests</td>
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<tr>
<td>EIA urine antigen&lt;sup&gt;8–12&lt;/sup&gt;</td>
<td>76%–93%</td>
<td>High (but does cross-react with <em>Histoplasma</em>)</td>
<td>Adult populations</td>
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<tr>
<td>EIA serum antigen&lt;sup&gt;8–12&lt;/sup&gt;</td>
<td>56%–82%</td>
<td>High (but does cross-react with <em>Histoplasma</em>)</td>
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<td>Other tests</td>
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<tr>
<td>Histopathology&lt;sup&gt;18&lt;/sup&gt;</td>
<td>81%</td>
<td>100%</td>
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<td>Cytology&lt;sup&gt;8,18&lt;/sup&gt;</td>
<td>38%–97%</td>
<td>100%</td>
<td>Adult populations, pregnancy</td>
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