Acute Cough Illness (Acute Bronchitis)

Acute bronchitis is an acute respiratory infection with a normal chest radiograph that is manifested by cough with or without phlegm production that lasts for up to 3 weeks (Chest 2006;129:95S-103S).

Principles apply to the appropriate treatment of cough illness lasting less than 3 weeks in otherwise healthy adults.

Refer to acute cough illness as a “chest cold” to reduce patient expectation for antibiotics (Am J Med 2000;108-83).

Background

Greater than 90% of cases of acute cough illness are non-bacterial.
- Viral etiologies include influenza, parainfluenza, RSV, and adenovirus.
- Bacterial agents include *Bordatella pertussis*, *Mycoplasma pneumoniae*, and *Chlamydophila pneumoniae*.

The presence of purulent sputum is not predictive of bacterial infection.
- >95% of patients with purulent sputum do not have pneumonia (J Chron Di 1984;37:215).

Diagnosis

Evaluation should focus on excluding severe illness, particularly pneumonia.

Clinical Assessment for Pneumonia

Pneumonia is unlikely if all of the following findings are absent (JAMA 1997;278:1440).

<table>
<thead>
<tr>
<th>Sign</th>
<th>Abnormal Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>≥ 38 C</td>
</tr>
<tr>
<td>Tachypnea</td>
<td>≥ 24 breaths/min</td>
</tr>
<tr>
<td>Tachycardia</td>
<td>≥ 100 beats/min</td>
</tr>
<tr>
<td>Evidence of consolidation on chest exam</td>
<td>rales, egophony, fremitus</td>
</tr>
</tbody>
</table>

Consider chest radiograph for patients with any of these findings or cough lasting >3 weeks.

Treatment

Empiric antibiotic treatment is **not** indicated for acute bronchitis.
- Meta-analyses of randomized, controlled trials all concluded that routine antibiotic treatment is not justified (BMJ 1998;316:906; Chest 2006;129:95S-103S).

If influenza therapy is considered, it should be initiated within 48 hours of symptom onset for clinical benefit.
- During the 2005-06 Flu season CDC recommends that neither amantadine nor rimantadine be used for treatment or prevention of influenza A infections because of high levels of resistance (MMWR 2006 Jan 20;55(2):44-6).
- Neuramidase inhibitors such as oseltamivir or zanamivir have activity against influenza A and B viruses.
- Antiviral therapy reduces symptom duration by approximately 1 day. http://www.cdc.gov/flu/professionals/treatment/

If pertussis is suspected, empiric therapy may be initiated while obtaining a diagnostic test for confirmation.
- Antibiotic treatment decreases transmission but has little effect on symptom resolution.

Over-the-counter cough suppressants have limited efficacy in relief of cough due to acute bronchitis (Chest 2006;129:95S-103S).

TIPS TO REDUCE ANTIBIOTIC USE

- Tell patients that antibiotic use increases the risk of an antibiotic-resistant infection.
- Identify and validate patient concerns.
- Recommend specific symptomatic therapy.
- Spend time answering questions and offer a contingency plan if symptoms worsen.
- Provide patient education materials on antibiotic resistance.
- REMEMBER: Effective communication is more important than an antibiotic for patient satisfaction.

See www.cdc.gov/getsmart or contact your local health department for more information and patient education materials.

Key Reference