Bronchitis/Pneumonia Core Content

Keith Conover, M.D., FACEP 1.0 10/15/02

- **Clinical Spectrum**
  - Chest pain, shoulder pain, neck pain, abdominal pain, headache
  - Links with smoking, pollen count, FH of asthma ("forme fruste")
- **Bronchitis dx and etiology**
  - cough (< 1 wk), normal pulse ox, normal lung exam; no sinusitis, no pneumonia, no COPD/asthma; +/- sputum,+/- fever
  - Viruses. More and more and more viruses.
  - Maybe some COPD, a touch of asthma, some occupational exposure.
  - Bordatella pertussis.
- **Bronchitis Treatment**
  - albuterol inhaler decreased cough by 1.5 days compared to antibiotics; randomized all patients with dx of bronchitis in a FP setting. [Hueston WJ. Albuterol delivered by metered-dose inhaler to treat acute bronchitis. J Fam Pract 1994;39:437-440.]
  - Do antibiotics help acute bronchitis? No. So, only give antibiotics, if at all, to:
    - smokers/older/immunocompromised
    - fever
    - râles (1/20/98 J Club)

- **Labs and X-rays**
  - **X-rays:**
    - **Do kids who look well and have a normal pulse ox need a CXR? No.**
    - **Does hilar adenopathy in a kid with "pneumonia" require a neoplastic workup? No. Kids get nodes everywhere all the time. Don't worry.**
    - **Round infiltrate, or lobar infiltrate: pneumococcus**
  - **Gram Stains in the ED? Passe.**
  - **Blood cultures:**
    - **useless in peds, don't order them (ony 10-20% of kids pneumonia is bacterial anyway)**
    - **useless in adults, DO order them (internists expect it, and there are some very stupid but nonetheless authoritative recommendations to go ahead and get them)**
- **Who to Admit? (EDCAP study)**
  - **[Fine MJ, et al. A prediction rule to identify low-risk patients with community-acquired pneumonia. N Engl J Med 1997;336(4):243-50.] Send home those who are at low risk, Category I, in particular:**
    - **under 50**
    - **don't have respirations (not PULSE as in H-N) of 30 or more**

- don't have a temperature of 40 or more (or hypothermic)
- don't have an altered mental status
- (detailed calculator based on this paper available at NCEMI.org for those not class I)
- But as Dave Talan writes in H-N: not a substitute for good judgment, there will be exceptions.

❖ **Bugs**

- Most common adult CAP bugs?
  - August 2001 Med Ltr: NOT pneumococcus) but Mycoplasma, Chlamydia, Viral (esp. influenza: amantadine, rimantadine, inhaled ribavirin)
  - Tintinalli p 453: pneumococcus still most common; also note 40-60% have NO pathogen by testing! Why different? (pneumococcal vaccine?)
  - Harwood-Nuss: pneumococcus > H flu > others
- Most common infant/child/adolesecent bugs:
  - viral (RSV; cherche la nasal swab, consider ribavirin aerosol)
  - Mycoplasma (in adolescents; also up and coming in younger ages, passed around like RSV)
- COPD bugs: above, + pseudomonas, H. flu, Aspergillus, Strongyloides, TB

- **DM bugs: more staph, gram negatives, TB, mucormycosis; worse pneumococcus, Legionella, influenza**
- **Pregnancy: aspiration, immunosuppression: above + many viruses (mumps, VZ, influenza, EBV, swine flu); PCNs, cephs, macrolides OK in pregnancy; sulfa OK before third trimester.**
- **HIV: PCP "hairdresser with interstitial infiltrates and a pO2 of 60": Bactrim**
- **Transplant patients: just think about Presby ED experience.**

❖ **Drugs**

- **Does antibiotic timing matter? Yes. (Meehan et al, JAMA 1997: 8 hrs.)**
- **Four competing guidelines (none from ACEP)**
- **Reflex drugs, inpatient adult:**
  - **Azithro 500 mg daily PLUS:**
  - **EITHER Ceftriaxone: (some resistant pneumococcus at Mercy, 15% nationwide in 2001 per Med Ltr), so 1 g STAT, more if**
    - **> 100 kg**
    - **empyema**
    - **may have meningitis, osteo, or endocarditis**
  - **OR Tequin 400 mg daily**

- **Reflex drugs, inpatient kid:**
  - **Cefuroxime (Ceftin, Zinacef) or cefotaxime (Claforan)**
- **Reflex Drugs, likely aspiration:**
  - **Azithro 500 + Clinda 600 Q8 OR**
  - **Unasyn 1.5 Q6 (?+ Erythro)**
- **Reflex drugs, outpatient adult:**
  - **Can also give a gram of ceftriaxone first, and then Augmentin, Ceftin, or Cipro+ PCN**
  - **Azithromycin: good compliance, long tissue half-life**
  - **or doxy, or newer quinolones for 7-10 (maybe 21 for atypicals) though Levaquin/Tequin more and more from doxy/macrolide-resistant pneumococcus**

❖ **Extra credit:**

- **Does an infiltrate diagnose pneumonia? No, could be PE, atelectasis, tumor, chronic.**
- **Is an x-ray needed to diagnose pneumonia? Yes, officially. Is it needed to treat a patient as if he or she has an outpatient pneumonia? No.**
- **Which is more important, an x-ray or a pulse ox?**
- **Pneumonia +**
  - **bullous myringitis = ? (mycoplasma most likely, but could be suppurative otitis with some other bug)**

- **maculopapular eruption on trunk = ? (mycoplasma or viral)**
- **recovering from viral URI, has a pulmonary abscess and PTX = ? (staph)**
- **pleuritic chest pain = ? (PE, pneumococcus, Klebsiella)**
- **patchy nonsegmental unilateral infiltrates, diarrhea and bradycardia = ? (Legionella)**
- **currant-jelly sputum = ? (pneumococcus Type 3 or Klebsiella)**
- **elderly, decreased mental status, falling a lot, normal temp = ? (any of the above)**