Acute Pneumonia

Steven C. Hatch
University of Massachusetts Medical School

Let us know how access to this document benefits you.
Follow this and additional works at: https://escholarship.umassmed.edu/liberia_peer

Part of the Family Medicine Commons, Infectious Disease Commons, Medical Education Commons,
and the Respiratory Tract Diseases Commons

Repository Citation

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in PEER Liberia Project by an authorized administrator of eScholarship@UMMS. For more information, please contact Lisa.Palmer@umassmed.edu.
Acute Pneumonia

Steven Hatch, MD, MSc
Family Medicine Residency, LCPS
Tuesday 12 May 2020

Steven Hatch, MD, MSc
26 May 2020
USAID PEER/LIBERIA
ACUTE PNEUMONIA

STEVEN HATCH MD, MSC
12 MAY 2020
GOALS

• Characterize the epidemiology and pathogenesis of acute pneumonia in children and adults
• Highlight the most common etiologic agents of acute pneumonia
• Review clinical presentation and diagnosis
• Explain the approach to management
CASE #1
52 YO M WITH FEVER & COUGH

• No PMHx
• Abrupt onset yesterday afternoon
• Coughing up green sputum
• Moderate pleuritic R sided chest pain
• SHx: construction work, lives at home with wife and 2 children, 2 grandchildren
• Exam: T 102°, tachycardic, tachypneic, Sats 90% on 3L, looks sick T 102°
• WBC 15.7 (80N 8Bnd 10L)
• Hct/Plt/Chem 7/LFTs unremarkable
WHAT IS THE IMMEDIATE NEXT THING TO DO?

• A. Give ceftriaxone and metronidazole
• B. Send home with doxycycline 100 mg po twice daily
• C. Start vancomycin and piperacillin-tazobactam
• D. Perform ultrasound of Gallbladder
• E. Order CT scan of chest
• F. Think
WHAT ABX DO YOU WANT TO GIVE?

• That’s the wrong question to ask!

• Do not make plans before you assess.
HOW TO THINK ABOUT ID CASES

Non-infectious causes

Opportunistic (i.e. HIV)

Infections

"Routine"

Weird (i.e. call ID)

Gram Positives
Gram Negatives
Anaerobes
Viruses
Fungi
Parasites & Protozoa

Other bacteria:
-- Intracellular
-- Acid Fast/Modified
-- Spirochetes & other
52 YO M WITH FEVER, COUGH, FOCAL INFILTRATE: WHAT NOT TO MISS INITIALLY

- Non-ID: post-obstructive PNA 2º tumor; PE
- ID:
  - Gram-Pos: Pneumococcus >> Streps + Staph
  - Gram-Neg: H flu >> Klebs, E coli, Moraxella, others*
  - Anaerobes: only if he drinks heavily
  - Atypicalcs: Chlamydophila, Legionella, Mycoplasma
  - Viruses: influenza >> paraflu, RSV, adeno, others
  - Fungi, parasites, & protozoa: unlikely (if HIV negative)
  - Question: could this be COVID?
NOW WHAT?

- You need to cover pneumococcus, & H flu upfront (esp pneumococcus) +/- Chlamydophila & Mycoplasma
- You can/should cover influenza during flu season
- Low suspicion for COVID right now, but keep in mind
- You need to keep the other stuff in mind in case he doesn’t get better

- Q: what drug has good Gram positive and Gram negative coverage?
WHY, WHY DON’T YOU USE...

**Ceftriaxone!**

We **add azithromycin** for the atypical coverage in inpts; combo is superior. Can also go with **levofloxacin** alone.

- 3rd gen cephalosporin
- Good Gram + coverage
- Good Gram - coverage
- Once daily dosing
- cheap
- Well-tolerated

Can also use cefotaxime (Claforan)
30 YO MALE WITH DYSPNEA X 24 HRS

- Notes “not feeling well” for unclear length of time (weeks?)
- Mildly confused
- Mild cough, some whitish sputum
- Vitals: T 100.8 F, RR 24, O2 Sats 90%, HR 100
- Lung Exam: diffuse mild crackles, no dullness to percussion
- CBC: WBC 2.2; 33 Hct 33; Plt 180
- CXR:
YOU CONSIDER PNEUMONIA. WHAT ADDITIONAL PHYSICAL EXAM FINDING MAY HELP YOU WITH YOUR DIFFERENTIAL DIAGNOSIS?

• A. Funduscopic exam: AV nicking
• B. Oropharyngeal exam: superficial infection of mucosal surface
• C. Cardiac exam: crescendo-decrescendo murmur
• D. Lower extremity exam: unilateral erythema and tenderness
• E. You believe the likelihood of PNA is low given normal CXR.
| Common organisms associated with neonatal pneumonia according to route of acquisition |
|------------------------------------------|----------------------------------|
| **Transplacental**                        | **Amniotic fluid**               |
| Rubella                                  | Cytomegalovirus                   |
| Cytomegalovirus                          | Herpes simplex virus              |
| Herpes simplex virus                     | Enteroviruses                     |
| Adenovirus                               | Genital mycoplasma                |
| Mumps virus                              | *Listeria monocytogenes*          |
| Toxoplasma gondii                        | *Chlamydia trachomatis*           |
| *Mycobacterium tuberculosis*             | *Mycobacterium tuberculosis*      |
| Treponema pallidum                       | Group B streptococci              |
| *Listeria monocytogenes*                 | *Escherichia coli*                |
| **At delivery**                          | *Haemophilus influenzae (nontypable)* |
| Group B streptococci                     | *Ureaplasma urealyticum*          |
| *Escherichia coli*                       | **Nosocomial**                    |
| *Staphylococcus aureus*                  | *Staphylococcus aureus*           |
| *Klebsiella sp*                          | *Staphylococcus epidermidis*      |
| Other streptococci                       | Group B streptococci              |
| *Haemophilus influenzae (nontypable)*    | *Klebsiella sp*                   |
| Candida sp                               | *Enterobacter*                    |
| *Chlamydia trachomatis*                  | *Pseudomonas*                     |
| *Ureaplasma urealyticum*                 | *Bacillus cereus*                 |
|                                          | *Citrobacter diversus*            |
|                                          | *Influenza virus*                 |
|                                          | Respiratory syncitial virus       |
|                                          | *Enteroviruses*                   |
|                                          | *Herpes virus*                    |
|                                          | Candida sp                        |
|                                          | Aspergillus sp                    |

*UpToDate*®

Copyrights apply