

# Lecture 3

Community acquired pneumonia

- Additional Notes
- Important
- Explanation
- Examples

## Introduction

- Basic description: Infection of the lung caused by a bacterial organism that was acquired outside the hospital setting and often follows a viral upper respiratory tract infection.
- Clinically: a new opacity on chest radiography in the presence of respiratory symptoms
- Community-acquired pneumonia is further subdivided into typical and atypical.
- It's 3 types: "Anatomy "
  - ✓ Lobar (Typical)
  - ✓ brocho-pneumonia (Atypical)
  - ✓ Interstitial
- Common in winter months
- It is the sixth leading cause of death in USA
- The risk factors are old age, asthma, smoking, alcoholism diseases and immunosupression HIV,DM<sup>(1)</sup> (Chronic lung and heart in S.pneumoniae).

	Typical	Atypical "more common"
Symptoms	- Cough - Fever - Pain "stabbing-like pain" - Shortness of breath - chill	- Flu-like illness - headache - Sore throat - Cough in later stages
Etiology	- S. Pneumonia (MC) - H. Influenzae - M. catarrhal	<ul> <li>Mycoplasma pneumoniae</li> <li>chlamydophila pneumoniae</li> <li>Legionella</li> <li>Viruses</li> <li>Fungal</li> </ul>
Radiology <u>"imp in Dx"</u>	Lobar infiltrate	Bronch-oalveolar infiltrate
Diagnosis	Gram Stain & Culture Sample is ( Sputum )	serology test
Treatment	- Penicillin - Cephalosporin - Quinolone	- Macrolide e.g. Erythromycin

### Diagnosis:

- ✓ History & physical examination
- ✓ Chest x-ray.
- ✓ Serology for M.pneumoniae,
- ✓ Electrolytes (↓Na in legionella)
- ✓ Sputum Gram stain
- ✓ Blood culture

#### • Treatment:

- ✓ Typical: Penicillin, Cephalosporin, Quinolone
- ✓ Atypical: Macrolide. "VERY important with any atypical organism" e.g. Erythromycin

### Complication:

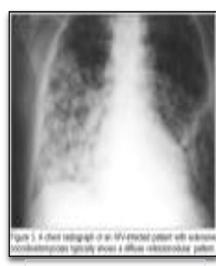
- ✓ Death
- ✓ Respiratory and cardiac failure
- ✓ Empyema "collection of pus in the space between the lung and pleural space..."



Lobar infiltrate

- Prevention:
  - ✓ Vaccination: H. Influenzae, S.pneumoniae
  - ✓ Prevention of Aspiration: Head Position, Teeth cleaning.
- Mycoplasma & Chlamydophila pneumoniae:
  - ✓ Flu-like illness.
  - ✓ Sore throat.
  - ✓ Chest X-ray: Bronchoalveolar infiltrate.
  - ✓ Diagnosed mainly serology.
  - ✓ Some of them are common in children.
  - ✓ Treatment: Macrolide.
- Legionella pneumophila: "found in water"
  - Commonly in patients in ICU

  - High fever
  - Treatment: Erythromycin



Bronchoalveolar infiltrate

# Quiz

- 1. What is the best sample for pneumonia diagnosis:
- a. Sputum b. Urine c. Gastric wash

- 2. Which type of bacteria that causes pneumonia commonly in ICU patients?
- a. Chlamidophila pneumonia b. Legionella pneumophila

- 3. Penicillin is the best treatment for any kind of atypical organism:
- a.T b.F