Pneumonia

- Acute Respiratory illness caused due to the inflammation of the lung parenchyma.
- Usually classified as.
  1) Community acquired Pneumonia
  2) Hospital acquired → 2 days after admission to hospital
  3) Immunocompromised individual → HIV.
  4) Health Care associated → 2 days last 90 days, on Hemodialysis
  5) Aspirational Pneumonia → Food, Drinks, Gastric ↳ with ↓ gag reflex.

By the area affected.

1) Bronchopneumonia → Bronchioles & Alveoli
2) Lobar Pneumonia → Whole lobe
3) Atypical or Interstitium → Interstitium.

1) Community Acquired Pneumonia

- It is usually due to droplet infections.

Risk Factors includes.

1) Age: old 2) Cigarette 3) Alcohol 4) URTI.
5) HIV 6) Pre-Existing lung disease.

- It is called **old man friend**

Causes

1) Bacteria
   - Streptococcus Pneumoniae
   - Staphylococcus Aureus
   - Hemophilus Influenzae ~~Pneumoniae~~
   - Mycoplasma Pneumoniae
   - Chlamydia Pneumoniae.
   - Klebsiella Pneumoniae.

2) Virus
   - Influenza
   - Metapneumovirus
   - Coronavirus (SARS MERS-CoV)
   - Herpes simplex
   - Varicella.
   - Cytomegalovirus.

MCK

Pathophysiology or Stages

1) Congestion → Day 1 & 2
   - Blood vessels and alveoli filled with exudate / fluid
2) Red Hepatization → Days 3 & 4
   - Exudate (RBCs, Neutrophils, Fibrin) Fill air spaces makes it solid
   - Liver like appearance.
3) Gray Hepatization - 5 to 7 days
   - Still Firm
   - RBCs Break down.
4) Resolution - 8 to 9 weeks.
   - Exudate is digested, ingested or Coughed up.

Clinical Features

- Cough with rusty red expectoration. (Strep. Pneumoniae).
- Dyspnea.
- Pleuritic pain.
- Constitutional → Fever, Malaise, chills, rigors, Shivering, delirium.

O/E

- Dullness to percussion. - over consolidation
- ↑ Tactile Vocal Fremitus → Palpation.
- Whispering Pectoriloquy & Auscultation
- Crepitus.
- Bronchial breathing
- Bronchophony
- Egophony.

Inspection - limitation of lung wall movements.

Pat Cervical → Toxemic, Febrile, Alae nasi working.

Investigations

Blood

CBC → ↑WBC, ↑Neutrophils, ↓RBC.

Urea → ↑ 20mg/dl

Electrolyte → Hyponatremia

LFT → Hypoalbuminemia

↑ESR, ↑CRP.

Blood Culture →

ABO Analysis - Sa O_2 ≤93%

Sputum → Gram stain, Culture

Oropharyngeal swab → PCR for mycoplasma Pneumonia.

Pleural Fluid → Aspiration and culture

Chest xray PA view

↓

Lobar Pneumonia (X).

① Patchy opacification evolves into homogenous consolidation of affected lobe.

② Air bronchogram (air-filled bronchi appear lucent against consolidated lung tissue).

Bronchopneumonia → Patchy areas, spread throughout

Atypical → Concentrated in perihilar region.

Differential Diagnosis

- Pulmonary infarction
- Pulmonary TB.
- Pulmonary edema
- Pulmonary Eosinophilia.
- Bronchioalveolar cell CA.

Management

CURB-65 Score:

Confusion

Urea - >20 mg/dl

Respiratory rate >30/min

Blood pressure (< 90 mm Hg / < 60 mm Hg)

Age >65 years.

- Score 1 for each point present.

0 or 1 → Home treatment

2 → Outpatient

3 or ~~more~~ → Severe Pneumonia, IP

4 or 5 → ICU.

- Oxygen supply and Fluid balance.

Complication

- Para-Pneumonic Effusion - Common
- Empyema.
- DVT & Pulmonary Embolism
- Pneumothorax
- Lung Abscess
- ARDS, Renal Failure
- Arrhythmia.
- Hepatitis, Pericarditis, Myocarditis, Meningoencephalitis