

## PNEUMONIA:

- defined as an infection of the lung parenchyma
- causes the Alveoli to be filled with inflammatory exudates and usually results in consolidation of lung

## CLASSIFICATION:

### 1) Community Acquired bacterial pneumonia:

- *Streptococcus pneumoniae*
- *Haemophilus influenzae*
- *Mycoplasma pneumoniae*

### 2) Community Acquired viral pneumonia:

COVID-19

Influenza

### 3) Healthcare - Associated pneumonia:

- *Pseudomonas*
- *Staph pneumonia*

### 4) Chronic pneumonia

*Nocardia*

*Achromyces*.

TB

Refer  
10-542  
10 R d's

## Factors favouring the development of pneumonia

- Lowered systemic Resistance of the host due to
  - Chronic disease
  - Innate or cell mediated defect
- Leukopenia
- Use of immunosuppressive Agents
- Impaired local defence mechanisms,
  - Loss of the cough Reflex
  - Damage or injury to the mucociliary Apparatus
- Accumulation of secretions
- Pulmonary congestion And edema

## CLASSIFICATION BASED ON ANATOMIC DISTRIBUTION:

- Lobar pneumonia: consolidation of large portion of lobe
- Broncho pneumonia: patchy area consolidation.
- Interstitial pneumonia

## MORPHOLOGY

Lobar pneumonia: diffuse inflammation affect part or entire lobe, usually the lower lobes.

## STAGES:

- |                       |                         |
|-----------------------|-------------------------|
| (i) Congestion        | (iii) Gray hepatization |
| (ii) Red hepatization | (iv) Resolution         |

### CONGESTION:

1<sup>st</sup> stage last for less than 24 hours.

GROSS: involved lobe is heavy, boggy, wet & Red  
Ablood stained frothy fluid oozes out when incised

MICRO: Dilation and engorgement of capillaries.

Alveoli are filled with pale eosinophilic fluid with few neutrophils, Red cells, and bacteria.

### RED HEPATIZATION: last for 2-3 days

GROSS: The lobe appears Red, firm, Ankle, <sup>Lung</sup> Resembles that of liver.

The cut surface shows Red and granular appearance.

MICRO: Alveoli show exudate and interalveolar strand of fibrin. Numerous neutrophils and Red cells.

### GRAY HEPATIZATION: last in 5-7 days

GROSS: The affected lobe gradually loses its Red color and appears grayish brown.

The firm consistency resembles that of liver.

The cut surface shows a gray, dry, granular appearance.

MICRO: Progressive disintegration of Red cells.

Fibrinous exudate in the Alveoli.

clear space b/w the Alveolar wall and the exudate due to contraction of fibrin mesh.

10-11

**RESOLUTION:** 8-9<sup>day</sup> of infection

It occurs by liquefaction of previously solid, fibinous.

- The liquefaction is due to fibrinolytic enzymes liberated from neutrophils.

**GROSS:** The affected lobe becomes more cephalic as the Air spaces Reopen.

**MICRO:** The Alveolar space show granular material.

**COMPLICATION:**

- Lung Abscess

- Organization → ingrowth of granulation tissue into the Alveolar exudate

- Gradually ↑ Alveolar fibrous lead to a shrunken And firm lobe → calcification.

- Spread of infection to the pleural cavity.

- Pleuritis

- Pleural effusion

- Pyothorax.

- Empyema.

C.F

→ onset of high fever, chills  
cough

→ Radiography  
- Gist

- Transillumination

- Bacteraemia dissemination cause

- Endocarditis

- Pericarditis.

- Meningitis.