

# **Bronchiectasis**

- Bronchiectasis is abnormal and irreversible dilatation of the bronchi and bronchioles (greater than 2 mm in diameter) secondary to inflammatory weakening of bronchial wall.
- Occur in childhood and early adult life
- Persistent cough with copious amount of foul smelling purulent sputum

# **Aetiopathogenesis**

Bronchial wall destruction is due to:

- Endobronchial obstruction due to foreign body
- Infection due to local obstruction or impaired defence mechanism

Clinical settings of these conditions:

- Hereditary and congenital factors
- Obstruction
- Secondary complication

## **Hereditary and congenital factors:**

- Congenital bronchiectasis due to developmental defects
- Cystic fibrosis causing defective secretion resulting in obstruction
- Hereditary immune deficiency diseases
- Immotile cilia syndrome- immotile cilia of respiratory tract, sperms causing Kartagener's syndrome (bronchiectasis, situs inversus and sinusitis) and male infertility
- Allergic bronchial asthma patients

## **Obstruction:**

Localised variety in one part of bronchial system.

Obstruction can be due to

Foreign body

Endobronchial tumors

Hilar lymph nodes

Inflammatory scarring (TB)

## **Secondary complication:**

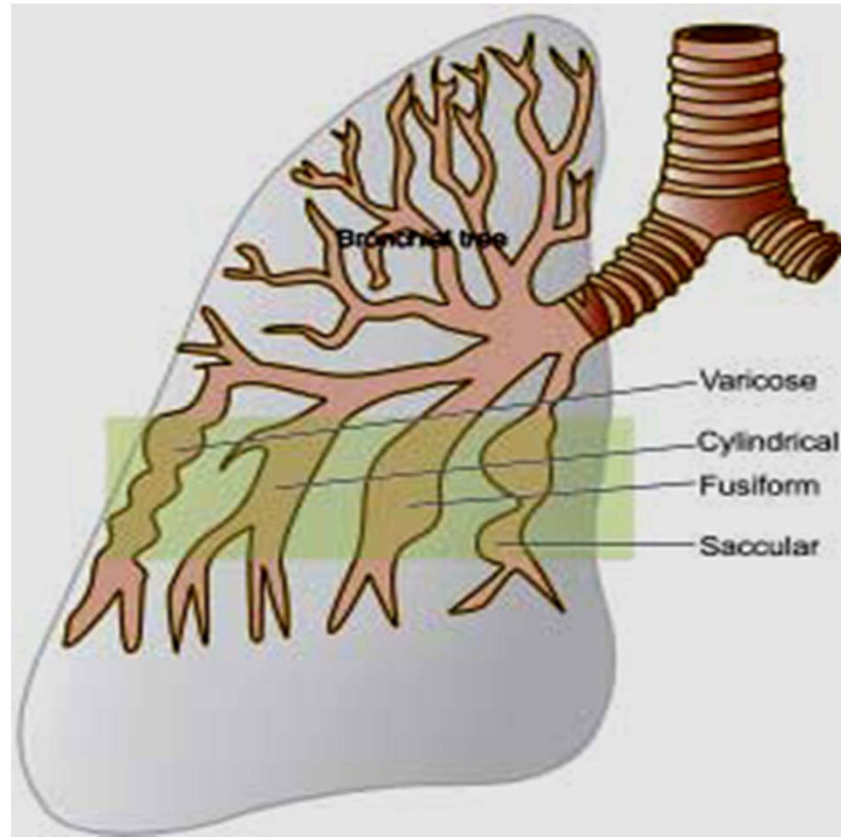
Necrotizing pneumonia in Staph infection and TB

# Morphologic changes

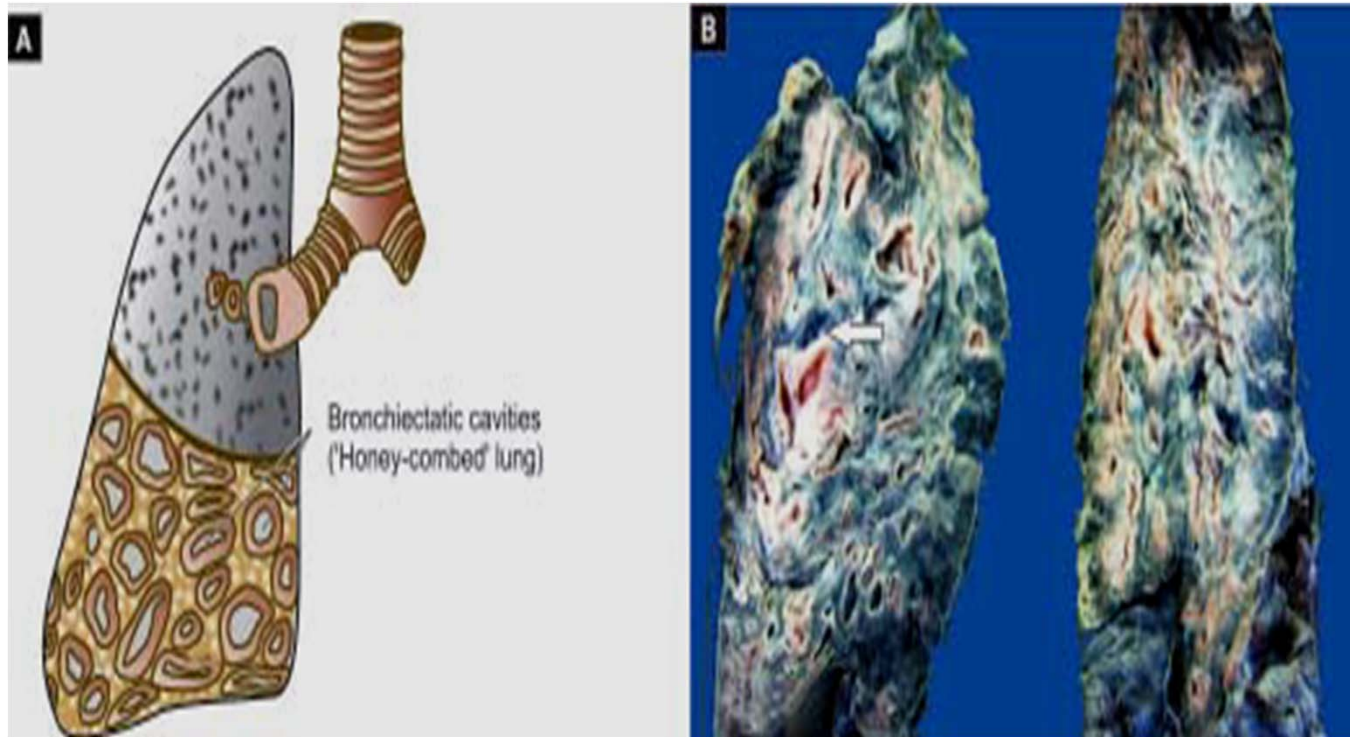
- **G/A:** Affects distal bronchi and bronchioles
- Lower lobes more frequently
- Lungs involved diffusely/segmentally
- Left lower lobe than right
- Pleura fibrotic & thickened adherent to chest wall

Dilated airways subclassified into

- Cylindrical
- Fusiform
- Saccular
- Varicose

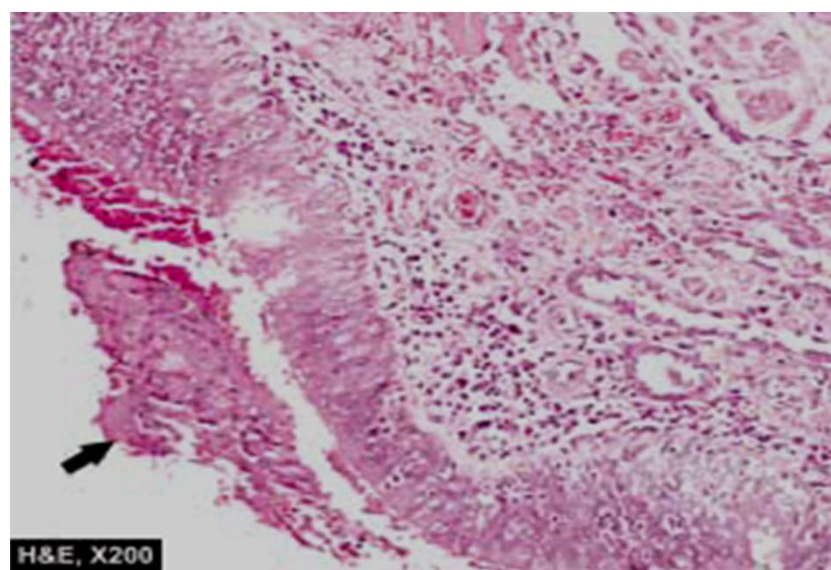
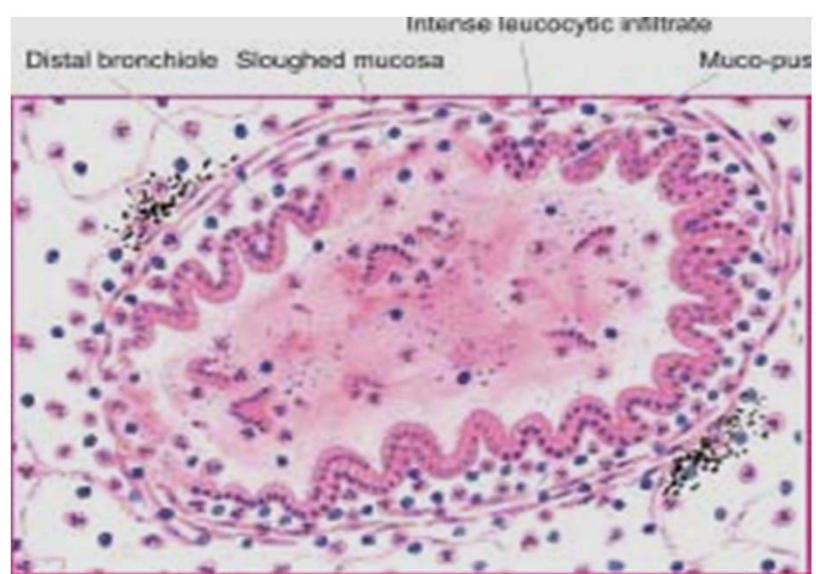


## C/S lung: Honey-combed appearance



- **M/E:**
- Bronchiole-dilated
- Bronchial epithelium-normal, ulcerated, squamous metaplasia
- Bronchial wall-infiltration by ac & Ch inflammatory cells, destruction of muscle, elastic tissue
- Lung parenchyma-fibrosis, surrounding tissue pneumonia
- Pleura-fibrotic and adherent





# Pulmonary infections

- Acute/Chronic
- **Caused by:**
- Bacteria
- Viruses
- Fungi
- Mycoplasma

## **Diseases**

- Pneumonias
- Lung abscess
- Fungal infections
- TB

# Pneumonias

- Acute inflammation of lung parenchyma distal to terminal bronchioles.
- Consolidation: Gross and radiologic appearance of lungs in pneumonia
- **Pathogenesis:**
- Inhalation from air
- Aspiration from nasopharynx/oropharynx
- Hematogenous spread
- Direct spread from adjoining site

**Failure of defense mechanism:** due to

- Altered consciousness
- Depressed cough & glottic reflux
- Impaired mucociliary transport
- Impaired alveolar macrophage function
- Endobronchial obstruction
- Leucocyte dysfunction