

# BRONCHIECTASIS

# Bronchiectasis

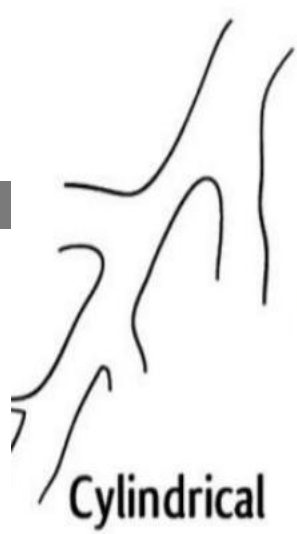
## **Definition:**

Abnormal and permanent dilation of bronchi.

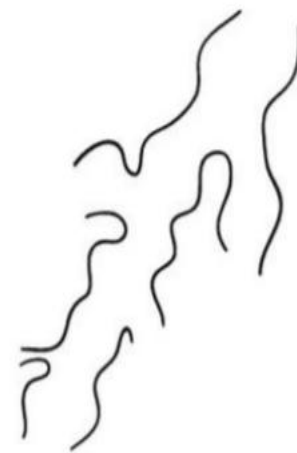
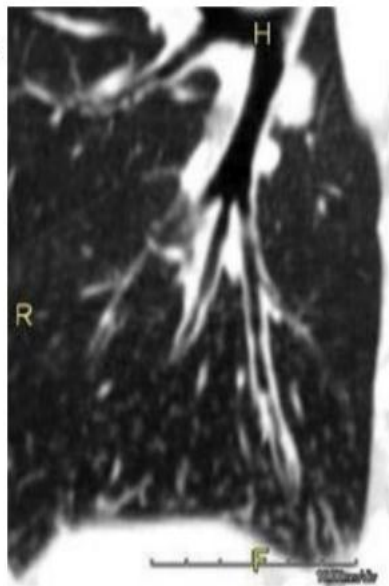
Focal or diffuse distribution

Pooling of secretions in dilated airways.

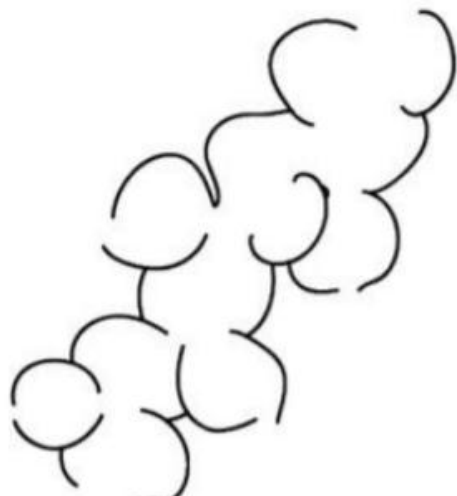
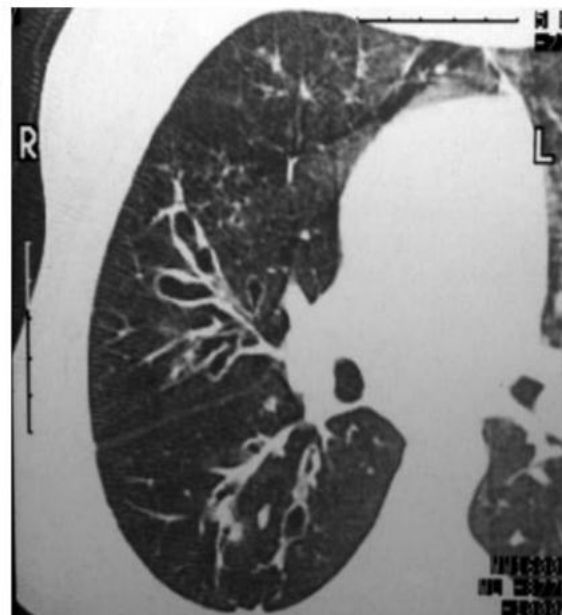
Predispose to recurrent infection .



Cylindrical



Varicose




Cystic



# Aetiology:old severe lung infection

- Severe viral like Measles and influenza
- Severe bacterial infection S.aureus, and pertussis and tb



A 60 year old man non smoker presented with persistent productive cough for the last seven years and exertional dyspnea he stated that he is usually admitted and treated for pneumonia 4-5times/year during this period he had received prolonged courses of antibiotics he also Had pulmonary tuberculosis at the age of 50 for which he received treatment for about one year.

# aetiology : impaired host defense

- **Local causes:** bronchial obstruction
- **Generalised impairment:**
  1. Immunoglobulin deficiency
  2. Primary ciliary disorders
  3. Cystic fibrosis

# Aetiology non infectious

- Toxins or toxic substances  $\text{NH}_3$ ; gastric contents
- Immune responses, allergic bronchopulmonary aspergillosis.
- Inflammatory diseases :rheumatoid arthritis, Sjögren syndrome.

Neutrophil  
Inflammation  
(Proteases)

Airway  
Destruction and  
Distortion  
(Bronchiectasis)



Bacterial  
Colonization

Abnormal  
Mucus  
Clearance





# CI/f

- Persistent or recurrent cough with purulent sputum.
- Haemoptysis
- Initiating episode
- Dyspnoea, wheezing – widespread bronchiectasis or underlying COPD.
- Exacerbation of infection: Sputum volume increase, purulence or blood.increase change with position

# PHYSICAL EXAMINATION

- Clubbing of digits.
- Any combination of rhonchi, creps or wheezes
- Chronic hypoxaemia → cor pulmonale → R heart failure.

- A 55-year-old woman presents for evaluation of a chronic cough, productive of thick, yellow sputum that sometimes becomes blood-tinged. She has experienced recurrent episodes of fever associated with pleuritic chest pain. She states that she is embarrassed by the persistent, intractable nature of her cough and has been prescribed multiple courses of antibiotics. Over the last 5 years, she has developed shortness of breath with exertion. Her past medical history is significant also for an episode of severe pneumonia as a child.

# Dx

- **Clinical**

- **Chest XR:** non-specific

mild disease – normal XRC

advanced disease – cysts + peribronchial thickening, “tram tracks”, “ring shadows”.

**CT Scan:** Peribronchial thickening, dilated bronchioles.

- **Sputum culture:**

- Pseudomonas aeruginosa, H.influenzae.

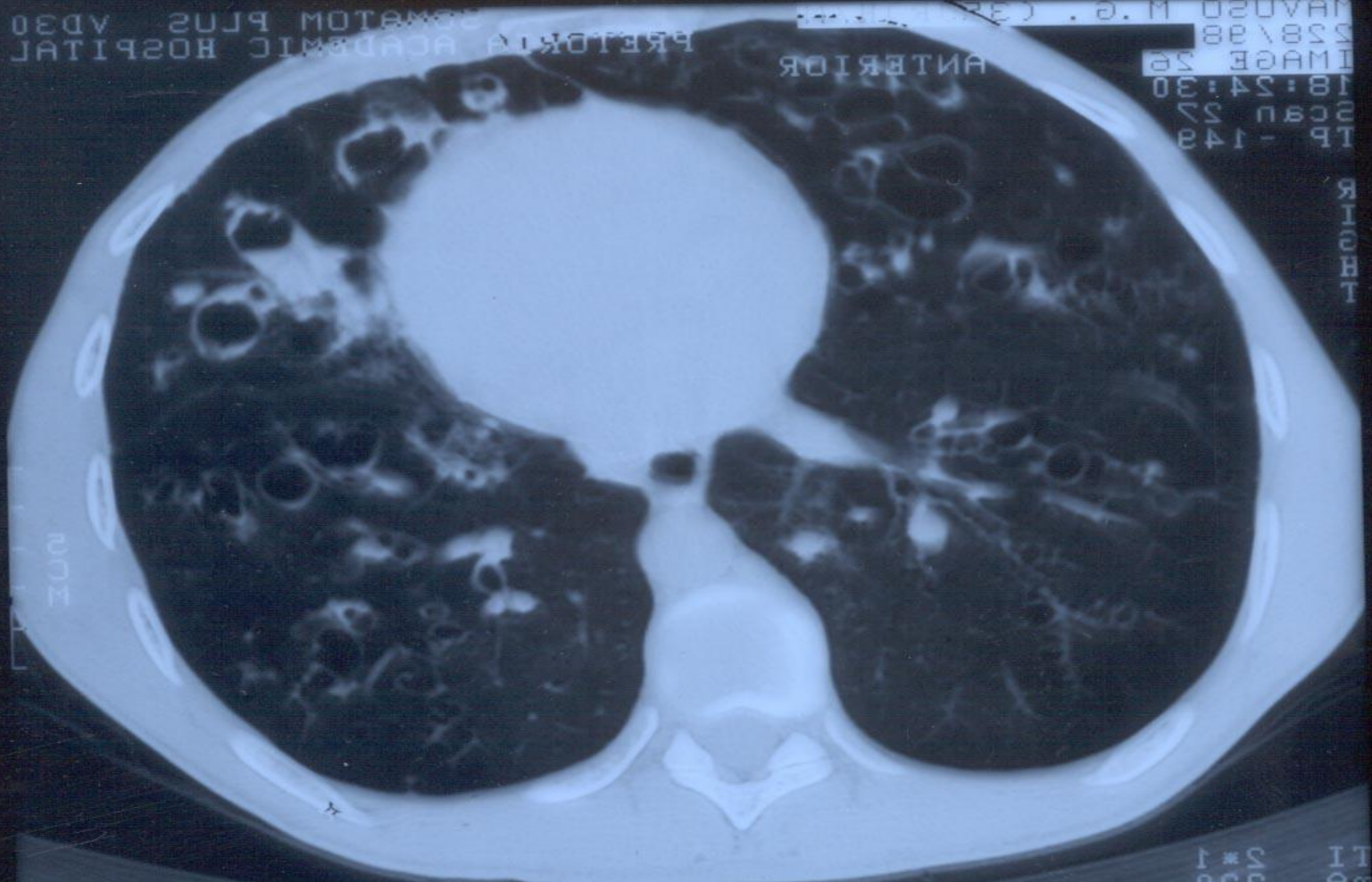


PRETORIA ACADEMIC HOSPITAL  
SOMATOM PLUS  
VD30

ANTERIOR

IP - 148  
Scan 27  
18:24:30  
IMAGE 25  
228/88

R  
I  
G  
H  
T

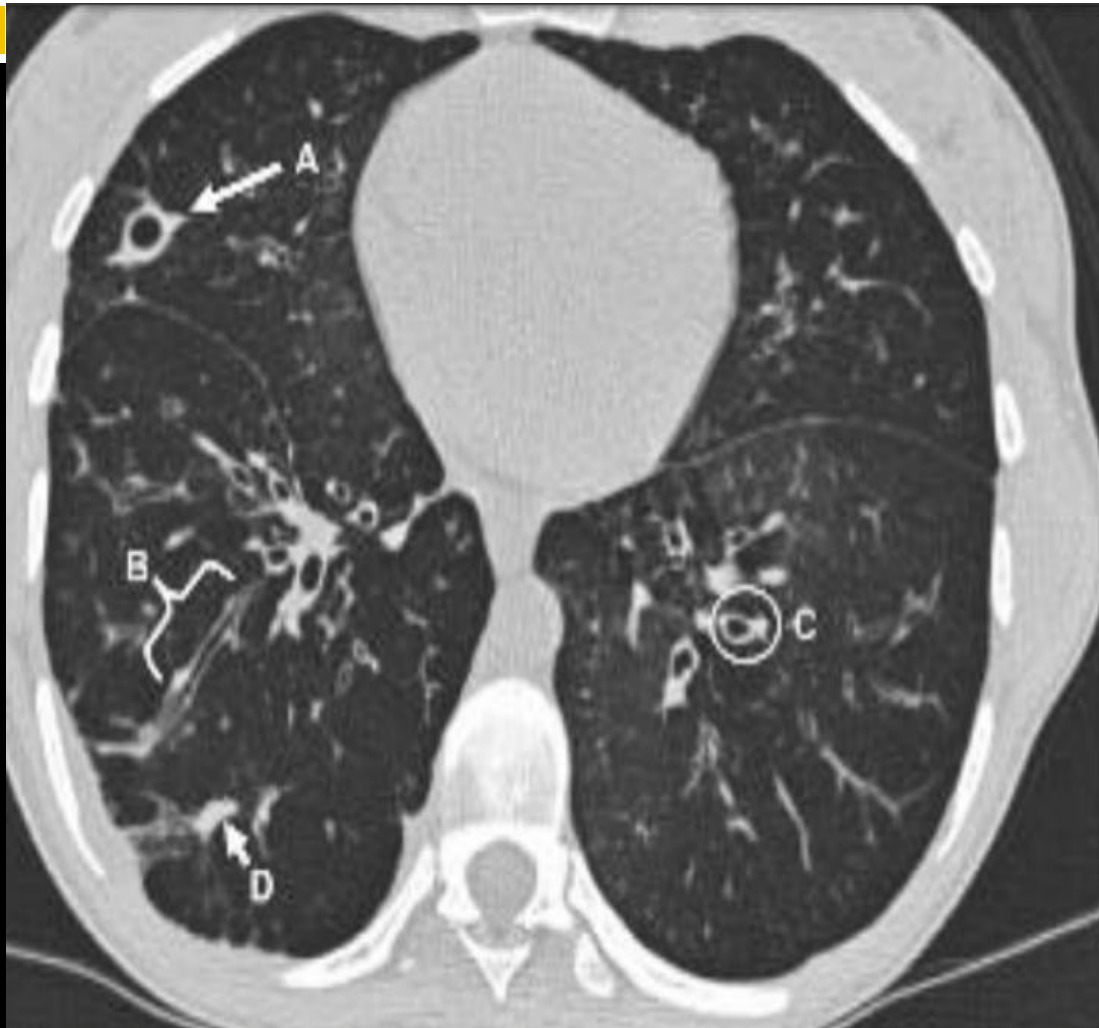


NOE

12-JAN-88  
AB 7041  
CF -42  
NO 1.8  
SLOT 1  
KV 137  
MA 201  
TI \*201

M 278  
C -200  
M 2200





Radiographic signs of bronchiectasis. *A* = Bronchus terminating in a cyst; *B* = lack of bronchial tapering as it travels to the periphery of the lung; *C* = signet ring sign (bronchus is larger than the accompanying vessel); *D* = mucus plug (mucus completely filling the airway lumen).

# Dx

- **Lung function:**
- Airflow obstruction – FEV1 decreased.
- Sweat test – increased sodium and chloride in cystic fibrosis
- Bronchoscopy: exclude Obstruction – foreign body, tumor.



rx

1. Eliminate cause
2. Improve tracheo bronchial clearance
3. Control infection.
4. Reverse airflow obstruction

# TREATMENT

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- Antibiotics .
- Chest physical therapy
- Mucolytics
- Bronchodilators

# rx

- Antibiotics – short course, prolonged course, intermittent regular courses, inhalation.
- Initial empiric Rx: Ampicillin, Amoxicillin, Cefaclor, Septran
  - Ps.aeruginosa – Quinolone, aminoglycoside, 3<sup>rd</sup> generation cephalosporin, piperacillin.
- Oxygen
- Surgery:
- Lung transplant

- What is the dx?





□ thanxs