

Key messages

CXR interpretation in TB/HIV setting

Training course

Normal CXR Front view and lateral view

- Good notions of technical conditions to obtain a good CXR
- Good knowledge of criteria for quality of CXR
- Respect a checklist to read CXR
- How to correctly analyse the retro clavicular areas
- Use the profil view when necessary

Bronchial syndrome

- Atelectasis is homogeneous, retractile, systematised

Etiology

- bronchial cancer
- TB bronchial stenosis
- Extrinsic compression by TB adenopathy/foreign body (children)

Do not miss the diagnosis of bronchiectasis, which a frequent pathology

Alveolar syndrome

- Non homogeneous, non retractile in acute phase, bronchogram, sometimes systematised
- Etiology if localised:
 - bacterial infection
 - TB
- Etiology if diffuse
 - Bacterial/viral/fungal infection
 - Cardiac edema

Interstitial syndrome

- Ground glass attenuation: if PLHIV consider PCP
- Miliary: TB first diagnosis
- Differential diagnosis:
 - Carcinomatous miliary
 - Fungal infection if PLHIV
 - LIP in children
 - Recognize the meshed net aspect of fibrosis

Cardiovascular syndrome

- Recognize if enlargement of left atrium and ventricle
- Differentiate between cardiac enlargement and pericardial effusion
- Measure cardio-thorax index
- Recognize if hemodynamic edema

Mediastinal syndrome

- Recognize the main anatomic compartments of the mediastinum and the main etiologies in each compartments
- Adenopathy is the most frequent pathology in middle mediastinum and tb is the main etiology in country with high incidence
- Recognize overlap and convergence sign of hilus

TB nodules and infiltrate

- Often isolated or grouped in upper lobes or apical segment of inferior lobes
- Use PA view for retro clavicular areas
- AFB often neg because non-excavated
- Association with lesions with different seniority (nodules, cavity, sequels) suggestive of TB
- These lesions must be treated by tb treatment

TB cavity

- Often AFB pos
- If AFB neg consider lung cancer and pulmonary abscess
- Frequently associated with nodules and infiltrate
- Differential diagnosis: bacterial abscess, amoebic abscess, mycosis, melioidosis in specific areas and others rare bacterial infections
- Remember aspergilloma
- Do not confuse tb cavity with bronchiectasis
- Mass > 3-4 cm non-excavated is very rarely TB

TB pneumonia

- Lesions often bilateral and associated to nodules, adenopathy, cavities
- Frequent in PLHIV and associated to bulky adenopathies
- AFB often positive

Miliary TB

- Diffuse micro nodules < 3 mm or nodules 3-6 mm
- Severe dyspnea but normal auscultation
- AFB often neg
- Frequent in PLHIV, associated to adenopathies or pneumonia with cavities or EPTB
- Consider differential diagnosis (carcinomatous, fungal if PLHIV)

TB adenopathy

- Often bilateral and asymmetric
- Frequent in PLHIV, often bulky and associated to other pulmonary lesions, especially TB pneumonia and EPTB
- AFB often neg, except if associated pulmonary lesion
- +++ if doubt use lateral view

TB pleural effusion

- Often unilateral
- Lymphocytis predominance (exception is possible)
- Exudative
- Associated with pulmonary TB < 50%, but often there is this association in PLHIV
- Evacuation and physiotherapy influence good evolution

TB sequels

- Retraction, calcification, bronchiectasis
- Always request AFB before make diagnosis of sequela
- Can be symptomatic: hemoptysis, dyspnea, chronic respiratory failure
- Decision to treat or not:

Past history (notion of correct TB treatment or not)

Clinical symptoms, sputum analysis

Evolution if non specific antibiotic treatment

CXR analysis

TB & HIV

- TB+ bacterial infections +PCP= 80% of pulmonary diseases
- If $CD4 < 200$ TB cavity is rare, but miliary, pneumonia and adenopathy are frequent and often associated
- If diffuse pneumonia with ground glass attenuation and alveolar picture consider PCP
- Carefull with immuno-reconstitution syndrome

Childhood TB

- TB: evolution and complication of primary infection in young children
- Adult like in older children.
- The notion of TB in household is very important for diagnosis in the young children
- Remember thymus
- Remember lymphoma
- **Remember: in young children**
Diagnosis of TB= identify adenopathy
- Disease progressive in PLHIV