Clinical Manifestations & Overview of Management of Pulmonary Tuberculosis

Dept of Pulmonary Medicine

Learning Objectives

- When to suspect Pulmonary Tuberculosis?
- How to diagnose?
- How to manage a case of drug susceptible Tuberculosis?

When to suspect?(Pulmonary)

- TB suspect → **Presumptive Tb**
- **> 2weeks cough**
- **fever>2 wks,**
- **significant wt loss**
- **Haemoptysis**
- **abnormal CXR**

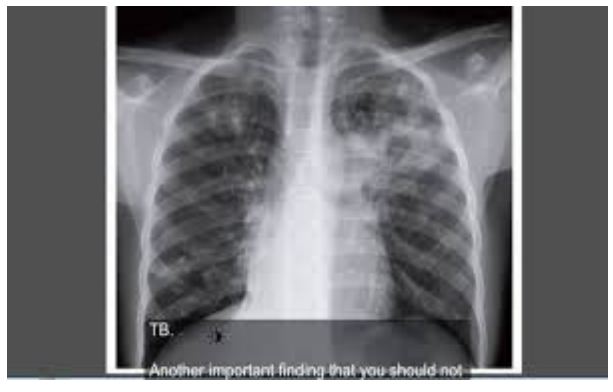
Dyspnea

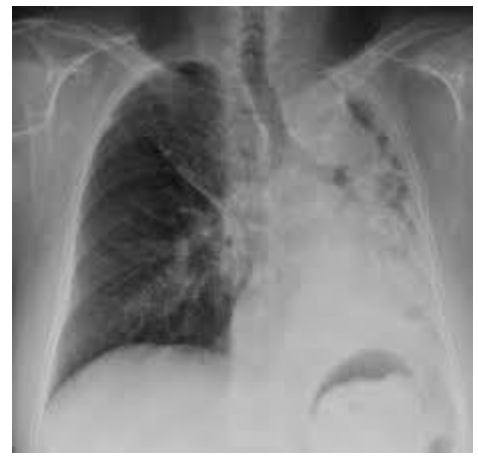
Chest pain

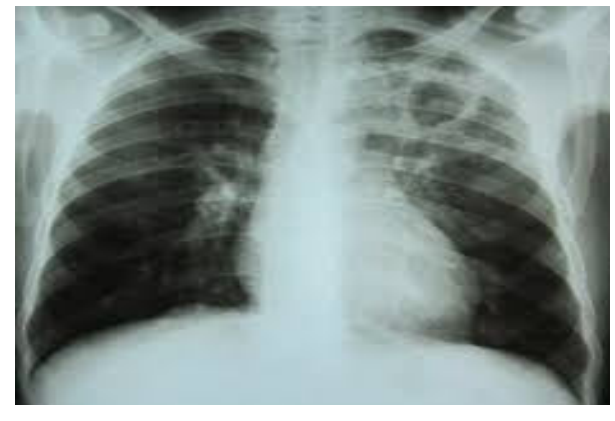
Signs

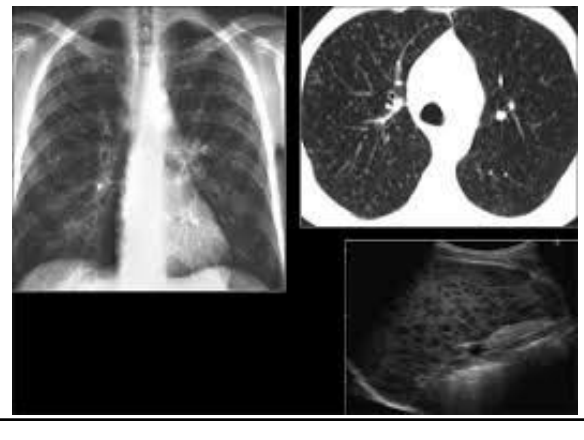
- **General**
  - Emaciated
  - Pallor
  - Cyanosis
  - Clubbing
  - Edema
  - LNpathy

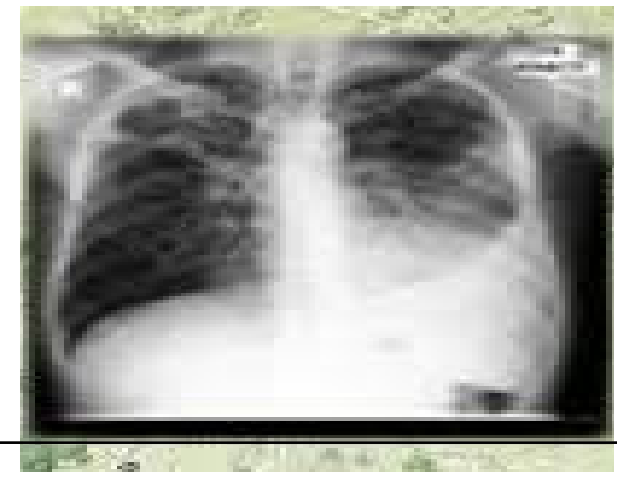
- Respiratory
  - Any
  - Consolidation
  - Fibrosis
  - Cavity
  - Pleural inv
  - Miliary

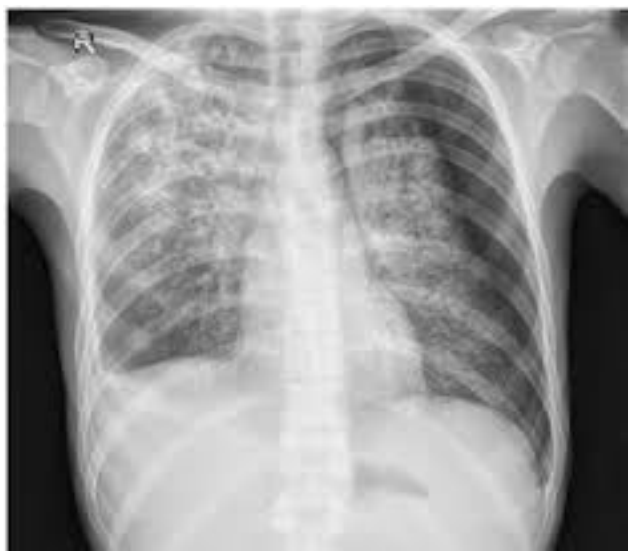


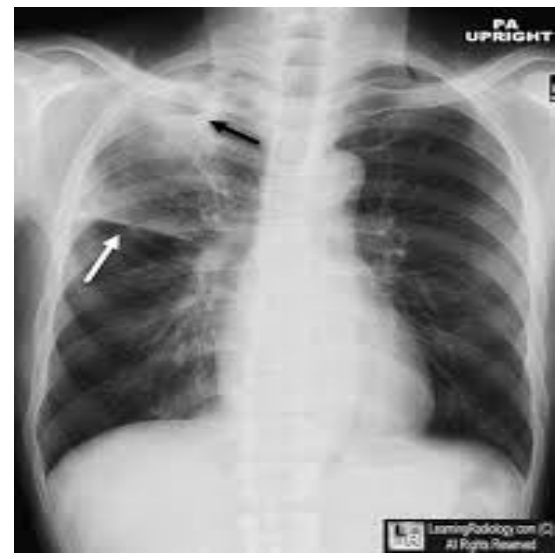


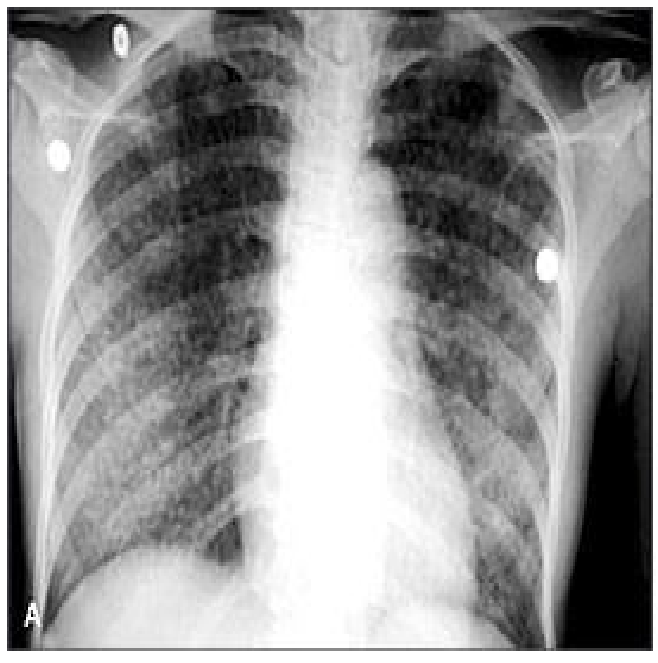


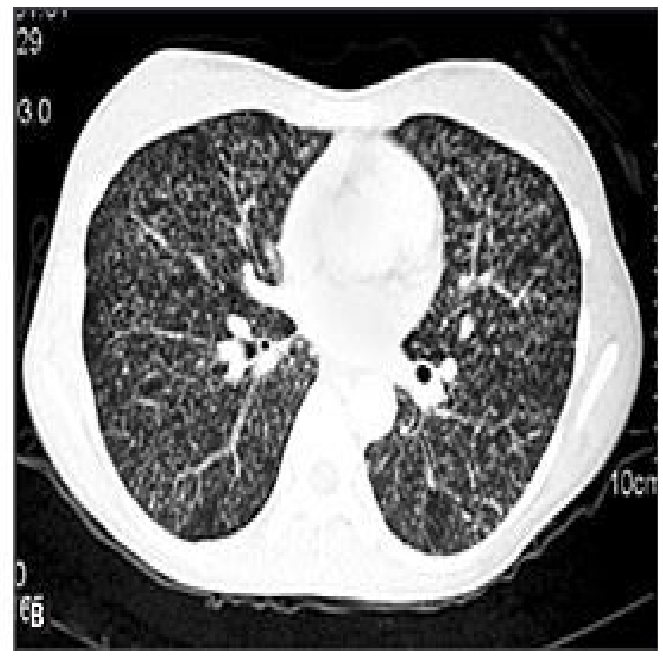












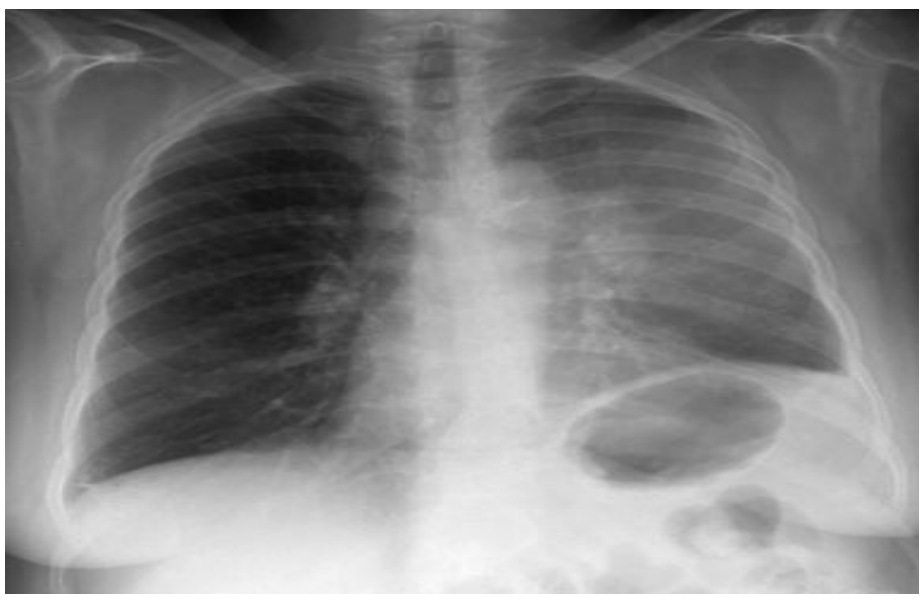
Signs

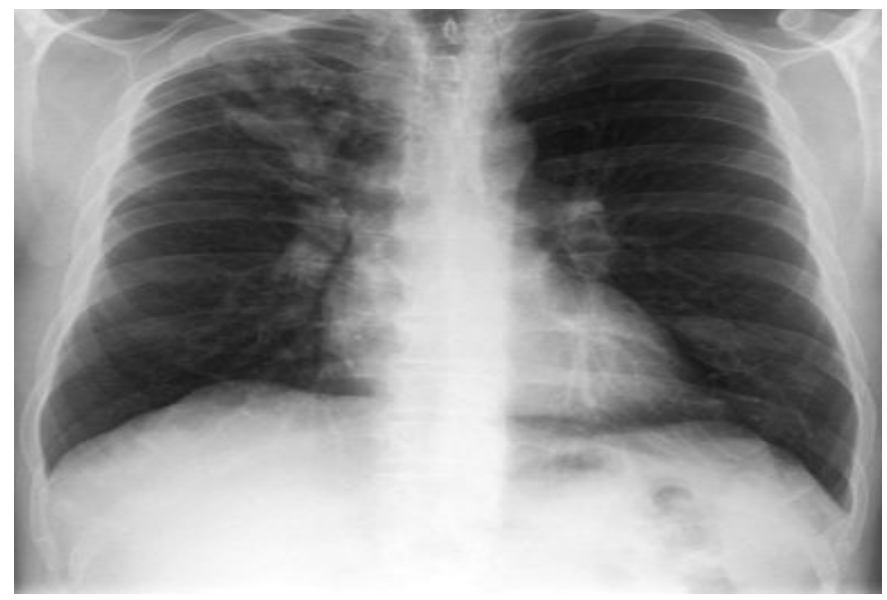
- Bronchial
- Dec/Absent BS
- Normal
- Added sounds

Diagnostic tools

Diagnostics

- CXR:
    - Sensitivity & poor specificity
    - Complementary tool





- Microscopy:

- Serology:**Banned**

- Gold standard:culture
    - LJ media
    - Rapid :Bactec
    - MGIT
    - Bac T

Diagnosis

- **Microscopy**
  - **ZN stain**
  - **Flourescent**
- **Culture**
  - **solid (6-8 wks)**
  - **liquid (42 days)**
- **Rapid**
  - **CBNAAT**
  - **LPA**

Phenotypic methods

Genotypic methods

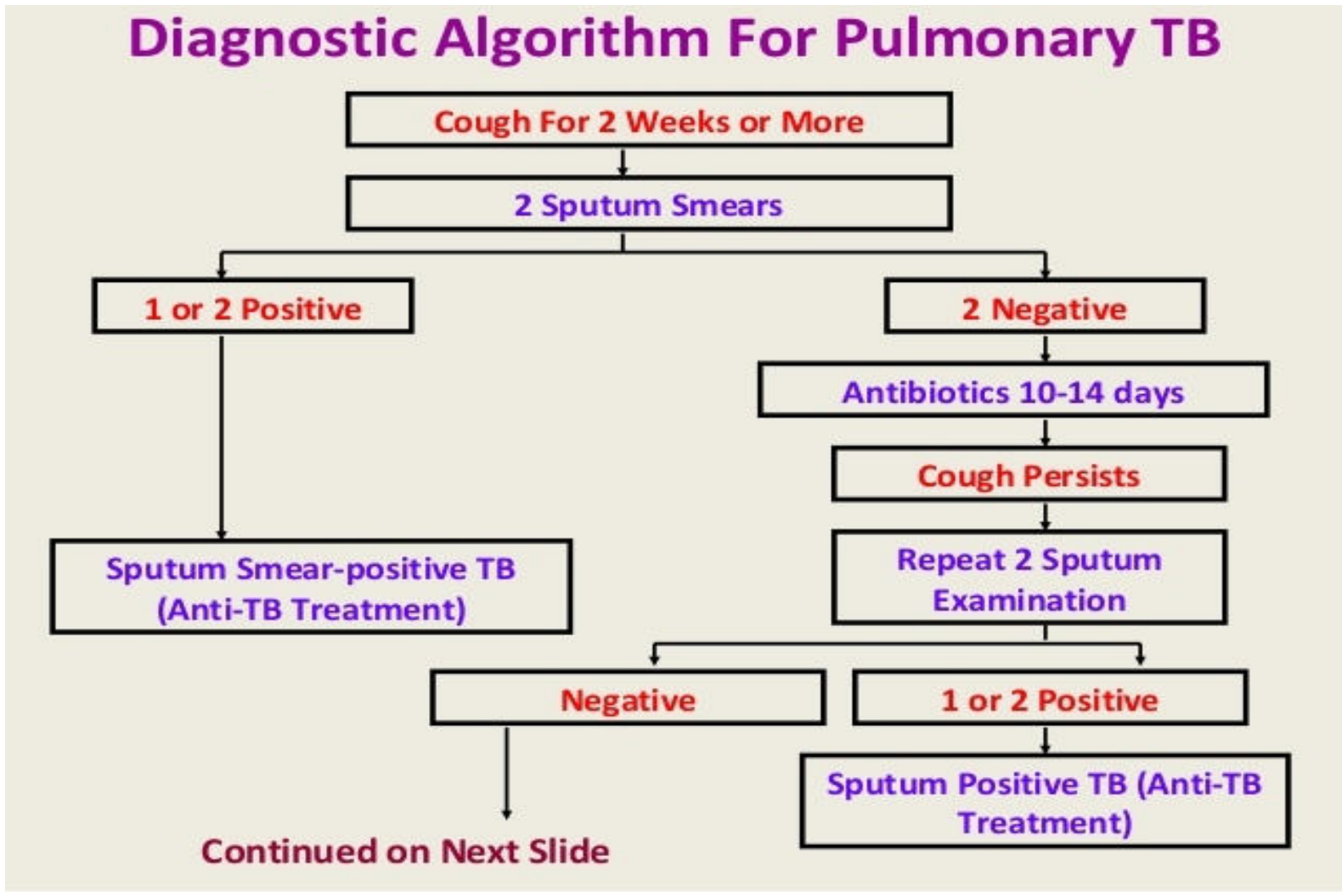
Diagnosis of TB

- Chest x-ray or CT scan (nonspecific)[1]
- Sputum smear with Ziehl-Neelsen method[1]
  - Sensitivity: 50% to 70%
  - Specificity: 98%
- Sputum culture[2,3]
  - Sensitivity: 80% to 98%
  - Specificity: ≥ 98%
  - Time to detection: 10-50 days
- Nucleic acid amplification tests[1]
  - Pooled sensitivity: 88%
  - Pooled specificity: 98%
  - Rapid turnaround

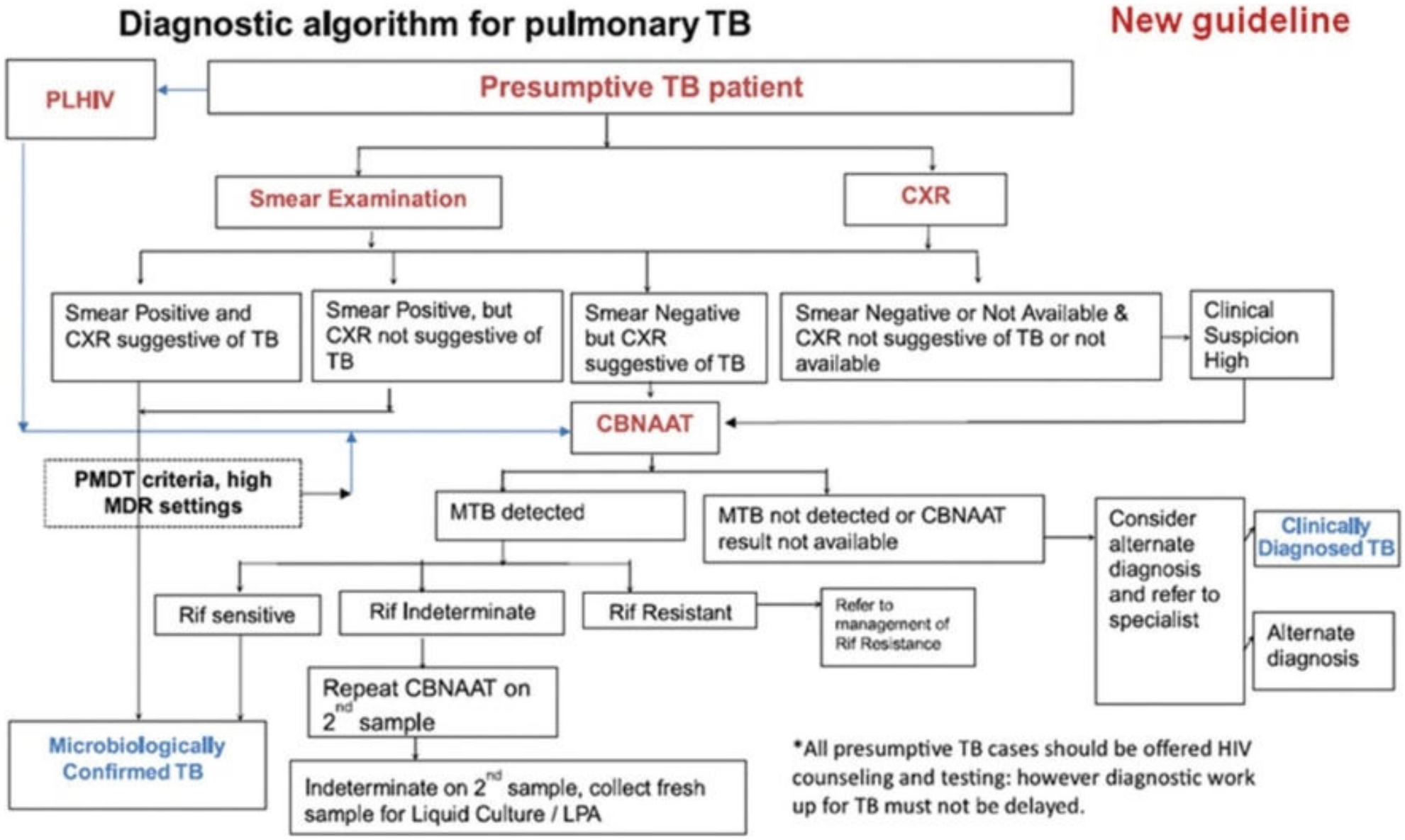
1. van't Hoog AH, et al. Cochrane Database Syst Rev. 2014;1:CD010890. 2. Davies PD, et al. Int J Tuberc Lung Dis. 2008;12:1226-1234. 3. Moore DA, et al. N Engl J Med. 2006;355:1539-1550.

Slide credit: clinicaloptions.com

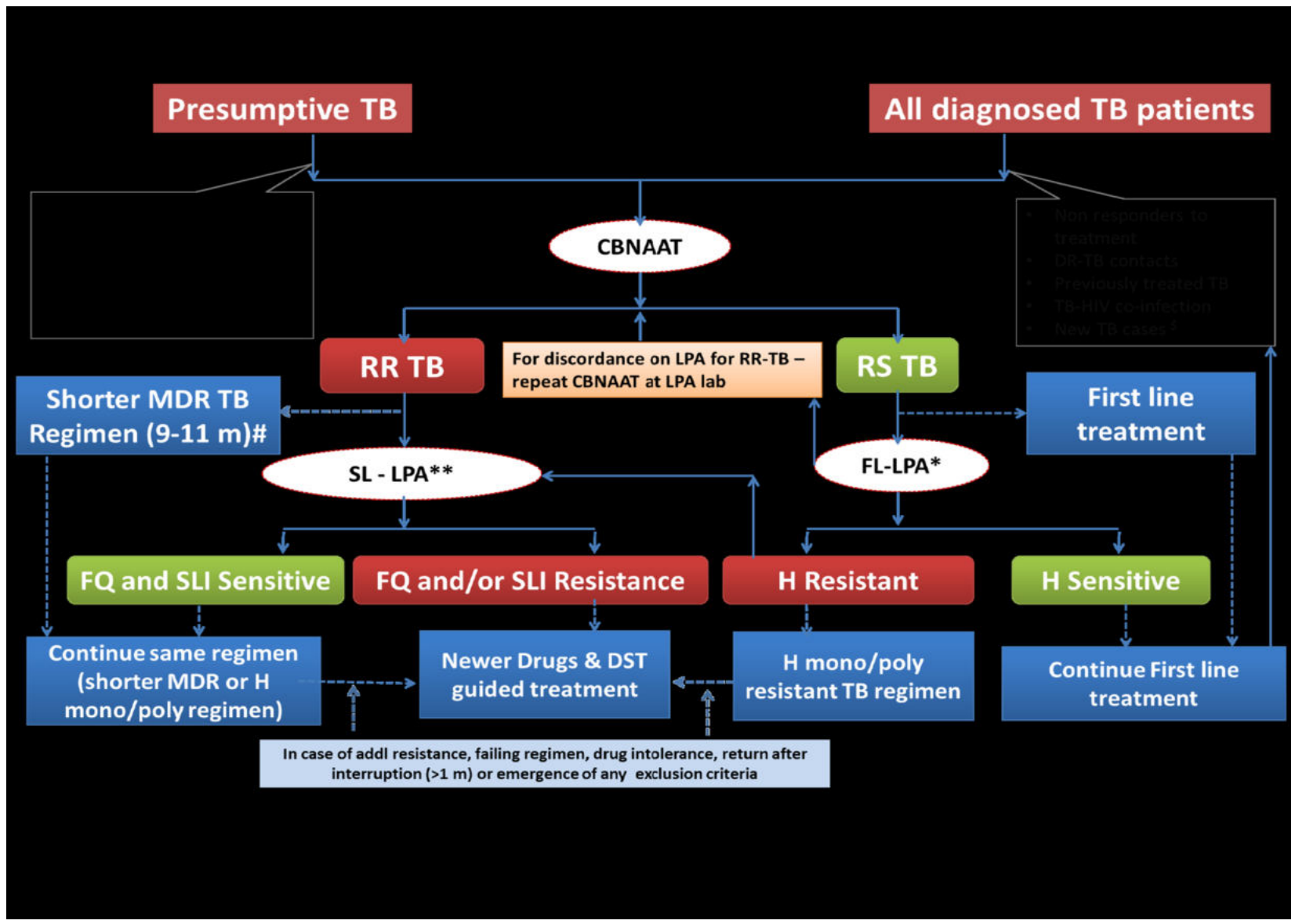
OLD



New guideline



RNTCP 2017



Management

- Medical:
  - long duration
  - IP & CP

- Surgery:complications
  - Haemoptysis
  - Aspergilloma
  - Pleural diseases

TREATMENT REGIMENS

Type of TB case	Intensive Phase	Continuation Phase
New	**2RHEZ**	**4RHE**
Retreatment		**IE**

Intermittent regimens are being changed to daily regimens under RNTCP in India

R;rifampicin,H:isoniazid,E:ethambutal,Z:pyrazinamide,S:streptomycin

- CAT 1 & 2
- CAT 4 :MDR
- CAT 5:XDR
- Definitions
  - MDR:R and H
  - XDR:R and H,any FQ,any injectables(kanamycin,amikacin,capreomycin)
  - Primary & acquired resistance
  - Mono/poly drug resistance:DRTB

DR TB:Principles of Treatment

- MDR:4 second line drugs /not used
- XDR:7 drugs
- Duration:24(MDR),36(XDR)

DOTS plus previously

Second line drugs

- Treatment longer
- Toxic
- Expensive

} more

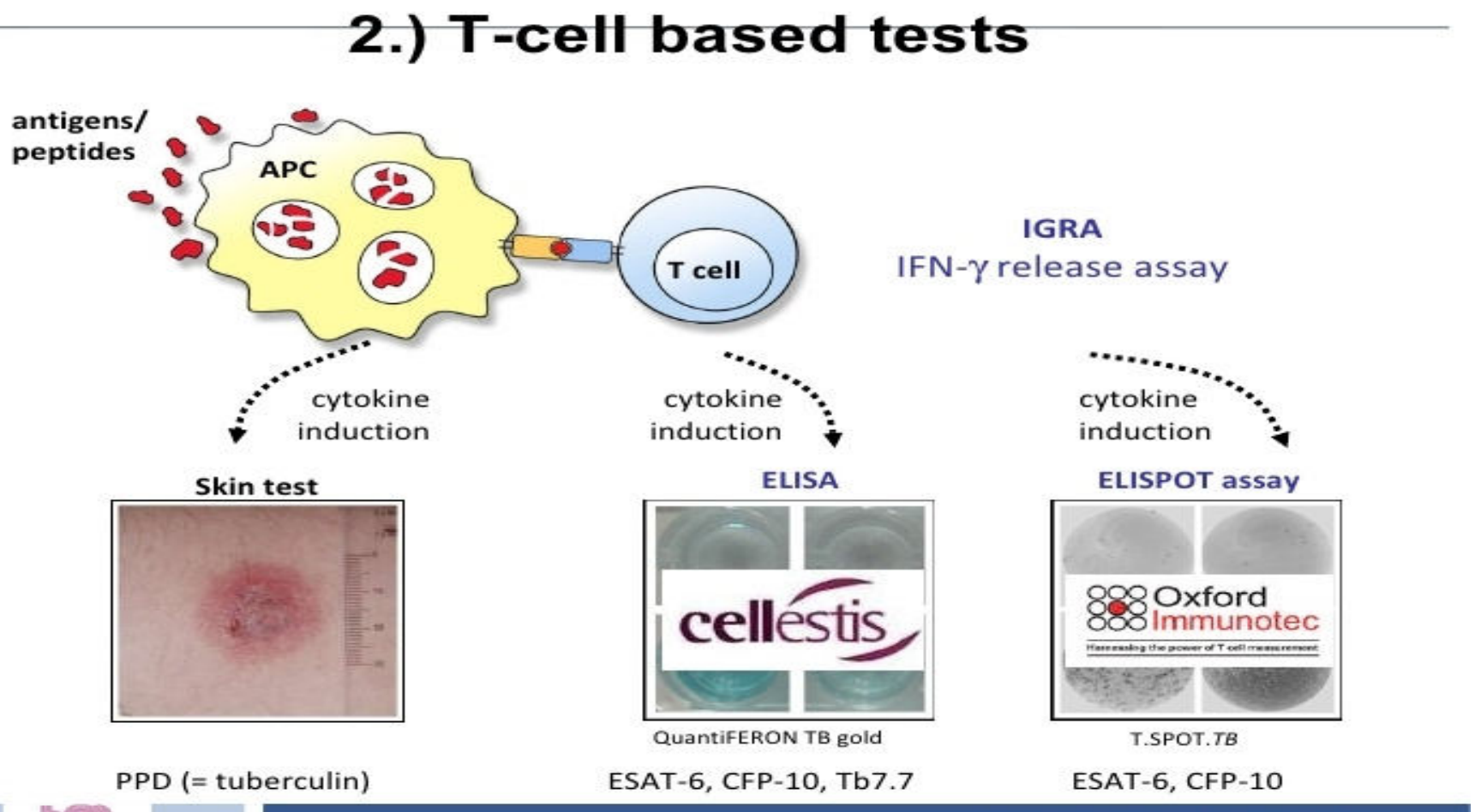
- Stress:emergence rather than treatment of DRTb

Infection Vs Disease

- What ‘s the difference

- For Infection
  - **Mantoux/PPD**
  - **Interferon gamma release Assay**
  - **TB Gold/Elispot**

2.) T-cell based tests



COMPLICATIONS

- **Local-**
    - ARDS/respiratory failure
    - Bronchiectasis/PTOAD
    - aspergilloma
    - haemoptysis (symp)
    - Pleural -Empyema/pneumo
    - Extensive lung destruction
    - Rt middle lobe syndrome
    - Scar ca

- **Systemic-**
    - shock
    - amyloidosis
    - disseminated tb-(laryngeal tb)
    - Cor-pulmonale

THANK YOU