Hard cases in TB

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Right to Care

Case 1

- 14 year old boy, diagnosed as HIV infected at 3 years of age
- Took d4T, 3TC and EFV for two months then lost to follow up
- Returned to HIV care at age 12
- Weight 22kg, stunted
- CD4+ 83, VL 50 000
- Started on ABC ,3TC and EFV

Case 1

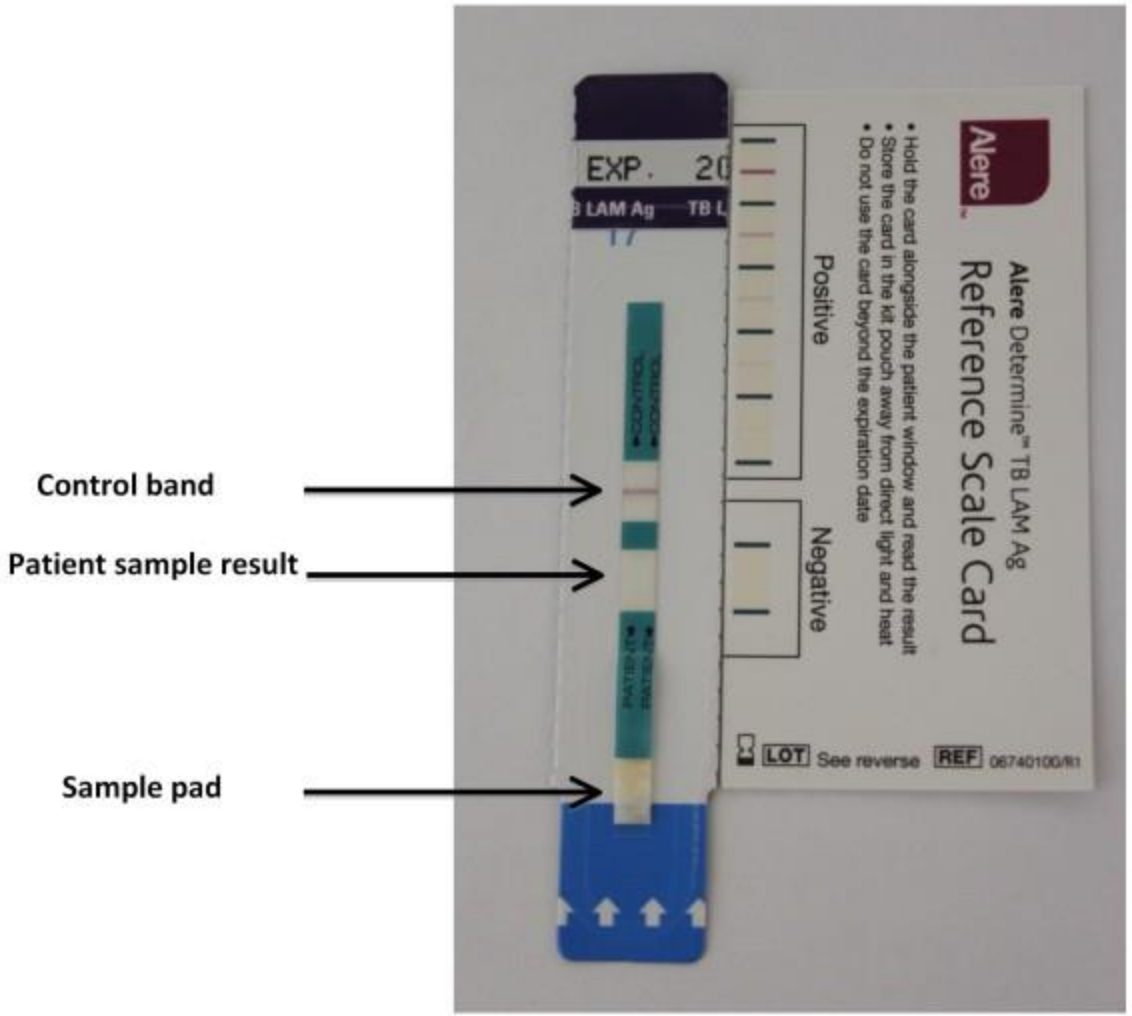
- VL at 3 months 43 000 copies/ml (confirmed in one month)
- Started on AZT, 3TC and Alluvia
- Admitted after 3 months on ART (VL 20 000 copies/ml)
  - Developed diarrhoea on PI and was changed to ATZ/r
  - Weight loss
  - Night sweats
    - CXR normal
    - Sputum for GXP: negative, culture not done

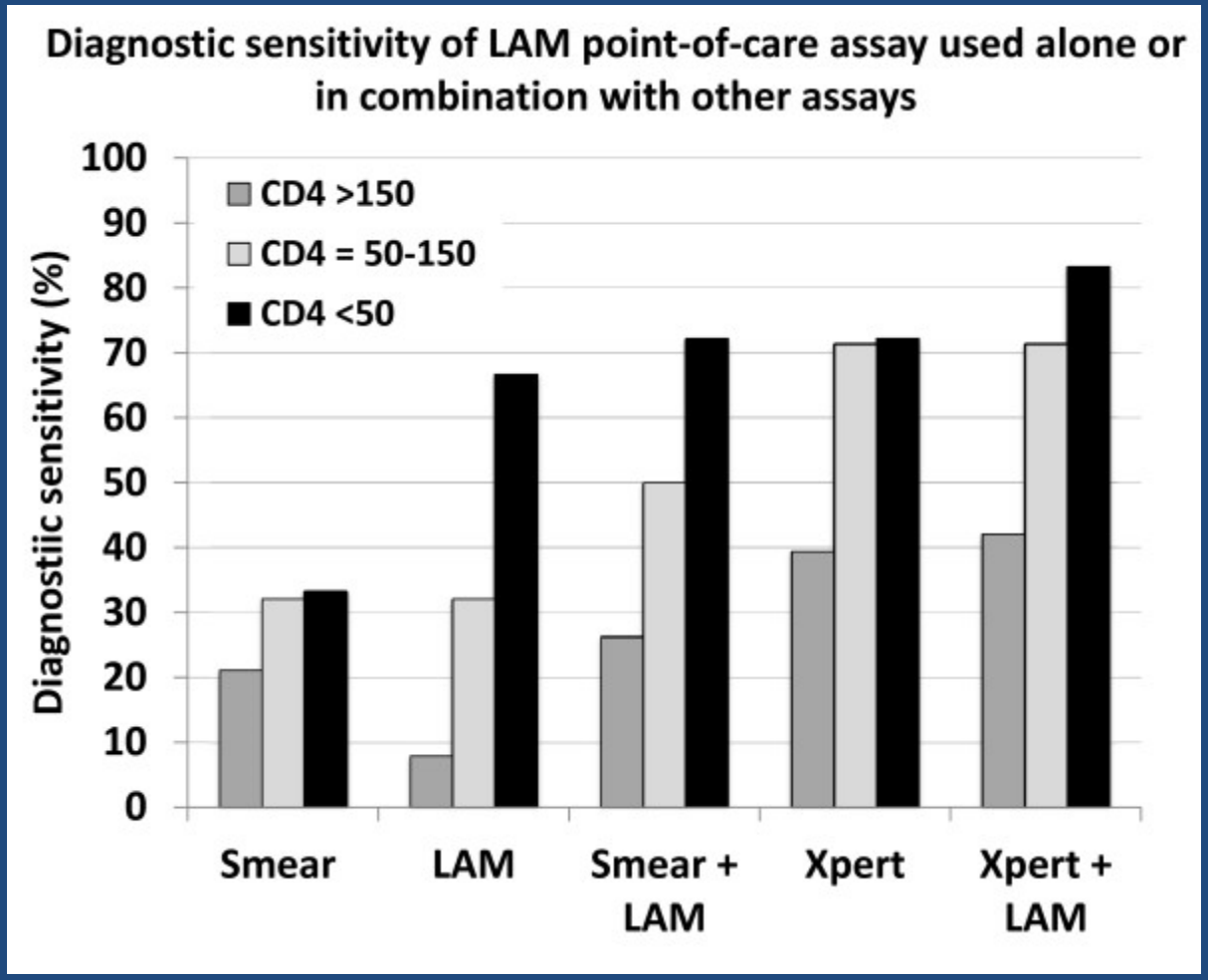
Case 1

- Admitted again after 2 months
  - On-going weight loss
  - CXR ISQ
  - GXP negative
  - CD4+ 46
  - Urinary LAM positive

Urinary lipoarabinomanin

- Lipopolysaccharides within the mycobacterial cell wall
- Systemic antigenaemia in dissemination of *M. tuberculosis* in the blood stream,
- Especially in advanced HIV-associated immunodeficiency


Control band
Patient sample result
Sample pad
Alere Determine™ TB LAM Ag
Reference Scale Card
• Hold the card alongside the patient window and read the result
• Store the card in the kit pouch away from direct light and heat
• Do not use the card beyond the expiration date
Positive
Negative
LOT See reverse
REF 06740100/R1
EXP.


Diagnostic sensitivity of LAM point-of-care assay used alone or in combination with other assays
Diagnostiic sensitivity (%)
100
90
80
70
60
50
40
30
20
10
0
CD4 >150
CD4 = 50-150
CD4 <50
Smear
LAM
Smear + LAM
Xpert
Xpert + LAM

Case 2
Multiple defaults

- 28 year old female
  - Unemployed
  - Alcohol abuse
  - Marijuana use

April 2008-June 2008

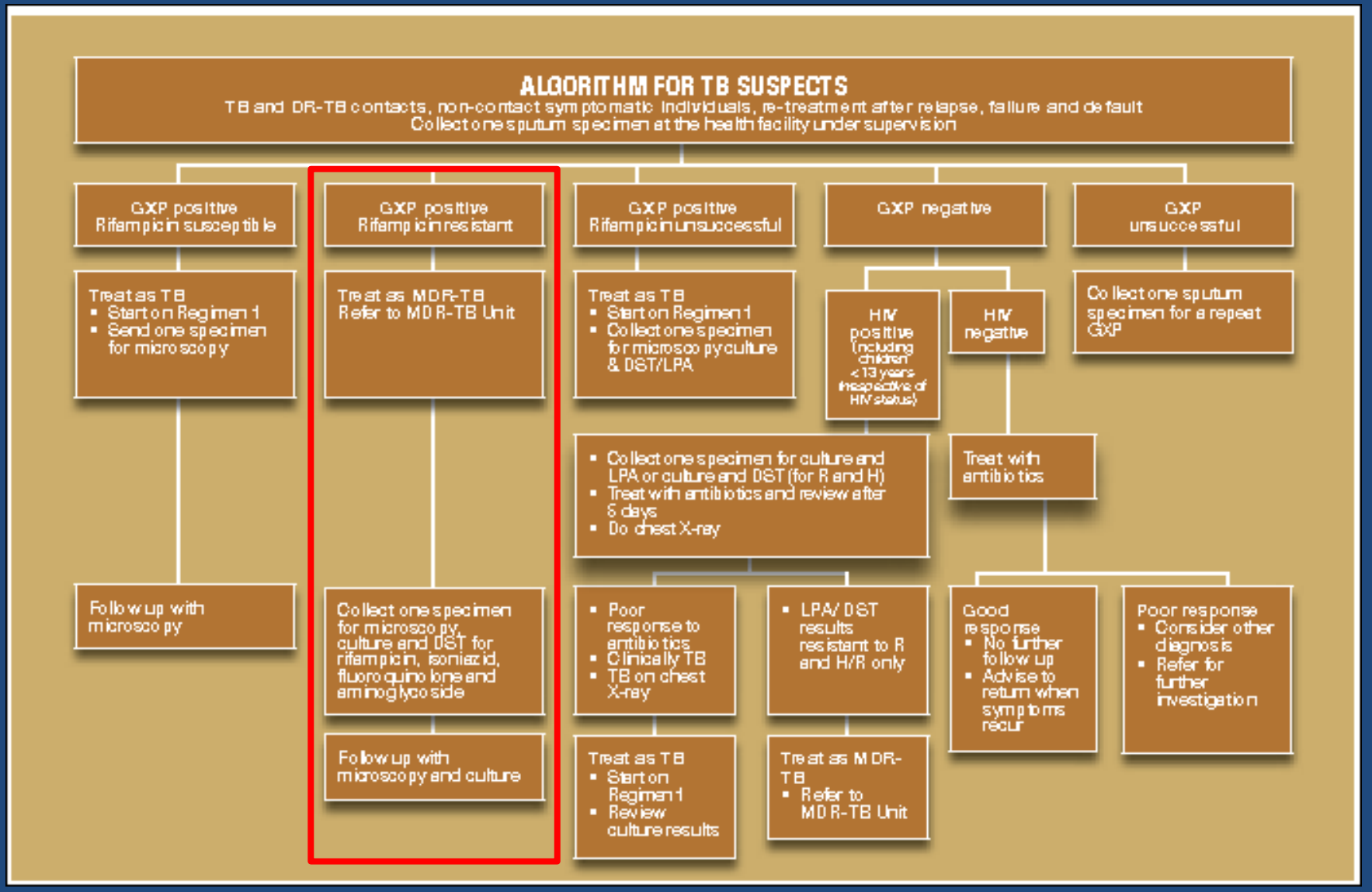
- Presented to health care facility with a 3 months history of cough, fever and weight loss.
  - Sputum AFB positive +++
  - First episode
  - Rifafour started (HRZE)
- Diagnosed as HIV infected
  - Patient report
  - CD4+ 300
  - Defaulted after 2 months

March 2009

- Patient was incarcerated.
- Ageing has the typical TB symptoms- weight loss and cough.
- Did not disclose previously PTB and her default
- AFB Sputum positive +++
- Treated as a new case (HRZE)

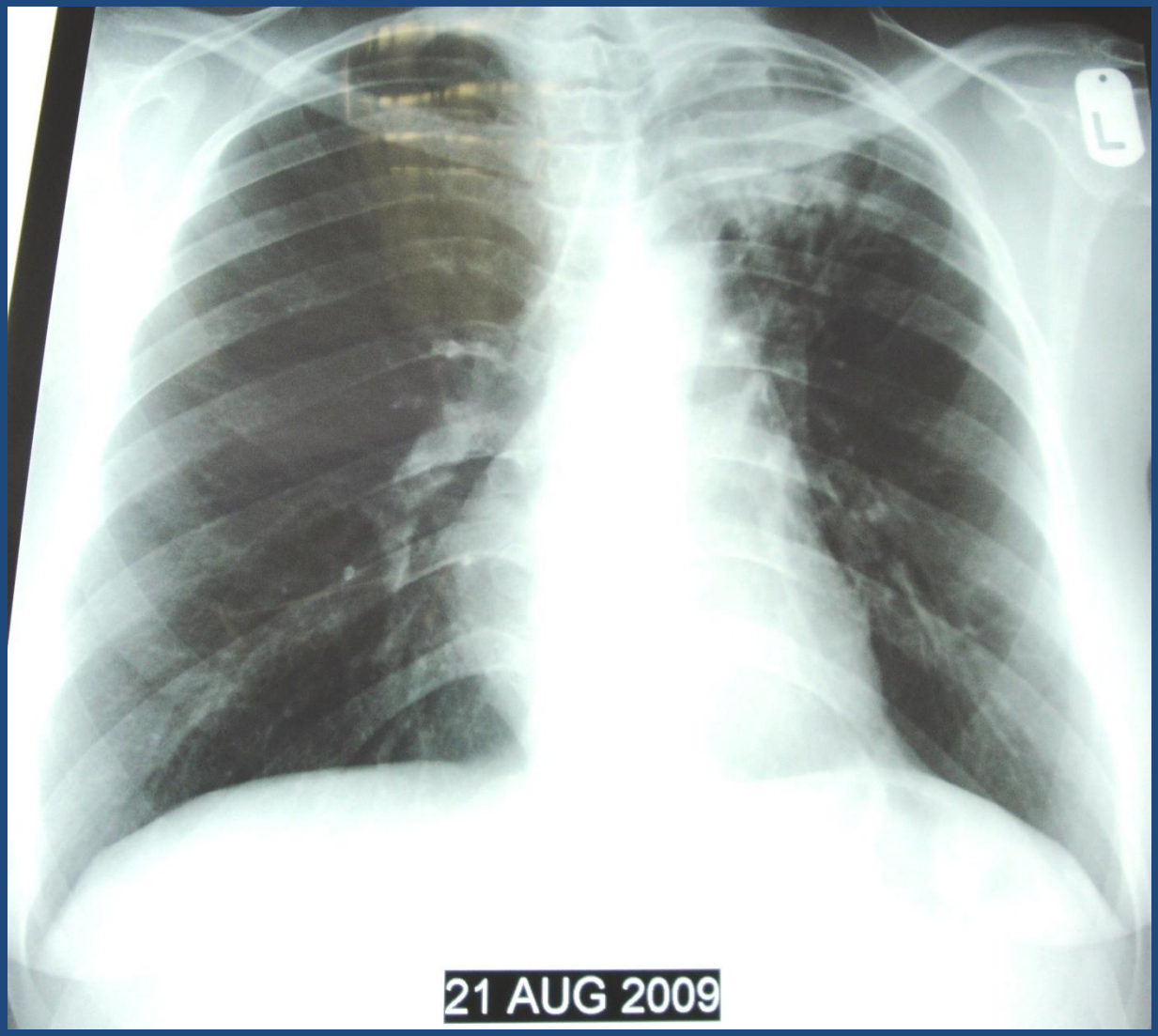
July 2009

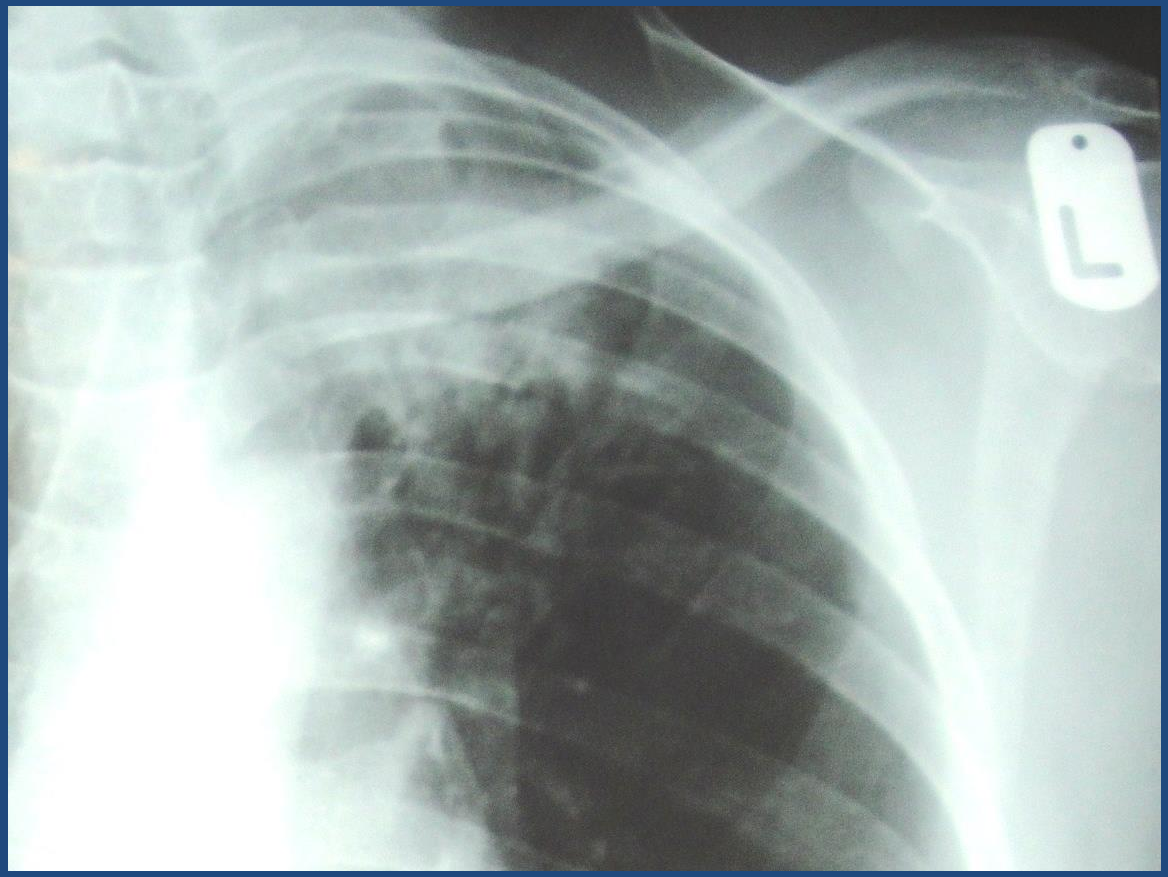
- Sputum AFB positive +++
- Then patient acknowledged that she had had previous TB
- Streptomycin added
- No clinical improvement was evident after 2 months
- GeneXpert test was done as part of a clinical trial and was found to be rif resistant.


ALGORITHM FOR TB SUSPECTS
TB and DR-TB contacts, non-contact symptomatic individuals, re-treatment after relapse, failure and default
Collect one sputum specimen at the health facility under supervision
GXP positive Rifampicin susceptible
GXP positive Rifampicin resistant
GXP positive Rifampicin unsuccessful
GXP negative
GXP unsuccessful
Treat as TB
Start on Regimen 1
Send one specimen for microscopy
Treat as MDR-TB
Refer to MDR-TB Unit
Treat as TB
Start on Regimen 1
Collect one specimen for microscopy culture & DST/LPA
HIV positive (including children <13 years irrespective of HIV status)
HIV negative
Collect one sputum specimen for a repeat GXP
Collect one specimen for culture and LPA or culture and DST (for R and H)
Treat with antibiotics and review after 5 days
Do chest X-ray
Treat with antibiotics
Follow up with microscopy
Collect one specimen for microscopy, culture and DST for rifampicin, isoniazid, fluoroquinolone and aminoglycoside
Follow up with microscopy and culture
Poor response to antibiotics
Clinically TB
TB on chest X-ray
LPA/ DST results resistant to R and H/R only
Good response
No further follow up
Advise to return when symptoms recur
Poor response
Consider other diagnosis
Refer for further investigation
Treat as TB
Start on Regimen 1
Review culture results
Treat as MDR-TB
Refer to MDR-TB Unit

August 2009 to September 2009-

- In August 2009, the patient was transferred to an MDR TB Hospital
  - K
  - O
  - E
  - ETH
  - Z
  - No cycloserine was given.
- After month she was discharged and defaulted again.


21 AUG 2009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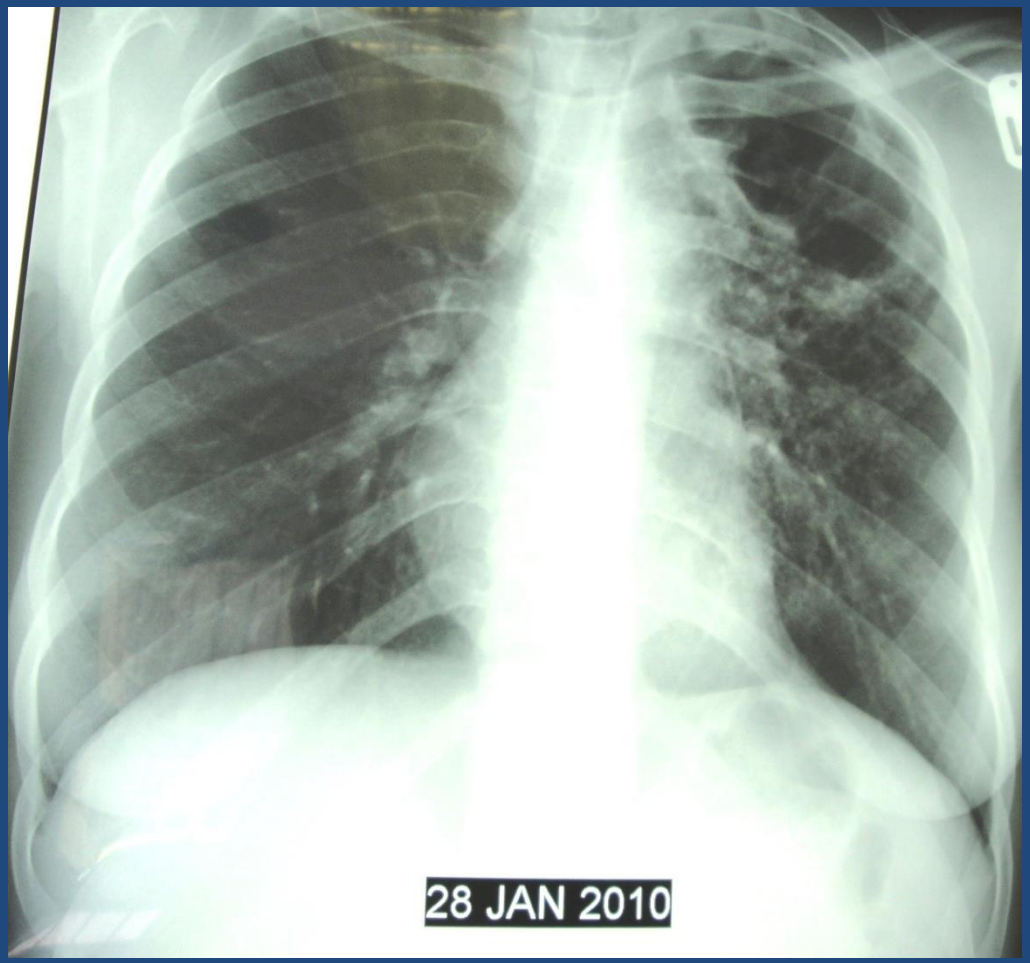
Date	Resistance	Medication given	
Aug 2009	R and H on LPA and culture (No mutations specified)	K O ETH E and Z	1/12

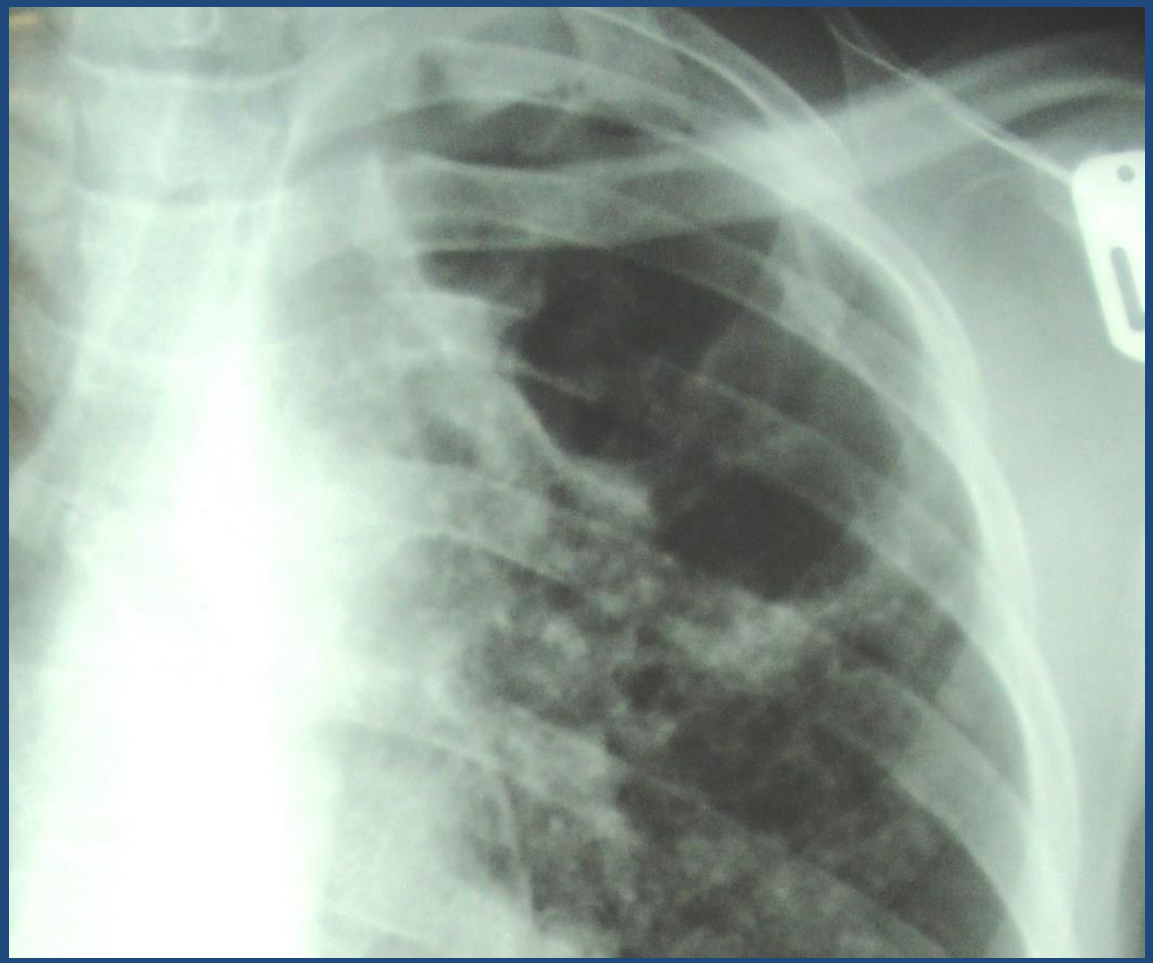
The standardised regimen

- Intensive phase consists of at least 6 months treatment with five drugs:
  - *Kanamycin /amikacin*
  - *Moxifloxacin*
  - *Ethionamide*
  - *Terizidone*
  - *Pyrazinamide*
- Continuation phase treatment
  - *Moxifloxacin*
  - *Ethionamide*
  - *Terizidone*
  - *pyrazinamide*

January 2010 to February 2010

- The patient returned
- Not continued with TB treatment since her last dose in August 2009.
- No antiretroviral therapy given so far.


28 JAN 2010



Date	Resistance	Medication given	
Aug 2009	R On GXP MTB RIF	K O E ETH Z	1/12
January 2010	R H ETH On LPA InhA (confirmed on culture)	K M PAS Terizidone PZA E Started on ART as well	22/12

Final outcome

- Documented culture conversion after 4 month on intensive phase
- Completed MDR TB treatment eventually after 20 months.

When can you be sure that it is not TB?

- Patient WT 45 year old female
- Tested in a VCT program (husband positive)
  - CD4+ 26 (3.0%)
  - Viral load 3500
- Weight loss, no fever, no cough, night sweats, pancytopenia

Investigations

- CXR- normal
- Blood Bactec
- Bone marrow aspirate and trephine (no AFB and no granulomata)
- Marrow bactec
- Abdominal sonar

Plan

- Started ARVs
- d4T, 3TC and EFV
- After 3 weeks, she present with fever, respiratory distress and stony dullness on the right
- Admitted for tap- bloody fluid
- Body Cavity non Hodgkin's lymphoma

Definition

With the introduction of Highly active Antiretroviral therapy (HAART) there has been reports of worsening of previously quiescent disorders to symptomatic disease.

Types of TB IRIS.