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 lipoarabinomannin

- Lipopolysaccharides within the mycobacterial cell wall
- Systemic antigenaemia in dissemination of *M. tuberculosis* in the blood stream,
- Especially in advanced HIV-associated immunodeficiency
Diagnostic sensitivity of LAM point-of-care assay used alone or in combination with other assays.
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
  - Treat as TB
    - Start on Regimen 1
    - Collect one specimen for microscopy
  - Follow up with microscopy

- Rifampicin resistant
  - Treat as MDR-TB
    - Refer to MDR-TB Unit
  - Collect one specimen for culture and DST/LPA
  - Follow up with microscopy and culture

GXP positive

- Rifampicin unsuccessful
  - Treat as TB
    - Start on Regimen 1
    - Collect one specimen for microscopy, DST/LPA
  - Do chest X-ray

GXP negative

- HIV positive (including children < 15 years irrespective of HIV status)
  - Treat with antibiotics
    - Poor response to antibiotics
      - Clinically TB
      - TB on chest X-ray
    - Treat as TB
      - Start on Regimen 1
      - Review culture results

- HIV negative
  - Collect one sputum specimen for a repeat GXP

- Good response
  - No further follow up
  - Advise to return when symptoms recur

- Poor response
  - Consider other diagnosis
  - Refer for further investigation

GXP unsuccessful

Follow up with microscopy
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.
<table>
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<th>Resistance</th>
<th>Medication given</th>
<th>1/12</th>
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<td>R and H on LPA and culture</td>
<td>K O ETH E and Z</td>
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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.
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<td>on culture)</td>
<td>Started on ART as well</td>
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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.

- Patients on TB medication
- ART
- Paradoxical TB IRIS

- Patients on not TB medication
- ART
- Unmasking TB IRIS