

# Screening for TB in HIV: a research setting

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# NTLP screening tool

- Cough  $\geq$  2 weeks
- Haemoptysis
- Fevers  $\geq$  2 weeks
- Noticeable weight loss/3 kgs in a month
- Excessive sweating  $\geq$  2 weeks

# Screening protocol – Situation I

- BCG scar
- CD4  $\geq$  200
- Not pregnant
- CXR taken
- Sputum smear and culture
- Symptoms/signs recorded

HIV/AIDS

MAJOR ARTICLE

# High Rates of Clinical and Subclinical Tuberculosis among HIV-Infected Ambulatory Subjects in Tanzania

-Mtei et al CID 2005

# Situation I

- Recruited 93; of these 14 (15%) diagnosed with TB and treated
- 10 clinical – 70% CXR
  - » - 5 cough and/or fever > two weeks
  - » - 2 BOTH
  - » - All negative smears
  - » - Two sputum culture positive

# Situation I

- 4 subclinical
  - » None has clinical symptoms/signs
  - » 3 normal CXR; 1 pneumonia
  - » Culture positive 9 to 10 weeks
  - » During review, had clinical complaints

# Protocol change - Situation II

- Changed screening protocol; moved CXR.
- If positive; then did sputum smear (culture if  $\geq 200$ )
- Referred for treatment; no follow-up info

- ***Basis for treatment of TB among HIV-infected patients in Tanzania: role of CXR and sputum culture***

-Bakari, Arbeit, von Reyn et al, 2007



## Situation II

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- **257 (15%) of first 1753 had active TB**
  - CD<sub>4</sub><200: 121 (20%) of 617**
  - CD<sub>4</sub>≥200: 136 (12%) of 1136**
- **Method of Dx**
  - ~50% CXR only**
  - 10% sputum culture only (CD<sub>4</sub>>200)**

# Situation II

- 136 (12%) of 1136 Rxed for TB
  - 38 (28%) had pos smear/culture
- Basis for treatment in 136

CXR alone:	68	(50%)
CXR and Sx:	44	(32%)
Sp culture:	13	(10%)
Sx only:	11	(8%)

# Study protocol – Situation III

- Fever  $\geq$  two weeks
- Cough  $\geq$  two weeks
- 5 kg weight loss since last visit/one year
- Other convincing suspicion
  - Excessive night sweats
  - Haemoptysis
  - Dyspnoea
  - Chest tightness

# NTLP screening tool

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# Situation III

- Diagnosed: 209 (**10.6%**) of 1,975.
- Diagnosed and treated: 197 (**10.0%**) of 1,975.
- **12** post-mortem diagnosis of dTB
- Of the 197:
  - 149 females (**9.9%**); 48 males (**10.2%**)

# Situation III

- CD<sub>4</sub> range: **1 – 1,005**
- CD<sub>4</sub> median: 253
- PPD: non –reactive: **103**
- **PPD > 5mm are 87 (45.8%)** PPD ≥ 15 are 64

# Situation III

- 17 (8.6%) on ART prior to TB Dx
  - » 4 diagnosed at ART screening
- 36 (18.3%) had prior history of TB
  - » 1 twice TB treatment in the past
- 15 (7.6%) treated for a second episode
- One of the 15 for three episodes

# Clinical presentation

- 66.5% had fevers - 131
- 63.5 % had cough - 125
- 38.6% had weight loss - 76
- 24.4% had night sweats – 48
- 7.6% dxd by lymphadenopathy – 15 (4s,2c,5cy,1bx)
- 2.0% had cold abscesses – 4 (3 +s, 1 +c)
- 6.1% (**12**) had **NO COMPLAINTS**



# Diagnosis

- 164 (83.2%) CXR consistent with TB
  - 107 (65.2%) with infiltrates
  - 40 (24.4%) with adenopathy
  - 35 (21.3%) with pleural effusion
  - 21 (12.8%) showed cavitation
  - 8 (4.9%) fibrosis
  - 6 (3.7%) milliary
  - 5 (3.0%) cystic changes
  - 2 (1.2%) pericardial effusion

# Diagnosis

- 8 (4.1%) had CXR – pneumonia
- 25 (12.7%) had **NORMAL CXR**

# Sputum results

- 44 (22.3%) positive smears
- 70 (35.5%) positive cultures
- 37 (52.9%) of culture + were smear +
- 5 smear + culture –
- 2 smear + culture unknown
  
- **33 smear – culture +** (47.1% of culture +)

# MESSAGE

- TB presentation in HIV is varied
- Symptoms may be absent or denied
- Many cases missed without sputum culture and CXR
- Screening for TB should be a continuous process

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