

# Death from HIV – TB: a research setting

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DARDAR Health Study  
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# Deaths

- Study population – 1975
- Reported deaths – 179 (9.1%)
  - No information on 310 (15.7%)!!
  - 65 (36%) of the 179 seem to be TB related

# Patients treated for TB

Total of 197 until end-Sept 2007

10% of study population

- 28 still on treatment
- 6 lost to follow-up
- 1 stopped Rx before completion
- 126 (64.0%) completed treatment
- 36 (18.3%) died while ON treatment

# Deaths in patients treated for TB

- 36 died while on treatment
- 21 (16.7%) of 126 who completed treatment have died.
- Of the 197; confirmed deaths in 57 (28.9%).

# Deaths in Rx completers

- 21 cases
- 5 (23.8%) within 3 months of completion
- 17 (80.9%) before a year had passed
  
- Causes of death
  - 4 diarrhoea
  - 3 septicaemia
  - 3 CNS manifestations
  - 3 AIDS

# Deaths in Rx completers

- 19 (90.5%) were not on ART
- 2 started ART while on TB Rx
- 3 (14%) treated for TB second time
- Last CD<sub>4</sub> range = 3 – 650; median 121
- Drop in CD4 from Rx = 86 cells; 100

# Deaths during treatment

- 36 cases
- 5 (14%) within two weeks
- 15 until three months
- 16 after three months of Rx
  
- Only 4 on ART (3 prior to Dx) IRIS?
- CD4 3 – 648; median = 104, mean = 155

# Deaths during treatment

	5 within 2 wks	15 until 3 mths	16 after 3 mths
ART Rx	0	1	3
CD4 range	3 – 40	29 – 648	4 – 340
Median	23	156	114
Prior TB	0	2	2
Cause of death	AIDS	Various	Diarrhoea CNS
Bact TB Dx	2 (40%)	1 (7%)	2 (13%)



# Disseminated TB (dTB)

- 20 cases of dTB defined by a positive automated blood culture for TB

# Disseminated TB (dTB) cases

	dTB (20)	All (1,975)	p –value
Median age	38	33	0.0033
Female	10 (50%)	1,505 (76%)	0.006
Prior TB	3 (15%)	169 (9%)	0.29
PPD $\geq$ 5	85%	34%	< 0.0001
PPD $\geq$ 10	85%	32%	< 0.0001
PPD $\geq$ 15	70%	23%	< 0.0001

# Sx, Dx, Rx & outcome in dTB

Fevers > 2 weeks	14/20 (70%)
Cough > 2 weeks	10/20 (50%)
ART	5/20 (25%)
CXR – infiltrates	12/18 (67%)
Sputum AFB smear positive	5/18 (28%)
Sputum culture positive	10/17 (59%)
Underwent TB treatment	8/20 (40%)
Survival > 1 month	5/19 (26%)

# Disseminated TB (dTB)

-deaths prior to diagnosis

- 20 cases of dTB defined by a positive automated blood culture for TB
- 12 cases with death before report of positive blood culture
- Blood culture results 19 to 90 days **AFTER** blood drawing (many cases culture negative after standard 42 incubation, positive after additional incubation)

# dTB deaths prior to diagnosis

- 6 females, 6 males
- CD4 range from 6 – 271; median 86
- 3 prior TB Rx
- 3 on ART; 2 within 1 month of death!!
- Often misdiagnosed as malaria or PCP
- CXR – 10 done
  - 5 normal
  - 4 infiltrates, 2 pleural effusion
  - 1 milliary

# DARDAR1.5

- 28 of 70 (40%) diagnosed with TB
- 13 of 70 (19%) dTB
  
- 13 of 28 (46%) have dTB
- 6 of 28 (21%) ONLY blood positive

# dTB case studies

- 45F; CD<sub>4</sub> 23; PPD 18; cough, fevers; CXR pn; Ab – worsened; CXR mil; sp sm+; started Rx; died next day;
- 35F; CD<sub>4</sub> 23; ART Jul 05; HL Dx on chemotherapy Nov 05; fevers, cough, weight loss; anaemic; blood transfusion; died; 7 days blood culture +

# dTB case studies

- 47M; CD<sub>4</sub> 1; PPD 14; on ARVs; sweats, weight loss; matted lymph nodes; CXR ?infiltrates; TB ?; on Rx



# Message

- PUO: Persistent fever in advanced AIDS with CD4<75-100: think TB, esp dTB (even if pos malaria smear or CXR suggesting PCP)
- Sputum AFB and culture, CXR, may allow Rx before blood culture results
- May have totally negative CXR
- Both TB Rx and ART important for survival
- More empiric Rx for smear negative TB needed in patients with advanced AIDS and low CD4

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