

Suggested algorithm for use of Xpert for people living with HIV and those with unknown HIV status in HIV prevalent settings

Delphine Sculier
Haileyesus Getahun
(On behalf of TB/HIV Working Group)

TB is different among PLHIV!

- AR of 5-15% vs. life time risk 10% in HIV negatives
- Higher chance for smear negative disease
 - Smear negative pulmonary = 24 – 61%
 - Extrapulmonary = 4 – 40%
- Autopsy studies: undiagnosed TB in 14 – 54%
- Huge delay in diagnosis (11-34 day in ideal situation)
- High mortality (72-98%) with MDR/XDR TB

Patients eligible for Xpert MTB/RIF as initial diagnostic test if available

- TB suspects living with HIV in all settings or with unknown HIV status in high HIV prevalent settings
- A TB suspect is defined as any person living with HIV with any one of the following symptoms
 - Cough
 - Night sweats
 - Fever
 - Weight loss

(New WHO definition as of December 1, 2010)

TB suspect¹ living with HIV in all settings or with unknown HIV status in HIV prevalent settings²

Xpert³ and HIV test if HIV status unknown

Xpert
MTB+/RIF-

- Enrol on
relevant TB
regimen
- CPT
- ART

Xpert
MTB+/RIF+

- Enrol on MDR-TB
regimen
- DST/SLD
- CPT
- ART

Xpert
MTB-/RIF-

Ambulatory patient
with no danger signs⁴

Follow WHO 2007
algorithm (a)

Seriously ill patient
with danger signs⁴

Follow WHO 2007
algorithm (b)

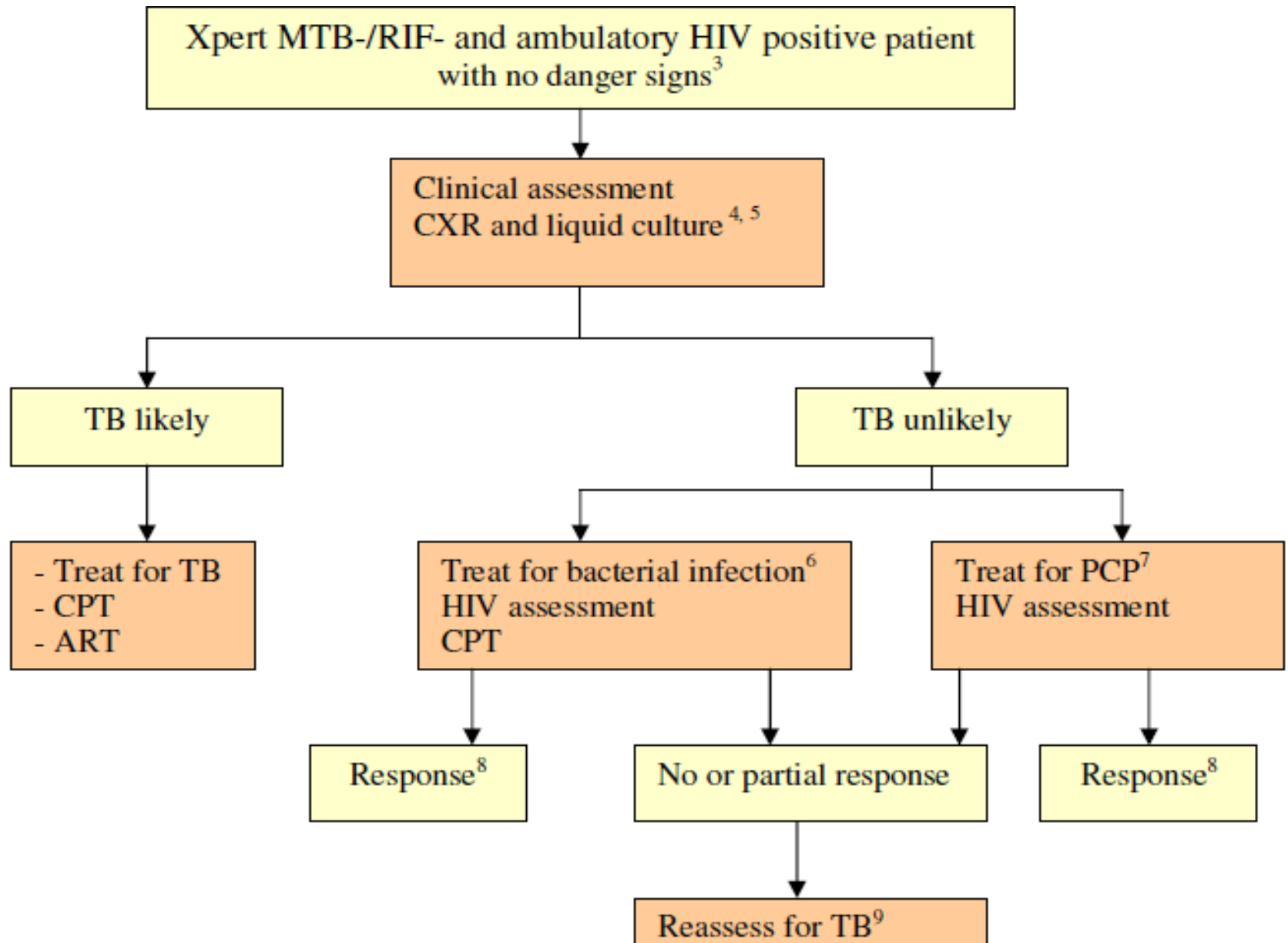
Legend of algorithm

1. Among people living with HIV, a TB suspect is defined as anyone who reports any one of current cough, fever, weight loss or night sweats. People living with HIV who do not report any of these symptoms should be offered isoniazid preventive therapy.
2. HIV prevalent settings are defined as countries, subnational administration units (e.g. districts, counties) or selected facilities (e.g. referral hospitals, drug rehabilitation centres) where the HIV prevalence rate among pregnant women is $\geq 1\%$ or HIV prevalence among tuberculosis patients is $\geq 5\%$.
3. Ideally all TB suspects living with HIV or with unknown HIV status in HIV prevalent settings should be investigated with Xpert MTB/RIF as first diagnostic test. If resources are constrained, the seriously ill patients should get access to Xpert in priority. If Xpert is not available, the WHO 2007 algorithms for improving the diagnosis and treatment of smear-negative pulmonary and extrapulmonary TB among adults and adolescents in HIV-prevalent and resource-constrained settings should be used to expedite the diagnosis of TB.
4. The danger signs include any one of: respiratory rate $> 30/\text{min}$, temperature $> 39\text{ }^{\circ}\text{C}$, heart rate $> 120/\text{min}$ and unable to walk unaided.

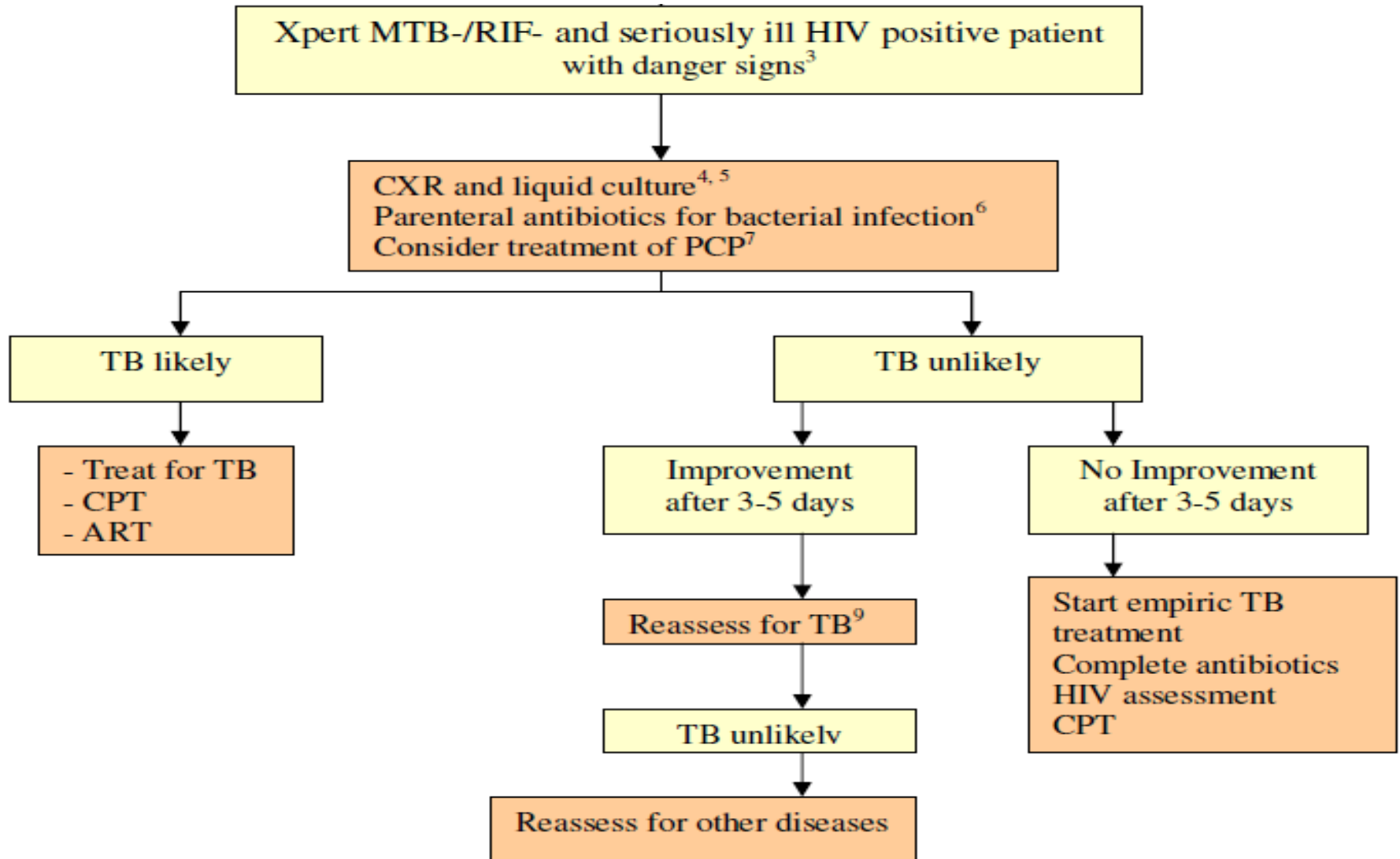
No rationing of Xpert for PLHIV!

However, if there is shortage or resource concern
prioritise seriously ill PLHIV to avert death.

Ambulatory PLHIV who are Xpert negative



Seriously ill PLHIV who are Xpert negative



Key principles

- Expedite diagnosis and reduce number of visits for PLHIV
- HIV testing and counselling should be part of the care
- Empiric TB treatment should be given to seriously ill HIV positive patients who do not respond to 3-5 days of parenteral antibiotics even if investigations for TB have turned negative

Expedite diagnosis and avert unnecessarily early death

Unresolved issues/points for discussion

- Where is the ideal place for Xpert? Hospital, health centre or clinic? All ART clinics?
- Should second Xpert test be performed in PLHIV with an initial negative Xpert result?
- What will be the programmatic implication of culture and CXR after initial negative Xpert?
- Are we "killing" smear microscopy for people living with HIV?