To Test or Not to Test? Ending the Age-Old Debate in Tuberculosis

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Table 1

Results of final drug susceptibility tests, XDR-TB case, Ireland 2005-2006

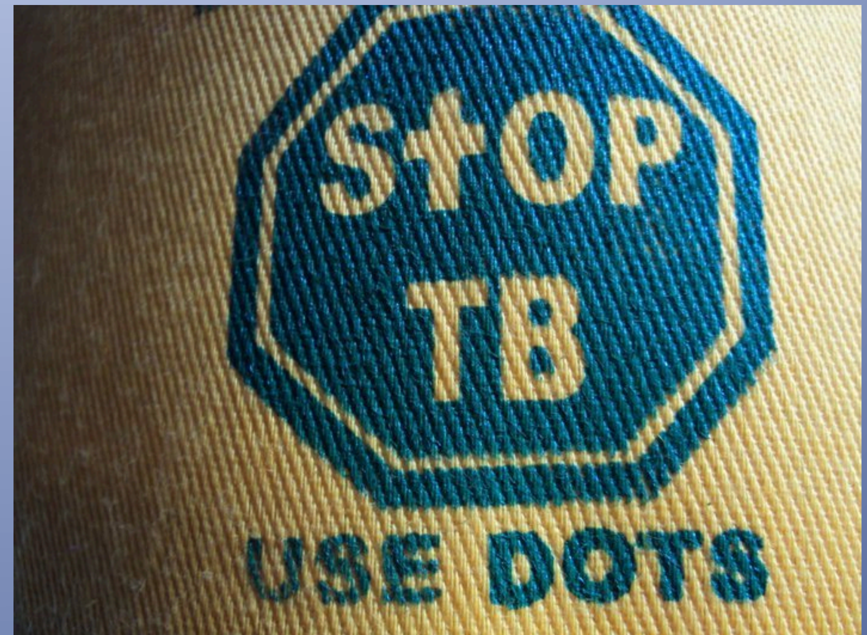
Drug	Resistant (R) / Sensitive (S)
Isoniazid	R
Rifampicin	R
Ethambutol	R
Pyrazinamide	R
Streptomycin	R
Amikacin	R (highly resistant)
Prothionamide	S
PAS	R (highly resistant)
Cycloserine	S
Capreomycin	S
Ciprofloxacin	R
Rifabutin	R
Clarithromycin	R

Systematic Drug Susceptibility Testing: A Necessary Component of the DOTS-Plus Strategy?

- “Should we therefore conclude…that systematic drug susceptibility tests should be performed on all initial isolates of *M. tuberculosis*? Of course the answer is yes, if the following two limitations are overcome: the scarcity of specialists of drug resistance and the high running costs of a laboratory performing reliable susceptibility tests to first- and second-line drugs in a turnaround time short enough to be clinically relevant.”
  - Grosset, IJTLD, 1999

Empiric Therapy for MDR-TB: Good Clinical Practice?

- Allows for treatment of individuals with MDR-TB in settings with limited laboratory support, thus greatly improving access to care
- Allows for a majority of persons with MDR-TB to have a successful treatment outcome



Empiric Therapy for MDR-TB: Global Malpractice?

- Risk of sub-optimal treatment leading to poor outcomes, long-term disability, amplification of resistance, ongoing transmission
- Risk of exposure to drugs that are not effective and may be highly toxic

In 2015, Global Malpractice is the Norm

- Only 16% of notified TB patients globally received DST for rifampicin
- Only 36% of these patients received DST for key second-line TB drugs

Treating MDR-TB without DST: A Dangerous Guessing Game

Why not Offer Universal DST?

- "Too expensive"
- Limited lab capacity
- Tests are "unreliable"
- Results take too long
- "Luxury" for "high-resource settings"
- No clear mandate for this from WHO
- Allows blame to stay focused on people living with the disease and not on the system responsible for caring for them

Universal DST: Imperative to "End TB"

- Best outcomes for people living with MDR-TB
- Labs will only get better when they are used/recommended
- Costs of empiric treatment high in the long term
- Human-rights based approach (right to health, right to benefit from scientific progress, zero suffering)

Thank you!

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