Drug resistant *Mycobacterium tuberculosis* in Saudi Arabia

Sir,

Employing Bactec radiometric system and Bactec 12B medium, 10.5% of the 411 *Mycobacterium tuberculosis (M. tuberculosis)* isolates from Saudis and non-Saudis in the eastern province of the Kingdom of Saudi Arabia (KSA), were reported resistant to at least one drug.[1] Certainly, prospective directly observed therapy including a 4-drug regimen, as the initial treatment for pulmonary tuberculosis (TB) would address the scourge of multi-drug resistant TB in the eastern province of KSA. Nevertheless, it would also be essential to monitor the quality of various antitubercular drugs offered to patients with TB. Antitubercular drugs require constant storage in a controlled temperature not exceeding 25-30°C.[2] Inadvertent exposures to extremes of temperature and humidity can affect the drug potency. For example, in Nigeria an assessment of the quality of isoniazid, pyrazinamide, rifampicin and streptomycin revealed poor quality drugs being used by patients. The 4 isoniazid and 3 pyrazinamide samples did not contain the active ingredient as specified in the British Pharmacopoeia. Furthermore, an active ingredient was inadequate in 5 of the 15 rifampicin samples and 10 of the 19 streptomycin samples.[3] Poor quality antitubercular drugs would lead to a therapeutic failure and an emergence of drug resistant *M. tuberculosis*.[4] Further plans to tackle TB in KSA must incorporate regular sampling of antitubercular drugs being offered in the KSA to patients with tubercular lesions. A significant number of expatriates with pulmonary tubercular lesions including those with apparently latent TB might well have received sub-optimal quantity of active ingredients of antitubercular drugs in the native countries. Moreover, any Saudi national on any prolonged halt abroad would as well be likely to be offered poor quality anti-tubercular medicines while stationed abroad. Such circumstances would encourage therapeutic failures and propagation of drug-resistant *M. tuberculosis*. Research to ensure potency of antitubercular drugs would be cost-effective both for the patient and the community. That might be feasible by addition of chemical stabilizers. The least stable of the common childhood vaccines, the oral polio virus vaccine is stabilized by the addition of pirodavir and deuterium oxide, which allow it to resist even a 10-hour exposure to 42°C.[5] Stabilized antitubercular medicines would indeed be an effective armory against TB?

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