

Large numbers of patients in South Africa with untreatable tuberculosis are discharged into community

January 16 2014

Substantial numbers of patients in South Africa with extensively-drug resistant TB and totally resistant TB, who have exhausted available treatment options, are being discharged from hospital, potentially exposing the wider community to infection, according to new research published in *The Lancet*.

"These [patients](#) can survive for months or even years, and are contributing to the community-based spread of XDR-TB", explains study leader Professor Keertan Dheda from the Department of Medicine, University of Cape Town in South Africa.

"Alarming, we have shown for the first time that, in contrast to sporadic and isolated cases of treatment failure and near total or totally drug-resistant cases that have been reported in several countries, treatment failure, and discharge of such patients into the wider community, is occurring systematically on a country-wide level in South Africa."

Dheda and colleagues followed the outcomes of 107 patients with XDR-TB from three provinces in South Africa between March 2008 and August 2012 to establish the fate and long-term outcomes of XDR-TB patients with treatment failure. Isolates from 56 patients were genotyped and tested for susceptibility to 10 first-line and second-line anti-[tuberculosis](#) drugs.

Despite intensive treatment with an average of eight anti-tuberculosis drugs, treatment outcomes were poor, with high rates of death and [treatment failure](#). Five years after treatment initiation, just 12 (11%) of patients had favourable outcomes and 79 (74%) had died.

Almost two-thirds of patients had resistance to at least eight drugs, and one case of totally drug-resistant disease, with resistance to all ten drugs tested, was identified.

More worrisome among the study findings, says Dheda, is that of the XDR-TB patients discharged into the general community, just under half (42%) were treatment failures that were TB culture positive despite at least 12 months of treatment, and of these almost a third were at high risk of transmitting the disease (AFB smear positive). Furthermore, treatment failures survived in the community for months to years (median survival 20 months) thus providing plenty of time to infect others. Indeed, DNA finger printing (strain typing) confirmed evidence of transmission from one XDR-TB patient, who had failed treatment and been discharged, to his brother who also eventually died.

According to Professor Dheda, "Many patients who fail treatment are being discharged back into the community because little bed space is available in designated tuberculosis hospitals and alternative long-term residential and palliative care facilities are scarce. Testing of new combined regimens and tough community infection control plans to minimise disease spread by patients who fail treatment, including the building of modernised sanatoriums (community stay facilities) and funding comprehensive home-based care, are urgently needed."

"Governing bodies and policy makers in South Africa have limited resources and many healthcare priorities to attend to including HIV, maternal and child health, pneumonia, gastrointestinal diseases, and non-communicable diseases, amongst others. Much is being done through the

Health Ministry to combat TB, including patient education, healthcare worker training, resourcing the national TB programme, and the recent introduction of new TB diagnostic technologies such as the GeneXpert PCR system. Decentralisation of treatment for multiple drug resistant [MDR] TB has recently been implemented and better versions of drugs such as moxifloxacin have been made available. Major progress has been made by the government in combatting HIV, making available anti-retroviral therapy, and combatting poverty and over-crowding. However, more needs to be done to tackle and to prevent the growing problem of drug-resistant TB."

Writing in a linked Comment, Max O'Donnell from Albert Einstein College of Medicine, New York, USA and Neil W Schluger from Columbia University College of Physicians and Surgeons, New York, USA say, "This study should serve as another urgent alarm for global TB control: MDR-TB in all its forms is an out-of-control problem with potentially vast and devastating consequences for global public health...Major new investments in drug development, diagnostics, and operational research are sorely needed. Unfortunately, as a recent report from Treatment Action Group indicates, global TB research budgets are shrinking, not growing. The situation regarding MDR and XDR-TB is bleak."

Provided by Lancet

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