TRANSFORMING TB TREATMENT: New Weapons to Impact the Pandemic

Today's TB pandemic cannot be defeated without new and improved drugs. Today's lengthy and complex TB regimen must be taken for 6 months to 2 years or more, placing undue burden on patients and healthcare providers alike. The inadequacies of the current TB regimens lead to improper and incomplete treatment, fueling the growth of multi-drug resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB), which is exponentially more difficult and expensive to cure.

Innovative treatments are urgently needed and today, there exists new promise in the pipeline. The first novel drugs to supplement MDR-TB treatment are on the precipice of introduction. Two drugs, bedaquiline (Janssen) and delamanid (Otsuka), have been or are awaiting regulatory approval to treat MDR-TB on top of the current background regimen. This is a first step in improving TB treatment.

However, there exists the potential to transform treatment with the next wave of TB therapies currently undergoing late-stage clinical development. These novel drug regimens show promise to be shorter, simpler, and safer treatments, and don't contain injectibles. Many novel regimens hold the potential to treat both drug-sensitive and drug-resistant TB and to be compatible with HIV treatment. Importantly, these new drug combinations can reduce the cost and complexity of treating TB, enabling scale-up of treatment.

TB Alliance has been leading the global effort to develop new TB treatment regimens. Before we were established, there were no clinical TB drugs in development. Today, our efforts are driving new momentum in the TB R&D field. Several important clinical research projects will yield results in 2013, paving the pathway to product introduction and the next set of important clinical trial launches.

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For more information on TB drug development and TB Alliance, please visit www.tballiance.org.

Upcoming milestones

REMox TB: Moxifloxacin-based regimen

TB Alliance and its partners have completed a Phase 3 registration clinical trial, testing whether a new moxifloxacin-containing regimen can reduce treatment of TB by one-third, from 6 months to 4 months. Such an advance would save countries and patients time and money, improve treatment outcomes, and reduce the development of drug resistance. This global trial, known as REMox TB, enrolled more than 1900 patients. Results are expected in late 2013, and if successful, regulatory approval is estimated in 2014.

PaMZ

PaMZ (PA-824 + moxifloxacin + pyrazinamide) is a novel drug combination and has the potential to cure both TB and some forms of MDR-TB with a 4 month completely oral regimen. Importantly, PaMZ shows promise to be compatible with HIV treatments and cost just a fraction of the current MDR-TB treatment. PaMZ has completed Phase 2 clinical trials, and if the results are positive, could enter registration trials in 2014, provided adequate financial and research resources are available.

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NC-003

The results of NC-003, a Phase 2a two-week clinical trial testing multiple clofazamine-containing regimens in combination with PA-824 and bedaquiline, will also be known before the end of 2013. If the results are positive, a Phase 2b trial will launch in 2014. This is the first clinical trial to test a novel combination regimen that includes three anti-TB drugs with no known resistance, representing a potential "universal regimen" that could treat all patients with any form of active TB.

NIX-TB (New Chemical Entities in XDR-TB)

Very few if any treatment options exist for patients with XDR-TB; in most cases, a diagnosis of XDR-TB is a death sentence. TB Alliance is planning to launch a new trial combining various compounds from multiple TB drug developers with the goal of treating XDR-TB patients. This initiative leverages the humanitarian element of a compassionate use program with the scientific rigor of a clinical trial, so that we can treat those with no other treatment options while gathering data about these novel drug combinations that will assist the development of future regimens. With the proper resources, this clinical trial can launch in 2014.

Expanded clinical trial work needed

The TB drug development landscape is more promising than ever. After nearly a decade of building a global TB drug pipeline, the pace and scope of clinical research is increasing. To ensure the development of new life-saving tools, it is critical that the research community has access to a global network of clinical trial infrastructure that can support this growing field. Without adequate capacity, including high-quality clinical trial sites, trained personnel, and laboratories, promising research cannot be brought forward. Regulatory agencies, ethical review boards, and other key stakeholders must be prepared to move quickly and decisively to facilitate research, and then partner to implement any new, beneficial technologies as they are made available.

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