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UCT scientists strike a blow against tuberculosis

University of Cape Town scientists are once again at the global forefront in the fight against tuberculosis (TB), with their latest breakthrough offering an unprecedented insight into the development of new strategies for diagnosis, vaccination and treatment of TB.

The latest study is co-authored by Associate Professor Thomas Scriba, a principal investigator at UCT's South African Tuberculosis Vaccine Initiative (SATVI) and his team, including collaborators from the Centre for Infectious Disease Research (CIDR) in Seattle, USA. This follows their 2016 landmark study, which discovered a blood test to predict the likelihood of developing TB as early as 12 months before the disease actually manifested.

According to Prof Scriba, "the latest trial went much deeper, seeking to analyse the timeline of the immune response in people with latent TB who progress to active disease, both before and during this process".

The emphasis on early detection of TB comes amid a global health crisis, with more than 3 000 people dying daily from the disease across the world.

In South Africa, up to 80% of adults have signs of infection with the responsible bacterium – Mycobacterium tuberculosis, but only a small proportion will ever develop active disease. The lifetime risk of developing active TB is an average of 10% in those who are infected.

The biggest hurdle for prevention efforts is the absence of warning signs, and the long period of disease progression, during which patients unwittingly infect others.

"While it will never be feasible to treat 80% of the population with preventive TB therapy, even though they may well all be infected with the bacterium, this latest research takes efforts to identify those at real risk of active disease, a vital step forward," Scriba added.

In the longer term, this valuable data has positive implications for the design and development of new strategies for diagnosis, vaccination and treatment.

The SATVI team is currently conducting the two-year Correlate of Risk Targeted Intervention Study at four different sites across South Africa to evaluate whether targeted preventive therapy will stop infected people from developing TB.

Read the full study in PLOS Pathogens.

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