

New and Simple Test for Active Tuberculosis Now Possible

September 14 2006

Tuberculosis (TB) is the number one cause of death by infection in the world today killing about two million people. Yet most deaths from TB are easily preventable by early diagnosis and treatment.

Many clinicians still rely on a diagnostic test that is over 100 years old. In research published in the Lancet today, Scientists at St George's, University of London have come up with a new way of detecting TB using unique biomarkers. The test is 94% accurate and can be developed into a simple serum test.

Professor Sanjeev Krishna in the Centre for Infection and his team, in collaboration with the National Institute of Medical Research (UK), have been able to identify a complex signature in serum unique to TB that is not present in samples from other infections and lung diseases. Researchers were able to detect this unique signature using a mass spectrometer called a SELDI (surface-enhanced laser desorption and ionization time-of-flight spectrometer). They then used this signature to work out a simpler way to diagnose TB.

Currently, the diagnosis of TB involves looking at sputum with a microscope, which is often the only affordable and available test, but only achieves a sensitivity of 40 – 60% under field conditions. Sputum culture, which takes between 2 – 6 weeks to produce a result, is not routinely carried out in countries with a high prevalence of TB but helps to improve diagnostic yield. The key to reducing death rates in patients with TB, and to stopping transmission in resource poor countries, is to

diagnose and start treatment in the first visit to the clinic.

Professor Sanjeev Krishna “We are putting forward a completely fresh approach to look at an ancient problem. I think it is going to be very exciting to make this work in clinics where a test for TB is desperately needed. The next stage will be to use the biomarkers we have identified to develop a cheap, accurate and rapid diagnostic test that can be used easily and quickly out in the field.”

Source: St George's Hospital Medical School

Citation: New and Simple Test for Active Tuberculosis Now Possible (2006, September 14)
retrieved 2 May 2024 from <https://medicalxpress.com/news/2006-09-simple-tuberculosis.html>

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