

# TB test offers patients quicker and easier diagnosis

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A new test for diagnosing TB offers a quick and simple alternative to existing three-day methods, according to research published today in the journal *Clinical Infectious Diseases*.

The study shows that the test, which involves taking three sputum samples from a patient over the course of one day, is just as effective as other more invasive and complicated testing methods, which take three days.

For the new test, patients use a nebuliser to inhale salty water, or hypertonic saline, for twenty minutes. This enables them to produce sputum samples from deep inside the lungs. The samples can then be analysed for traces of mycobacterium tuberculosis, the bacterium which causes most cases of TB.

Other procedures for testing for TB are gastric washing and bronchoscopy with bronchoalveolar lavage. These invasive procedures involve placing tubes in the stomach, to collect samples of mucus swallowed during the night, or the bronchial tubes, to try to wash bacteria from infected lung tissue. Patients have to be in hospital for three days to allow these samples to be collected and analysed, delaying the start of treatment.

Such tests are given where patients have symptoms or chest radiography results that suggest the patient might have TB and they are unable to cough up a sputum sample.

The new research, which was carried out by researchers from Imperial College London and Northwick Park Hospital NHS Trust, showed that the new test is just as effective, if not more so, than existing methods for diagnosing TB.

In the 140 people who were examined, use of 3 sputum specimens correctly detected TB in 39% of the patients. Gastric washing detected TB in 30% of the same patient sample. No additional cases were diagnosed in the 21 patients who underwent bronchoscopy.

Dr Robert Davidson, from the Division of Medicine at Imperial College and the Department of Infection and Tropical Medicine at Northwick Park Hospital NHS Trust, and one of the authors of the research, said: "This is a simple method of collecting bacteria from individuals with the early stages of TB, and who are unable to cough sputum samples. By doing all the tests in one day, we can start treatment sooner and get patients home sooner. Previously we relied on bronchoscopy or gastric washings, which were uncomfortable for the patient and required a longer stay in hospital. The patient breathing nebulised hypertonic saline feels little or no unpleasant sensation, and it is a very cheap test".

According to the Health Protection Agency, the incidence of TB in the UK is increasing, with around 8,000 new cases a year. Cases in the UK are predominantly confined to the major cities and about 40 per cent of all cases are in London. TB is also a major global problem: an estimated one-third of the world's population - nearly two billion people - are infected. Nine million people a year develop the active disease worldwide, which kills two million each year.

Source: Imperial College London

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