Two interferon gamma release assays for predicting active tuberculosis: the UK PREDICT TB prognostic test study

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Plain English summary

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Plain English summary

People can be infected with the bacteria that cause tuberculosis (TB) without having symptoms. They are then said to have latent TB infection (LTBI). For a small proportion of people, the bacteria can later ‘reactivate’ to cause TB disease. To avoid reactivation, people with LTBI may be offered treatment to clear the infection before they become ill. Ideally, treatment would be given only to people who are at the highest risk of progressing to active disease. However, at the moment, we cannot accurately predict people’s risk of progressing.

This study was designed to determine how well new blood tests, called interferon gamma release assays (IGRAs), can predict who will develop active TB compared with an older test [tuberculin skin test (TST)]. It also assessed how cost-effective the new tests are on their own or in combination with other tests.

The study recruited 6386 participants who had a test result for all three LTBI tests (the TST and two different IGRAs), of whom 97 developed TB disease. When we compared the three different tests and combinations of these tests, none appeared to be better than the others for predicting who would develop TB disease. The approach with the best value from a health systems perspective is to combine the skin test with either of the blood tests. However, there were only small differences in cost-effectiveness between the different testing strategies.

This study concluded that no particular test or combination of tests was statistically superior to other approaches at predicting who would develop TB disease. However, a two-step approach that combined the skin test with either of the blood tests and took into account people’s previous vaccination against TB provided the most benefit, taking into account the cost. Skin testing that did not account for previous vaccination was worse than other test options.
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