A promising test to distinguish between active tuberculosis and latent tuberculosis

As pointed out by the authors of the case report, the distinction between active tuberculosis (TB) and latent tuberculosis is impossible with the blood tests in conventional use. Nevertheless what seems to show great promise is the use of host RNA expression profiles to distinguish between active and latent tuberculosis. In one study, the aim was to determine whether the microRNA profile of patients with active TB was distinct from that of patients with latent TB, and also different from the profile of healthy controls. The investigators focused on microRNAs that were differentially expressed between active and latent TB. The quantitative validation of microRNA expression yielded a significant (P < 0.01) difference between patients with active TB and counterparts with latent TB notwithstanding the fact that there was a certain degree of overlap between active TB and latent TB at the lowest values of relative microRNA expression. There was no difference between the group with latent TB and the control group. A more momentous observation was the one based on a study which enrolled 2915 children from sub-Saharan Africa. In that study, a minimum of 42 microRNA transcripts were identified which were differentially expressed between active TB and latent TB. Using a complicated formula, a risk score for TB was then compiled from those transcripts and that formula was used to differentiate between active TB and latent TB. The risk score distinguished between active tuberculosis and latent TB with a sensitivity of 94% and a specificity of 100%.

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