Reviewer's report

Title: Serial Interferon-gamma Release Assays during Treatment of Active Tuberculosis in Young Adults

Version: 1 Date: 24 June 2010

Reviewer: Hazel Dockrell

Reviewer's report:

This study investigates how QuantiFERON-TB Gold In-tube results changed during TB chemotherapy in a group of young South Korean military personnel diagnosed with tuberculosis. This is of interest as this assay is generally used to help identify subjects with clinical tuberculosis, although it may also identify those with latent disease. The studies investigating QFT changes have so far showed varying results.

Overall in the subjects tested in this study, there was a reduction in the proportion of positive results with treatment, and with the value of IFNg in IU/ml, but although all patients were apparently cured after 8 months of treatment, over 50% were still QuantiFERON positive at the end of treatment, suggesting that this assay (as used for diagnosis) does not provide an indicator of successful chemotherapy.

Major essential revisions

1. This is an interesting group of patients, as they were young, previously healthy and not immunocompromised military personnel. However in addition to those with pulmonary disease, there were eleven TB patients with pleuritis, one with lymphadenitis and one with TB abscess. It would be interesting to know how the QFT values changed in the patients with pulmonary disease, compared to those with pleuritis.

2. Multiple comparisons were corrected for using the Bonferroni correction – but in essence there are only single tubes that provide real data for the QFT result, as the PHA tube just provides a positive control, it is not clear if this is appropriate?

3. The median age was 21 years, but the range went up to 48 years. Might the younger subjects be expected to be experiencing a primary infection, whereas the older subjects might have been exposed to infection in the past and to be reactivating their disease? Can having an age of 48 years be described as “all young” (Page 10, third paragraph).

4. The term negative reversion (Page 8, last two lines) is not ideal – patients must either show reversion or a lack of reversion. It could be replaced here and elsewhere by “reversion to negativity” or “conversion to negativity” to make the meaning clearer.
Minor essential revisions

1. The term “sphericity” in the section on statistical analysis on page 6 should be explained.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I have been involved in supervising a PhD study based in the Republic of Korea, that was investigating interferon gamma release assays in healthy military personnel, but have had no involvement in the work reported in this paper.