Reviewer's report

Title: Levels of diphtheria and tetanus specific IgG of Portuguese adult women, before and after vaccination with adult type Td. Duration of immunity following vaccination.

Version: 2 Date: 8 November 2006

Reviewer: Jo Southern

Reviewer's report:

In line with instructions on construction of the review:

This was a study designed to elucidate responses to a combined tetanus and diphtheria booster vaccination with regard to prior vaccination in childhood with DTP/DT vs in adolescence or adulthood with TT in Portuguese women aged 30 years or more on receipt of this booster vaccination whose last tetanus or diphtheria containing vaccine had been received at least 10 years previously. Blood was taken prior to vaccination from 100 women, 91 of whom returned for post-booster blood sample and IgG responses to tetanus and diphtheria were quantified and analysed in relation to factors such as vaccination history.

1. Is the question posed by the authors new and well defined?

The question is well defined, though it would be useful to mention the reasons for reluctance to boost tetanus in the abstract where these are not explained. I understand this is probably with respect to the word count limit, but economy with other words would permit this important information to be included. The question is not new and indeed some countries have a policy that now excludes decennial boosting and focuses on the number of doses in a lifetime. This may be the first time such a study has been posed in the population included here though it is not clear that they are distinctly different from other European adults where similar work has been done.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

The methods are well described. I was concerned by the inclusion of individuals with no vaccinations recorded described on p.7 and whether checks were made that this was not a lack of information rather than a true lack of vaccination. There was no mention in the methods section of how the sample size of 100 women was reached including what power comparison between groups A and B could be achieved, nor of the intended timing from vaccination to the final blood collection.

3. Are the data sound and well controlled?

Without an active system for collection of safety data it is difficult to address the concern that decennial boosting was associated with a raised reactogenicity profile as mentioned in the introduction. Though this was not a primary outcome of the study it would have been an interesting component and is a missed opportunity here, especially as antibody responses post-booster could have been correlated with measures of reactogenicity e.g. swelling at injection site etc.

The laboratory tests and statistical methods used are well described and seem reasonable in answering the objective of the study.

No mention is made of the approval of the study through ethics committees or regulatory bodies as may be expected for such a study and would normally be documented.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

The data from the study is well presented with clear tables provided, including clear demographics, pre-booster status of individuals, regression and interpretation of results in the light of manufacturer recommendations. However, though some GMCs are included in the text, it would have been very useful to include a table of the GMCs for each antigen in the different age groups by treatment group rather than just p values comparing the two.
5. Are the discussion and conclusions well balanced and adequately supported by the data?

6. Do the title and abstract accurately convey what has been found?

The title and abstract do not reflect that the responses to Td were quantified in relation to the DTP/ DT vs TT groups. Otherwise they convey the study adequately.

7. Is the writing acceptable?

The paper is well written though in places it is clear that English is not the first language of the authors, but the message is not lost.

All comments constitute: Minor Essential or Discretionary Revisions

**What next?:** Accept after minor essential revisions

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No

**Declaration of competing interests:**

'I declare that I have no competing interests'