Reviewer's report

Title: Timing of Therapy for Latent Tuberculosis Infection among Immigrants Presenting to a U.S. Public Health Clinic: a Retrospective Study

Version: 1 Date: 24 December 2007

Reviewer: Jonathan P Peter

Reviewer's report:

Major Compulsory Revisions:

Abstract

The abstract fairly reflects the paper but will need revision in light of the suggested changes to the main body of the paper.

Methods/ Results

The results of the univariable analysis are heavily influenced by the results of referrals by immigration because 99% are referred inside 5 years and this accounts for 45% of the patients studied. This group only contributes 4 cases to the category of arrival >5 years. Maybe the data could be presented in a different way as the more interesting results are what happens if patients are not referred via immigration proceedings.

Did the authors consider another statistical method of analysis that might have more power and might allow the group in referral by immigration to be studied in a different way? For example time between referral has been analysed as a categorical variable (< or > 5 years) which is quite crude and time to referral could be analysed as a continuous variable using Cox proportionate hazard ratios? Was the reason for doing the former just because of current policy recommending only those <5 years be referred for LTBI therapy? Or were there other statistical reasons

Did the authors check for interactions in the model? If so they should state this.

The methods do not seem to have been adhered to since it appears some variables have been kept in the MVA model which may not be significant at the P < 0.05 level i.e. HIV status and possibly country of origin. Perhaps the authors kept some variables which they considered apriori to be confounders, if so, this should be stated.

Discussion

The major factor coming out from the model is the source of referral followed by age and sex. So according to these results country of origin is not an independent factor associated with late referral (despite the different routes used). This seems to be ignored in the discussion which undermines the basis of
presenting such an analysis.

I do not agree with the statement: ‘These data suggest that timely diagnosis and treatment of LTBI could decrease rates of TB disease among Latino immigrants’, as this is not supported by the multi-variable model. The data suggest that there are opportunities to improve the timeliness of LTBI therapy among all immigrants.

Minor Essential Revisions:

The authors should include p values from the likelihood ratio tests in the MVA model so these can be checked.

Using the Canadian/European group as the reference group does not seem appropriate considering these represent only 4% of the study population. Are there other reasons for doing so?

Table 1 and 2: PMD describe in full. Other: give description of what other means at the bottom of the tables.

Discretionary Revisions:

Abstract

It is not clear what ‘recently arrived’ means in the context of immigration.

Background

I would like a little more clarification in the background about the policy of screening for latent TB. Prior to arrival it seems they screen for active disease not latent infection. Is there any latent TB testing on arrival? The background of the abstract suggests that this is the case but there is no real mention of this in the background in the main body of the paper (unless recently arrived means in the last 5 years?).

Latent TB screening (TST) is also applied to immigrants who apply to change status to legal permanence. Is this always dealt with (referral) by the immigration authorities?

What about illegal immigrants granted legal status? Is this type of amnesty a frequent occurrence involving large numbers and how is this handled in terms of latent TB? What are these other mechanisms of arrival which are alluded to in the text?

Methods/Results

‘Existing data base’ is not an adequate description. More information should be given.

A cut off of p<0.05 for inclusion in the model seems high. Usually this is p <0.2

Why was data on reason for LTBI therapy not presented? What are the
categories for this?

Figure 2 this could be presented as proportions of total for each year by country of origin to see any changing pattern of immigration.

Discussion

Are the findings about age and female gender explored/discussed adequately? Delays in older adults might just be if you have not been screened on entry you are bound to be older when screened later? Or are these people legal or illegal immigrants seeking permanent status?

I would like there to be a little more information in the discussion about the population group from Latin America and the Caribbean. What proportion of these are from Mexico and are there frequent visits back from the USA?

We don’t really know that timely diagnosis of LTB would decrease rates of disease. There is only the potential to do. There are issues of adherence, issues of re-infection and we don’t know what proportion of patients with a positive TST are referred for therapy by clinicians.

Of greater concern must be those immigrants who are not screened for latent TB and some information about how this is being approached would be helpful.

Since it seems people processed by immigration services are quite rapidly referred, is the issue also about raising awareness among the medical community as well as the public?

The paper states that CDC is considering several strategies to address the high rate of TB among foreign born individuals in the US such as revising medical screening for applicants for US immigration. What might these revisions be? Do they involve the use of Interferon gamma testing?

If the study is too small and not generalisable then how useful is it?

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that i have no completing interests