Reviewer’s report

Title: Risk of tuberculosis in patients with diabetes: population based cohort study using the UK Clinical Practice Research Datalink

Version: 1 Date: 25 March 2015

Reviewer: Justin T Denholm

Reviewer’s report:

Thank you for the invitation to review this article, entitled “Risk of tuberculosis in patients with diabetes: population based cohort study using the UK Clinical Practice Research Datalink”. The connection between diabetes and incident tuberculosis has been previously considered in a number of settings, however, the absolute risk of TB associated with diabetes is underexplored, especially in low-incidence settings, and this manuscript is therefore welcome.

The authors have investigated this relationship primarily through the review of a large existing database for management of diabetes in UK general practice settings. This is methodologically well-presented, with an appropriately detailed description of conduct and approach. The main finding of this article is that of a moderate association between diabetes and TB risk. This is lower than described in other settings, but not inconsistent with the range of relative risk seen in more recent reports.

Minor Compulsory Revisions

It is interesting to see that diabetes severity was not associated with TB risk. This has been observed in high-incidence settings, and in this context may be related to a variety of demographic factors as well as simple risk of progression. As this is a general practice based dataset, it may be that the most severe were under-represented (for instance, due to care avoidance, or management in settings such as hospital-based clinics. Could the authors comment on the dataset inclusivity in this regard?

It’s not entirely clear to me that this study avoids the difficulties of co-prevalent disease. While the important relationship under investigation is the increased risk of TB in individuals with diabetes, active TB is itself associated with diabetes – both causally (particularly where high-dose steroids are used) and in individuals presenting with both diseases simultaneously.

This study will be of most use to lower-incidence settings considering populations which may benefit from screening for latent TB, and will provide helpful data for risk-stratification as low incidence countries develop strategies, especially towards TB elimination. Authors comments in this regard are reasonable and balanced in light of the data presented here.
Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.