Reviewer's report

Title: Optimal schedule of Bacillus Calmette-Guerin for non-muscle-invasive bladder cancer: A meta-analysis of comparative studies

Version: 2 Date: 28 March 2013

Reviewer: Peter Lee

Reviewer's report:

One of the referees of the first round of peer review (Claire Vale) has indicated that it may not be appropriate to combine data from clinical trials with data from observational studies in a meta-analysis, and I have been asked by Dr Barnard, the Senior Editor of BMC Medicine, to provide advice on this comment, and whether the authors (Dr Zhu et al) have carried out the meta-analysis appropriately.

My view on this point is that it is not unreasonable to combine data from clinical trials and observational studies as a general principle, provided that results are given separately for the two types of data source. While there may be situations where there is a source of substantial bias in observational studies, where attention should perhaps be restricted to RCTs, in other situations it may be clearly advantageous to include data from observational studies (e.g. large well-conducted observational studies with little bias likely and limited data from RCTs). One should also bear in mind that observational studies may have some advantages, if RCTs are conducted on highly selected populations.

I also feel that, for the current paper, the work was designed at the outset to detect all relevant studies, regardless of type. In this situation, later restriction to results for specific data subsets carries with it the danger of being accused of “cherry-picking”. Given the design, and given that the authors present, in their Forest plots, separate results for the two types of study and a test of heterogeneity by type of study, I would not ask the authors to do as Dr Vale suggests. Rather I would ask them to include in their abstract a sentence or two stating in general terms how the results were affected by restricting attention to clinical trials. Also to include some text in the main body of the paper commenting on the results by type of study. At present the only reference to variation by study type is in the Forest plots themselves; there is no mention in the methods of the fact that separate analyses are conducted for the two types. There is also very little mention of the results in the paper, and no mention of whether there are significant differences between results for RCTs and other study types.

Declaration of competing interests:

I have no competing interests in relation to this paper