Reviewer’s report

Title: Beta-blockers for the primary prevention of anthracycline-induced cardiotoxicity: a meta-analysis of randomized controlled trials

Version: 0 Date: 23 Feb 2019

Reviewer: Tao Zhan

Reviewer's report:

Dear editor and authors,

It's my privilege to review this manuscript for BMC Pharmacology and Toxicology. I would like to give some comments on the content as following:

1. The manuscript's purpose is to evaluate the overall beta-blockers' preventive effect against anthracycline-related cardiotoxicity. It is indeed a question that oncologists would discuss frequently in clinical practice. However, the beta-blocker family has many members, their cardioprotective effects should be analyzed in more specific and quantitative ways. Therefore, meta-analysis of individual beta-blockers would be more justified in terms of methodology in evidence-based medicine.

2. Quality assessment is a very essential process before the data pooling is carried out in a meta-analysis. The authors are advised to present more details of quality assessment in the article and, if possible, utilize it in the process of data pooling and further discussion. For example, results of data pooling of studies with different quality grades would be of significantly bias due to the quality heterogeneity.

3. The use of random-effect model is justified only on the basis of ruling out major clinical heterogeneity. We have to admit that clinical heterogeneity is "clinical" and will not be solved by any statistical model. (see line 13-15, page 8). If the data pooling is applicable with the I2<50%, the fixed-effect model should be utilized to improve the statistical power.

4. There's difference on the definition of symptomatic heart failure among the included studies, which can also increase the heterogeneity. I suggest the authors explain more about why they still pooled the data of this outcome in the discussion part.
5. Publications presented in conferences should not be excluded unless they are reduplicative of reports published in journals.

6. The limitations of the systematic review are very significant. It's not appropriate to conclude that beta-blockers are effective and safe as prophylactic agents against anthracycline-related cardiotoxicity.

7. Meta-analysis is essentially a type of review utilizing more statistical approaches. Nevertheless, if meta-analysis is not applicable on an outcome, we can still try descriptive analysis instead.

8. There are many problems of English writing in the manuscript. The authors are suggested to improve the writing again or have a native speaker to revise the article.

Dr. Tao Zhan, MD

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics
Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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