Reviewer's report

Title: Comparative safety of serotonin (5-HT3) receptor antagonists in patients undergoing surgery: A systematic review and network meta-analysis

Version: Date: 17 December 2014

Reviewer: Anthony L Kovac

Reviewer's report:

Major revisions:
The paper is a complex analysis of a topic that has had a large number of publications in the last 10 to 20 years. The number of authors (20) is a large number for this type of analysis. It is a long paper to read and understand. I myself read it completely two times. The authors have done an excellent job, but I think the paper at 77 pages is TOO long and I think should be shortened. The material presented could probably be in 2 smaller papers, one of efficacy and one of safety. The title states that this is a "comparative safety" analysis. Thus, as such, I do not think that the authors have to include the efficacy analysis. This could be in another paper. Is it also absolutely necessary to have 29 appendices?

Line 224: If a majority of the included experimental and quasi-experimental studies had unclear or high risk of bias or potential for funding bias, why did you include them? Please explain.

Lines 239-246: Is it really necessary to include the reference numbers for the 195 RCTs?

Lines 260-267: Similarly, is it necessary to include the ref. numbers for the 175 RCTs?

Lines 290-298: Similarly for the 238 RCTs.

Lines 312-320: Similarly, Lines 353-359, Lines 368-373, etc.

The text with all the references and the repetition is difficult to follow for this reviewer.

The paper appears to start related to the title on page 16 line 393.

Lines 427-436: I am uncertain why was delirium included? This is a side effect of other anti-emetics, but not the %HT3 antagonists.

Discussion is hard to follow and should be simplified.

Lines 484-485: To this reviewer, the reason for doing this study should be stated earlier and included in the Introduction section.
Lines 501-513: This should be in the Exclusion part of the Methods section and not discussion.

Lines 503-504: Why mention about chemotherapy studies. That is a totally different analysis and paper.

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

In the past 5 years, I have been a consultant for Helsinn Healthcare.