Reviewer’s report

Title: Bleeding complications and related blood component transfusions in cholecystectomy: register study of over 22 000 cholecystectomies in Finland

Version: 2 Date: 4 May 2015

Reviewer: Jonas Strömberg

Reviewer’s report:

This is a retrospective study of cholecystectomies (open and laparoscopic) in Finland using register data to assess the differences of blood transfusion rates between OC and LC.

Line 1: Title is too long.
Line 40-41: Higher in the OC-group than in the LC-group.
Major: Conversion rate?
Old data: 2007 (8 years ago)
Line 58: erase "somewhat"
Line 67: erase overwhelming bleeding and put in e.g bleeding complications.
Line 72-73: Based on what? Patients with CBD injuries would probably argue that their complications are the most serious ones?
Line 75: …era
Line 76-79: Rephrase sentence
Line 89-91: Figure 1 was not enclosed for review?
Major: the VOK registry needs to be explained (inclusion, exclusion etc). Perhaps not that much detail regarding the fact that it is no longer in use. How do you link data from the NIHW registry to the bleeding registry? Bott registers needs to be explained. What about validity?
Line 96-99: What about the separate registry – elaborate, explain! The reader does not understand this.
Line 102-107: Shorten the info on NOMESCO.
Line 110-112: This is a major flaw of the manuscript: conversions can not be part of the OC group since you will get a selection bias based on the fact that patients in the LC group that needs blood transfusion due to massive hemorrhage will go into the OC group. The conclusions about whether LC or OC have the highest amount of blood transfusions are therefore hard to interpret. This fact is noted by the authors in the discussion section.
Why can’t you use: Diagnose code: ZXK00 Conversion from percutaneous endoscopic surgery to open surgery
Line 113-115: Rephrase sentence
Line 118-156: The methods section needs to be shortened. I suggest that you erase line 118-156. Preparing blood transfusion bags is not of interest to the reader.

Line 180: Figure 2?

Line 187: CBD exploration? Why? Is this the method of choice to intraoperatively deal with CBD stones?

Line 224: I would not ask this question in the discussion.

**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 no competing interests