Reviewer’s report

Title: Ringer’s lactate but not hydroxyethyl starch prolongs the food intolerance time after major abdominal surgery

Version: 2  Date: 29 December 2014

Reviewer: Michael James

Reviewer’s report:

This study evaluates the effects of varying combinations of crystalloids colloids on gut recovery following, predominantly, laparoscopic cancer surgery.

Minor essential revisions:

1. On page 4, lines 5-19, the authors state that 111 patients were initially recruited but only 88 actually studied for technical reasons. Were these 111 patients randomised or were only the subsequent 88 patients randomised. If all 111 were included, what happened to the randomisation sequence and how was this adjusted to account for the subsequent exclusion of these patients. This would also preclude an intention-to-treat analysis and these issues should be clarified. If only 88 patients were actually randomised, then reference to the 111 patients is merely confusing and does not add to the scientific value of the paper.

2. The statistical section is not satisfactory. How did the authors arrive at the number of patients studied? Was a power calculation performed and if so what parameters were used? Categorical comparisons such as the number of complications are presented, but these would require additional statistical methods to those described. This section needs to be rewritten and expanded.

3. Haemodynamic monitoring was conducted using the Vigileo system, but no results are reported. Why is this? The authors should either present these data or justify their omission.

4. The problem of the terms restrictive and liberal is addressed on page 10 lines 19-25. For example, although the study by Varadhan & Lobo showed that up to 2.75 L per day were associated with better outcomes, this was referred to as restricted fluid therapy, whereas the study by Holte et al was described as using liberal fluid therapy but almost identical volumes (2.5-3 L per day) were used. It would be better to avoid liberal and restrictive and rather refer to actual volumes. The authors might like to consider referring to the more recent concept of zero balance which has been nicely summarised in a recent publication.{Miller, 2014 #4528}

5. On page 11, lines 9-22, the authors address the issue of better urine output in the starch group. One possible explanation that has not been considered is the fact that haemodynamics may have been better in the starch group, particularly renal perfusion. This should at least be addressed in the discussion.

6. The authors state that crystalloid blood replacement requires 3:1 proportion of
fluid, whereas colloid replacement requires only 1:1. Whilst this is in line with general physiology, it has been challenged as a principle and the authors should give a reference to support this and I would suggest a recent paper by Roger et al is appropriate.{Roger, 2014 #3719}

7. The details of the fluid therapy are somewhat difficult to follow and it would be substantially clearer if the groups were defined at the beginning of this paragraph. In other words, it would read better if lines 1-6 from page 6 were moved up to the beginning of the Fluid Therapy paragraph.

8. On page 7, lines 23-26 the authors state that 66 patients who received # 1 L starch had shorter PACU times. It appears from the protocol that no patient received less than 1 L starch, so this could be simply stated as 66 patients who received starch. If my interpretation is incorrect this should be clarified.

**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 have received lecture funding from various fluid companies, particularly Fresenius Kabi, whose product is one of those evaluated.

I have no competing other interests to declare.