Reviewer's report

Title: Oral versus intravenous proton pump inhibitors in preventing re-bleeding for patients with peptic ulcer bleeding after successful endoscopic therapy

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Reviewer: CHENG TANG CHIU

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Major Compulsory Revisions

1) The authors concluded that patients in LAN group have a shorter hospital stay. However, the criteria for discharge in both groups have never been defined in the beginning of this study. This is concerning when considering that this study could not be blinded from the attending physicians who were empowered to decide when to discharge the patients. Furthermore, half of the patients in LAN group were allowed to discharge home early due to low Rockall score while its counterparts in ESO group were kept in hospital for intravenous infusion of PPI. This practice clearly led to a serious bias in counting the number of days of hospital stay.

2) In the 25 patients from the LAN group who were discharged home early, evidence of rebleeding was determined by contact between a research assistant and the patients. This obviously deviates from the original study design by allowing these untrained persons to observe one of the important clinical outcomes of the study, i.e. passage of tarry or bloody stool, while all patients in ESO group received close monitoring in hospital by physicians and nursing staff. It is conceivable that missed observation and thus under-estimation of rebleeding rate can occur in these 25 patients.

3) As the authors stated in their discussion, rebleeding rate of 4% was unusually low after endoscopic hemostatic therapy for ulcers of Forrest I and II morphology in this study. While ulcers with spurting can be un-mistakenly recognized, differentiation between oozing from a protruding vessel or from a clear or pigmented ulcer crater may not be agreed upon among the many endoscopists involved in this or any other study. This is also true between NBVV and a pigmented spot. It is not clear if inter-observer variation in endoscopic description of ulcer morphology may have accounted for the high success rate of hemostatic therapy. It is concerning since more than half of the endoscopic findings in this study were NBVV and one third were oozing. Have ulcers with Forrest III and IV morphology been erroneously included in this study, no difference in rebleeding rate would have been expected between LAN and ESO groups.

4) The study design made an estimation of a sample size of 130 patients, 65 in each group, to detect a 25% difference in favor of ESO group. It should be concluded from the result of this study that intravenous infusion of PPI does not fare better than oral PPI in reducing rebleeding rate by more than 25% if the LAN
group has a baseline rebleeding rate of close to 30%, rather than what the authors have reached that oral PPI is no worse than intravenous infusion of PPI in its efficacy. Intravenous infusion of PPI can achieve a less than 25% efficacy higher than oral PPI, yet this study has not been designed to have such a power for detection. Furthermore, a 4% rebleeding rate is far from 30% the original assumption in LAN group. Much larger sample size would have been required given a 4% rebleeding rate as baseline. The biggest pitfall of all at the completion of this study, nevertheless, is that only 100 patients were enrolled, 30 less than 130 patients originally designed. Thus statistical flaws seem immense.

Minor Essential Revisions

5) Lastly, two serious type errors should be pointed out. In the paragraph under “assessment” on page 5, hemoglobin level has erroneously been typed as 90 g/L (line 4) and >20 g/L (line 9).

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests