Reviewer's report

Title: Evaluation of a protocol for vancomycin administration in critically patients with and without kidney dysfunction.

Version: 2
Date: 21 November 2014
Reviewer: Hsin Jung Lin

Reviewer's report:

Major Compulsory Revisions-

1. Please explain how you developed the vancomycin protocol?
   Your suggested loading dose is smaller than the recommendation from most other literature in the ICU patients. Many of your background referenced studies used 20-30mg/kg loading dose. Do you have other information to suggest your loading dose is sufficient for your patient population?

2. You protocol suggests daily vancomycin dose based on the renal function at the start of vancomycin infusion. Do you find it challenging to give continuous vancomycin infusion for patients have developed acute renal failure or have significant renal function change? In that case, do you still suggest continuous infusion a good method to administer vancomycin?

3. Page 6 line 17-21. “All the blood samples for VSC measurements and creatinine were drawn at 7:30 in the morning…. The first sample of vancomycin serum concentration of each patient was collected on the second day after starting the infusion. Therefore all patients received more than 24 hr infusion after the bolus dose”. Does this mean – if a patient was initiated with vancomycin on Monday at 3pm, VSC will be drawn on Wednesday at 7:30 am? Can you please provide the mean time to first VSC from vancomycin initiation?

4. Does your ICU have a protocol for drawing drug levels? Are those reported level obtained from arterial line or peripheral line? Clinically, we have observed the falsely elevated drug levels because the serum samples were obtained from the same infusion line or from the adjacent line.

5. Your protocol allows rapid achievement of a target VSC, but the time to achieve a target VSC was not described? Can you please provide the time to achieve a target VSC for both groups?

6. Please provide the duration of vancomycin therapy. Your protocol results in 35% patients have VSC > 25 mg/dl in the first determinant and yet you did not observe a greater renal toxicity unlike other studies. Do you think the duration of such a high level would affect your report of renal toxicity? How long do you follow up with patients in terms of renal toxicity? Are your patients discharged from ICU to general ward in continuous vancomycin infusion if the prolonged vancomycin therapy is needed?
Minor Essential Revisions

1. Please have your manuscript double checked for grammars and spellings. Thank you.

2. Your result showed patients who had a subtherapeutic level at the first VSC measurement had a significant correlation with in-hospital mortality. This is interesting. Does your microbiology lab report MIC results for the bacterial infection? If so, can you please provide this information? If staph aureus has a MIC of 0.5 to vancomycin, you probably will not need an AUC 400 to achieve PK/PD target to successfully treat the infection!

Level of interest: An article whose findings are important to those with closely related research interests

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

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

Declaration of competing interests:

I declare that I have no competing interests.