Reviewer's report

Title: Inadequate vancomycin therapy in term and preterm neonates: a retrospective analysis of trough serum concentrations in relation to minimal inhibitory concentrations

Version: 2
Date: 24 March 2014

Reviewer: Ajay J Talati

Reviewer's report:

This is a simple straightforward study with clear objectives. It is an important clinical issue with emerging MRSA in NICUs all over the world. However the study has limited data to make strong recommendations to change practice.

Areas of major concern

1. MICs of only coagulase negative staphylococci was considered, how about MRSA? The authors need to identify some cultures with MRSA and compare its MICs with the achieved concentrations.
2. The authors do not report any problems with persistent bacteremia inspite of low levels. This would be an important clinical outcome to look at.
3. The four groups are limited by very few patients in <26 week EGA group 1 and only 2 patients in group 2. This groups could be eliminated and only <7 days or >7 days groups would have some meaningful data.
4. Mortality is associated with episodes of coagulase negative staphylococci? Or other organisms?
5. Some discussion of potential toxicity is warranted if authors are suggesting a change in recommendations for therapeutic range.
6. Neofax, widely used in US NICUs, as a drug reference for neonates, do suggest a higher trough target, but only in deep tissue infections with MRSA. The discussion should also focus on need for higher troughs with deep tissue infections.
7. Figure 1, indicate a significant number of infants <33 weeks had a high trough (>20 mg/L). The potential of toxicity in this population is also high because of poor renal clearance of the drug, the authors do not provide any data or discussion regarding this issues.
8. Discuss limitations in detail

Minor concern;
Some typos need to be corrected eg. Line 242 should have “trough” instead of “through”

Discretionary:
A discussion of optimal way of dosing Vancomycin (e.g. first dose kinetics) may be helpful for readers to achieve desired trough concentrations

**Level of interest:** An article of limited interest

**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 interest