Reviewer's report

Title: Effect of vancomycin serum trough levels on outcomes in patients with nosocomial pneumonia due to Staphylococcus aureus: a retrospective, post hoc, subgroup analysis of the Phase 3 ATTAIN studies

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Reviewer: Natasha Holmes

Reviewer's report:

Barriere and colleagues have submitted their revised manuscript describing the effect of vancomycin serum trough levels on outcomes in patients with nosocomial S. aureus pneumonia. As noted with the previous review, this is a retrospective post-hoc sub-group analysis of a clinical trial population so statistical conclusions are limited. The authors have highlighted this issue in their limitations. Greater clarify about definitions (eg. timing of median vancomycin trough levels, definitions of acute and chronic renal injury, vancomycin dosing at the time of the trial, lack of recommended vancomycin trough targets during trial period) and statistical analysis have now been addressed by the authors in this revised manuscript. Increased nephrotoxicity with higher vancomycin trough levels without improvement in clinical outcomes remains the take-home message from this sub-group analysis. These findings were also observed in a prospective multi-centre observational trial already published (AAC 2011;55:5475) and a meta-analysis (AAC 2013;57:734).

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 that I have no competing interests.