Reviewer’s report

Title: How do we use therapeutic drug monitoring to improve outcomes from severe infections in critically ill patients?

Version: 1 Date: 16 April 2014

Reviewer: Marco Falcone

Reviewer’s report:

Overall this a very interesting, well written review article focusing attention on the risk of inadequate drug exposure in critically ill patients and discussing the role of TDM in this setting. The manuscript is interesting but needs some modifications:

1) Overall this manuscript should be a practical review for clinicians who are not ever skilled in clinical pharmacology: thus I suggest to add more Tables/figures. For example a figure may summarize the paragraph entitled Pharmacokinetic changes in the critically ill describing the more common factors associated with altered pharmacokinetics of antibiotics in critically ill patients. Also table 1 may be divided in two tables (time-dependent and concentration-dependent antibiotics).

2) Some definitions used in the manuscript should be better explained in the text, e.g., difference between concentration-dependent and concentration-dependent with time-dependence.

3) The authors frequently refer to ICU patients; although ICU patients are usually those more critical however critically ill patients (at least at the onset of septic syndrome) are frequently admitted in other wards such medical wards, surgical etc. Then I suggest to add in the text that an inadequate drug exposure may be observed also in other categories of patients with severe sepsis or septic shock residing in non-ICU wards.


5) References list may be shortened.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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