Reviewer's report

Title: Empirical use of antibiotics and adjustment of empirical antibiotic therapies in a university hospital: a prospective observational study

Version: 2 Date: 9 October 2006

Reviewer: Ronald Andrew Seaton

Reviewer's report:

General
Thanks to the authors for their clarification of definitions and the amendments made. The following should be clarified within the body of the manuscript before it is acceptable for publication.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. As stated, only patients who had empirical therapy were included in the study and those who had received prior (community) therapy were excluded. This would amount to a major exclusion in my own practice eg a large proportion of patients with COPD, pneumonia, cellulitis, who in my experience have usually received oral antibiotic therapy in the community and subsequently require IV therapy in hospital. For all we know all the poor practice in prescribing is occurring in this patient group who may have been for example receiving prolonged parenteral therapy and excluded from analysis (thereby skewing results). The authors need to at least quantify the number of patients who have been excluded for this specific reason and it needs to be discussed as a potential limitation. Perhaps in the authors’ practice most patients do receive their primary care through the hospital. In the UK where I practice and in other countries this would be extremely unusual.

2. I disagree that switching from IV to oral therapy is not “adjusting therapy” but concede the authors are judging the entire course (IV and oral) of therapy for each infection treated. Assuming that the appropriateness of the course is being judged, and in the absence of guidelines for IV-oral switch timing, then it is essential the authors confirm that if IV therapy was (in their opinion) prolonged then the course of treatment has indeed been judged as inappropriate? This needs to be made much clearer in the manuscript. Suggest the authors could state that prescribing was reviewed daily and the appropriateness of the antibiotic, the dose and route of administration were assessed each day (ie at any time during the course of therapy).

3. Does the term "overdosed" only refer to inappropriately prolonged IV therapy or only to those whose initial (empiric) therapy was inappropriately IV or also to patients who were prescribed an inappropriately high dose of antibiotic? The term must be changed due to its toxicological implication in the English language (eg paracetamol overdose). If only referring to IV therapy this term could be changed to "excessive parenteral therapy" or something similar. Likewise "underdose" could be changed to "inadequate parenteral therapy".

4. The numbers of patients with inappropriately prolonged IV therapy ("overdosed") are unusually low. If this is true then it should be emphasised and applauded. If however the authors have avoided closer assessment of appropriate duration of IV therapy (by sepsis guidelines, oral route compromised etc) it again has to be highlighted very clearly. Most of the studies they have cited include duration of IV therapy as a most important issue (and also include those patients who have received oral community therapy prior to admission).

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests