Author's response to reviews

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

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

Answers to the reviewer (R.A. Seaton)

1a. “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)”.

As stated in the manuscript, the aim of the study was to assess the adequacy of empirical and adjusted antibiotic therapies. We therefore excluded 132 of the 3387 patients because they were diagnosed with an infection and were already treated with antibiotics as outpatients. None of these 132 patients received parenteral antibiotics (in Switzerland, because of reimbursement problems, outpatient parenteral antibiotic therapies are rarely performed outside of hospitals). Therefore, we did not exclude this patient group and there is no skewing of results in the sense feared by the reviewer.

In addition, for example the study we cite by the group of Gould et al. (Kumarasamy Y et al., Clin Microbiol Infect 2003, Ref. 8) had a similar aim as our study (empirical prescription of antibiotics), was performed in Aberdeen, UK and also excluded “patients already on antibiotics prescribed by their GP who were not considered in the analysis”. Similarly, the study by Hecker et al. (Arch Intern Med 2003, Ref. 7) included only “inpatients for whom new antimicrobials were prescribed”. We clarified this point by adding the information “oral antibiotics” as follows:
“... and 132 patients were excluded since they were given therapeutic oral antibiotics prior to admission in an out-patient setting”. (Results, p. 8).

1b. “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.”

The number of patients who have been excluded for this specific reason was already reported in the manuscript (132 patients: Results, p. 8). We added this point in the discussion of potential limitations as follows:
“The present study has several limitations. In particular, patients started on antibiotics more than 24 hours after admission or who received only antibiotic prophylaxis, patients admitted directly to the wards, and patients who received therapeutic oral antibiotics as out-patients were not included in the study.” (Discussion, p. 14).

2. “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)”. If iv therapy was (in our opinion) prolonged then the course of treatment has indeed been judged as inappropriate. We added the statement suggested by the reviewer as follows:
“Prescribing was reviewed daily and the appropriateness of the antibiotic, the dose and route of administration were assessed at any time during the course of therapy.” (Methods, p. 6).
3. As suggested by the reviewer we changed the terms “underdosed” and “overdosed” to “insufficient dosage” and “excessive dosage”. As stated in the methods, these terms refer in general to the dosage of the antibiotic (i.e. i.v. or p.o.).

4. cp. point 2. and point 1a regarding the exclusion of patients who received antibiotics prior to admission.