Reviewer’s report

Title: Efficacy of antibiotic therapy for peritoneal dialysis-associated peritonitis: a meta-analysis of case series studies

Version: 2 Date: 26 February 2014

Reviewer: Panayiotis Ziakas

Reviewer’s report:

Barretti et al. use a proportion meta-analysis to determine the best therapeutic regimen for the treatment of peritonitis in peritoneal dialysis patients. A recent meta-analysis of randomized controlled trials was inconclusive and the authors decided to use reports of case series to examine the case. The major conclusion is that a combination of glycopeptide plus ceftazidime is superior to other regimens for initial treatment of peritonitis.

Major Compulsory Revisions

1) The authors acknowledge the lower quality of a result that accrues from non-randomized studies. Nevertheless, the main conclusion of the study is based in only 2 studies, one of which involving pediatric population. Of note is that this is the only study with pediatric population across studies used in the meta-analysis. I have concerns if the pediatric population can be considered equivalent to adult.

2) The authors have excluded data on resolution of peritonitis arising from the randomized trials, which have been performed on the subject. Although they reasonably suggest that randomized trials may have inadequate power to show a result between different regimens, completely excluding data from randomized studies results in excluding at least 2,191 peritonitis episodes, reported in the previous meta-analysis of randomized studies. The data should be incorporated in the analysis as discrete data sets.

3) The authors state the different definitions used across studies of peritonitis resolution and treatment failure. A definition of peritonitis however is required (to ensure consistency between studies).

4) A formal flow diagram of the selection process of included studies in the manuscript is absent (the authors could follow the PRISMA Flow-chart instructions).

5) Please describe methods used for assessing risk of bias of individual studies. A quality assessment should be included. The Newcastle-Ottawa or Downs & Black scales can be used.

6) For each study, please present characteristics for which data were extracted and provide the citations (as a Summary table).

7) Results for heterogeneity have been selectively presented only on gram-negative rods. Please provide the estimates for initial treatment and culture...
negative and cultures yielding gram-positive bacilli. Also, I2 is not appropriate for meta-analysis of prevalence. Instead, the tau2 should be reported in all prevalence estimates.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests