Reviewer’s report

Title: Laboratory Confirmed Puerperal Sepsis in a National Referral Hospital in Tanzania: Etiological Agents and Their Susceptibility to Commonly Prescribed Antibiotics

Version: 0 Date: 24 Feb 2019

Reviewer: Jennifer Kaiser

Reviewer’s report:

This paper is a cross-sectional study of patients with puerperal sepsis at the Muhimbili National Hospital in Tanzania with the aim to identify the responsible bacterial species and determine resistance patterns to current empirical therapies. The authors found a high prevalence of E coli, Klebsiella, and S aureus as causative agents with high susceptibility patterns to empirical therapies. This paper addresses a gap in the literature on common bacterial agents and resistance patterns in this area, however it only investigates aerobic causes of puerperal sepsis. Despite this limitation, the results have the potential to greatly affect puerperal sepsis treatment in the Muhimbili National Hospital. The following comments are intended to help the authors in modifying the manuscript to improve its impact.

1. It is not clearly stated until the limitations section that this study only investigated aerobic causes of puerperal sepsis. Adding this to the title, abstract, and concluding statements would provide clarity.
   a. Is it known what proportion of puerperal sepsis cases are due to aerobic vs anaerobic bacteria in similar populations?

2. Consider adding the larger aim of this study to the introduction (i.e. improve empiric treatment).

3. Did an IRB or equivalent approve the study?

4. How was convenience sampling done - only women on certain wards or at certain times of day were approached for participation? Convenience sampling should also be a consideration in the limitations in terms of possible bias introduced using this sampling method.

5. How many women in the study time frame were admitted with PS versus how many recruited?

6. How was the “required sample size” determined?

7. Consider a participant flow chart. Were any women excluded for having received prophylactic antibiotics for cesarean section due to the exclusion criteria of antibiotic use within the past week?
8. Please clarify if blood and cervical cultures were collected prior to antibiotic initiation.

9. I am not familiar with what an “endocervix gator,” but it is unclear whether endocervical cultures were obtained during a speculum exam with attention to avoiding vaginal contamination.

10. Please define acronyms used (MRSA, ESBL)

11. Consider expanding on generalizability in the discussion.

12. Other limitations that need further consideration in the limits section: convenience sampling, overall sample size, small numbers of isolated bacterial species, and extrapolating treatment recommendations from these small numbers (i.e. Pseudomonas, Enterococci, etc).

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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