Author's response to reviews

Title: Use of cultivation-dependent and -independent techniques to assess contamination of central venous catheters: a pilot study

Authors:

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Version: 4 Date: 1 September 2008

Author's response to reviews: see over
Dear Editor,

We are grateful for the further suggestions for improvements from reviewer 2 and hope the revised manuscript will be accepted for publication. Below please find our responses to the reviewer’s comments. We are willing to transfer our manuscript to BMC Clinical Pathology as suggested. A “competing interest” section has now been included after the Conclusion.

Sincerely,

Trine Rolighed Thomsen

Response to reviewers, MS: 1962346585188520
Diagnosis of central-venous catheter colonizations using cultivation-dependent and - independent techniques by Mette KS Larsen, Trine R Thomsen, Claus Moser, Niels Høiby and Per H Nielsen

Reviewer's report
Title: Diagnosis of central-venous catheter colonizations using cultivation-dependent and - independent techniques
Version: 3 Date: 8 August 2008
Reviewer number: 2
Reviewer's report:

Report's major revisions:
1. Abstract: The authors state: "...many other bacteria ... were also found stressing that only a minor part of the species present was found by cultivation.” Although this is likely to be true, what evidence do the investigators have that establish that the organisms were not introduced through inadvertent contamination following catheter removal.

In this revision the authors have included the statements "Contamination has generally been avoided but can not be excluded as a possibility."

All catheters sent for microbiological investigation were generally handled under aseptic conditions. "These comments do not provide much reassurance that the reported flora actually represent organisms that actually colonized the catheters in vivo. The authors also provide information about the use of negative controls on the PCR assays. However, reagent contamination seems to be less likely that improper handling of a catheter by a clinician at the time of removal to ensure that it is not secondarily inoculated with organisms living on the patients' skin or bed.

To address these concerns, I recommend the authors include a brief discussion of the potential impact of catheter contamination during removal.

This has now been included in the discussion according to the reviewers suggestion. The possibility of contamination during catheter handling affects both cultivation data and the molecular results, so a discussion of these concerns are indeed important to include in the paper. In the abstract we write:”...many other bacteria ... were also found stressing that only a minor part of the species present was found by cultivation”. If a contamination had taken place, we should expect to see it both by cultivation and by the molecular methods. And we do still see a large difference between
the two methods. Therefore, we do not think it needs to be stressed in the abstract, only discussed later on.

Minor Essential Revisions:
2. Methods: Because other investigators have noted significant differences in technique for doing catheter tip cultures, it would be important to note if the cultures were always performed by the same individual or if training on the appropriate technique was performed.
Authors revision is acceptable.

3. Methods: There appears to be a typographical error on lines 119-120: “More than 15 cfu were denoted with + and less than 15 cfu were denoted with (+).”
The authors state "This is the standard way of writing culture results at Copenhagen University Hospital: Many cfu is denoted with a plus and less than 15 cfu is written with a plus in parentheses. We can change this if necessary."
This should be revised in keeping with the journal's style sheet.
The + and (+) have now been removed and the table text changed to: “Cultivation data from the 18 CVC investigated. All except those identified as mixed growth were quantified to more than 15 CFU’’.

4. The “molecular methods” and “clonal libraries” portions of the Results section includes data that belong in the Methods section.
Authors revisions are acceptable.

Discretionary Revisions:
5. Introduction: The introduction should be more concise.
The introduction remains much too long and unfocused.
The introduction has been shortened and is more focused now.

6. Small sample size with significant differences among patients for the indication for catheter tip analysis (positive blood cultures vs. “routine”)
   Adequately addressed in discussion. Might consider adding that this is a "pilot study" to the title. I do not believe the title accurate describes this work and would recommend it be revised to “Use cultivation-dependent and –independent techniques to assess contamination of central venous catheters: a pilot study”.
The title has been changed according to the reviewers suggestion.

7. The Results section should be more concise.
Results section is now somewhat improved.