Reviewer’s report

Title: Procalcitonin-guided diagnosis and antibiotic stewardship revisited

Version: 0 Date: 07 Nov 2016

Reviewer: Dylan de Lange

Reviewer’s report:

SUMMARY:

A narrative review on all new observational and randomized studies on PCT since 2012. A lot has been published since 2012 and many of these studies are highlighted in this comprehensive review.

MAJOR POINTS OF COMMENT:

1. (page 11, line 37): I was intrigued by the outcome of the endocarditis study. Cornelissen et al. found PCT useful in prediction of poor outcome (cut-off 0.5ng/ml; Sensitivity 73% and specificity 79%) and a odds ratio of 12.8 (95% CI 2.5-66.2) for finding staphylococcus aureus in blood cultures [67]. How can a cutoff of only 0.5 ng/mL be used for good versus bad outcome in endocarditis? Endocarditis often is a severe infection (severe sepsis) and you'd expect much higher values of PCT.

2. It would be very nice to see a level of evidence of all the studies that are discussed in this review. Some statements are very well based in evidence while others are merely uncontrolled claims (observational cohorts). It is very difficult for the reader to discern good quality in all these studies. This level of evidence can best be added to Table 1.

MINOR POINTS OF COMMENT:

1. (page 4, line 26): The studies included employed somewhat similar... use included or employed but not both.

2. (page 6, line 33): 3'343 patients. Use the same way of writting throughout the manuscript. One paragraph earlier 3244 patients (no’) was used.

3. (page 7, line 12): positive Blood culture. Blood does not need to be written with a capital B.

Quality of written English

Please indicate the quality of language in the manuscript:

Acceptable
**Declaration of competing interests**

Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I am author on one of the papers that is mentioned in this narrative review. No other conflicts of interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.