Author’s response to reviews

Title: Comparison of procalcitonin and high-sensitivity C-reactive protein for the diagnosis of sepsis and septic shock in the oldest old patients

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Dear professors:

First, I’d like to say that I’m really appreciated for your kind suggestions. The questions and answers are listed below.

Best wishes,

Hongmin Zhang.

J Yebenes (Reviewer 1): Authors should clarify the study period, that is different in the abstract that in the main text.
The date in the abstract has been corrected in accordance with the main text. (Abstract, “Methods “section, line 2)

Another modification is the ethics approval number was also added. (page 4, paragraph 1, line 2)

PJ Van der Geest (Reviewer 2):

Abstract: the result section of the abstract could be shortened. The optimum cut-off values could be deleted in this section.

The optimum cut-off value has been deleted from the abstract. (Abstract, “results“section, line 5, line 11)

Introduction: clearly written.

Methods: The inclusion criteria and thus the population could be described in more detail. How long were the patients already in hospital? Was there already a suspicion of infection? Or were all patients admitted to the ICU with a new suspicion of infection? Please provide a more detailed description of the patients

The oldest old patients only account for a very small fraction of the patients we admitted(about 3000 per year). Most of the patients come from medical ward who already stay in the hospital for some time (several days-several weeks). A few patients were transferred from Emergency ward. Blood test was obtained based on the evaluation of physician. The description has been added to the “methods” part. (Page 3, paragraph 2, line 3)

Results:

- The result section is definitely to well described and should be shortened.
Some descriptions in the result section has been deleted. (Page 4, Paragraph 3, line 2; Page 5, Paragraph 2, line 2)

- For example: Table 1 showed no differences between the sepsis and non-sepsis group regarding age and comorbidities. Reason of admission and diagnosis of infection are mentioned in Table 1.
- Table 3 can be excluded > results can be mentioned in the results sections.

Table 3 was deleted

- Figure 1, 2 and 3 can be excluded > results can be mentioned in the results sections.

Figure 1, 2 and 3 were excluded.

- It would be interesting to provide the NPV of PCT at a cut-off level of 0.25 ng/ml as this cut off level is nowadays used to exclude infection

The NPV of PCT at 0.25ng/ml to diagnose sepsis was about 68%.

Discussion
- Please be aware of repetitive information