Reviewer's report

Title: Development and Validation of a Screening Tool for Early Identification of Bloodstream Infection in Older Patients

Version: 0 Date: 07 Oct 2019

Reviewer: Stijn Blot

Reviewer's report:

The investigators designed a score that should lead to earlier diagnosis of BSI in elderly inpatients. The score appeared to have excellent predictive value. I have the following suggestions to improve the manuscript.

- Methods: it is unclear to me on what criteria de controls were matched with the cases. Were they really matched or rather randomly selected?

- I would like to know which variables were entered in the logistic regression model. For example, was hypothermia (<36,0°C) considered? In a population with blunted response to infection this might have been worthwhile exploring (as leucopenia).

- Was the baseline BSI prevalence of 2% used in the calculation of the PPV and NPV? I assume so but please state clearly in the Methods section.

- From a clinical perspective this tool should trigger blood culture sampling that on its turn might lead to a definite diagnosis. How much better is is this score (in AUC) compared with fever (>37,2°C) as only variable or fever + altered mental status. Form a clinical viewpoint these are the observations that most likely result in blood culture sampling (I assume most standing orders for sampling blood cultures include these observations as signals to to do so). Is it possible that the authors provide ROC curves for these observations alone. In this way the clinical value of the score will be much more clear (or not).

- It is is not always clear to me if the variables are taken before the day of the BSI or the the day of BSI itself. In the latter case, the score is already too late (not really predicting BSI but indicating BSI). Both are important however.

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?  
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I am able to assess the statistics

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