Reviewer’s report

Title: Measurement of serum procalcitonin levels for the early diagnosis of spontaneous bacterial peritonitis in patients with decompensated liver cirrhosis

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Reviewer: Alexander Novotny

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The issue the manuscript is dealing with is of clinical relevance. The authors tried to find a means for the early diagnosis of spontaneous bacterial peritonitis (SBP) in patients with decompensated liver cirrhosis (DCPs). For this purpose the biomarker Procalcitonin (PCT) was investigated in combination with standard laboratory parameters (leukocyte & thrombocyte count). The authors were able to detect infection and SBP early with high sensitivity and specificity.

The manuscript is well written, statistics and cohort size are appropriate. The results are adequately discussed against the literature background. Therefore I think the manuscript is worth to be published. However, before final acceptance a couple of issues have to be addressed in more detail:

Material & Methods, "Diagnostic criteria of infection": the sepsis criteria used in the manuscript are not perfectly in accordance with the widely accepted "Bone-Criteria" [Bone RC et al., Chest 1992]; why?

Results: How was the cutoff for WBC/PLT determined? Also via ROC-curves from the authors’ data, or is this index in common use?

Discussion: What is the sensitivity and specificity of the traditional PMN count in AF for early diagnosis of SBP in comparison of the proposed method?

Table 1: "Number of Complications" is not clear. What kind of complications? How were those defined? This has to be addressed in the manuscript text.

Figure 1 & 2: TPR/FPR have to be explained in figure legends. It has to be made clear that the depicted curves are ROC curves. AUCs should be included in the figure legends.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests