

Comment on “Do biomarkers have predictive value in the treatment modality of the patients diagnosed with bowel obstruction?”

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Dear Editor,

We read with great interest a retrospective study entitled “Do biomarkers have predictive value in the treatment modality of the patients diagnosed with bowel obstruction?” by Sahin et al, who investigated the ability of biomarkers to predict surgical treatment and mortality in patients diagnosed with intestinal obstruction¹. In this study enrolling 179 patients, the authors found a significant predictive value of procalcitonin concentration in predicting treatment strategy and mortality in patients with intestinal obstruction. However, in our opinion, some concerns need further clarification.

First, in Table 1, the standard deviation (SD) of procalcitonin in the conservative management group was 11.1, which was significantly higher than its average value of 2.2. Similarly, the SD of procalcitonin in the surgical management group was also considerably higher than its mean value (15.8 vs. 7.5). Statistically, continuous variables whose SD is significantly greater than its mean are unlikely to be normally distributed data, but skewness distributed data. Therefore, normality test is highly recommended before data analysis so that appropriate statistical methods can be used to obtain more accurate and reliable conclusions.

Second, in Table 1, patients in the surgical management group were older and had more comorbidities than those in the conservative management group. For instance, patients in the surgical management group had more hypertension, coronary artery disease (CAD), renal insufficiency, and

congestive heart failure compared with patients in conservative management group. In this case, the higher mortality rate in the surgical management group might be caused by the underlying diseases rather than the elevated procalcitonin concentration.

In addition, previous studies have shown that a variety of diseases can lead to an abnormal elevation in procalcitonin concentration^{2,3,4}. A previous study² exhibited that procalcitonin was associated with coronary artery severity and proved to be an independent prognostic factor in CAD patients. Another study indicated that procalcitonin concentration can be used as an important serological marker for early systemic bacterial infection in patients with renal insufficiency³. Furthermore, an elevation in procalcitonin concentration is also common in patients with heart failure⁴. Thus, it is challenging to conclude whether the increase in procalcitonin was caused indirectly by the underlying diseases or directly by intestinal obstruction. If the elevated procalcitonin is due to the underlying diseases, its role in predicting treatment strategies in intestinal obstruction patients is limited.

AUTHORS' CONTRIBUTIONS

SC: Conceptualization, Investigation, Project administration, Resources, Writing – original draft. **YW:** Conceptualization, Methodology, Project administration, Resources, Supervision, Validation, Writing – review & editing.

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