Reviewer's report

Title: Blood lactate is a predictor of short-term mortality in patients with myocardial infarction complicated by heart failure but without cardiogenic shock

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Reviewer: Meifeng Xu

Reviewer's report:

This manuscript analyzed the relationship between blood lactate and the short-term mortality in patients with myocardial infarction (MI) complicated by heart failure but without cardiogenic shock. A total of 1260 patients with acute primary MI were evaluated by Killip classification (I-IV) based on absence or grade of heart failure. Data on age, sex, BMI and mortality at 30 and 365 days were collected from the SCAAR registry. It is concluded that in patients with MI and signs of mild to moderate heart failure, blood lactate ≥ 2.5 mmol/L provides additional prognostic information.

A major issue which is related to the groups of patients used in statistic needs to be addressed.

The baseline patient characteristics (Table 2), the detail information of patients under each category of Killip class I-IV is clearly listed. Also, in Figure 1, the relationship between the level of lactate and Killip class of patients is clearly descripted.

However, the groups in calculation of mortality rate (either 30-day, or one-year) in Table 3 caused the confusion: "Killip ≥ II" has already included the patients in Killip II, III, and IV. However, another column is listed as Killip II-III. Similar problem shows in Figure 3.

In Figure 2, the data in Killip class II-IV has already included those in Killip class II-III. But, the authors listed the data of Killip class II-III in separate column.

It would be better if the mortality rate as well as other data in different groups of patients is listed based on Killip II, III, and IV class, which is similar to Table 2 and Figure 1.
Are the methods appropriate and well described?
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