

Peer Review File

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Reviewer A

Thank you for allowing me the opportunity to review this paper about MELD score for heart valve surgery. I read the manuscript with interest. My comments are as follow:

General comments:

The manuscript is well written overall. In clinical setting, it is not uncommon to see patients with liver dysfunction and MELD score is one of good risk scoring system preoperatively. The authors investigated the association of postoperative MELD score (within 48 hrs after ICU admission) and postoperative outcomes.

Specific comments

1. The authors investigated 'postoperative' MELD score, which is vulnerable to be changed by multiple preoperative and intraoperative factors. It is understandable that liver enzymes, creatinine, coagulation panels elevate due to complexity of surgery, long CPB time, long operation time, etc. It would be helpful if the author could show 'preoperative' MELD score of each group and postoperative laboratory data (i.e. platelet, liver enzymes, PT-INR etc) at the time when postoperative MELD was calculated.

Reply 1: Thanks for the meaningful comments. We have added preoperative' MELD score and postoperative laboratory data.

Changes in the text: We added some data preoperative 'MELD score in Table 1, and added some postoperative laboratory data, which are summarized in supplement Table 1. Due to the serious lack of postoperative clinical test data, we could not make statistics on some indicators, such as bilirubin and platelet et al.

2. If there is a data on the rates of reoperation (redo surgery) and preoperative cardiogenic shock with or without mechanical circulatory assist device, could you provide? I think these factors might have influences on perioperative outcomes.

Reply 2: Thanks for the meaningful comments. We re-screened the contents of the database and found that redo surgery and preoperative cardiogenic shock with or without mechanical circulatory assist device was missing. Therefore, we cannot provide it. In addition, we plan to further study this part with the data of our center in the future.

Changes in the text: None.

3. Considering that MELD score is widely used in patients with liver dysfunction for risk stratification, can the authors show **preoperative know liver disease (hepatitis, cirrhosis etc)** in each group?

Reply 3: Thanks for the meaningful comments. Given that the MELD scoring system inherently factors in the diagnosis of liver disease as one of its key indicators, we have duly considered the patient's potential complication with liver disorders, particularly cirrhosis, during the calculation of their MELD score. Therefore, we have omitted this specific data segment from

our article to avoid redundancy. We sincerely appreciate the understanding of our editors and reviewers in this regard. Thank you.

Changes in the text: None.

Reviewer B

Line 28: “we” (style issue, lower case)

Line 28, 119: please first define “ROC” (abbreviations have to be defined in both the Abstract and the Main Text.)

Line 30: please first define “AUC”

Line 32: full stop is missing

Line 41: please first define “ICU”

Line 42, 43: please first define for all the abbreviations

Line 44, 165: “illustrated” (simple past tense for Method and Result presentation)

Line 86, 87: “is considered” => “was considered” (simple past tense for Method and Result presentation)

Line 99, 100: please first define “PaO₂”, “PaCO₂”

Line 135: “are presented” => “were presented” (simple past tense for Method and Result presentation)

Line 138-139: “are expressed” => “were expressed” (simple past tense for Method and Result presentation)

Line 155: “were compared” => “are compared” (usually simple present tense when describing or referring to figures, tables or graphs within the paper)

Line 180: “Zhou et al’s study” (presentation of authors of references, please review and check for similar issue across the whole paper)

Line 194: please use full stop before “Although”

Reply: Thank you for your guidance. We have revised the article according to your requirements, and the modified part has been marked in red.