

## Responses to reviewers' comments

### Reviewer #1:

**Specific Comments to Authors:** The severity of acute pancreatitis in pregnancy (APIP) is a rare condition which is known to be associated with a higher risks of maternal and fetal death. There are few studies that focus on APIP causes, course and/or severity prediction. Although there are numerous publications on the use and comparison of various severity stratification systems for acute pancreatitis in non-pregnant subjects, the authors have identified an interesting niche for the research. The team has identified four predictors developed and established a prediction nomogram model for pregnancy patients with moderate and severe acute pancreatitis. This model achieved good concordance indexes and may help guide doctors in the administration of APIP. This is a nicely presented and methodologically correct study, which would be interesting to many readers. I missed the comparison of the new nomogram system performance with other worldwide known prognostification systems, i.e. BISAP, Ranson, MODS and/or single biochemical markers (CRP, IL-6, etc.).

Reply: Thank you very much for your recognition of our work.

### Reviewer #2:

**Specific Comments to Authors:** Thank you for the opportunity for reviewing this manuscript. I consider the question raised of utmost importance; however, I have concerns regarding the clinical value of the findings. My comments are, as follows: -

1. I understand that the authors tried to increase the statistical power by increasing event number (using MSAP + SAP instead of SAP alone), but the choice of this composite outcome is unlucky, as having MSAP has far not as worse prognosis as having SAP. In my opinion, it would be more

**relevant to predict the composite of SAP + mortality + fetal death or a something similar outcome.**

Reply: Thank you for your suggestions. We agree with your opinion that MSAP does not have a worse prognosis than SAP. SAP patients have the worst prognosis and lowest number. Although MSAP does not have a worse prognosis than SAP, the number of MSAP patients was greater than that of SAP patients, and they also needed long-term treatment. Both MSAP and SAP are significantly different from MAP. Composite MSAP and SAP as one outcome is a limitation of this study. Thus, we further discuss this in the Limitations section. For your suggestion about the composite of SAP + mortality + fetal death as one outcome, we think they belong to different indices and combining them is not appropriate. SAP is a grade of AP severity. Mortality and fetal death are indices of prognosis. Mortality and fetal death are the focus of the attention of patients and doctors. Thus, we will build a prediction model for outcomes such as mortality or fetal death in the next study.

**2. The definition of CV failure can overestimated the incidence of true CV failure. E.g., need for vasopressor support may be a better option.**

Reply: Thank you for your suggestion. We agree with your opinion, and we considered this when we collected patient information. We revised the definition of CV in the Definitions section.

**3. An external validation would be desirable. This would increase sample size as well.**

Reply: Thank you for your advice. External validation not only increases the sample size but also increases the reliability in clinical use. Due to the limitation of conditions, we did not find appropriate data to perform external validation. This is a limitation of this study, and we discuss this in the

Limitations section. In the present study, the progress of development and internal validation is normative. Thus, the results of this study can be used as an important reference.

**4. A recommend adding negative and positive predictive values as well and set the test either for confirmation of a favorable or for an exclusion of an unfavorable outcome, to increase clinical applicability.**

Reply: Thank you for your suggestions. We have added the PPV (0.8750) and NPV (0.8125) in the *Logistic regression development and validation prediction model* section. Due to the limitation of conditions, we did not find appropriate data to perform external tests. This is a limitation of this study, and we discuss this in the Limitations section.

**5. Using labs within 48 hours after admission is a wide range as a lot can change during this period.**

Reply: Thank you for your advice. We agree with your opinion that lab tests of AP may change quickly within 48 hours. Thus, we collected all tests within 48 h. The retested laboratory variable results were averaged. This is described in the Methods section. We hoped that this could reduce bias.

**(1) Science editor:**

**Few studies have focused on predicting the etiology, course, and/or severity of APIP. The authors have found an interesting method for this study.**

**Language Quality: Grade B (Minor language polishing)**

**Scientific Quality: Grade B (Very good)**

Reply: Thank you for your suggestion. To further polish the language of the revised manuscript, we sent it to American Journal Experts. The editing certificate is attached at the end.

**(2) Company editor-in-chief:**

**I have reviewed the Peer-Review Report, the full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Gastroenterology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Before final acceptance, uniform presentation should be used for figures showing the same or similar contents; for example, "Figure 1 Pathological changes of atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...". Please provide decomposable Figures (in which all components are movable and editable), organize them into a single PowerPoint file. Please authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned. Do not use carriage returns or spaces to replace lines or vertical lines and do not segment cell content.**

Reply: Thank you for your suggestions. Per your suggestions, we have revised the figures and tables.



## Editing Certificate

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prepared by the authors

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