PEER-REVIEW REPORT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 72837

Title: Utility of a Deep Learning Model and a Clinical Model for Predicting Bleeding after Endoscopic Submucosal Dissection in Patients with Early Gastric Cancer

Provenance and peer review: Unsolicited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06201645

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: India

Author's Country/Territory: South Korea

Manuscript submission date: 2021-10-30

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-10-30 15:18

Reviewer performed review: 2021-10-31 09:52

Review time: 18 Hours

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [Y] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No

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Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The authors have claimed that they have developed a deep learning and clinical model for the prediction of bleeding after Endoscopic Submucosal Dissection in Patients with Early Cancer. Well, the results of the manuscript are very confusing and the methods developed by the authors are clearly explained. I have mentioned some major suggestions that authors need to be incorporated for further processing.   Comments: 1. The abstract of the proposed study needs to reframe and should be in a scientific language. The results mentioned in the abstract are very confusing. The authors need to clarify the results based on the parameters. The comparative results should also be there in the abstract. 2. English expression needs editing and improvement. There are many typos and grammatical errors, checking the paper carefully is recommended. 3. In the introduction and related work sections, the novelty of this paper w.r.t. the existing work should be stated, rather than just listing the existing work. Authors need to frame some objectives according to their novelty. 4. A literature review is not enough, there must have some more literature on the existing tradition and modern techniques so that authors can compare their work with the existing techniques. Create a separate method of existing techniques with their limitations.   5. What preprocessing approaches have been used for preprocessing the dataset is not mentioned in the manuscript. The authors should be mentioned what preprocessing approach they have applied to the dataset. 6. The author claimed about the development of a novel deep learning approach for the clinical data but in the paper, there is no mention of the architecture of the deep learning method. The must Clarify this thing which deep learning methods he has developed for h prediction of Bleeding after Endoscopic Submucosal Dissection in Patients with Early

Gastric Cancer. 7. There are 5629 patents are taken for the prediction of after Endoscopic Submucosal Dissection in Patients with Early Gastric Cancer, I this amount of data is not enough for the deep learning model. They should mention some augmentation/bootstrapping approaches if they have applied to enhance the dataset. 8. Authors should compare their work with some existing approaches to verify the outcomes of the proposed approach. 9. In conclusion, the authors must include some comparative statistical results based on the existing techniques. 10. The complete manuscript needs to be rewritten in a scientific language. 11. Highlight the changes with some font/color so that the changes can easily be traced in the revised manuscript.

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Reviewer's code: 05461735

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor, Surgeon

Reviewer's Country/Territory: Thailand

Author's Country/Territory: South Korea

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Reviewer chosen by: Jin-Lei Wang

Reviewer accepted review: 2022-01-14 08:40

Reviewer performed review: 2022-01-25 12:28

Review time: 11 Days and 3 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No

SPECIFIC COMMENTS TO AUTHORS

The authors proposed the utility of a deep learning model to predict post-ESD bleeding for early gastric cancer. It is very interesting but it was unclear what it is and how the readers use this in their practice.   -The authors should clarify what this deep learning model looks like and how it works in real practice to make readers know the real utility. -Please clarify how different the deep learning and clinical models are (They used the same data set to develop) and how to calculate scores exactly. After I read the entire manuscript, I am still not sure.   -To develop this model, the authors used their big data about patients' characteristics and lesions. However, they did not consider procedural factors (e.g., defect closure vs. non-closure, experienced endoscopist vs. beginner, etc.) It might affect the incidence of bleeding. Moreover, they used pathologic features like SM invasion. How can we know this before we perform ESD?   -Overall, I think the authors did interesting work; however, they should clarify how to use the deep learning and clinical models in real practice.

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Peer-review model: Single blind

Reviewer's code: 03668600

Position: Editorial Board

Academic degree: MD, MSc, PhD

Professional title: Professor, Staff Physician

Reviewer's Country/Territory: Brazil

Author's Country/Territory: South Korea

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Reviewer chosen by: Jin-Lei Wang

Reviewer accepted review: 2022-01-17 02:59

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Review time: 10 Days and 1 Hour

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No

Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Interesting paper, looking forward to see it published. Comments: In the results: Regarding: More patients in the PEB group showed a hemoglobin drop of > 2 g/dL after ESD. The drop of Hb is an outcome for bleeding, not a risk factor for bleeding. That should be clear both in methods and results. In discussion: "Our study identified younger age, male sex, hypertension, chronic kidney disease, P2Y12RA use, anticoagulant (warfarin or DOAC) use, middle tumor location, tumor size, and a > 2-g/dL reduction in the hemoglobin level as the predictors of PEB". Why do you think that younger age was a predictor of PEB? Please review the first sentence of the introduction: "In South Korea, the incidence of gastric cancer has high incidence,"