



PEER-REVIEW REPORT

Name of journal: *Artificial Intelligence in Gastroenterology*

Manuscript NO: 73392

Title: Current Advancement in Artificial Intelligence in Clinical Decisions Making in Gastrointestinal Bleeding for Gastroenterologists

Provenance and peer review: Invited manuscript; externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05196071

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: Indonesia

Manuscript submission date: 2021-11-21

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-11-25 13:03

Reviewer performed review: 2021-12-03 13:16

Review time: 8 Days

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input checked="" type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input checked="" type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



Peer-reviewer statements	Peer-Review: [<input checked="" type="checkbox"/>] Anonymous [<input type="checkbox"/>] Onymous Conflicts-of-Interest: [<input type="checkbox"/>] Yes [<input checked="" type="checkbox"/>] No
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SPECIFIC COMMENTS TO AUTHORS

1. In the Abstract section, Artificial intelligence has been abbreviated as AI. It is recommended that all the following texts use AI. 2. In the Introduction section, "Artificial intelligence (AI) is a type of intelligence that comes from machines or computer systems that mimics human cognitive function.", "In gastroenterology, artificial intelligence has assisted colon polyp detection, optical biopsy, and diagnosis of Helicobacter pylori infection." These two parts completely repeat the sentence in abstract, and it is recommended to modify it. 3. In the section of "Artificial Intelligence in Clinical Prediction of Upper Gastrointestinal Bleeding", is the HAS-BLED scoring system used to evaluate Upper Gastrointestinal Bleeding? Moreover, the research cited by Herrin et al. did not clearly indicate that it was used to predict Upper Gastrointestinal Bleeding. There is also a lack of discussion and summary of "Artificial Intelligence in Clinical Prediction of Upper Gastrointestinal Bleeding" in this chapter. 4. In "Artificial Intelligence in Clinical Prediction of Lower Intestinal Bleeding", is there only research by Loftus et al.? It is recommended that other studies be discussed and summarized. 5. In the section of "Artificial Intelligence in Management of Gastrointestinal Bleeding", do not simply list the literature, you can compare and analyze the researches of "Shung et al.", "Seo et al.", "Deshmukh et al" and "Levi et al." , Is there anything in common? Which ones are desirable? Are there any shortcomings? 6. In the section of "Artificial Intelligence in Management of Gastrointestinal Bleeding", Yen et al. and "Klang et al., Namikawa et al., Yoon et al., and Wu et al." Are those researches involve Upper Gastrointestinal Bleeding? Put them in the appropriate chapter. 7. For the "Future Challenges" section. In the first paragraph, it is recommended to avoid repeating the



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previous points. In the second and third paragraph, there are a few points to discuss: High-quality intelligent diagnostic equipment can be copied; when these equipment are used, they can make up the gap of medical resources for underdeveloped areas. The legal and ethical aspects of intelligent diagnosis and management systems should be well stated.



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Reviewer's code: 03664977

Position: Editorial Board

Academic degree: FAASLD, MD, PhD

Professional title: Professor

Reviewer's Country/Territory: Thailand

Author's Country/Territory: Indonesia

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Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-12-24 01:11

Reviewer performed review: 2021-12-29 01:12

Review time: 5 Days

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input checked="" type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input checked="" type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



Peer-reviewer statements	Peer-Review: [<input checked="" type="checkbox"/>] Anonymous [<input type="checkbox"/>] Onymous Conflicts-of-Interest: [<input type="checkbox"/>] Yes [<input checked="" type="checkbox"/>] No
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SPECIFIC COMMENTS TO AUTHORS

Manuscript Title: Current Advancement in Artificial Intelligence in Clinical Decisions Making in Gastrointestinal Bleeding for Gastroenterologists All Authors list: Maulahela H et al. Manuscript Type: MINIREVIEWS Comment: 1. The article highlight the challenges in implementation of artificial intelligence (AI) for clinical practice in gastrointestinal (GI) bleeding including; decision making, identifying high-risk patients, clinical prediction, determining bleeding stigmata from endoscopy, management, and predicting recurrence of bleeding. 2. First, several points are difficult for the reader to understand. It would be better to clarify the several machine learning methods, for example, CNN provides performance of image analysis, ANN consists of a hidden-layered connection between input-output, and deep learning as a subset of machine learning technique that composed of multilayers neural network. Please see and cite; World J Gastroenterol 2019 April 14; 25(14): 1666-1683 DOI: 10.3748/wjg.v25.i14.1666 (1). 3. Regarding the introduction part, the authors mentioned AI has assisted colonic polyp detection, diagnosis of Helicobacter pylori. There were not related to manuscript purposing. Hence, please consider revising or bringing out this part. 4. In the issue of AI in the clinical prediction of UGIB, the authors mention only one paper from JAMA Network Open. 2021;4(5):e2110703. doi:10.1001 (2), which demonstrates GI bleeding prediction in patients receiving antithrombotic agents. Nowadays, there were several reported machine learning assessments for UGIB or peptic ulcer bleeding particularly in a systematic review. Please see and cite Dig Dis Sci (2019) 64:2078-2087 <https://doi.org/10.1007/s10620-019-05645-z> (3), Gastroenterol 2020 Jan;158(1):160-167. DOI: 10.1053/j.gastro.2019.09.009 (4). 5. Regarding to the issue of AI



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in the clinical prediction of LGIB, the authors declare that ANN and regression-based model to predict the severity of LGIB according to previous studies used in epidemiology study to predict significant factors for dengue fever incidence (5) and clinical study to predict the level of independence in patients with traumatic spinal cord injury (6). There are critical keystones for how to use or validate the ANN and their system or hidden layers themselves which are not able across using to another model. In addition, why did the authors mention the report of dengue fever and spinal cord injury which is again not related to manuscript purposing? 6. For another retrospective study of AI in the clinical prediction of LGIB from Loftus et al., the authors just describe the outcome of the study. It would be better to critic machine learning outcomes for example; small training data set influence the ANN and Strate model performance besides limitations for applicability in other cohorts. 7. Finally, the aspect of AI in the management of GI bleeding, there is a lack of new knowledge from the previous review article from the reference J. Clin. Med. 2021, 10, 3527. <https://doi.org/10.3390/jcm10163527> (7). References 1. Yang YJ, Bang CS. Application of artificial intelligence in gastroenterology. *World J Gastroenterol.* 2019;25(14):1666-83. 2. Herrin J, Abraham NS, Yao X, Noseworthy PA, Inselman J, Shah ND, et al. Comparative Effectiveness of Machine Learning Approaches for Predicting Gastrointestinal Bleeds in Patients Receiving Antithrombotic Treatment. *JAMA Netw Open.* 2021;4(5):e2110703. 3. Shung D, Simonov M, Gentry M, Au B, Laine L. Machine Learning to Predict Outcomes in Patients with Acute Gastrointestinal Bleeding: A Systematic Review. *Dig Dis Sci.* 2019;64(8):2078-87. 4. Shung DL, Au B, Taylor RA, Tay JK, Laursen SB, Stanley AJ, et al. Validation of a Machine Learning Model That Outperforms Clinical Risk Scoring Systems for Upper Gastrointestinal Bleeding. *Gastroenterology.* 2020;158(1):160-7. 5. Siriyasatien P, Phumee A, Ongruk P, Jampachaisri K, Kesorn K. Analysis of significant factors for dengue fever incidence prediction. *BMC Bioinformatics.* 2016;17:166. 6.



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Belliveau T, Jette AM, Seetharama S, Axt J, Rosenblum D, Larose D, et al. Developing Artificial Neural Network Models to Predict Functioning One Year After Traumatic Spinal Cord Injury. *Arch Phys Med Rehabil.* 2016;97(10):1663-8 e3. 7. Yen HH, Wu PY, Chen MF, Lin WC, Tsai CL, Lin KP. Current Status and Future Perspective of Artificial Intelligence in the Management of Peptic Ulcer Bleeding: A Review of Recent Literature. *J Clin Med.* 2021;10(16).



RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: *Artificial Intelligence in Gastroenterology*

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Reviewer's code: 03664977

Position: Editorial Board

Academic degree: FAASLD, MD, PhD

Professional title: Professor

Reviewer's Country/Territory: Thailand

Author's Country/Territory: Indonesia

Manuscript submission date: 2021-11-21

Reviewer chosen by: Ji-Hong Liu

Reviewer accepted review: 2022-01-28 04:36

Reviewer performed review: 2022-01-28 04:46

Review time: 1 Hour

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous



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Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Thanks for answering and clarification.