

July 29th, 2020

Reply to the Editors

Dear Editor,

We are grateful for the careful review of our manuscript entitled “Artificial intelligence-assisted esophageal cancer management: now and future” (Manuscript NO. 57092). We greatly appreciate your consideration, as well as the reviewers’ comments/suggestions. We carefully revised the manuscript and addressed all of the reviewers’ comments/suggestions. We highlighted all the revisions in the manuscript.

Sincerely,

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Response to the comments

1. Reviewer 1's comment:

Q: I really like the idea of the authors and I also share it. In my opinion, the article is very useful, sooner or later these issues will be raised and published. The authors cite the latest data from PubMed and offer their vision of prospects. However, I remain in my position that the final diagnosis remains with the pathomorphologist. It would be ideal to be able to receive processed information during endoscopy and reliably based on it to conduct targeted biopsy with an accurate indication of malignant areas. I think the article will become even more significant if you add the prospect for a biopsy. Although, in the version as it is, it is already sufficient. Sharing interests with the authors (I try in cytopathology) I would really like this article to be printed.

A: Thank you for your genuine comment. We have added a comment about the prospect for a biopsy in the Future Prospect section.

The original: The committees of expert endoscopists and pathologists from different countries need to be formed to improve the precision of annotation.

Revised: The committees of expert endoscopists and pathologists from different countries need to be formed to improve the precision of annotation. In addition, the role of AI should be helping endoscopists recognizing lesions and targeting biopsies for gold standard pathological examination, rather than replacing our “job”.

2. Reviewer 2's comment:

Q: This paper aims at providing a comprehensive review of artificial intelligence technology for esophageal cancer management. The abstract does not highlight and tell anything about the objectives of the paper. As far as the reviewer understands, this paper aims at providing a comprehensive review of artificial intelligence technology for esophageal cancer management. This should be mentioned in the abstract. Terms used for the literature search, the database retained as well as the period retained for this review should be mentioned in the abstract. The raw number of articles generated and the criteria used to reduce the total number should be mentioned in the abstract. Conclusions should be briefly mentioned in the abstract. Except the conclusions, all these points should be detailed in the introduction and elsewhere in the paper. The paper is not well organized. While many points are discussed, a flowchart could help the reader to

understand the logic of the review. Starting from the raw number of papers found in the literature using the retained criteria to the final list discussed in the paper. Once the list of papers retained, the paper should be organized according to their content. **Introduction:** Esophageal cancer types retained for the review should motivated and discussed in the introduction. - **Section: CLINICAL DIAGNOSIS AND THERAPEUTIC DECISIONS** o **Subsection: Diagnosis** This subsection refers to AI based techniques used for EC diagnosis. Are these methods used in the clinical routine? If not, the title of the subsection is not appropriate. - **Some of the abbreviations are not defined** TNM, etc. AUR should be AUC (Area Under ROC Curve).

A: Thank you for your kind remind and thoughtful suggestion.

(1) We have revised our Abstract section and added our objectives of the review.

(2) The manuscript type of this paper is REVIEW, neither Meta-analysis nor systemic review. A flow chart is not mandatory by the guideline of this journal. We provide three Review examples published in World Journal of Gastroenterology. But we still added a flow chart figure showing AI study selection and logic arrangement of review (Fig.1). The flow chart illustrates only the AI-related studies discussed in the review.

- Domper Arnal MJ, Ferrández Arenas Á, Lanas Arbeloa Á. Esophageal cancer: Risk factors, screening and endoscopic treatment in Western and Eastern countries. World J Gastroenterol. 2015;21(26):7933-43.[PMID:26185366 doi:10.3748/wjg.v21.i26.7933]
- de Lange T, Halvorsen P, Riegler M. Methodology to develop machine learning algorithms to improve performance in gastrointestinal endoscopy. World J Gastroenterol. 2018;24(45):5057-62.[PMID:30568383 doi:10.3748/wjg.v24.i45.5057]
- Yang YJ, Bang CS. Application of artificial intelligence in gastroenterology. World J Gastroenterol. 2019;25(14):1666-83.[PMID:31011253 doi:10.3748/wjg.v25.i14.1666]

(3) Conforming to the previous review format of this Journal, we did not include **terms used for the literature search, the database retained as well as the period retained for this review** in the abstract. Instead, we added it in the Introduction section.

(4) We specify the esophageal cancer types for “early cancer detection” in the Introduction as ESCC and EAC. The cancer types are not distinguished in the “advanced cancer diagnosis and treatment decision”.

(5) AI technologies are not routine methods. Therefore, we modified “**CLINICAL DIAGNOSIS AND THERAPEUTIC DECISIONS**” as “**IMPLICATIONS FOR DIAGNOSIS AND THERAPEUTIC DECISIONS**”.

(6) We define TNM as Tumor Node Metastasis and modify AUR to AUC (area under ROC curve).

3. Editorial Office’s comments:

Q1:Science Editor: 1 Scientific quality: This is a review of the AI in esophageal cancer. The topic is within the scope of the WJG. (1) Classification: Grade B, Grade B and Grade D; (2) Summary of the Peer-Review Report: This paper aims at providing a comprehensive review of artificial intelligence technology for esophageal cancer management. The article is very useful. The authors cite the latest data from PubMed and offer their vision of prospects. However, there are some issues should be addressed. The abstract does not highlight and tell anything about the objectives of the paper. The paper is not well organized. While many points are discussed, a flowchart could help the reader to understand the logic of the review. The questions raised by the reviewers should be answered; and (3) Format: There are 2 tables. A total of 90 references are cited, including 39 references published in the last 3 years. There is 1 self-citation. 2 Language evaluation: Classification: Grade A, Grade A and Grade B. A language editing certificate issued by MedSci was provided. 3 Academic norms and rules: The authors provided the signed Conflict-of-Interest Disclosure Form and Copyright License Agreement. No academic misconduct was found in the CrossCheck detection and Bing search. 4 Supplementary comments: This is an invited manuscript. The study was supported by Sichuan Science and Technology Department Key R & D Projects; and Chengdu technological innovation R & D projects. The topic has not previously been published in the WJG. The corresponding author has published 8 articles in the BPG. 5 Issues raised: I found the authors did not provide the approved grant application form(s). Please upload the approved grant application form(s) or funding agency copy of any approval document(s). 6 Re-Review: Required. 7 Recommendation: Conditionally accepted.

Q2: Editorial Office Director: I have checked the comments written by the science editor

Q3: Company Editor-in-Chief: I have reviewed the Peer-Review Report, the full text of the manuscript, the relevant ethics documents, and the English Language Certificate, 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.

A: Thank you for your careful review and considerations. We have revised our manuscript according to the reviewers' and editorial office's comments. The concerns of editorial office and reviewers that need to be revised are addressed as follows.

(1) We have answered the questions raised by the two above reviewers and made appropriate revisions to our manuscript. Reviewer 2 suggested that we should add a flow chart for the selection of literatures, which is like a systematic review or meta-analysis. The type of this manuscript is Review. According to the guideline and formerly published review papers in World Journal of Gastroenterology, the flow chart is not mandatory. We provided a flow chart named Figure 1 with description in the manuscript. The final adoption or not of this figure and its related description in the manuscript might be at the discretion of the Editorial Office.

(2) Figure 1 was edited using PowerPoint, and each image, arrow, number and legend is editable. We uploaded it as a separate file.

(3) We provided the approved grant application forms.

(4) We made our revision according to the Criteria for Manuscript Revision.

Finally, the files uploaded are all listed below.

(1) 57092-Manuscript File(auto-edited)

(2) 57092-Answering Reviewers

(3) 57092-Audio Core Tip

(4) 57092-Conflict-of-Interest Disclosure Form

(5) 57092-Copyright License Agreement

(6) 57092-Approved Grant Application Form(s) or Funding Agency Copy of any Approval Document(s)

(7) 57092-Non-Native Speakers of English Editing Certificate

(8) 57092-Image File

(9) 57092-Table File