

Response to reviewers' comments: (please look in the blue sections)
We also highlighted the new written parts in the manuscript in yellow color.

Reviewer #1: **Scientific Quality:** Grade B (Very good) **Language Quality:** Grade A (Priority publishing) **Conclusion:** Minor revision **Specific Comments to Authors:** The authors reported a mini-review of the role of artificial intelligence in upper gastrointestinal endoscopy detection of cancer. The manuscript is well-written and concise. However, there remain some concerns following the below comments.

Comments: Abstract 1. The authors describe "...discussing the benefits and pitfalls of machine learning and artificial intelligence in upper gastrointestinal endoscopy" However, they didn't discuss the benefits and pitfalls of machine learning in itself.

Authors' response: Thank you for this important comment. We have added a part to the manuscript explaining the evolution of machine learning and the benefits and pitfalls of ML.

A- Importance of using artificial intelligence in upper gastrointestinal endoscopy 2. " ..on other non prevalent types" This phrase is obscure. Please clarify the intended meaning.

Authors' response: Thank you. The whole paragraph was rewritten for clarity.

3. "Second reason ... GI colonoscopy" I'm not convinced that training is not adequate in postgraduate courses in general. Indeed, some Facilities have those problems, however, it is difficult to adapt around the world. Please discuss other reason for using AI in upper GI endoscopy.

Authors' response: Thank you for your comment. We just stated the current issue as presented in the literature. We added other reason for using AI.

Types of advanced imaging used: 4. The lighting in LCI mode has the high ratio of short wavelength laser intensity, and emphasizes hemoglobin related information. Signal processing of LCI emphasizes the contrast of the reddish color. Please refer to the below article. Surg Endosc. 2021 Jun;35(6):2750-2758. doi: 10.1007/s00464-020-07706-1.

Authors' response: Thank you for your valuable comment. Added the

reference with writing about LCI mode.

Future aspirations: 5. Please discuss more about the problems with AI in upper GI at the moment. E.g. How to get through chronic inflammation of background mucosa. How do you think about the collaboration of AI and IEE.

Authors' response: We added the AI could benefit the detection when associated with IEE. We added a paragraph to explain the current situation.

Reviewer #2: **Scientific Quality:** Grade C (Good) **Language Quality:** Grade C (A great deal of language polishing) **Conclusion:** Major revision **Specific Comments to Authors:** First, this is a mini-review of machine learning and artificial intelligence in upper upper gastrointestinal endoscopy for detection and characterization of neoplasms. The authors stated their opinions on four parts, A, B, C, and D. Second, this is a review on the latest progress of digestive endoscopy-artificial intelligence in the detection of gastrointestinal tumors. The authors described the necessity of AI application, the application of AI in upper gastrointestinal endoscopy, the current status of AI technology application, and the outlook for the future. They mainly put forward two points. First, the use of AI will help train novices; second, the establishment of public data sets will help the sharing of resources, so as to partially solve the problems of different disease spectrums. Third, this review has some limitations. First of all, part of this article is written in colloquial English, so it is suggested that the author invite native English speakers to help polish it.

Authors' response: Thank you very much. We have revised the manuscript for colloquial English.

Second, the second part of this paper focuses on the principle of machine learning, which seems to be inconsistent with the topic discussed in this paper. This part should pay more attention to the research progress;

Authors' response: Thank you very much for this important comment. As the first reviewer indicated we have to delineate the link between both techniques, so we added a part to clarify the link between AI and ML. The reason behind this is our main aim to address both the medical professionals and the computational and engineering professionals.

Third, in the third part of this paper, namely "Types of Advanced Imaging Used", there are too many subsections, which makes it difficult to grasp the key points the author wants to discuss. Among them, the description of the computer hardware is relatively lengthy and disjointed with the medical review.

Authors' response:

Thank you very much for your kind comment. We have removed subsections.

Our article aims both readers from medical and computational background, because their collaboration is the core of AI in endoscopy, so we kindly request to leave the technique parts intact.

Reviewer #3: **Scientific Quality:** Grade C (Good) **Language Quality:** Grade A (Priority publishing) **Conclusion:** Accept (General priority) **Specific Comments to Authors:** this manuscript reviewed several hot topics in the field of GI endoscopy AI. The public data base and real time lesion detection are important problems which studies in future could focus on.

Authors' response: Thank you very much for your kind comment.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

SPECIFIC COMMENTS TO AUTHORS

This brief review illustrated the utilize of artificial intelligence in upper gastrointestinal endoscopy for detection and characterization of neoplasms. Except for some small points, the other parts are well written. In part A, it is clear that you are trying to illustrate the importance of AI assistance in upper GI tumors diagnoses than in colorectal polyp detection. The length of the comparison could be adjusted and more attention should be paid to the following part to report the latest development, such as AI endoscopy performance in real time diagnosis. There are already many researches in this field. Clinicians will be more interested in this aspect.

Response to reviewer's comments: Thank you very much for your kind and valuable comments.

1- We have adjusted the comparison as recommended and omitted the redundant parts. Initially, our intention was to present this comparison for the sake of the reader to understand why the problems and limitations are different in upper GI endoscopy from colonoscopy, this mandated a point-to-point analysis of the situation in AI.

2- We have added updated the studies to further discuss the issue of real time as per your kind recommendations. The parts are highlighted in yellow.

4 LANGUAGE QUALITY

Please resolve all language issues in the manuscript based on the peer review report. Please be sure to have a native-English speaker edit the manuscript for grammar, sentence structure, word usage, spelling, capitalization, punctuation, format, and general readability, so that the manuscript's language will meet our direct publishing needs.

5 ABBREVIATIONS

In general, do not use non-standard abbreviations, unless they appear at least two times in the text preceding the first usage/definition. Certain commonly used abbreviations, such as DNA, RNA, HIV, LD50, PCR, HBV, ECG, WBC, RBC, CT, ESR, CSF, IgG, ELISA, PBS, ATP, EDTA, and mAb, do not need to be defined and can be used directly. Now we list the abbreviations rules as follows.

(1) Title: Please spell out any abbreviation in the title. Abbreviations are not permitted.

[Authors' response: Title adjusted according to Journal guidelines.](#)

(2) Running title: Please shorten the running title to no more than 6 words. Abbreviations are permitted.

[Authors' response: done](#)

(3) Abstract: Abbreviations must be defined upon first appearance in the Abstract. Examples: Example 1: Hepatocellular carcinoma (HCC). Example 2: Helicobacter pylori (H. pylori).

[Authors' response: done](#)

(4) Key words: Abbreviations must be defined upon first appearance in the Key words.

[Authors' response: done](#)

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[Authors' response: done](#)

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the Main Text. Examples: Example 1: Hepatocellular carcinoma (HCC).
Example 2: Helicobacter pylori (H. pylori)

(7) Article Highlights: Abbreviations must be defined upon first appearance in the Article Highlights. Examples: Example 1: Hepatocellular carcinoma (HCC).

Example 2: Helicobacter pylori (H. pylori)

[Authors' response: done](#)

(8) Figures: Please verify the abbreviations used in figures and define them (separated by semicolons) at the end of the figure legend or table; for example, BMI: Body mass index; CT: Computed tomography.

[Authors' response: power point file uploaded.](#)

(9) Tables: Please verify the abbreviations used in tables and define them (separated by semicolons) at the end of the figure legend or table; for example, BMI: Body mass index; CT: Computed tomography.

[Authors' response: no tables available.](#)

6 EDITORIAL OFFICE'S COMMENTS

Authors must revise the manuscript according to the Editorial Office's comments and suggestions, which are listed below:

(1) Science editor: 1 Scientific quality: The manuscript describes a Minireviews of the Artificial intelligence and cancer detection. The topic is within the scope of the AIG.

(1) Classification: Grade B, C and C; (2) Summary of the Peer-Review Report: The manuscript is well-written and concise. There are too many subsections, which makes it difficult to grasp the key points the author wants to discuss.

[Authors' response: subsections removed.](#)

The questions raised by the reviewers should be answered;

[Authors' response: detailed answers of reviewers' comments provided.](#)

(3) Format: There are 2 figures; (4) References: A total of 35 references are cited, including 21 references published in the last 3 years; (5) Self-cited references: There is no self-cited reference. 2 Language evaluation: Classification: Grade A, A and C. 3 Academic norms and rules: No academic misconduct was found in the Bing search. 4 Supplementary

comments: This is an invited manuscript. No financial support was obtained for the study. The topic has not previously been published in the AIG. 5 Issues raised: (1) The language classification is Grade C. Please visit the following website for the professional English language editing companies we recommend: <https://www.wjgnet.com/bpg/gerinfo/240>; (2) The “Author Contributions” section is missing. Please provide the author contributions;

Authors' response: "Authors' contributions" section added.

(3) The authors did not provide original pictures. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor;

Authors' response: Power point file provided with the original pictures in the vector format.

(4) PMID and DOI numbers are missing in the reference list. Please provide the PubMed numbers and DOI citation numbers to the reference list and list all authors of the references. Please revise throughout;

Authors' response: PMID and DOI provided with the help of the online reference system.

(5) The title is too long, and it should be no more than 18 words. 6 Recommendation: Conditional acceptance.

Authors' response: title adjusted according to the journal guidelines.

(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 Artificial Intelligence in 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. The title of the manuscript is too long and must be shortened to meet the requirement of the journal (Title: The title should be no more than 18 words).

Authors' response: title adjusted according to the journal guidelines.

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