

PEER-REVIEW REPORT

Name of journal: Artificial Intelligence in Gastroenterology

Manuscript NO: 67486

Title: Implications of Artificial Intelligence in Inflammatory Bowel Disease: Diagnosis, Prognosis and Treatment Follow up

Reviewer's code: 04091850

Position: Editorial Board

Academic degree: DSc, MD, PhD

Professional title: Adjunct Professor, Chief Doctor

Reviewer's Country/Territory: Denmark

Author's Country/Territory: United States

Manuscript submission date: 2021-04-25

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2021-04-28 06:12

Reviewer performed review: 2021-04-30 12:21

Review time: 2 Days and 6 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" 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 Grade E: Do not publish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 type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input 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



**Baishideng
Publishing
Group**

7041 Koll Center Parkway, Suite
160, Pleasanton, CA 94566, USA
Telephone: +1-925-399-1568
E-mail: bpgoffice@wjgnet.com
<https://www.wjgnet.com>

SPECIFIC COMMENTS TO AUTHORS

There is great interest in the usage of AI in various GI diseases including inflammatory bowel disease. For that reason it is of relevance to try to summarize the present knowledge in a review paper. I think the authors have made a nice attempt in doing so but the manuscript has some shortcomings in its present stand. The introduction sets a rather good background and it is a clear advantage that the authors provides the reader with definitions of some of the central elements included in AI. However in general I miss a focus on the possible clinical role of the application of AI technology. What does it add sitting in front of an individual patient ? Will it change the handling of the patients and if so in what way ? It is not enough that a computer can "learn" from big datasets. The developed algorithms must have clinical implications to be useful. In that context it is interesting that AI based on endoscopic imaging can predict histological changes so biopsies may be omitted. This is somewhat contrasting to the fact that histology is an important part of establishing the diagnosis in the sense that IBD has the character of a "syndrome diagnosis" histology being one of the diagnostic criteria. Besides biopsies do have other roles in the evaluation of possible dysplastic changes. Thus throughout the manuscript I lack a bit more critical attitude in the evaluation of the clinical usefulness of AI. The section "AI and IBD: Disease prediction and diagnosis should be rewritten. It is clearly the weakest part of the manuscript. It should be divided in individual sections describing "Diagnosis" and Prediction of disease relaps. Note that many of the papers mentioned in table 1 describes the use of AI in prediction of disease relaps and NOT its use in diagnosis. The section in its present stand is somewhat misleading in the use of the term "diagnosis" which should be corrected. I think the section would gain by focussing on the potential role of AI in the interpretation of various scans used to evaluate disease (eg CT and MR scans) and in the interpretation on the many images



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https://www.wjgnet.com

obtained by capsule endoscopy. The use of AI in that context could spare the clinician a lot of time. A minor comment regarding the diagnosis section is that I don't know what is meant by "endocytoscopic observation". The sections on Treatment ,follow up and prognosis are clearly the best parts of the manuscript and the tables supports the text nicely. It is of interest that AI cand be used to predict the response to thiopurines better than metabolite measurements. The description of AI in prognosis estimation is also interesting but I think it should be noted that the use of genomics and microbiomics are in a very early state of development and although a focus for research it is still not implementable in daily clinical practice. If the abovementioned comments could be taken into accpunt in a revision of the manuscript I think it would be useful to many readers with an interest in the field

PEER-REVIEW REPORT

Name of journal: Artificial Intelligence in Gastroenterology

Manuscript NO: 67486

Title: Implications of Artificial Intelligence in Inflammatory Bowel Disease: Diagnosis, Prognosis and Treatment Follow up

Reviewer's code: 05643692

Position: Editorial Board

Academic degree: PhD

Professional title: Chief Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: United States

Manuscript submission date: 2021-04-25

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2021-04-30 00:15

Reviewer performed review: 2021-05-04 13:13

Review time: 4 Days and 12 Hours

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 checked="" type="checkbox"/> Grade A: Priority publishing <input 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 type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
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SPECIFIC COMMENTS TO AUTHORS

This is an interesting minireview that aims to IBD and reviewed the current literature of implications of AI in inflammatory bowel disease patients. It is recommended that the content on radiographic diagnostic artificial intelligence for inflammatory bowel disease be added, that the article be fleshed out, or that the title be modified based on what is actually reviewed in this article.