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7 July 2021

Fatih Altintoprak, MD and Sahin Coban, MD, Krish Ragunath, MD, FRCP
Editors-in-Chief, Artificial Intelligence in Gastrointestinal Endoscopy

Re: AIGE 68784, Title: Artificial intelligence and Video Capsule Endoscopy to recognize Gastrointestinal Angiodysplasia. The future is here and it is dependent on the past.

Dear Drs. Altintoprak, Coban and Ragunath,

Below please find point-by point responses to reviewer 1 and science editor's comments. Our responses are in *italic* and in bold within the text of the revised manuscript. We believe that all concerns have been addressed.

Reviewer 1:

I've read with great interest the manuscript entitled "Artificial Intelligence and Video Capsule Endoscopy to recognize Gastrointestinal Angiodysplasia. The future is here and it is dependent on the past". First of all, I find the title too long – I suggest the authors to shorten it and keep it more relevant.

We appreciate the reviewer's comment and have changed the title as follows: Artificial Intelligence as means to improve recognition of Gastrointestinal Angiodysplasia in Video Capsule Endoscopy.

Also, the abstract needs to be re-written: in its current form it's like a brief introduction; description of artificial intelligence techniques (ML, ANN, CNN) doesn't have its place in the abstract.

We appreciate the reviewer's comment and have rewritten the abstract as follows: Gastrointestinal angiodysplasia (GIAD) is defined as the pathological process where blood vessels, typically venules and capillaries, become engorged, tortuous and thin walled – which then form arteriovenous connections within the mucosal and submucosal layers of the gastrointestinal tract. GIADs are a significant cause of gastrointestinal bleeding and are the main cause for suspected small bowel bleeding. To make the diagnosis, gastroenterologists rely on the use of video capsule endoscopy (VCE) to "target" GIAD. However, the use of VCE can be cumbersome secondary to reader fatigue, suboptimal preparation, and difficulty in distinguishing images. The human eye is imperfect. The same capsule read by two different readers are noted to have miss rates like other forms of endoscopy. Artificial Intelligence (AI) has been a means to bridge the gap between human imperfection and recognition of GIAD. The use of AI in VCE have shown that detection has improved, however the other burdens and limitations still need to be addressed. The use of AI for the diagnosis of GIAD shows promise and the changes needed to enhance the current practice of VCE are near.

Also, "angiectasia" is preferred to "angiodysplasia" in endoscopic standard terminology.

We appreciate the reviewer's comment but disagree. When performing a search using "angiectasia" on PubMed, there were no matches. Instead, angiodysplasia or gastrointestinal angiodysplasia are the MESH descriptions with the most positive results on PubMed. Therefore, we chose to use that term to describe the finding.

In the main text, a table summarizing the currently available evidence on AI techniques for detecting vascular lesions would be recommended. Also, a figure/table showing advantages and disadvantages of AI would be a plus.

We appreciate the reviewer's comment and have included table 1 highlighting both items above in the revised manuscript.

There are some comments in the text which point out to some issues – they need to be addressed: “The diagnostic performance of a CADx (need to define this as it is the first use of the abbreviation) algorithm for the detection of GIAD using VCE, assess its diagnostic precision as a means for a segmental approach in localizing lesions. The authors (which authors) found a sensitivity of 100% (95% confidence interval [CI], 100%-100%)”.

We appreciate the reviewer's comment and have corrected this as follows as the abbreviation was not defined with the initial use of the term on page 5 of the manuscript. This has been corrected as follows: The primary and secondary endpoints were the sensitivity and specificity of the computer aided diagnosis (CADx) algorithm. These values were 100% and 96% respectively [7].

Science editor:

Issues raised: (1) The title is too long, and it should be no more than 18 words

Please see the response to reviewer 1.

(2) 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

The references have been corrected as requested.

(3) The reference number should be indicated with square brackets in the upper right corner of the place where it is cited.

This has been changed for all references as requested.

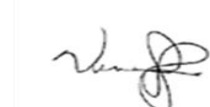
Company editor-in-chief:

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). Before final acceptance, the author(s) must add a table/figure to the manuscript.

Please see the responses above.

Thank you again for continued consideration of our editorial for publication in Artificial Intelligence in Gastrointestinal Endoscopy

Respectfully,



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