

### Reply to the reviewers' comments

Question Number	Original comments of the reviewer	Reply by the author(s)	Changes done on page number and line number
Reviewer 1:	My only question is about the resampling technique used to augment the data from the minority class. What was the resampling technique and how would it influence the accuracy of the model?	Ming-Hseng Tseng	<p>For the training set, this study used a label balanced approach for data augmentation. First, the quantity of each label in the training set was calculated, and the label with a higher quantity was identified. Then, the label with a lower quantity was increased by integer multiple to make the quantities of the two labels as close as possible. The data distribution is shown in Table 1, where we can observe that the quantity of Barrett's esophagus increased from 208 to 624. A comparison of model performance before and after data augmentation added in supplementary table, when using EfficientNetV2B2 as the pretrained model, it can be observed that although the accuracy of the training set slightly decreases after data augmentation, the accuracy of the test set can increase by 13.12%.</p> <p>We add descriptions in model design on page 8, 146 lines and we added supplementary table.</p>
Reviewer 2: Q1	In my view, the abstract is overly cumbersome and difficult to extract the main point. It would be helpful to include more detailed keywords to enhance clarity.	Chi-Chih Wang	<p>Thanks for the critical review. We concise the part of abstract as your suggestion and marked them in yellow colored.</p>
Reviewer 2: Q2	The contributions made in this manuscript may not be adequate for publication in this journal. Therefore, I strongly recommend that the authors clearly define and elaborate on their contributions.	Chi-Chih Wang	<p>The contribution of our study is we trained AI model with images of endoscopic Barrett's esophagus and test it with images of histological Barrett's esophagus and found it still effective. This point is clearly described in introduction and conclusion part in our article.</p>

			We emphasize this point in Core Tip, Page 4, Line 73-74.
Reviewer 2: Q3	The Results and Discussion section of the paper appears inadequate and requires more attention, with a need for better explanation and elaboration	Chi-Chih Wang	Thanks for your kind suggestion, but we need more focused suggestion to revise our article in this point.
Reviewer 2: Q4	The paper needs to be carefully looked upon for grammatical mistakes.	Chi-Chih Wang	Thanks for your suggestion. We will send for grammatical checkup and English polishing again as the chief editor's suggestion after this revision.
Reviewer 2: Q5	Some sentences seem to be incomplete and less meaningful. Authors are suggested to carefully check for such sentences.	Chi-Chih Wang	As question 4, we will send for grammatical checkup and English polishing again after this revision.
Reviewer 2: Q6	The conclusions in this manuscript are primitive. Rewrite your conclusions.	Chi-Chih Wang	Thanks for your critical review, we concise our conclusion and marked it in yellow (Page 16, Line 261-262).
Reviewer 2: Q7	The manuscript is hard to be understood and words should be improved.	Chi-Chih Wang	I am sure our English must bother you a lot, we will send for grammatical checkup and English polishing again after this revision.
Reviewer 2: Q8	Additional References: The following articles could be useful: • Has the Future Started? The Current Growth of Artificial Intelligence, Machine Learning, and Deep Learning. <a href="https://doi.org/10.52866/ijcsm.2022.01.01.013">https://doi.org/10.52866/ijcsm.2022.01.01.013</a> • From Pixels to Diagnoses: Deep Learning's Impact on Medical Image Processing-A	Chi-Chih Wang	Thanks for your suggestion, I linked and read the article but found the references hard to found on Pubmed, Medline.... We decided not to increase our citation numbers in this point.

	Survey. <a href="https://doi.org/10.31185/wjcms.178">https://doi.org/10.31185/wjcms.178</a>		
Reviewer 3: Q1	Authors should include the details of staging of early neoplasia in BE and discuss the finer differentiation between T1a and T1b.	Chi-Chih Wang	Thanks for this excellent question. There are differences in management for T1a and T1b lesions in this field making it a very important issue. I am sorry that our data included only 86 cases of histological Barrett's esophagus with only 5 high grade dysplasia cases. There is no any cancer case (including T1a, T1b) in our data, so we cannot further discuss this issue in our article.

### Reply to the Journal editor-in-chief's comments

Original comments	Reply by the author(s)	Changes done on page number and line number
Please, also provide IRB name and IRB approval date	Chi-Chih Wang	Thanks for your suggestions. We provide IRB name and IRB approval date in the section of "Data acquisition and preparation" on page 7.
There is no mention to the informed consent procedure at all. - study design, inclusion/exclusion criteria, study period are not stated.	Chi-Chih Wang	This is a retrospective image database study with de-identification after initial record of histological Barrett's esophagus. We upload the IRB record and it is a Waiver 1 study. We have no informed consent of these patients and we even don't know which patients we should gather their informed consents. We added the inclusion criteria and study data collection period in the section of "Data acquisition and preparation" on page 6.
results description and discussion should be expanded. - add demographic and clinical information about the study population in the results and by drafting a specific table	Chi-Chih Wang	Sorry about the unclear description of our previous section in method, which lead to misunderstanding. We explained detail in method part and add description in Figure 1 and increased relevant figure legends of figure 1 on page 20. Due to the characteristics of this retrospective image database study with de-identification after initial record of histological Barrett's esophagus, we are impossible to expanded our results, discussions or give demographic and clinical information about the study population.
We collected endoscopic images of the gastroesophageal junction in a total of 724 cases, with 86 patients having complete histological results". It is not clear why not all the patients had histological results. Moreover,	Chi-Chih Wang	Because this is not a prospective study, not all the endoscopic images regarded Barrett's esophagus in their formal reports. The endoscopic Barrett's image dataset comes from image re-evaluation by blind voting of 3 senior

<p>a flow chart describing the patients' selection would be appropriate.</p>		<p>experts of this area. As we explained in our introduction, the awareness of Barrett's esophagus is low in Taiwan and some doctors didn't take biopsy even with suspicious of Barrett's esophagus at lower esophagus. We added some detailed description in method section and in Figure 1. We will re-upload the figure image ppt document with our point to point reply.</p>
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