

Points to consider are:

- 1) Is a diagnostic tool of interest? If there is no existing tool for the issue, then a new tool is needed.

**Response:** The development of ds-MCE is justified by the need for a less invasive, patient-friendly alternative to EGD, particularly for those with contraindications or reluctance towards traditional endoscopy. The enhanced visualization rates achieved with ds-MCE underscore its potential as a valuable diagnostic tool. Thank you for your suggestion. This part has been added to the Discussion section.

- 2) Who requires this tool?

**Response:** ds-MCE is particularly beneficial for patients at lower risk for esophageal pathology who do not require biopsy, such as those undergoing routine surveillance for conditions like Barrett's esophagus. It is also advantageous for high-risk groups, including the elderly, pregnant women, and those with hemodynamic instability, who may not tolerate sedation or invasive procedures well. Thank you for your suggestion. This part has been added to the Discussion section.

- 3) Has the tool been proven to provide high-quality data from relevant subjects?

**Response:** It has been documented that ds-MCE can provide high quality images. Relevant literature evidence has been mentioned in the Discussion section.

- 4) Is there no existing diagnostic tool to validate and update from?

**Response:** The results of electronic gastroscopy can be used as the gold standard for judgment. Our research also uses electronic gastroscopy as the gold standard to collect statistics on some indicators corresponding to the diagnosis of ds-MCE.

- 5) Is the sample size adequate to define the diagnostic characteristics of the tool? **Response:** The current study's small sample size limits the ability to define the diagnostic characteristics of ds-MCE conclusively. Larger studies

are necessary to determine the true sensitivity and specificity of the tool and to assess the impact of false negatives and false positives on clinical outcomes. Thank you for your suggestion. This part has been added to the Discussion section.

Secondly, regarding Figure 3, it might be beneficial to change the way CE and EGD photos are presented. Photos of ds-MCE and EGD might be familiar to endoscopists and attract less interest. Therefore, showing corresponding lesions in ds-MCE to those identified in EGD may better demonstrate the utility of ds-MCE to endoscopists. The presented images of EGD exceed a resolution of 600x600, while ds-MCE images are around 300x300. Comparing ds-MCE images at lower resolution and without the manipulation of air inflation appears important. As an endoscopist, I can roughly anticipate what images will be compared, but I suggest this from an academic and formal perspective.

**Response:** Thanks for your advice. We have reworked Figure 3.

Thirdly, considering the lower resolution and the impossibility of deliberate manipulation with ds-MCE again, there are concerns about false negative cases. In this study, the sensitivity is around 85%, indicating a 25% false negative rate. For esophageal lesions, a false negative in the case of a tiny esophageal ulcer may not be significant. However, for esophageal polyps or associated cancer lesions, the cost of a false negative is very high. The utility of the diagnostic tool may need to be reassessed based on the cost associated with false negatives and false positives in the examined lesions. Although this study has a small sample size and makes it difficult to reanalyze from a cost perspective, mentioning this briefly in the discussion for future checks with a larger sample size would be advisable.

**Response:** Addressing the issue of false negatives, particularly in the detection of esophageal cancer, is of paramount importance. The 15% false negative rate observed in our study is concerning, as missed diagnoses of high-stakes lesions

can have dire consequences. It is essential to weigh the benefits of a less invasive diagnostic tool against the potential risks associated with undetected malignancies. Future research should not only aim to improve the sensitivity of ds-MCE but also to explore strategies for mitigating the risk of false negatives, such as combining ds-MCE with other diagnostic modalities or biomarkers. Thank you for your suggestion. This part has been added to the Discussion section.