A COMPARATIVE STUDY OF THE DIAGNOSTIC CAPABILITIES OF THE ENDOSCOPES OF TWO COMPANIES FOR ARTIFICIAL INTELLIGENCE (AI) DIAGNOSIS IN EARLY GASTRIC CANCER

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UEG Week Copenhagen 2023 | Poster

Oesophagus

October 15, 2023

A comparative study of AI diagnostic capability for early gastric cancer using endoscopic images from two different manufacturers found performance differences depending on imaging modality and lesion morphology.

KEY POINTS

- The study analyzed 356 images from Company A and 338 from Company B endoscopes across 30 early gastric cancer lesions, comparing AI diagnostic accuracy using DiceScore against specialist-marked lesion boundaries
- Company B scored significantly higher than Company A with indigo carmine chromoendoscopy overall, while white light imaging showed no significant difference between manufacturers and narrow band imaging versus blue laser imaging showed no difference
- For flat depressed 0-IIc lesions, Company A performed significantly better in white light imaging while Company B performed better with indigo carmine; for elevated-depressed 0-IIa+IIc lesions, Company B scored higher in white light imaging
- Lesions 3 cm or larger had lower diagnostic scores than smaller lesions in both systems, and the authors suggest that differences in image sharpness and color characteristics between manufacturers may influence optimal imaging modality selection
- This research is relevant for endoscopists and AI developers considering how equipment differences affect machine learning diagnostic performance in gastric cancer detection

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