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Summary

Can AI help predict the risk of neoplasia in Barrett's oesophagus?

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UEG Week Barcelona 2026 | Presentation

Endoscopy | Stomach & H. Pylori | Oesophagus | Digestive Oncology

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The speaker presented AI systems for detecting Barrett's neoplasia that improved general endoscopists' sensitivity to expert levels in offline studies, with a prospective in-patient study in 200 patients showing approximately 90% detection of expert-identified lesions, but regulatory approval remains challenging due to the low disease prevalence.

KEY POINTS

- In a prospective study of 200 patients at three expert centres, the speaker reported that the AI detection system identified approximately 90% of lesions deemed biopsy-worthy by expert endoscopists, with one false positive detection in about half of patients.
- In offline reader studies, the speaker stated that when general endoscopists used AI assistance, their sensitivity significantly increased while false positive rates remained approximately the same, bringing their performance close to expert level.
- The speaker developed an updated AI system using more heterogeneous training data and a foundation model with 5 million endoscopy images, which the speaker stated was more robust when image quality degraded.
- The speaker incorporated computer-aided quality control that switches the detection system off when image quality is too poor and only activates after proper cleaning.
- The speaker identified regulatory approval as a major challenge, stating that the randomised controlled trial pathway used for colorectal polyp devices requiring 1000-1500 patients is infeasible for low-prevalence Barrett's neoplasia and advocating for alternative endpoints such as expert-designated biopsies or enriched populations.
- The speaker disclosed working with Olympus, stating their marketed device is partially based on the speaker's work and data, and that Olympus faces similar challenges in designing feasible yet convincing studies for regulatory approval.

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