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GI learning, personalised

Summary

Can AI accurately identify dysplasia/early gastric cancer?

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

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AI systems for gastric cancer detection show similar accuracy to experts in preclinical studies and consistently improve endoscopy quality, but clinical trials demonstrate only marginal increases in cancer detection rates (0.2% absolute difference) and cost-effectiveness remains unproven.

KEY POINTS

- Clinical trials with AI-assisted endoscopy in gastric cancer screening showed baseline cancer detection rates of 0.9-2.3% increased by only 0.2% with AI assistance, though detection of all visible lesions with dysplasia increased by approximately 2%
- AI demonstrates 30% false negative rates with lower sensitivity than experts for small and flat lesions, while experts achieve only 50% sensitivity for determining submucosal invasion
- AI systems consistently reduce blind spots, improve procedural completeness, and decrease the number of biopsies performed, adding approximately 30 seconds to procedure time
- The speaker stated that for AI use in dual colonoscopy plus upper endoscopy to be cost-effective in low gastric cancer incidence countries, accuracy would need to exceed 90%
- The speaker concluded AI is not yet ready for market implementation, suggesting future improvement requires incorporating patient metadata (age, sex, symptoms, medications) rather than better imaging alone
- The speaker disclosed consultancy for Fujifilm and involvement in developing algorithms for intestinal metaplasia detection

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