HUMAN-MACHINE INTERACTION IN DETECTION OF BARRETT'S NEOPLASIA USING A NOVEL DEEP NEURAL NETWORK IN THE EVOLVING ERA OF ARTIFICIAL INTELLIGENCE

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An AI system improved Barrett's neoplasia detection significantly in non-expert endoscopists (sensitivity 63% to 81%) but showed minimal clinical impact in experts (69% to 73%) despite statistical significance.

KEY POINTS

- In a study of 114 video clips (57 neoplastic, 57 non-neoplastic, 80% non-polypoidal lesions), standalone AI achieved 84.5% sensitivity for detecting Barrett's neoplasia using WISE VISION platform.
- Non-expert endoscopists (fewer than 1000 lifetime gastroscopies) showed statistically significant improvement with AI assistance in sensitivity (63% to 81%), specificity (63% to 71%), and accuracy (63% to 76%).
- Expert endoscopists (more than 5 years performing Barrett's resection) had statistically significant but clinically minimal sensitivity improvement with AI (69% to 73%), with no significant change in specificity or accuracy.
- Non-experts reduced uncertain classifications more substantially with AI (12.8% to 4.8%) compared to experts (11.6% to 8.9%), suggesting non-experts relied more on AI guidance.
- The authors note that experts appeared to disregard AI results more frequently and emphasize the need to further explore human-machine interaction patterns before widespread AI deployment.

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