

HUMAN-MACHINE INTERACTION IN OPTICAL POLYP DIAGNOSIS: DECISION-MAKING AFTER COMPUTER ASSISTED OPTICAL POLYP DIAGNOSIS

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Presentation

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Endoscopists correctly accept 89.1% of CADx neoplastic polyp classifications but frequently misclassify hyperplastic polyps as sessile serrated lesions, demonstrating a diagnostic bias toward neoplasia that may lead to unnecessary early surveillance colonoscopies.

KEY POINTS

- Among 753 polyps from 367 patients, 89.1% (95% CI: 85.8–91.7) of accepted CADx neoplastic diagnoses were correct, while 68.7% (95% CI: 58.5–77.4) of accepted CADx hyperplastic diagnoses were accurate.
- Endoscopists accepted incorrect diagnoses significantly more often when CADx predicted hyperplastic than neoplastic polyps (31.3% vs 10.9%).
- When endoscopists rejected CADx adenoma classifications (N=47), 53.2% (95% CI: 38.2–67.6) were falsely reclassified as sessile serrated lesions.
- Among rejected hyperplastic CADx predictions, 41.6% (95% CI: 33.7–50.0) were incorrectly reclassified as sessile serrated lesions.
- The diagnostic bias toward neoplasia may be safe but could result in unnecessary early follow-up colonoscopies and increased costs.
- CADx systems with robust SSL recognition capabilities are likely crucial for successful integration into routine clinical practice, as current systems use binary neoplastic/hyperplastic classification while endoscopists use three categories including SSL.

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