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Optimal Colorectal Cancer Prevention With Stool Tests Depends on High Quality Colonoscopy

Dr Joseph Anderson
Co-Editor-in-Chief

Joseph C. Anderson, MD, FACG

VA Medical Center, White River Junction, VT; Geisel School of Medicine at Dartmouth, Hanover, NH; University of Connecticut School of Medicine, Farmington, CT

COLON

This summary reviews Butterly LF et al. Association of endoscopist colonoscopy quality measures with follow-up colonoscopy outcomes after positive stool tests (multitarget stool DNA or fecal immunochemical test): retrospective cross-sectional analysis of data from the New Hampshire colonoscopy registry. Am J Gastroenterol 2024; 119(1): 2215-2223.

Correspondence to Joseph C. Anderson, MD, FACG, Co-Editor-in-Chief. Email: EBGI@gi.org

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STRUCTURED ABSTRACT

Question: The goal was to examine the association between endoscopist detection rates and polyp yield in colonoscopies performed for positive fecal immunochemical test (FIT) and multitarget stool DNA (mt-sDNA) tests.

Design: This is a retrospective analysis of data from the New Hampshire Colonoscopy Registry (NHCR), a statewide colonoscopy registry.

Setting: Endoscopy centers across New Hampshire.

Patients: The analysis included all patients with a positive stool test as part of usual clinical care from February 2015 to June 2023 and a record in the NHCR of a complete colonoscopy with adequate bowel preparation.

Exposure: The sample included 864 patients with positive mt-sDNA tests and 497 patients with FIT+ stool tests.

Outcomes: The primary outcomes were findings on colonoscopy performed after the stool test, including adenomas, advanced adenomas, and sessile serrated polyps (SSPs).

Data Analysis: Proportions of adenomas, SSPs, and advanced adenomas were calculated for each quartile of adenoma and serrated polyp detection rates by dividing the total number of exams performed by endoscopists within each ADR and SDR quartile with at least one polyp by the total number of exams in that quartile. Proportions were compared across quartiles using the Cochran-Armitage test for trend.

Funding: Exact Sciences provided the funding with an agreement which ensured that the NHCR authors had independence in designing the study, conducting the analyses, and writing and publishing the results.

Results: Polyp detection was higher in exams performed by endoscopists, with higher detection rates for patients who had either positive FIT or mt-sDNA tests. The detection of any adenoma after a positive stool test for endoscopists in the fourth ADR quartile was 63.3% (FIT+) and 62.8% (mt-sDNA+). Among endoscopists in the fourth SDR quartile, SSPs were found in 29.2% of exams following a positive mt-sDNA and in 13.5% following FIT+ exams.

Tips for optimizing polyp detection
Split or same day preparation dosing
Establish quality measurements for detection of adenomas and SSPs
Training in lesion recognition and examination technique
Outstanding basic technique: probing proximal aspects of folds. clean-up, achieve distention
Adequate inspection time
Double examination, particularly the right colon and proximal rectum
Water exchange
Patient rotation
Second observer

COMMENTARY

Why Is This Important?

Stool based tests are recommended by the US Multi Society for colorectal cancer screening.[1] In particular, the two commonly used tests are fecal immunochemical testing with an antibody to human hemoglobin and multi-target stool DNA testing, which has several markers.[2,3] Stool-based tests can be used to increase the prevalence of colorectal neoplasia detected by colonoscopy, thereby selecting that patient who would benefit most from the exam.[4-6] Given the increased role of these tests for screening, data regarding expected polyp yield at colonoscopy are important. While there are many published studies regarding adenoma and SSP detection in FIT-positive patients, similar data for patients with positive mt-sDNA tests are lacking.[7] The data included in this analysis are sourced from the New Hampshire Colonoscopy Registry, a statewide database[8] Consequently, the results provide a real-world perspective on the yield of colonoscopies conducted for positive stool tests. These findings, which show a strong correlation between detection rates and polyp yield, highlight the importance of conducting high-quality colonoscopy.

Key Study Findings

The main finding is that the detection of adenomas and serrated polyps was higher in colonoscopies performed by endoscopists with higher detection rates.

In the top quartile, the detection of any adenoma in colonoscopies performed for mt-sDNA positive tests and FIT positive tests exceed the adenoma detection rate benchmarks suggested by the recent American College of Gastroenterology/ American Society of Gastrointestinal Endoscopy (ACG/ASGE) recommendations of 50% for both tests.[9] These data suggest that 60% adenoma detection rates may be aspirational targets for colonoscopies performed on patients with positive stool tests. The detection of sessile serrated polyps was also high, especially for mt-sDNA positive tests in which more than one in four patients had an SSP. Based on these data, aspirational targets for SSP could be 30% for mt-sDNA positive patients and 15% for FIT positive patients. The lower rates for the other endoscopists, especially in the first and second quartiles, suggest that significant numbers of polyps may be missed by some physicians. Thus, for lower detecting endoscopists, some of these exams with missed polyps may result in the tests being misinterpreted as false positives.[10]

Caution

The low racial diversity in New Hampshire may decrease the generalizability of the findings. Thus, more data are needed in other more racially diverse populations.

My Practice

When performing a colonoscopy on

patients with a positive stool test, I am for looking at lesions that may have triggered the positive test, such as large adenomas or serrated polyps. However, I am also looking for smaller polyps as well. As with all colonoscopies, I carefully interrogate and wash every fold, adequately distend the lumen, utilize an adequate withdrawal time and reintubate the proximal colon as highlighted in the recent ACG/ASGE recommendations.[9,11] In addition, in our endoscopy unit we track our ADR and SDRs and quality of bowel preparation and completion rates, ensuring that we meet established benchmarks.[9,11,12] Thus, when I complete a colonoscopy in a patient with a positive stool test that has no neoplastic findings, I have high confidence that I have not missed important lesions.

For Future Research

A major issue which needs to be addressed is the performance of the next generation of mt-sDNA tests.[13]

Conflict of Interest

Dr Anderson has no financial conflict of interest but he collaborates with Exact Sciences on scientific papers.

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