

Surveillance Colonoscopy Recommendations in Older Adults With Limited Life Expectancy—More Work to be Done!



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This article reviews Calderwood AH, Tosteson TD, Wang Q, et al. Association of Life Expectancy With Surveillance Colonoscopy Findings and Follow-up Recommendations in Older Adults. *JAMA Intern Med.* 2023 May 1;183(5):426-434. doi: 10.1001/jamainternmed.2023.0078.

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STRUCTURED ABSTRACT

Question: Does estimated life expectancy impact recommendations for timing of repeat surveillance colonoscopy in older adults undergoing routine colon polyp surveillance colonoscopy?

Design: A retrospective cohort study.

Setting: New Hampshire, United States.

Patients: Adults > 65 years old who underwent colonoscopy for colon polyp surveillance between April 1, 2009 and December 31, 2018 with results entered into the New Hampshire Colonoscopy Registry (NHCR) and who had Medicare Parts A and B coverage in the year prior to colonoscopy (to ensure data linkages). Exclusion criteria included those undergoing colonoscopy for indications other than surveillance or with a history of colorectal cancer (CRC), inflammatory bowel disease, or genetic CRC syndromes.

Patient data from NHCR was linked with Medicare claims data. The NHCR is a statewide registry that collects data from sites performing colonoscopy throughout New Hampshire. Data collected includes patient demographic data, family history, colonoscopy procedure data including indication, findings (number and size of polyps or cancer), pathology reports, and follow-up recommendations. Outcomes regarding CRC are supplemented by linkage with the New Hampshire State Cancer Registry. The authors also obtained information on comorbidities and cancer diagnoses through linkage to Centers for Medicare & Medicaid Services.

Exposures: Life expectancy was estimated using a validated prediction model using comorbidities from Medicare claims data¹ and categorized as < 5 years, 5-9 years, and ≥ 10 years. The main covariate was endoscopist recommendations for future colonoscopy, whether it was a specific interval, “recommendation pending pathology,” “no future colonoscopy indicated,” or other – essentially identifying whether the endoscopist recommended to stop screening. Procedures missing a recommendation or with a recommendation of “follow-up recommendation pending pathology report” were excluded from the analysis of follow-up recommendations because of the inability to assess the final recommendation after the pathology report was reviewed.

Other important covariates included patient age, sex, race, ethnicity, educational level, family history of a first-degree relative with CRC, body mass index, self-reported health, completeness of colonoscopy, bowel preparation quality, and endoscopist factors like gender, specialty, years since completion of training, and adenoma detection rate.

Outcomes: The primary outcomes were: 1) clinical findings of polyps on colonoscopy, especially prevalence of advanced adenomas (i.e., adenomas ≥ 10 mm, adenomas with high-grade dysplasia or villous features, sessile serrated polyps or hyperplastic polyps ≥ 10 mm, sessile serrated polyps with dysplasia, or traditional serrated adenomas) or CRC; and, 2) recommendation for timing of future colonoscopy and/or recommendation to discontinue further surveillance colonoscopy.

Statistical Analysis: Data were analyzed using multivariable logistic regression models, with adjustment for factors associated with missing recommendations.

Funding: National Cancer Institute.

Results: Nine thousand eight hundred and thirty-one participants met inclusion criteria. Patient demographics included mean age of 73.2 years, 46.2% were female, and 83.5% were White. Life expectancy was < 5 years in 7.5%, 5-9 years in

35%, and ≥ 10 years in 57.5%, Overall, 791 patients (8.0%) had advanced polyps or CRC. Most of the patients (83.3%) had no adenomas or only 1-2 small adenomas or serrated polyps, which are appropriate for up to 10-year interval between surveillance colonoscopies.

Although there were almost 10,000 participants in the cohort, only 5,281 patients (53.7%) had a documented recommendation at the time of colonoscopy to stop or continue colonoscopy, while approximately 12% had no recommendation and approximately 34% stated recommendation for repeat colonoscopy pending review of pathology results. Among the 5281 patients with an available recommendation, only 13.1% received a specific recommendation to discontinue surveillance colonoscopy, regardless of limited life expectancy or lack of adenomas on colonoscopy.

Although study results did not specifically report on adherence to guidelines about timing of repeat surveillance colonoscopy, several findings stand out. Among 227 patients with life expectancy < 5 years and no adenomas found on colonoscopy, 58% were told to return for repeat surveillance colonoscopy. Among 4622 patients who were recommended to repeat colonoscopy, approximately 70% were told to repeat colonoscopy in 4-5 years. This recommendation was most likely made for patients with 0-2 small adenomas on their colonoscopy, although the interval between colonoscopies could have been lengthened to 10 years. Most importantly, this was recommended in 61.3% of patients with life expectancy < 5 years and 69.0% of patients with life expectancy of 5-9 years.

COMMENTARY

Why Is This Important?

Colonoscopy use in older adults is a hot topic, the US has an aging population and we want to provide good quality preventative healthcare, but balance it with the risks of invasive procedures (and our burgeoning healthcare costs). Recently, Dr. Philip N. Okafor, Associate Editor of EBGI, wrote about “Screening Colonoscopy in the Elderly Population—Is Less Better?” where he reviewed El Halabi *al.* Frequency of use and outcomes in individuals older than 75 years from the Journal of the American Medical Association Internal Medi-

cine. In that study, screening colonoscopy in adults > 75 years of age was associated with a very low rate (0.2%) of invasive colorectal adenocarcinoma – and in those with invasive cancer and a life expectancy < 10 years, only 1 of 9 received treatment for their malignancy. What’s more, those with life expectancy < 10 years had approximately double the rate of adverse events after colonoscopy.

While that study evaluated screening, the present study evaluates surveillance colonoscopy. Surveillance after prior colon polyps is the most frequent indication for colonoscopy in older adults. While our guidelines recommend indi-

vidualized decision-making regarding colonoscopy in older adults,² our tools to do so are frankly limited. We do not have readily available life expectancy calculators or exact guidance on the cut-off for which colonoscopy would no longer have more benefit than risk, and the fragmented nature of care can make conversations difficult (for example, an “open access” colonoscopy with limited documentation). Still, as endoscopists, we have an important role to play in these decisions. The well-known adenoma-to-carcinoma sequence takes 10-15 years, so performing colonoscopy on those with life expectancy under 10 years may not provide sufficient benefit.^{3,4} Coupled with the higher rates of adverse events in older adults undergoing colonoscopy, decision-making becomes even more important.⁵ Studies like this are essential to identify both the utility of surveillance colonoscopy, and our real-world practice patterns.

Key Study Findings

Only 13.1% of patients > 65 were told to discontinue colonoscopy for colon polyp surveillance, regardless of limited life expectancy or only finding 0-2 small adenomas on colonoscopy. Among the entire cohort of 9831 of older adults undergoing surveillance colonoscopy, only 8.0% had advanced adenomas or CRC, and the proportion was highest among those with shorter life expectancy.

Caution

The authors did an excellent job with available data, but it is important to con-

sider that the cohort only consists of persons who were recommended for and underwent surveillance colonoscopy. Furthermore, the cohort consisted of 9,831 persons but 4,550 (46.3%) did not have a recommendation in their colonoscopy report—73.4% were due to pending pathology results, the other 25.8% simply had no recommendation. This can be a source of misclassification, though it should be noted that recommendations for follow up are considered a Grade 1A recommendation by the American Society for Gastrointestinal Endoscopy: “appropriate recommendation for timing of repeat colonoscopy [should be] documented and provided to the patient after histologic findings are reviewed.”⁶ Another area of note is that the cohort was overwhelmingly White – there are marked disparities in healthcare delivery across racial and ethnic groups, including receipt of colonoscopy when indicated.⁷

My Practice

My practice in this area tends to depend on the patient situation. Sometimes, I am seeing a patient in clinic and as part of the visit, can discuss screening. In this case, I seek to have a discussion about the utility of screening, which includes evaluating comorbidities and discussing their quality of life and preferences, to come to a shared decision. (While not the focus of the authors’ study, I also utilize non-invasive testing for certain situations, which is best for detecting advanced neoplasia.) Other times, I am performing a referred or open-access colonoscopy, either for endoscopic mucosal resection of a

previously identified lesion or for surveillance/screening. In those cases, if I believe further surveillance is not warranted, I have a telephone or in-person visit with the patient on a separate day. Without clear guidance, I have not incorporated a formal calculator of life expectancy into my discussions.

For Future Research

Ideally in the future, we will have guidance and recommendations using a validated life expectancy calculator specific to colonoscopy. This would account for comorbidities, prior findings and risk factors, and allow us to formally assess the benefits of colonoscopy in older adults. This could also help stratify persons as we consider non-invasive or invasive screening/surveillance methods. Finally, as noted above, we need to take the initiative to find ways to ensure equity in healthcare delivery of colonoscopy, so that we can maximize the benefits of colon cancer screening across all groups.

Conflicts of Interest

Dr. Kumar reports no conflicts of interest.

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