Colorectal neoplasia detection among black and Latino individuals undergoing screening colonoscopy: a prospective cohort study

Kristen K. Lee, MD,[1] Lina Jandorf, PhD,[2] Linda Thélèmaque, MS,[2] Steven H. Itzkowitz, MD[1]

New York, New York, USA

Background: Most prospective studies of screening colonoscopy (SC) in average-risk, asymptomatic individuals have included few minority individuals. Little is known about the prevalence and distribution of adenomas found at screening colonoscopy among black and Latino individuals.

Objective: To determine the prevalence and distribution of histologically confirmed adenomas among black and Latino participants enrolled in a prospective SC study.

Design: Cross-sectional analysis of consecutive patients undergoing SC between 2008 and 2011.

Setting: Urban academic medical center.

Patients: Average risk, asymptomatic black and Latino patients aged ≥50 years undergoing SC.

Intervention: SC.

Main Outcome Measurements: Adenoma prevalence and distribution by ethnic group.

Results: A total of 584 patients (270 black, 314 Latino) completed SC. Overall, 26.4% had adenomas, and 20% had proximal adenomas. Advanced adenomas occurred in 11.5% (12.2% black vs 10.8% Latino; $P = .21$) and proximal advanced adenomas in 7.5% (5.9% black vs 8.9% Latino; $P = .17$). These rates were at least as high as those of other studies that enrolled mainly white participants.

Limitations: Lack of comparison group of white patients.

Conclusion: The prevalence of adenomas, advanced adenomas, and proximal adenomas was high in both black and Latino participants. The high prevalence of clinically significant proximal lesions has implications for the choice of colon cancer screening test and colonoscopic surveillance intervals. (Gastrointest Endosc 2014;79:466-72.)

Colorectal cancer (CRC) is the second leading cause of cancer-related mortality in the United States, with an estimated 140,000 new cases and 50,000 deaths in 2013.[1,2] Race is associated with differences in CRC incidence and mortality. Black men and women have higher CRC incidence and mortality compared with white people, whereas these rates seem to be lower among Latino people.[2] However, compared to white people, black and Latino people are less likely to be diagnosed with early stage CRC, when treatment is more successful.[3] Disparities in CRC outcomes can be attributed at least in part to differences in access to screening and medical care.[4] In 2010, the rate of CRC screening among adults aged ≥50 years was only 47% in Latino people and 56% in black people, compared with 62% in white people.[5,6] Encouraging data during the past decade come from a concerted citywide effort to enhance screening colonoscopy (SC) rates among individuals aged ≥50 years in New York City. This program

Abbreviations: BMI, body mass index; CRC, colorectal cancer; SC, screening colonoscopy.

DISCLOSURE: *Funding was provided by National Cancer Institute, grant R01CA120658-01A2 (William Redd, PI). S. Itzkowitz received research support from and is an SAB member for Exact Sciences Corporation. All other authors disclosed no financial relationships relevant to this publication.*

0016-5107/$36.00
http://dx.doi.org/10.1016/j.gie.2013.12.020

Received October 15, 2013. Accepted December 23, 2013.

Current affiliations: Division of Gastroenterology, Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, New York (1), Division of Cancer Prevention and Control, Department of Oncological Sciences, Icahn School of Medicine at Mount Sinai, New York, New York, USA (2).

Reprint requests: Steven Itzkowitz, MD, Division of Gastroenterology, Icahn School of Medicine at Mount Sinai, One Gustave L. Levy Place, Box 1069, New York, NY 10029.

demonstrated that in only 5 years, SC rates increased overall, and ethnic disparities were eliminated.[7]

Although overall SC rates have been increasing in recent years, even at the national level,[8] little is known about the pathological findings encountered from this effort. Because the follow-up interval after colonoscopy varies based on the pathological findings, a more detailed understanding of pathology found at SC may help estimate the future healthcare burden. To date, most of our knowledge about the nature of colorectal pathology detected in prospective clinical trials of SC in average-risk individuals aged ≥50 has come from studies that mainly enrolled white participants,[9-11] or in some cases, mainly men[12] or women.[13] By contrast, most of our knowledge about the rates and types of colorectal neoplasia detected at SC among ethnic minorities has come from retrospective analyses of endoscopy or pathology data sets. Some studies suggest that black people have higher rates of adenomas and advanced adenomas than do white people.[14-16] Among Latino people, adenoma prevalence rates found at SC vary, with studies reporting lower, similar, or even higher rates compared with those of white people.[16-19] A drawback of all these studies is that most have been retrospective, and, as such, it is not always clear whether the colonoscopies were done for purely screening reasons in asymptomatic individuals. Also, several studies did not conduct histological confirmation of polyps found at SC. Finally, with greater emphasis on the quality of SC, most studies to date were unable to analyze quality indicators such as colonoscopy preparation quality or cecal intubation rates.

A decade ago, we embarked on a prospective program to reduce disparities by facilitating SC among the predominantly black and Latino minority populations served by our institution. We implemented both an open-access referral system along with patient navigation. These efforts resulted in a considerable increase in SC rates among this underserved population.[20] Encouraged by these early results, from May 2008 to December 2011, we conducted two prospective, randomized controlled trials of SC (1 funded by the National Cancer Institute and 1 internally funded) designed to test the effect of patient navigation among asymptomatic, average-risk Latino and black individuals at our urban academic medical center. The description of the program and its overall success in terms of colonoscopy completion rates were reported recently.[21,22] Herein, we report the detailed pathological findings in this screening population. Our aim was to determine adenoma prevalence and distribution by race.

Take-home Message

- In a prospective screening colonoscopy study, black and Latino individuals demonstrated a high prevalence of adenomas, advanced adenomas, and proximal adenomas.
- This supports colonoscopy as the preferred screening technique in these populations and has implications for surveillance intervals.

METHODS

Study design

We performed a cross-sectional analysis of colonoscopic findings among consecutive patients undergoing SC as part of a prospective cohort study conducted at Mount Sinai Medical Center. Mount Sinai is a tertiary-care academic hospital in East Harlem, New York City, which also serves a large primary care population of black and Latino individuals. The prospective cohort study was an Institutional Review Board–approved patient navigation program, previously described and shown to increase SC adherence rates among urban minorities.[21,22] Patients were recruited during a visit to Mount Sinai's primary care clinics for other than acute care after their primary care physicians directly referred them for SC through our open-access endoscopy system from May 2008 to December 2011. Patients were eligible for the study if they (1) were aged ≥50 years, (2) were at average risk for CRC symptoms with no GI symptoms, (3) had no prior SC in our system in the previous 5 years, and (4) had no significant medical comorbidities requiring a before-procedure evaluation by a gastroenterologist. Patients were excluded if they had a personal history of polyps, CRC, inflammatory bowel disease, familial adenomatous polyposis, or hereditary nonpolyposis colorectal cancer syndrome. Patient navigators facilitated adherence to SC among study participants through patient education and support for the procedure, which included 3 telephone calls: an initial scheduling call, a reminder call 2 weeks before the SC, and a final call 3 days before the procedure. Through these calls, navigators ensured that patients understood the instructions regarding the bowel preparation and logistics for the procedure.

Data collection

Patient information including demographics, age, sex, and self-reported race, date of referral, date of patient navigation contact, and date of SC were recorded in a database for the parent patient navigation study. Body mass index (BMI), taken at the visit when the patient was referred for the study, was categorized as obese (BMI ≥30) or non-obese. The patients were asked about their current and former tobacco use and were categorized as smokers (current or former use) or never smokers. The primary endpoint for the parent study was colonoscopy completion rates.

From this study population, colonoscopy findings and pathology results were analyzed from the electronic medical record. All of the original pathology specimens were analyzed by board-certified, expert GI pathologists at our