

## Diminutive polyps among black and Latino populations undergoing screening colonoscopy: evidence supporting a resect and discard approach

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**Background:** A resect and discard strategy for diminutive ( $\leq 5$  mm) colon polyps has been proposed to save costs of screening colonoscopy (SC). Prior studies on neoplasia prevalence based on polyp size have involved mostly white patients.

**Objective:** To determine the prevalence of adenomas and advanced histologic features by size among primarily black and Latino patients enrolled in a prospective SC study.

**Design:** Retrospective analysis of data from a prospective clinical trial.

**Setting:** Urban academic medical center.

**Patients:** Average risk, asymptomatic, minority patients aged  $\geq 50$  years undergoing SC.

**Interventions:** Screening colonoscopy.

**Main Outcome Measurements:** Rates of neoplasia and advanced histologic features (villous histology, high-grade dysplasia, or cancer) by polyp size and location.

**Results:** A total of 566 polyps from 295 patients were analyzed. Diminutive polyps and small (6-9 mm) polyps had lower prevalence of  $\geq 1$  advanced feature compared with large ( $\geq 10$  mm) polyps (0.9% and 2.7%, respectively, vs 13.6%;  $P < .001$  for both comparisons). Distal polyps were less likely to be neoplastic (31.7% vs 61.4%;  $P < .001$ ) than proximal polyps in all size categories ( $P < .001$  for all comparisons). After adjusting for sex, ethnicity, age, and location, large polyps were more likely to have  $\geq 1$  advanced feature than diminutive polyps (adjusted odds ratio [OR] 19.5; 95% CI, 4.4-85.6) or small polyps (adjusted OR 6.1; 95% CI, 2.2-16.9).

**Limitations:** Use of pathology reports for polyp size.

**Conclusion:** Among a cohort of minority patients, advanced histologic features were very rare in diminutive polyps. Distal polyps were less likely to be neoplastic than proximal polyps in all size categories. This supports a resect and discard strategy for diminutive polyps, especially in the distal colon. (*Gastrointest Endosc* 2015;81:728-32.)

Detection and removal of precancerous adenomas during colonoscopy reduces mortality from colorectal cancer (CRC).<sup>1</sup> The number and size of adenomas and presence of advanced histology such as a villous component, high-

*Abbreviations:* ASGE, American Society for Gastrointestinal Endoscopy; CRC, colorectal cancer; HGD, high-grade dysplasia; PIVI, Preservation and Incorporation of Valuable Endoscopic Innovations; SC, screening colonoscopy.

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grade dysplasia (HGD), or cancer are factors that determine postpolypectomy surveillance colonoscopy intervals.<sup>2</sup>

The American Society for Gastrointestinal Endoscopy (ASGE) recently developed a Preservation and Incorporation

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of Valuable Endoscopic Innovations (PIVI) statement for real-time endoscopic assessment of the histology of diminutive ( $\leq 5$  mm) colorectal polyps. This proposes a resect and discard strategy for diminutive polyps that are determined with high accuracy to be non-neoplastic *in vivo*.<sup>3</sup> It is meant to reduce costs of screening and surveillance colonoscopies by avoiding pathologic assessment of select diminutive polyps, which are known to have a low prevalence of advanced histologic features.<sup>4</sup>

For the resect and discard strategy to be applied to the general population, it is important to understand the frequency of advanced histologic features among diminutive polyps. Although the prevalence of neoplasia and advanced histologic features among diminutive polyps has received attention in previous studies, these have been conducted mostly among white patients.<sup>5,6</sup> Little is known about the prevalence of advanced histologic features in diminutive polyps among minority individuals.

We recently completed a prospective clinical trial of patient navigation to enhance screening colonoscopy (SC) completion rates among asymptomatic, predominantly black and Latino individuals, aged  $\geq 50$  years. The results of this parent study demonstrated increased SC completion rates.<sup>7,8</sup> An analysis of the pathologic findings of that study revealed that 12.2% of black participants and 10.8% of Latino participants had advanced adenomas, rates that are at least as high as those reported among predominantly white cohorts.<sup>9</sup> The aim of the present study was to determine the prevalence of advanced histologic features in this minority cohort with respect to polyp size to gain further insight into the rationale behind a resect and discard approach.

## METHODS

### Study design

This study represents a retrospective analysis of data collected from a prospective clinical trial studying the effect of patient navigation on SC adherence among urban minorities. The parent trial was an institutional review board–approved study conducted at Mount Sinai Medical Center, a tertiary-care academic hospital in New York City. Patients were prospectively recruited from May 2008 to December 2011 during a routine visit to Mount Sinai's primary care clinics after their primary care physicians directly referred them for SC through our open-access endoscopy system. Patients were eligible for the study if they were aged  $\geq 50$  years, were at average risk for CRC cancer with no GI symptoms, and had no significant medical comorbidities requiring an evaluation by a gastroenterologist before SC. All colonoscopies were for screening purposes and not for surveillance. Patients were excluded if they had personal histories of polyps, CRC, inflammatory bowel disease, familial adenomatous polyposis, or hereditary nonpolyposis colorectal cancer syndrome.

### Data collection

Patient information including sex, age, self-reported ethnicity, and date of SC completion were collected for the parent patient navigation study. Ethnicity was divided into 3 groups: black, Latino, and other (including Asian, white, other, and unknown). Colonoscopy findings and pathology results were abstracted from the electronic medical record. All pathology specimens were interpreted by board-certified, expert GI pathologists at our institution. The histology, location, and size of each polyp were analyzed. Polyps were categorized as neoplastic (adenomas) or non-neoplastic (hyperplastic, normal mucosa, non-adenoma, or other benign histology). Serrated adenomas were included in the neoplastic category. Advanced histologic features were defined as having any villous component, HGD, or adenocarcinoma. Proximal polyps were defined as those found proximal to and at the splenic flexure; distal polyps were distal to the splenic flexure. Polyp size was categorized as diminutive ( $\leq 5$  mm), small (6–9 mm), and large ( $\geq 10$  mm), based on pathology reports.

### Statistical analysis

Statistical analysis was performed by using SPSS version 20 (IBM SPSS Inc, Chicago, Ill). Descriptive statistics were used to tabulate the demographic characteristics of the study population. Comparison of the mean age between those with and without polyps found on SC was calculated by analysis of variance. Chi-square tests were used to compare categorical variables, such as the difference in prevalence of polyp type and advanced histologic features by size. Multivariate logistic regression analysis was conducted to evaluate the prevalence of advanced histologic features.

## RESULTS

Among a total of 637 patients who completed SC, 295 patients (46.3%) had 1 or more polyps found. Among those with at least 1 polyp, the mean age was 59.3 years, 69.2% were female, and 91.5% were black or Latino. Those with at least 1 polyp did not differ from those with no polyps with respect to mean age, sex, or ethnicity (Table 1).

Of 566 polyps found among the 295 patients, 313 (55.3%) were non-neoplastic, and 253 (44.7%) were neoplastic (Table 2). Among non-neoplastic polyps, 166 (29.3%) were hyperplastic, 140 (24.7%) were normal mucosa or no diagnostic pathology, and 7 (1.2%) had other benign or nonadenoma findings, such as nonspecific colitis or carcinoid or lymphoid aggregates. Among the neoplastic polyps, there were 9 adenomas with HGD (3 tubular and 6 tubulovillous adenomas) and 1 adenocarcinoma within a large polyp. Ten sessile serrated polyps were detected, representing 1.8% of all polyps found. Overall, 27 polyps (4.8% of all polyps) had at least 1 advanced histologic feature.

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