

Characteristics and Risk Stratification of Colon Polyps among Asymptomatic Hispanic Patients Undergoing First Time Screening Colonoscopy: A Retrospective Study

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Abstract

Goals: To determine characteristics of polyps in Hispanic patients undergoing first-time screening colonoscopy and to risk stratify them based on findings.

Background: Current guidelines recommend screening colonoscopy beginning at age 50 in the average-risk population. Race has been shown to influence the risk of colorectal cancer, thus leading to the recommendation of initiating screening in blacks at the age of 45. Few data exist on the prevalence and characteristics of colon polyps among U.S. Hispanics.

Study: Retrospective study at a community hospital in Brooklyn, NY serving large Hispanic population including patients >50 undergoing first-time screening colonoscopy who met inclusion and exclusion criteria.

Results: Our final data analysis of 192 Hispanic patients showed that the majority of polyps (56%) were tubular adenomas with 17% showing dysplastic features. In a risk stratification analysis, 52.6% of patients fell into the low risk category while 47.4% of patients had adenomas with at least one high risk feature for progression to colon cancer.

Conclusions: We found that Hispanic patients undergoing first-time screening colonoscopy have increased risk for malignancy based on the features of their polyps. There is need for further, race-specific studies determining the cause of increased progression to neoplasia and the possible need for earlier screening.

Keywords: Screening colonoscopy; Hispanic; Colon polyp characteristics; Acculturation

Introduction

Colorectal cancer (CRC) remains a major source of morbidity and mortality in the US, with an estimated 53,000 deaths in 2011 [1]. Previous studies have shown that adenoma prevalence is higher in African-American patients as compared to whites, with greater risk for multiple, more proximal, advanced neoplasia and higher mortality rates overall [2,3]. These findings have influenced guidelines for screening colonoscopy; In 2010, the AGA recommended that African-American patients be screened at 45 vs. 50 [4,5]. As multicultural groups continue to grow and acculturate, how we view colorectal cancer in each ethnic and racial group must change and grow as well [6]. Little research has been done on the characteristics of adenomas seen in Hispanic patients, one of the major ethnic groups served at Lutheran Health Care, a large community hospital in Brooklyn, New York. Our study aimed to both establish trends in polyp presentation within this group, and to address new findings while affirming previous studies showing the need for further, race-specific data collection when establishing guidelines. Our goal was to also establish trends in polyp presentation and address whether or not Hispanic patients served in our urban hospital were at high or low risk for transformation to colorectal cancer based on these trends.

Goal

What are the characteristics of colon polyps in asymptomatic Hispanic patients at Lutheran Medical Center undergoing first time screening colonoscopy and are there characteristics of those polyps that would support changes in screening methods? Do most Hispanic patients have high or low risk for transformation to colorectal cancer?

Methods

This study was a retrospective chart review performed at Lutheran Medical Center in the area of Sunset Park in Brooklyn, New York.

Lutheran Healthcare serves a diverse racial and ethnic patient population. The surrounding neighborhood has a large Hispanic population varying from Dominican to those of other Caribbean descent.

Data was collected via two databases on site at Lutheran Medical Center: 1) Lutheran's Vista Eclinical Works database for colonoscopy reports/outpatient medical records and 2) Physician's Portal for pathology results. Patients included in the study underwent colonoscopy at Lutheran or an affiliated site from anywhere between January 2010 and December 2012. Patients included in the study were self-identified Hispanic patients > 50 undergoing their first screening colonoscopy.

Patients were excluded from the study if they had undergone prior colonoscopy or had listed polyps in their past medical history. Incomplete colonoscopies in which the cecum was not reached or bowel was poorly prepped as determined by the gastroenterologist were also excluded. Symptomatic individuals (i.e. occult GI bleed, acute blood loss anemia) as the indication for colonoscopy were not included as well as any patient with a history of inflammatory bowel disease, familial adenomatous polyposis, hereditary non-polyposis CRC, or surveillance due to a history of colorectal neoplasia.

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Patient demographic data including gender and age were recorded. Ethnicity and race was self-determined in an outpatient setting by the patient listing themselves as “Hispanic or Latino” vs. “not Hispanic or Latino” in the ethnicity drop box of an outpatient encounter on our online clinical documentation program. Patients whose race/ethnicity was not listed in the medical record were excluded. The further identifying factor was language; patients included in the study listed Spanish as their preferred language and required a medical interpreter during their outpatient encounter.

All histology reports were obtained from the corresponding colonoscopy by entering the patient’s identification into our online Portal program. From the histology report, we extracted polyp size as well as tissue type. The colonoscopy reports were individually reviewed to obtain data pertaining to number, location, and shape of all polyps extracted by polypectomy. The location of each polyp was documented as either proximal or distal: proximal being proximal to the splenic flexure and distal being any polyps found in the descending colon, sigmoid colon, and rectum. Patients were risk stratified by determining high risk features of polyps for transformation to colon cancer which included polyps > 10 mm in greatest diameter and showing histology of adenomatous tissue or dysplasia.

Guidelines for colonoscopy surveillance by the AGA have determined that low-risk adenomas are smaller, fewer in number, tubular in shape, and located distally in the colon. High-risk adenomas are larger in size, multiple, and located proximally with histologic features that are more prone to becoming cancerous.

Our study categorized patients as high risk for progression to colon cancer if their colonoscopy findings revealed one of the following: 1) more than one adenoma, 2) size of any adenoma greater than 10 mm, 3) sessile shaped, 4) dysplastic or adenomatous tissue type, and 5) adenoma(s) found in the ascending colon. Our risk analysis goal was to place patients in either a high risk or low risk category for progression to neoplasia. If a patient’s colonoscopy findings portrayed 1 of the previously described characteristics, we categorized them as above average risk or “high risk.”

The data was analyzed using SPSS v17.0 software for statistical analysis. The institutional review board of Lutheran approved this study and requirement of informed consent was waived since no patient contact was required in a retrospective study.

Results

Our final data analysis included a total of 192 asymptomatic Hispanic patients who underwent complete screening colonoscopy during the study time period. Of those 192 patients, 95(49.5%) fell within the 50-59 age group and 22(11.5%) fell within the > 70 age group. The largest majority of patients underwent screening colonoscopy at the appropriate age range and of those, 50.5% of those patients fell into the high-risk category. In the older age range, 68.2% of patients had at least one malignancy-prone polyp feature.

Of the 192 patients included in the study, an overwhelming 128 were women. Of the women, 40.6% of them had high-risk polyp feature(s). Though fewer men were included, more of them (60.9%) had high-risk characteristics.

The majority of polyps (56%) were tubular adenomas with 17% showing dysplastic features. Of those, 54% were sessile in shape, 7% were villous or tubulovillous in type, and 17% were adenomas with some dysplastic changes. 32% of adenomas were also found in the ascending colon. Although the majority of polyps were smaller in size,

at least 10% were greater than 10mm; a feature of high-risk adenomas. Most patients had only 1 polyp found on colonoscopy, but of the 71 patients who had more than 1 polyp, 67.6% of them were considered high-risk (Table 1).

Overall, in a risk stratification analysis, 52.6% of patients fell into the low risk category while 47.4% of patients had polyps with at least one high risk feature for progression to colon cancer.

Discussion

Most current data surrounding the issue of racial and ethnic disparities in the prevalence of colorectal adenomas has focused predominantly on comparisons drawn from studies involving only whites and blacks. Similar studies assessing the risk of adenomas in whites as compared to Hispanics in the US are sparse. The CRC incidence and mortality is currently reported to be lower in Hispanics as compared to whites and blacks but there is emerging evidence that the risk of CRC among Hispanics may be increasing with acculturation [1,2,7,8]. Some studies report increased rates of CRC among Hispanic subpopulations in the US compared with their countries of origin [9]. It is not unexpected for immigrants to gradually acquire the disease profile of the host population with increased risks seen in subsequent generations.

Our study may support the impact of acculturation over time among Hispanics who have relocated to the US, as the prevalence of polyps and advanced lesions increased with age, particularly in individuals over the age of 60. Though the majority of patients in our study fell into the 50-59 age distribution, there were still a considerable amount of patients over the age of 70 who presented for screening colonoscopy. This may speak to the understanding of importance of timing of screening colonoscopy and a misconception within the Hispanic community that this screening test is not necessary until you are symptomatic. Future studies are also necessary to explore the possibility of an interaction between race and acculturation as well as socio-economic status and cultural beliefs. In our study, the large majority of patients who presented were women. More data may be necessary to understand the barriers to receiving screening on time or the cultural beliefs keeping

Polyp Characteristics		
	Frequency	Percent
Number of Polyps		
1	121	63
≥ 1	71	37
Polyp size		
0-9mm	174	90.6
≥10mm	17	8.9
Polyp Shape		
Sessile	100	52.1
Pedunculated	10	5.2
Semi-Pedunculated	6	3.1
Not mentioned	76	39.6
Polyp tissue type		
Hyperplasia	95	49.5
Dysplasia	21	10.9
Adenomatous	68	35.4
Not mentioned	8	4.2
Polyp location		
Ascending	62	32.3
Transverse, Descending, Sigmoid, Recto-sigmoid	130	67.7

Table 1: Polyp Characteristics and Frequencies of 192 Hispanic Patients Undergoing First-Time Screening Colonoscopy.

men from seeing their physicians, but for our study, the lack of male patients resulted in more men having screening colonoscopies that showed high risk polyps.

The findings of this study may have important implications for determining the preferred CRC screening modality among Hispanic individuals. Given the increased number of right-sided polyps and their tendency to have neoplastic-prone features, a full structural endoscopic examination using colonoscopy may be favored over other CRC screening tests. In addition, our findings may support the development of programs that will educate patients on the importance of endoscopic surveillance in those individuals with previously detected adenomas. In conclusion, asymptomatic Hispanic patients who undergo age-appropriate CRC screening have a high risk of polyps with malignant features and eventually progression to cancer. There is a continued need for timely screening colonoscopies and more emphasis may need to be placed on this population given their risk of progression to CRC. More data regarding colon polyp characteristics, risk factors, and surveillance of detected polyps with malignant features will need to be obtained in the future.

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