The Burden of CRC Among US Hispanics: More Polyps, Less Cancer

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The disease burden for colorectal cancer (CRC) varies considerably according to race and ethnicity. In the USA, African-Americans (AA) have the highest incidence of CRC and the lowest survival rates compared to other racial/ethnic groups; Hispanics are diagnosed at later stages and have inferior survival compared to non-Hispanic whites [1]. Various factors, including adherence to CRC screening guidelines, are thought to contribute to the racial/ethnic differences in CRC incidence and mortality [2]. CRC is the second most commonly diagnosed cancer in US Hispanics. In Puerto Rico, CRC is the most diagnosed cancer when taking into account both men and women. Despite evidence that the overall CRC incidence rates have decreased, data from the National Cancer Institute's Surveillance, Epidemiology, and End Results Program (SEER; <http://seer.cancer.gov>) show that Hispanic subgroups had increasing CRC incidence rates during 1992–2013. Moreover, CRC incidence rates across Hispanic subgroups vary, with Caribbean and South American Hispanics having higher CRC incidence rates than Central American Hispanics [3].

In this issue of *Digestive Diseases and Sciences*, the authors reported the prevalence of colorectal adenomas in a prospective cohort of US Hispanics undergoing screening colonoscopies in their catchment area [4]. Among the cohort examined, 30.6% had at least one adenoma, 23.5% had proximal adenomas, 12.0% had advanced adenomas, and 8.9% had proximal, advanced adenomas, with no significant differences across the Hispanic subpopulations

(Puerto Ricans and Dominicans). Previous studies have reported similar adenoma rates for US Hispanics [5]. Nonetheless, despite a similar prevalence of adenomas between US Hispanics and non-Hispanic whites, CRC incidence rates remain lower among US Hispanics compared to US non-Hispanic whites and non-Hispanic blacks. This unexplained discrepancy between adenoma prevalence rates and CRC incidence suggests that unknown genetic/environmental factors may modify the adenoma-carcinoma sequence among US Hispanics. Furthermore, incidence and mortality rates for CRC among US Hispanics are higher than the rates observed in their native countries, suggesting that environmental factors associated with acculturation to the USA may contribute to this increased risk [6].

In the current investigation by Chablani et al. [4], most of the US Hispanics in their cohort were of Puerto Rican and Dominican descent. Thus, their findings may be more applicable to US Hispanics from the Caribbean and may not represent the prevalence of adenomas among other US Hispanic subgroups. CRC incidence rates differ across US Hispanic subpopulations. For example, Hispanics of Puerto Rican and Cuban descent have been reported to have higher CRC incidence rates compared to Hispanics of Mexican descent [6]. Similarly, disparities in CRC mortality rates have also been observed among US Hispanics living in Florida, with higher mortality rates among men of Puerto Rican descent compared to men of Cuban and Mexican descent [7]. Differences in adenoma prevalence rates have also been observed among Hispanics living in Puerto Rico compared to those living in the USA, with higher rates of adenomas among Puerto Ricans in the USA [8]. Another important finding reported by Chablani et al. [4] was the high prevalence of proximal neoplasia observed among Hispanics of Puerto Rican and Dominican descent,

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which have been previously reported in other studies with Caribbean Hispanics. This finding underscores the importance of using CRC screening modalities with high sensitivity for proximal colon among US Hispanic subgroups.

The differences observed in CRC incidence and mortality rates across US Hispanic subgroups may be associated with multiple factors including genetic, environmental, and acculturation/migration patterns. Hispanics trace their origins to Amerindian, European, and African populations, which may contribute genetic and environmental influences that affect the observed CRC incidence trends among US Hispanics. In terms of genetic predisposition to CRC, 20–30% of US Hispanics of Puerto Rican descent have African genetic ancestry which is associated with increased risk of colorectal adenomas [9], in contrast to other Hispanic groups where there is a predominance of Amerindian ancestry. Thus, having higher rates of African genomic admixture may increase the baseline CRC risk observed in US Hispanics of Caribbean descent. Data obtained from SEER regarding ethnicity are limited by the fact that Hispanics self-report their ethnicity and that there are limited data on Hispanic subpopulations. US Hispanics are a very heterogeneous population with diverse genetic admixture and acculturation rates. Combining diverse Hispanic subpopulations may dilute the observed CRC incidence and mortality rates, thereby contributing to the discrepancy between high prevalence of colorectal adenomas and lower incidence in CRC rates among US Hispanics.

The manuscript by Chablani et al. [4] adds to the accumulating body of evidence reporting that rates for colorectal adenomas among US Hispanics are comparable to rates among US non-Hispanic whites. This paper highlights the high burden of premalignant colorectal cancer lesions among US Hispanics, which supports the utilization of the current US Preventive Services task force screening guidelines for this population. The reported high colorectal adenoma rates among US Hispanics contrast the lower CRC incidence rates among US Hispanics compared to non-Hispanic whites. The question remains, whether this inconsistency between the rates of colonic adenomas and CRC among US Hispanics is a result of biological/environmental disparities or a result of the classification system used by US cancer registries. US Hispanics currently comprise 17.1% of the US population, a percentage expected to increase to 25% by the year 2050 [10]. Currently, US national cancer registries do not classify individuals into their corresponding Hispanic subpopulations (i.e., Caribbean, Central American); therefore, US Hispanics represent a heterogeneous population with variable degrees of admixture and acculturation. This ultimately limits the evaluation of epidemiological trends among US Hispanics and dilutes important cancer disparities that

would otherwise be identified if a classification system incorporating Hispanic subpopulations were incorporated. The National Institutes of Health has recently modified the form for reporting human subjects to include mixed races (such as Hispanics), a step in the right direction toward improving the classification of US populations. The challenge for US cancer registries is to develop methods to improve classification of admixed populations, which will ultimately improve our understanding of cancer disparities and will guide future research and health policy efforts.

Summary of Study Findings

- Prospective assessment of colorectal neoplasia among a US Hispanic screening cohort with the evaluation of socio-demographic and sociocultural variables.
- High colorectal adenoma burden among US Hispanics of Puerto Rican and Dominican descent; this finding is in contrast with the lower CRC incidence rates among US Hispanics compared to non-Hispanic whites.
- Male gender and increasing age were associated with increased rates of colorectal adenomas.
- High prevalence of proximal colonic neoplasia observed among US Hispanics of Puerto Rican and Dominican descent, similar to US non-Hispanic blacks.
- No differences in the colorectal neoplasia burden were observed between the US Hispanic subpopulations examined (Puerto Rican and Dominican).
- No differences in the colorectal neoplasia burden according to acculturation rates or age at immigration were observed.

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