Racial and Ethnic Disparities in Early-Onset Colorectal Cancer Survival

Abstract 895

Introduction: Young adults diagnosed with colorectal cancer (CRC) comprise a growing, yet understudied, patient population. Few studies have examined disparities in cancer survival in diverse populations of patients with early-onset CRC, particularly Asian and Hispanic patients. We estimated five-year relative survival of early-onset CRC and examined disparities by race and ethnicity in a population-based sample.

Methods: We used the National Cancer Institute's Surveillance, Epidemiology, and End Results program of cancer registries to identify persons newly diagnosed with early-onset CRC (age 20-49 years) between January 1, 1992, and December 31, 2013. For each racial and ethnic group (non-Hispanic White, non-Hispanic Black, non-Hispanic Asian or Pacific Islander, Hispanic), we estimated five-year relative survival, overall and by sex, tumor site, and stage at diagnosis. To illustrate temporal trends, we compared five-year relative survival in 1992 – 2002 vs. 2003 – 2013. We also used Cox proportional hazards regression models to examine the association of race and ethnicity and all-cause mortality, adjusting for age at diagnosis, sex, tumor site, and stage at diagnosis.

Results: We identified 33,777 persons newly diagnosed with early-onset CRC (58.5% White, 14.0% Black, 13.0% Asian, 14.5% Hispanic). Five-year relative survival ranged from 57.6% (Black) to 69.1% (White) (Image 1). Relative survival improved from 1992 – 2002 to 2003 – 2013 for Whites only (Image 2), and there was no improvement for Blacks, Asians, or Hispanics. Notably, survival for Blacks diagnosed in 2003 – 2013 (59.3%, 95% CI 57.3, 61.3) was lower than survival for Whites diagnosed in 1992 – 2002 (66.6%, 95% CI 65.6, 67.6). This pattern was similar by sex, tumor site, and stage at diagnosis. For example, survival was lowest for Black men (56.5%, 95% CI 54.4, 58.6) and highest for White women (70.6%, 95% CI 69.6, 71.5); lowest for Blacks with proximal colon tumors (55.3%, 95% CI 52.8, 57.7) and highest for Whites with rectal tumors (72.2%, 95% CI 71.2, 73.2); and lowest for Blacks with distant stage disease (13.1%, 95% CI 11.4, 15.0). Racial and ethnic disparities remained even for local stage disease (White: 94.2%, 95% CI 93.6, 94.8 vs. Black: 89.2%, 95% CI 87.3, 90.9). In adjusted analysis, being Black (aHR 1.42, 95% CI 1.36, 1.49), Asian (aHR 1.06, 95% CI 1.01, 1.12), or Hispanic (aHR 1.16, 95% CI 1.10, 1.21) was associated with all- cause mortality.

Discussion: Our study adds to the well-documented disparities in CRC in older adults by demonstrating persistent racial and ethnic disparities in relative survival and all-cause mortality in patients with early-onset CRC. Future efforts must address social determinants of health and diagnostic and treatment differences contributing to these inequities. Findings may also inform future studies on interventions to address disparities.

	White	Black	Asian/Pacific Islander	Hispanic
Overall	69.1 (68.4 to 69.7)	57.6 (56.2 to 59.1)	66.5 (65.0 to 67.9)	63.1 (61.7 to 64.5)
Sex				
Male	67.8 (66.9 to 68.7)	56.5 (54.4 to 58.6)	65.7 (63.6 to 67.6)	61.7 (59.7 to 63.7)
Female	70.6 (69.6 to 71.5)	58.8 (56.7 to 60.8)	67.3 (65.2 to 69.3)	64.7 (62.6 to 66.6)
Tumor site				
Proximal Colon	66.1 (64.8 to 67.3)	55.3 (52.8 to 57.7)	65.2 (61.9 to 68.2)	65.4 (62.7 to 68.0)
Distal Colon	69.8 (68.5 to 71.0)	59.0 (56.2 to 61.7)	65.1 (62.5 to 67.6)	63.6 (61.0 to 66.1)
Rectum	72.2 (71.2 to 73.2)	61.3 (58.8 to 63.8)	69.3 (67.1 to 71.3)	63.5 (61.2 to 65.7)
Stage at diagnosis				
Local	94.2 (93.6 to 94.8)	89.2 (87.3 to 90.9)	94.4 (93.0 to 95.6)	90.9 (89.2 to 92.3)
Regional	76.8 (75.8 to 77.8)	66.1 (63.7 to 68.4)	72.5 (70.3 to 74.6)	72.4 (70.2 to 74.5)
Distant	19.7 (18.5 to 20.8)	13.1 (11.4 to 15.0)	16.1 (13.9 to 18.5)	17.0 (14.9 to 19.2)

Image 1. Five-year relative survival (including 95% confidence interval) of colorectal cancer (age 20-49 years) by race/ethnicity, overall and by sex, anatomic subsite, and stage at diagnosis, SEER 13, 1992 – 2013

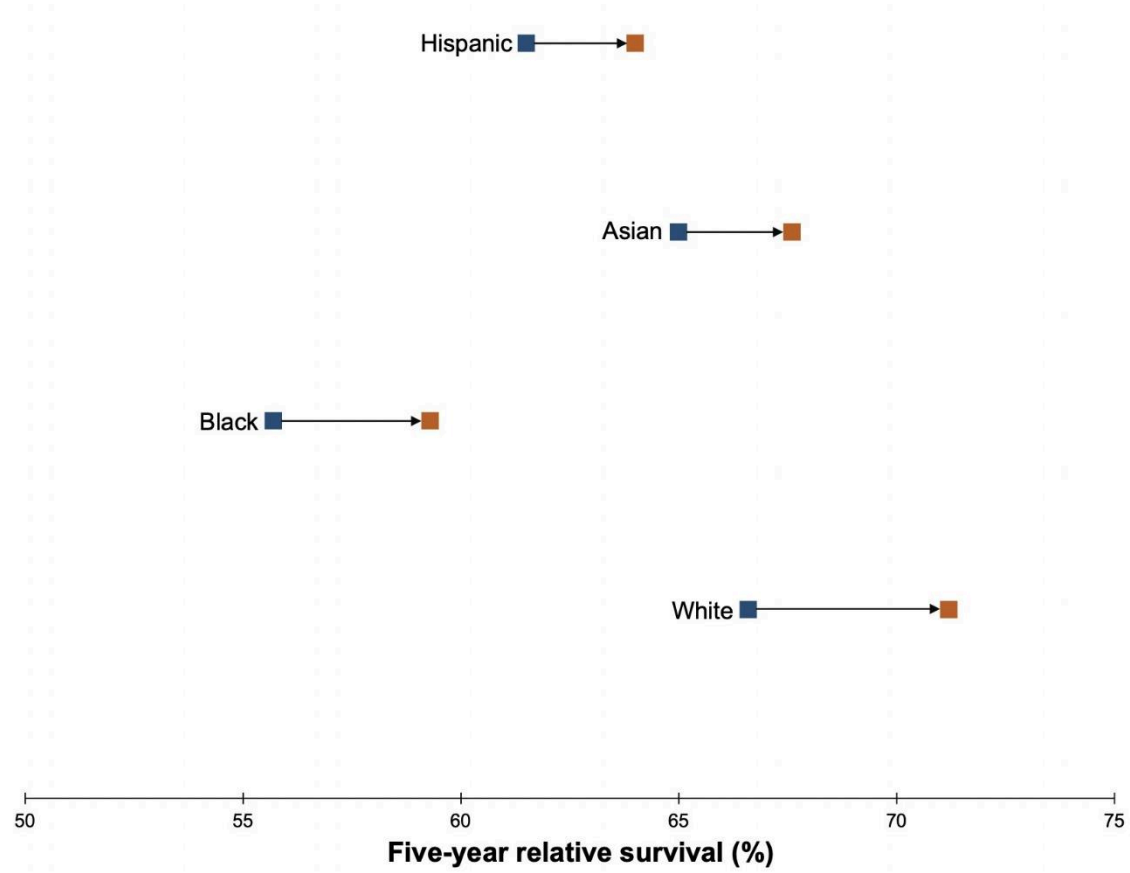

Image 2. Five-year relative survival of colorectal cancer (age 20-49 years) by race/ethnicity, shown as the rate over the period 1992 – 2002 [blue ■] compared with the period 2003 – 2013 [red ■], SEER 13