Effect of comorbidity and body mass index on the survival of African-American and Caucasian patients with colon cancer.

BACKGROUND: There is a survival disparity between African Americans and Caucasians who have colon cancer. The objectives of the current study were to quantify the impact of comorbidity and body mass index (BMI) on survival and to assess whether these 2 variables account for the decreased survival among African Americans.

METHODS: Data from patients (n=496) who underwent surgery for a first primary colon cancer at the University of Alabama at Birmingham Hospital from 1981 to 2002 were analyzed. Hazard ratios (HRs) with 95% confidence intervals (CI) were obtained using Cox proportional hazards models for the association of race, comorbidity, BMI, and covariates with all-cause mortality. The confounding influence of comorbidity and BMI for the increased risk of death associated with African-American race was evaluated, and effect modification by disease stage for the association of comorbidity and BMI with mortality also was assessed.

RESULTS: African Americans experienced an increased risk of death compared with Caucasians (HR, 1.34; 95% CI, 1.06-1.68). The highest comorbidity burden was associated with an increased risk of all-cause mortality (HR, 1.63; 95% CI, 1.24-2.15). For BMI, being underweight increased the risk of death (HR, 1.54; 95% CI, 0.96-2.45); however, being overweight/obese was protective (HR, 0.77; 95% CI, 0.61-0.97). The effect of comorbidity was observed among those
with early stage tumors, whereas the effect of BMI was confined to patients who had advanced tumors.

**CONCLUSIONS:** Although comorbidity and BMI had an impact on the survival of patients with colon cancer after surgery, these variables were not contributing factors to the decreased survival observed among African Americans.

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