

High weight associated with risk of colorectal tumors without microsatellite instability

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The increased risk of colorectal cancer associated with obesity may be largely restricted to tumors that have no or low microsatellite instability (MSI), a common condition in most colorectal cancers, according to a new study published online March 8 in the *Journal of the National Cancer Institute*.

This study was undertaken because little is known about the associations between [body mass index](#) and adult weight gain and the risk of colorectal [cancer](#) overall and by tumor MSI status.

Peter T. Campbell, Ph.D., of the Epidemiology Research Program at the American Cancer Society in Atlanta, and colleagues performed a case-control study of subjects with incident colorectal cancer and their unaffected sex-matched siblings to evaluate associations between being overweight or obese (defined according to body mass index) and adult weight change and colorectal cancer risk. They evaluated the associations with cancer risk, overall and by tumor MSI status, assessed at up to 10 markers for microsatellite stability. Patients that are diagnosed with tumors that are microsatellite-stable or MSI-low have lower 5-year survival rates than patients with tumors that are MSI-high.

Recent body mass index (people over 30 kg/m² or more, the cut off for obesity) was positively associated with overall risk of colorectal cancer for men and women combined. It was also associated with risk of MS-stable and MSI-low colorectal tumors, but not with the risk of MSI-high tumors.

"Our data also suggest that the associations between [body mass index] and adult weight gain and the risk of colorectal cancer differ between MS-stable and MSI-high tumors... suggesting differing underlying etiologies for [colorectal cancer](#) according to tumor MSI," the authors write.

In an accompanying editorial, Shuji Ogino, M.D., Ph.D, of the Department of [Medical Oncology](#) at the Dana-Farber Cancer Institute, and Harvard Medical School in Boston, and Meir Stampfer, M.D., of the Departments of Epidemiology and Nutrition at the Harvard School of Public Health, in Boston, said that this type of approach (the convergence of traditional epidemiology and traditional pathology research) will continue to provide useful insights on carcinogenic processes, specifically our understanding of how particular exposures influence carcinogenesis.

The editorialists write: "...These molecular pathological epidemiology data imply that molecular markers (such as MSI) can be used to classify colorectal cancers into distinct subtypes, which have implications for both etiology and prevention."

Provided by Journal of the National Cancer Institute

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