

# Increased colorectal cancer risk for extended family members, younger endometrial cancer patients

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Women under age 50 who have been diagnosed with endometrial cancer, and first, second and third degree relatives of patients with colorectal cancer may have an increased risk of developing colorectal cancer (CRC), according to two separate studies unveiled today at the American College of Gastroenterology's (ACG) 77th Annual Scientific meeting in Las Vegas. Two other CRC-related studies presented at ACG 2012 investigated the impact of gender, race and obesity on the incidence of adenoma and advanced adenoma detection rates—suggesting that overweight African American and Hispanic men may be at greater risk for precancerous polyps which if not detected early enough could lead to colorectal cancer.

## Highlights of Colorectal Cancer Research from the ACG Annual Scientific Meeting

### "Risk of Colorectal Cancer after Diagnosis of Endometrial Cancers: A Population-Based Study"

Women diagnosed with [endometrial cancer](#) under age 50 had a "marked [increased risk](#)" of being diagnosed with colorectal [cancer](#) in a historical cohort study by researchers at the University of Manitoba who linked several large longitudinal databases routinely collected in Manitoba, including the Manitoba Cancer Registry and some of Manitoba Health databases. The researchers followed 3,115 women diagnosed with

endometrial cancer between 1987 and 2008 and 15,084 age-matched controls up to December 2009.

Women younger than 50 in the cohort at the time of diagnosis of endometrial cancer had an approximately four -fold increased risk of being subsequently diagnosed with colorectal cancer as compared to the age matched women in the general population. The risk was even higher (seven fold higher) for colorectal cancers occurring in the upper part of the colon (right colon). There was no increased risk for colorectal cancer among women diagnosed with endometrial cancer, when they were 50 years old or older.

Endometrial cancer is a cancer that starts in the inner lining of the womb (uterus) called the [endometrium](#). In the U.S., endometrial cancer is the most common cancer found in women's reproductive organs. The chance of a woman having this cancer during her lifetime is about one in 38, according to the American Cancer Society.

"This study suggests there is an increased risk of colorectal cancer after a diagnosis of endometrial cancer among young women," said co-investigator Dr. Harminder Singh. He said, therefore these patients need close follow-up particularly for [colorectal cancers](#) occurring in the upper part (right-side) of the colon. "Colorectal cancer screening should start at a younger age in such women."

### **"Elevated Risk of Colorectal Cancer in Relatives of Patients with Colorectal Cancer: A Population-Based Study in Utah"**

In the first population-based assessment of the risk of colorectal cancer in extended family members of patients with CRC, researchers from the Huntsman Cancer Institute in Salt Lake City, UT reported that first, second and third degree relatives of individuals with colorectal cancer had an increased risk of developing CRC themselves—with the strength

of the association based on the degree of kinship, according to lead investigator, Niloy Jewel Samadder, M.D.

The "degree of kinship" describes the proportion of genes shared by two blood relatives. A person's first-degree relative is a parent, sibling, or child. A first degree relative shares about half of their genes with the person. A second degree relative of a person is an uncle, aunt, nephew, niece, grandparent, grandchild or half- sibling. A second degree relative shares about one quarter of their genes with the person; while a third degree relative of a person is a first cousin, great-grandparent or great-grandchild. A third degree relative shares about one eighth of their genes with the person.

"This study has resolved many of the issues confounded in previous studies where reliance on patient recall regarding family history and lack of verification of reported colorectal cancer diagnoses have made it difficult to quantify the risk of CRC in the relatives of patients with colorectal cancer," said Dr. Samadder, noting that the "biggest strength" of the study is its design.

The retrospective case-control study included 126,936 Utah residents between 50 and 80 years old who underwent colonoscopy between February 15, 1995 and January 31, 2009 at Intermountain Healthcare of University of Utah Health System—with 3,804 of these patients diagnosed with CRC—and defined as the case population. For each case, 1 randomly selected age-and –sex-matched control was selected from the population who had CRC-free colonoscopy. Researchers confirmed family relationships through the Utah population database and CRC diagnosis through the Utah Cancer Registry. The results showed that first degree relatives of individuals with colorectal cancer had an 80 percent increased risk for CRC; second degree relatives had an increased risk of 30 percent and third degree relatives had an increased risk of 15 percent.

"Our data support the current CRC screening guidelines and raise the question of whether such screening should be extended to first-degree relatives of patients with CRC diagnosed at or above age 60," said Dr. Samadder, adding that the results, "further support a genetic basis of inheritance for CRC over shared environmental factors."

A key message from the study is that "the risk for colorectal cancer doesn't stop at our first-degree relatives," noted Dr. Samadder. He urged patients to be aware of their extended family histories and encouraged physicians to look beyond a patient's parents and grandparents when assessing colorectal cancer risk.

### **"Impact of BMI and Gender on Advanced Adenoma Detection Rates in Minority Populations"**

Body mass index (BMI) seems to have a linear association with advanced adenoma detection rates (ADR) in an African American and Hispanic male cohort, where a trend towards higher right-sided advanced adenomas is also seen in this study group, according to researchers from The Brooklyn Hospital Center.

Adenomas are a type of colon polyp that is considered a precursor for invasive colorectal cancer (CRC) which is the third most commonly diagnosed cancer and the second leading cause of cancer death in both men and women in the U.S., according to the [American Cancer Society](#). It is estimated that there will be 143,460 new cases diagnosed in the United States in 2012 and 51,690 deaths due to this disease.

The study included 895 subjects with a mean age of 73 years and a higher proportion of females compared to males. African Americans made up 74 percent of the group and 26 percent were Hispanic. The study subjects were divided into five groups based on BMI, according to co-investigator Shashideep Singhal, M.D., who noted that males showed

a progressive linear incremental trend in ADR with an increase in BMI. Total ADR was 14%, 12.9%, 13.9% and 16.3 % in Groups 1-4 with no statistical differences. Group 5 was excluded from analysis due to small sample size. The incidence of right-sided advanced adenomas was also higher with increasing BMI (60%, 60%, 64.3% and 71.4% in Groups 1-4 respectively). However, this trend was not seen in women in this cohort.

"The study shows that the higher the BMI the higher the [adenoma](#) detection rate and that African American and [Hispanic men](#) in this study group have the greatest risk for pre cancerous polyps which if not detected early could lead to colorectal cancer," said Dr. Singhal." He said that while these findings need to be confirmed with larger studies, they may have useful implications for designing preventive strategies in high-risk populations—specifically identifying patients who are at high risk and increasing colonoscopy screening intervals in these patients who are at increased risk for CRC.

When detected early, polyps can be removed during a colonoscopy exam, preventing the development of colorectal cancer. This ability to prevent colorectal cancer through polyp removal is the cornerstone of the [American College of Gastroenterology's 2009 screening guideline](#) which recommends colonoscopy as a "preferred" colorectal cancer prevention strategy. The ACG also recommends African Americans undergo CRC screening at age 45 due to increased CRC risk factors. A tremendous body of evidence shows that clearing the colon of polyps, including small polyps, significantly reduces colorectal cancer mortality. When detected in its earliest and most treatable stage, the survival rates for colorectal cancer exceed 90 percent.

### **"Gender Specific Prevalence of Adenomas, Advanced Adenomas and Colorectal Cancer in Patients Undergoing Screening Colonoscopy"**

Researchers from The University of Texas Medical Branch collected colonoscopy data retrospectively from a university-based hospital and included all average risk screening colonoscopies performed between 2006 and 2011 to determine and compare the prevalence and numbers needed to screen for adenomas, advanced adenomas and colorectal cancer in different age groups among men and women. Of the 2388 patients included in the study, 51 % were women.

Overall, men in the study group had a significantly higher prevalence of adenomas (32% vs. 23%) and advanced adenomas (8% vs. 5%) compared to women and the prevalence of CRC was higher in men, but did not reach statistical significance, according to co-investigator Dr. Praveen Guturu, MD.

When the data was broken down between different age groups, the prevalence of adenomas in the 50-59 year age group was significantly higher in men compared to women (29% vs. 19%). But there was no statistically significant difference in the prevalence of adenomas and advanced adenomas among men in the 60-69 age group and over 70 group, when compared to women. "Our study suggests that men might develop advanced colon polyps at an earlier age compared to women and this information will help us design appropriate screening and surveillance guidelines in future," said Dr Guturu.

Provided by American College of Gastroenterology

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