Preventive Medicine: Colorectal Cancer

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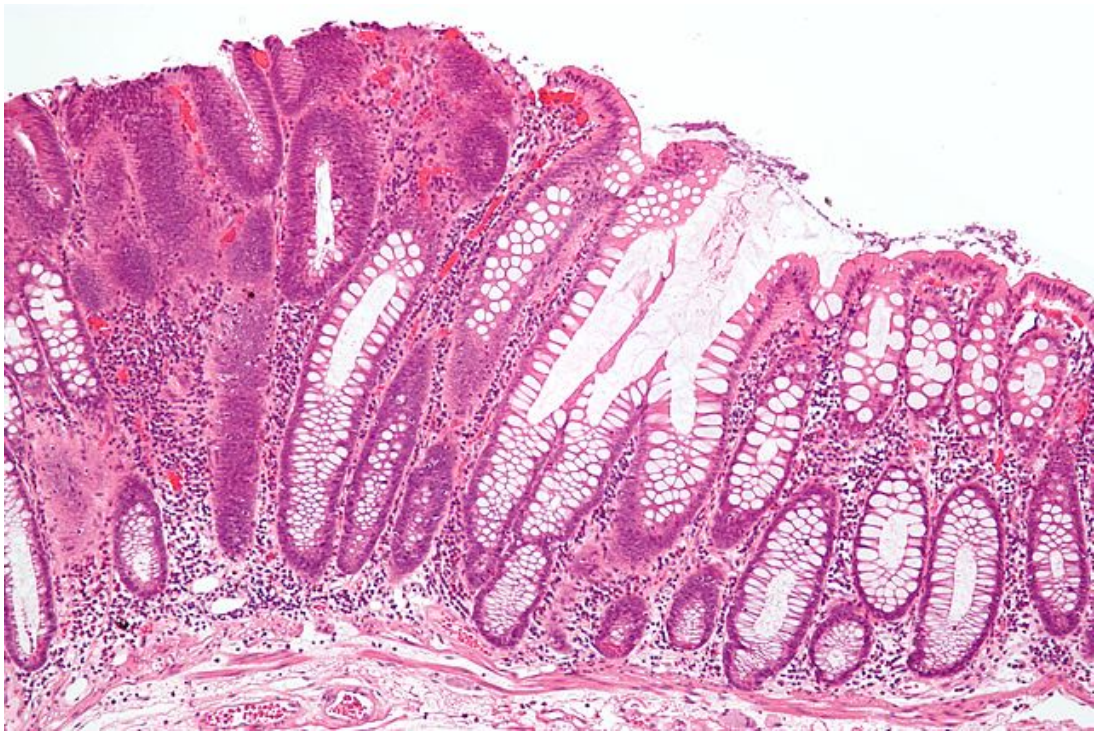
Colorectal cancer (CRC) is the third most regular cancer growth among inhabitants in the United States, and it is the second most frequent cause of death. There have been around 50,000 deaths from CRC in the year 2014 alone. However, the mortality rates have declined since then, owing to the screening test measure for early detection and treatment, and prevention through polypectomy. There are certain risk factors associated with CRC which is modifiable such as smoking, obesity, alcohol, and low-fiber, high-fat diet.



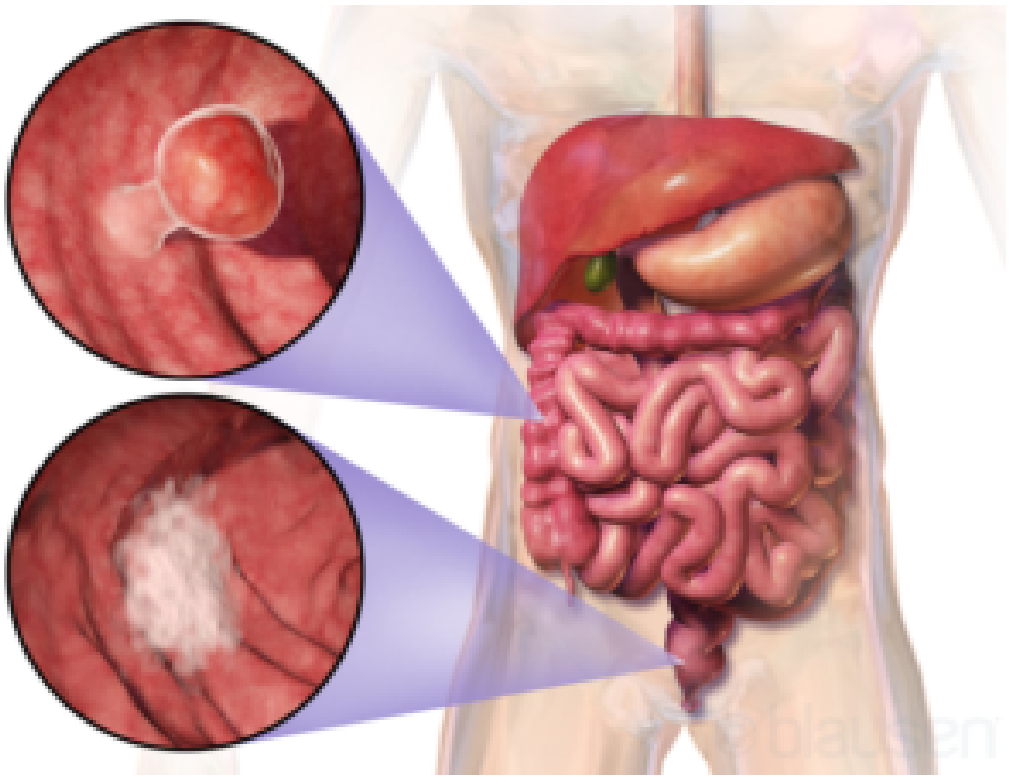
Introduction

Colorectal cancer (CRC) is considered a common and serious lethal disease, especially in first degree relatives, with low incidence before age 40, but this incidence increases progressively to about 3.7/ per 1000 per year by age 80. Early removal of premalignant adenomas can prevent the development of malignant cancer and CRC-related death.

Modern screening tests can meet this goal as they can detect early-stage adenocarcinomas and adenomatous polyps. Adults beyond 50 years old are more likely to have adenomatous polyps which are related to higher chances of having a colorectal tumor. The survival rate on account of CRC is as per the following:

- If CRC is diagnosed while it is as yet limited to the bowel walls, the survival rate is 90 percent.

- 68% if there is lymph node involvement but no metastasis.
- 10% in the case of distant metastasis.



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Epidemiology of CRC

CRC is considered the second most common cancer in women and the third most common cancer in men, accounting for 9% of cancer deaths overall. About 1 of each 3 people who develop the disease die because of its complications and metastasis.
The lifetime incidence increases from 5% in a patient with low risk to 90 %of occurring after age 50. Women who are at increased risk of developing CRC include individuals who have:

A personal history of the following:

- Colorectal cancer
- Adenomatous polyps

A family history of the following:

- Adenomatous polyps or colorectal cancer in one or more first-degree relatives
- Colorectal cancer in 2 or more second-degree relatives

Women who are at high risk of developing CRC include individuals who have a personal history of inflammatory bowel diseases, such as chronic ulcerative colitis or Crohn´s disease of significant duration. Also, if they have a personal or family history of familial adenomatous polyposis (FAP) or hereditary non-polyposis colon cancer (HNPCC, or Lynch Syndrome). Women with HNPCC are also at risk for endometrial, ovarian, and other related cancers.

Lifestyle factors associated with CRC:

- Smoking
- Lack of physical activity and regular exercise
- Alcohol intake
- Red and processed meats
- Obesity

When to screen and for how long

The screening for CRC ought to start at 50 years old; 45 in the case of black adults. As per The U.S. Preventive Services Task Force (USPSTF) recommendations, this screening should continue until the age of 75. However, after the age of 75 years, screening is not usually recommended. To screen or not to screen becomes an individualized decision after the age of 75 years. The decision is based on the overall health of the patient and prior to screening.

Screening tests are of following two types

- Tests for cancer prevention
- Tests for cancer detection

Cancer prevention tests are preferred over cancer detection tests for obvious reasons.

Screening Tests

Following three categories of individuals probably benefit more from the screening tests:

- Adults with no past screening history
- Individuals who are capable of receiving cancer treatment if diagnosed as a CRC case.
- Individuals who are free of life-limiting conditions.

American Academy of Family Physicians (AAFP) recommendations:

The AAFP suggests screening for colorectal cancerous growth at 50 years. The screening should continue for as long as 75 years of age. The proposed tests for screening purpose are fecal immunochemical tests, flexible sigmoidoscopy, and colonoscopy.

The dangers, advantages, and strength of the supporting confirmation of various screening techniques differ.

The decision for screening in the age group 76-85 years is an individual one. The general health of the patient and past screening history are considered before settling on screening choice.

The American Academy of Family Physicians does not recommend screening for CRC in older adults after the age of 85 years.

U.S. Preventive Services Task Force (USPSTF) recommendations:

USPSTF rules for colorectal disease screening are the ones given by the American Academy of Family Physicians. The guidelines also include screening tests for colorectal cancer screening.

The Stool-based screening tests have various intervals involved. A guaiac-based fecal occult blood test is used for screening purpose at an interval of one year. The fecal immunochemical test is repeated every year. Multitarget stool DNA test with a fecal

immunochemical test is recommended every 1 or 3 years

The direct visualization screening tests involve colonoscopy, which is recommended every 10 years for screening purpose. Computed tomographic colonography and Flexible sigmoidoscopy are repeated every 5 years. Flexible sigmoidoscopy with the fecal immunochemical test is recommended based on repeating the procedure every 10 years for Flexible sigmoidoscopy and 1 year for FIT.

American College of Gastroenterology (ACG) recommendations

ACG recommendations contrast between the screening tests and the identification tests for CRC. Specific ACG guidelines are given below.

- Tests used for cancer prevention are preferred over diagnostic tests.
- Screening tests ought to start at age 50; at age 45 in the case of African Americans. The preferred test is colonoscopy at an interval of every 10 years.
- If the patient refuses colonoscopy and other screening tests, he should be suggested yearly fecal immunochemical test (FIT).

According to ACG recommendations, taking after two classifications of individuals ought to experience colonoscopy starting at age 40 and to repeat every 5 years:

1. People who have at least one first-degree relative with a history of advanced adenoma or CRC diagnosed before 60 years.
2. Individuals who have two first-degree relatives diagnosed with advanced adenoma or CRC

Interval for following colonoscopy results

- Cases of villous adenoma and high-grade dysplasia should have a follow up every three years.
- Dysplasia in sessile serrated polyp has a three-year follow-up period.
- Large serrated adenoma should have follow-up colonoscopy every 5-10 years
- Individuals with more than ten adenomas ought to have a colonoscopy before three years of the last follow-up.
- In the case of status post, piecemeal resection of large adenoma follow-up is recommended within less than a year.
- Status post curative resection of large CRC cases should undergo follow-up 3 and 5 years after the resection.

References

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