International Research Journal of Education and Technology
Peer Reviewed Journal
ISSN 2581-7795

Understanding Types of Colorectal Cancer: Causes and Treatment Methods

Mr. Sugreev Chauhan, Asst Professor, Hind Institute of Medical Sciences, Sitapur.

Introduction

Colorectal cancer, also known as bowel cancer, is a widespread form of cancer that affects the colon or rectum. It is a major health concern worldwide, accounting for a significant number of cancer-related deaths. This article aims to shed light on the various types of colorectal cancer, their causes, and the treatment methods available to combat this disease.

Types of Colorectal Cancer:

1. Adenocarcinomas: Adenocarcinomas are the most common type of colorectal cancer, accounting for approximately 95% of cases. These cancers originate from the cells that line the colon and rectum. Adenocarcinomas tend to develop slowly over several years, starting as small growths called polyps.
2. Carcinoid Tumors: Carcinoid tumors are rare, accounting for only 1-2% of colorectal cancer cases. These tumors arise from hormone-producing cells in the intestine. While most carcinoid tumors are non-cancerous (benign), some can become cancerous (malignant) and spread to other parts of the body.

3. Gastrointestinal Stromal Tumors (GISTs): GISTs are rare tumors that can occur in the colon or rectum. These tumors develop from specialized cells in the wall of the gastrointestinal tract. GISTs can be both benign or malignant, and their treatment options may differ based on their malignant potential.

Causes of Colorectal Cancer:

1. Age: The risk of developing colorectal cancer increases with age. Most cases are diagnosed in individuals over the age of 50, but it can occur at any age.
2. Family History and Genetics: A family history of colorectal cancer or certain genetic mutations, such as Lynch syndrome or familial adenomatous polyposis (FAP), can significantly increase the risk of developing this cancer.
3. Lifestyle Factors: Certain lifestyle choices can contribute to the development of colorectal cancer. These include a diet high in red and processed meats, low fiber intake, sedentary lifestyle, obesity, smoking, and excessive alcohol consumption.
4. Inflammatory Bowel Disease (IBD): Individuals with long-standing inflammatory bowel diseases, such as ulcerative colitis or Crohn's disease, have a higher risk of developing colorectal cancer.

5. Personal Medical History: A history of colorectal polyps, previous colorectal cancer, or certain other cancers (such as ovarian, endometrial, or breast) can increase the risk of developing colorectal cancer.

Treatment Methods:

1. Surgery: Surgical removal of the tumor and surrounding tissues is the primary treatment for colorectal cancer. The extent of surgery depends on the stage and location of the cancer. In some cases, a colostomy or ileostomy may be necessary to redirect the flow of waste.
2. Radiation Therapy: Radiation therapy uses high-energy X-rays or other radiation sources to destroy cancer cells. It is often used before or after surgery to shrink tumors, kill remaining cancer cells, or relieve symptoms in advanced cases.
3. Chemotherapy: Chemotherapy involves the use of drugs to destroy cancer cells. It can be administered before surgery (neoadjuvant), after surgery (adjuvant), or in cases of advanced or metastatic cancer. Chemotherapy may be combined with radiation therapy (chemoradiotherapy) for enhanced effectiveness.
4. Targeted Therapy: Targeted therapies aim to specifically target cancer cells, blocking their growth and spread. These therapies often work by interfering with specific molecules involved in cancer growth. Targeted

therapies are commonly used for advanced colorectal cancer that has specific genetic mutations.

5. Immunotherapy: Immunotherapy harnesses the body's immune system to recognize and destroy cancer cells. It can be effective in certain cases of advanced colorectal cancer, especially those with specific immune-related biomarkers.

Conclusion: Colorectal cancer is a complex disease with various types and causes. Understanding the different types of colorectal cancer, along with their causes, is crucial for early detection, prevention, and effective treatment. With advancements in medical technology and treatment options, there is hope for improved outcomes and survival rates for individuals diagnosed with colorectal cancer. Regular screenings, a healthy lifestyle, and awareness of risk factors can play a significant role in reducing the burden of this disease on society.

Reference

1. Siegel R, Desantis C, Jemal A. Colorectal cancer statistics, 2014. CA: a cancer journal for clinicians. 2014;64(2):104–17. doi: 10.3322/caac.21220.

2. Wei EK, Giovannucci E, Wu K, Rosner B, Fuchs CS, Willett WC, et al. Comparison of risk factors for colon and rectal cancer. International journal of cancer Journal international du cancer 2004;108(3):433-42. PMCID: 2903217. doi: 10.1002/ijc.11540.

3. Beck DE RP, Saclarides TJ, Senagore AJ, Stamos MJ, Wexner SD. The ASCRS Textbook of Colon and Rectal Surgery. Second ed. New York: Springer; 2001. 946 p.

4. Brunicardi FC AD, Billiar TR, Dunn DL, Hunter JG, Matthews JB, Pollock RE. Schwartz's Principles of Surgery. Ninth ed: McGraw-Hill; 2010. 1888 p.

5. Furey E, Jhaveri KS. Magnetic Resonance Imaging in Rectal Cancer. Magnetic resonance imaging clinics of North America. 2014;22(2):165–90. doi: 10.1016/j.mric.2014.01.004

6. GLOBOCAN 2012: Estimated Cancer Incidence, Mortality and Prevalence Worldwide in 2012: International Agency for research on Cancer. World Health Organization; 2014

7. Siegel R, Ma J, Zou Z, Jemal A. Cancer statistics, 2014. CA. 2014;64(1):9–29. doi: 10.3322/caac.21208.

8. Chan AT, Giovannucci EL. Primary prevention of colorectal cancer. Gastroenterology 2010;138(6):2029-43 e10. PMCID: 2947820. doi: 10.1053/j.gastro.2010.01.057. [

9. Imperiale TF, Ransohoff DF. Risk for colorectal cancer in persons with a family history of adenomatous polyps: a systematic review. Annals of Internal Medicine. 2012;156(10):703–9. doi: 10.7326/0003-4819-156-10-201205150-00006. [

10. Renehan AG, Tyson M, Egger M, Heller RF, Zwahlen M. Body-mass index and incidence of cancer: a systematic review and meta-analysis of prospective observational studies. Lancet. 2008;371(9612):569–78. doi: 10.1016/S0140-6736(08)60269-X. [

11. Wu K, Willett WC, Fuchs CS, Colditz GA, Giovannucci EL. Calcium intake and risk of colon cancer in women and men. Journal of the National Cancer Institute. 2002;94(6):437–46

12. Aune D, Lau R, Chan DS, Vieira R, Greenwood DC, Kampman E. et al. Dairy products and colorectal cancer risk: a systematic review and meta-analysis of cohort studies. Annals of Oncology. 2012;23(1):37–45. doi: 10.1093/annonc/mdr269