

Standardized method for measuring gastric emptying (GE) by scintigraphy.

Irwin Kiadaliri*

Department of Infectious Diseases, Orebro University Hospital and Orebro University, Orebro, Sweden

Abstract

The prevalence of the disease varies greatly around the globe and is intimately tied to aspects of a so-called "western lifestyle". Incidence is higher in men than in women, and it rises sharply with age; in developed countries, the median age of diagnosis is around 70 years. Despite its strong genetic components, most cases of colorectal cancer are sporadic, developing slowly over several years along the adenoma-carcinoma cycle. Surgery, neoadjuvant radiation, and adjuvant chemotherapy are the mainstays of treatment.

Introduction

Colorectal cancer was diagnosed occasionally a few decades ago. With about 900,000 deaths per year, it is now the world's fourth most dangerous malignancy. Aside from an ageing population and the eating habits of high-income countries, risk factors for colorectal cancer include obesity, lack of physical activity, and smoking. Pathophysiological advances have broadened the range of therapy choices for both local and advanced disease, resulting in personalised treatment strategies. Endoscopic and surgical local excision, preoperative radiation and systemic therapy down staging, extensive surgery for loco-regional and metastatic illness, local ablative therapies for metastases, and palliative chemotherapy, targeted therapy, and immunotherapy are among the treatments available. Although these novel treatment choices have increased overall survival for advanced cancer to three years, people with non-metastasized disease still have the best chance of survival. Because the disease does not become symptomatic until it is advanced, internationally organised screening programmes are being created with the goal of increasing early diagnosis and lowering colorectal cancer morbidity and death [1].

Colorectal cancer prevention strategies

Developing evidence has demonstrated that human malignancies are stem cell diseases. Malignancies, according to the cancer stem cell paradigm, arise from a small subset of cancer cells that exhibit self-renewal and pluripotency, as well as the ability to initiate and sustain tumour growth. Cancer-initiating cells, often known as "cancer stem cells," were first discovered in hematologic malignancies and, more recently, in a variety of solid tumours, including CRC. The possibility of stem cell-driven carcinogenesis in colon cancer raises the question of whether current treatments can effectively target the tumorigenic cell population responsible for tumour growth and maintenance. This review will examine many elements of stem cell biology in the context of CRC, with the goal of better

understanding the mechanisms that lead to tumour growth and therapeutic resistance. First, we'll go through what we know about normal intestinal stem cells and how recent advances in crypt biology have led to new theories on the origins of colon adenomas and malignancies. Then, we'll go over the facts and current state of colon cancer stem cells, emphasising their importance and potential for treating colorectal cancer [2].

Colorectal cancer incidence

Colorectal cancer is the second biggest cause of cancer death worldwide, and it is one of the so-called "westernised" diseases. Evidence from global epidemiological and scientific studies suggests that processed and unprocessed meat consumption increases the risk of colorectal cancer while fibre consumption decreases it, and that food composition affects colonic health and cancer risk *via* its effects on colonic microbial metabolism. Complex food residues that are resistant to breakdown by enteric enzymes can be fermented by the gut bacteria. This process provides energy to the microbiota, but it also results in the production of short-chain fatty acids like butyrate, which are used for the colon's and metabolic demand of the body [3].

Because to shifting trends in risk factors (e.g., decreased smoking) and increased screening, Colorectal Cancer (CRC) incidence rates in the United States have dropped since the mid-1980s. However, this advancement is increasingly limited to the elderly. Since the mid-1990s, CRC has been on the rise in people under the age of 50, a condition known as early-onset illness. Young patients are more likely than their older counterparts to be diagnosed at an advanced stage and with rectal disease, and they face various other particular obstacles across the cancer management continuum [4].

Older patients are more likely to have a regular source of health care; they often require a more complex treatment protocol to preserve fertility and sexual function; they are more likely to experience long-term and late effects, including

*Correspondence to: Irwin Kiadaliri. Department of Infectious Diseases, Orebro University Hospital and Orebro University, Orebro, Sweden, E-mail: kiadaliri.1295@ouh.se

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secondary cancers; and they are more likely to face medical financial hardship. Because of provider and patient-related factors, diagnosis is sometimes delayed, and clinicians must have a high threshold of suspicion if young patients present with rectal bleeding or bowel abnormalities. It is critical to educate primary care practitioners and the general public about the rising prevalence and symptoms. Increased knowledge of the criteria for early screening, which include a family history of CRC or polyps, as well as a genetic predisposition, can help reduce morbidity [4].

Conclusion

Primary care providers have a unique chance to identify high-risk young people for screening and to assess CRC symptoms quickly. Individuals with a predisposed hereditary illness or condition, as well as a family history of CRC or advanced adenomatous polyps, may benefit from risk management, focused screening, and preventative surgery. When seemingly healthy young adults report with CRC-like symptoms,

endoscopic examinations can help speed up the diagnosis. Young-onset CRC trends could be improved by early screening in high-risk individuals and complete diagnostic work-ups in symptomatic young adults.

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