Colon Cancer and Its Increasing Prevalence in Younger Populations

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Cancer is a complex disease that does not discriminate. It is estimated that by 2030, 10% of colon cancer cases and 25% of rectal cancer cases will be diagnosed in patients below age 50 (Kim & Hanna, 2023). Cancer results from unregulated proliferation and differentiation of cells. Without contact inhibition, these cells lack the ability to stop dividing and impede the cellular walls of those around them. As the cancer progresses, angiogenesis occurs, allowing the cancer cells to enter new circulation and invade surrounding tissues and lymph nodes. Colorectal cancer is increasingly impacting younger populations, warranting immediate change to raise awareness and prevent ongoing harm to public health.

Statement of the Problem

Colorectal cancer is a slow-progressing disease of the colon and rectum. Typically, this cancer presents as an adenocarcinoma, in which a premalignant adenoma becomes invasive (Lippincott Advisor, 2023). Villous adenomas in addition to colonic polyps are the most significant lesions that lead to colon cancer (Lippincott Advisor, 2024). Colonic polyps can appear in various forms, either pedunculated or sessile. Pedunculated polyps present with a stalk and project further out into the lumen of the intestine, while sessile polyps have a broad base (Lippincott Advisor, 2024). As colorectal cancer begins to progress, the dangers lie in the constriction of the intestinal lumen due to the presence of a tumor. Bowel obstruction, along with gastrointestinal bleeding and anemia are complications of the disease (Lippincott Advisor, 2023). Due to colorectal cancer’s slow advancement, a lack of knowledge allows the cancer to expand while the patient is entirely unaware. This shortcoming of the healthcare system has led colorectal cancer to become the 3rd leading cause of death in individuals less than 50 years old (Kim & Hanna, 2023). Therefore, the primary conflict remains that most individuals do not

possess the knowledge to understand what their risk factors for developing colorectal cancer are, and more importantly, how to be appropriately screened (Patel et al., 2020).

Risk Reduction/Treatment of the Problem

Risk factors of colorectal cancer include obesity, decreased activity, a low-fiber, high-fat diet, and familial history (Kim & Hanna, 2023). Another recently discovered risk factor includes changes to the gastrointestinal microbiome (Kim & Hanna, 2023). This shift in the normal flora would be attributed to the overuse of antibiotics for illnesses in which they were unnecessary. To reduce the risk of developing colorectal cancer, colonic polyps must be detected and treated (Sullivan et al., 2022). In addition, a diet with increased fiber and less saturated fats helps to regulate bowel movements and prevent waste from remaining within the colon. In addition to making lifestyle changes, the public must be screened as recommended.

Currently, only 67% of patients are up to date on colorectal cancer screening (Shaukat & Levin, 2022). After an increased incidence of this disease was recognized, the screening for colorectal cancer has been adjusted to begin at age 45 for individuals at average risk (Fabregas & George, 2022). A colonoscopy is recommended once every 10 years and stool-based testing is every 3 years (Shaukat & Levin, 2022). While the invasiveness of standard colonoscopies has driven some patients to avoid screening, new technology has led to the development of stool-based testing, blood testing, and capsule imaging (Shaukat & Levin, 2022). The newest form of screening, a blood test, detects the presence of any circulating tumor DNA (Kim & Hanna, 2023). This circulating tumor DNA is released by any tumor site and is a helpful supplemental diagnostic and treatment measuring tool (Kim & Hanna, 2023). With the use of any screening tool except the colonoscopy, there is always a risk of errors in the result. In addition, any positive result is not a primary determinant of cancer, and a follow-up colonoscopy is necessary. Once a

diagnosis is made, a patient will undergo a staging process before treatment.

Staging a tumor explains the extent of the tumor's growth. Ranging from Stage 0 to Stage 4, each level covers containment to the mucosal level of the intestinal wall all the way to metastasis. Treatment options include colorectal surgery, chemotherapy, and immunotherapy (Kim & Hanna, 2023). Colorectal surgery includes resection of the bowels, where the cancerous tumor is removed, and the healthy remainder of the bowel is anastomosed together. While the treatment options have been improving over the last several decades, there are still many postoperative complications for patients who undergo surgical treatment for their colon cancer (Sánchez-Guillén & Arroyo, 2020). These complications include anastomotic leaks, surgical site infections, intra-abdominal abscesses, and fissures (Sánchez-Guillén & Arroyo, 2020). A new additional treatment used in tandem with colorectal surgeries is immunonutrition.

Due to the large inflammatory process that results from resecting the bowels, a unique immune-enhancing nutritional supplement diet was created. This immunotherapy via nutrition includes "arginine, glutamine, nonessential fatty acids, branched-chain fatty acids, nucleotides" and other ingredients which each serve an anti-inflammatory purpose (Sánchez-Guillén & Arroyo, 2020). Any malnourished patients and those deemed a high risk for developing a post-op complication are recommended for use of this diet before and post-procedure (Sánchez-Guillén & Arroyo, 2020). Specific to colorectal cancer patients of childbearing age, reproductive endocrinologists, urologists, and psychologists must be involved in the medical management team (Kim & Hanna, 2023). These team members will be crucial to the cryopreservation process of sperm or eggs to allow for the ability to bear children if desired by the patient (Kim & Hanna, 2023). The psychosocial aspect of the diagnosis must also be considered in all populations of patients, especially those of childbearing age who were fully unaware of their disease.

A study conducted post-COVID-19 involving “young adult colorectal cancer survivors” showed almost half of the participants experienced delayed care and poor mental health (Kim & Hanna, 2023). While undergoing treatment, a patient must remain optimistic about their prognosis and future, for it has been found that depression and distress lead to a decreased quality of life, increased pain, and intractable lethargy (Antoniadis et al., 2024). Patients who do not focus on the anxiety that a cancer diagnosis brings positively impact their quality of life. (Antoniadis et al., 2024). Therefore, choosing to have a positive outlook and creating a support system is key to successfully beating this cancer.

Planning of Teaching Content

Since the COVID-19 pandemic, a decrease of 85-95% in screenings for colorectal cancer has occurred, therefore the public must focus on taking a proactive approach and being screened appropriately (Shaukat & Levin, 2022). The learner should be able to identify when screening is recommended to begin for an average-risk individual, how often it should be repeated, and why it holds significant value. The learner must also understand what risk factors can lead to a great chance of developing colorectal cancer, including diet choices, weight, activity, etc. To deliver this information, all forms of learning styles will be utilized. Audiovisual learners will benefit from verbal explanations in addition to images and written information. This text will be presented in the form of a poster and handout brochures with critical information. Kinesthetic learners will be able to feel 3-dimensional models of the colon, interact with other learners, and participate in activities.

Conclusion

All in all, colorectal cancer is a very prominent issue and requires continued research to promote earlier detection and treatment. By educating the public about their risk factors and what

they can modify to prevent the development of this cancer, they are enabled to take control of their health. It is the responsibility of the healthcare system to facilitate this instruction, which will be promoted at the community healthcare event.

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