Research on Early-Age Onset Colorectal Cancer Presented at ASCO

Here's a glimpse into some research presented at ASCO this year on early-age onset colorectal cancer.

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At this year's annual meeting of the American Society of Clinical Oncology, over 400 abstracts related to colorectal cancer (CRC) were presented. Here's a glimpse into some of the early-age onset CRC research and how biological factors such as hyperlipidemia and the presence of circulating tumor cells may influence prognosis.

Early-Age Onset CRC:

1. EAO-CRC, Infertility, and Sexual Dysfunction: The rates of early-age onset colorectal cancer (EAO-CRC), defined by the incidence of CRC in individuals under 50 years, have been increasing in the U.S. This pattern is even more concerning when considering the negative impact of CRC treatments on fertility and sexual function. Laura Diane Porter and team set out to explore the needs of EAO-CRC patients as they relate to fertility and sexual dysfunction by analyzing data from a questionnaire filled out by 884 EAO-CRC patients and survivors aged 20-50 years. Results from the questionnaire showed that 37% of women and 16% of men were left infertile after their treatments, but only 31% were referred to a reproductive endocrinologist. Additionally, more than 25% of respondents indicated they would have pursued alternate treatments had they known about the negative sexual effects of CRC treatment. These results indicate a need for providers to engage in transparent, supportive conversations with EAO-CRC patients about the impact of CRC treatment on fertility and sexual function
2. Screening Guidelines for Patients with a Family History of CRC: As the rates of EAO-CRC increase, it is important to consider whether screening guidelines (SGs) accurately aim to detect and prevent it. Currently, there are established SGs on hereditary EAO-CRC, but screening for those with non-hereditary EAO-CRC who are at an increased CRC risk due to a family history of it remains poorly studied. Researcher Y. Nancy You and team aimed to define the proportion of individuals with non-hereditary EAO-CRC who also have a family history of CRC. Additionally, they set out to determine whether SGs could have helped prevent/detect EAO-CRC in this cohort. 329 EAO-CRC patients were analyzed for familial history of CRC, defined as having a first- or second-degree relative with CRC. Results showed that 27% of these individuals had a family history of CRC, and that half of the patients were screened for and diagnosed with EAO-CRC at an age earlier than the current SGs suggest for people with a family history of EAO-CRC. This indicates that refining current SGs for individuals with a family history of CRC can potentially aid in preventing/detecting EAO-CRC.

Biological Factors:

1. Relationship Between CTCs and TILs in Patients with CRC: Circulating tumor cells (CTCs) are cells that have separated from a primary tumor to circulate in the bloodstream. The number of CTCs in the blood affects the risk and rate of metastasis, according to the abstract presented by Inna A. Novikova and team. The team wanted to investigate the association between CTCs and tumor infiltrating leukocytes (TILs), a type of immune cell that recognizes and kills cancer cells by moving from the blood into a tumor. The study included 299 patients with stage II-IV CRC. The number of CTCs in their blood was counted using a blood test, and their TILs were identified via histological processing of their tumor material. Results showed that in patients with moderate to strong lymphocytic infiltration, there was a notable absence of CTCs. Conversely, the presence of CTCs was most often seen in cases of weak lymphocytic infiltration. These results indicate that there is a relationship between CTC levels and the intensity of lymphocytic infiltration, which "can be used as a new prognostic approach."
2. Hyperlipidemia and CRC: Hyperlipidemia is a condition in which there are high levels of fat particles (lipids) in the blood. According to the abstract presented by Zahid Tarar and team, recent studies have shown that lipids play a role in tumor metastasis. Thus, the team set out to investigate the effect of hyperlipidemia in patients with a history of CRC, specifically in regard to mortality, hospital length of stay, and cost. Using the National Inpatient Sample Database for the year 2018, the team identified 34,792 patients with a history of CRC and hyperlipidemia. After conducting various analyses, the team found that patients with hyperlipidemia had lower odds of CRC-related mortality. Additionally, hyperlipidemia did not affect hospital length of stay or cost. The team postulated that statin therapy prescribed for patients with hyperlipidemia could have played a role in the lower odds of mortality seen for these patients. Thus, further research into hyperlipidemia's effects on CRC should be conducted, and future studies should look specifically into the potential protective effects of statins in relation to CRC mortality.

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