Study finds high risk of gastrointestinal cancers among childhood cancer survivors

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Survivors of childhood cancers are at an increased risk of another battle with cancer later in life, according to new research published online June 4 by the *Annals of Internal Medicine*. In the largest study to date of risk for gastrointestinal (GI) cancers among people first diagnosed with cancer before the age of 21, researchers found that childhood cancer survivors develop these malignancies at a rate nearly five times that of the general population.

While there was some preliminary evidence that childhood cancer survivors develop GI cancers more often and at an earlier age than the general population, this is the first study focused on a range of pediatric cancers with examination of detailed treatment information including chemotherapy and radiation exposures.

Researchers led by Tara Henderson, MD, MPH, assistant professor of pediatrics and director of the Childhood Cancer Survivors Center at the University of Chicago Medicine, examined 14,358 survivors of Hodgkin lymphoma, non-Hodgkin lymphoma, neuroblastoma, soft tissue sarcoma, Wilms tumor or bone cancer. They found that survivors were developing secondary GI cancers as soon as five and a half years after a primary cancer diagnosis.

"Due to advancements in therapies, we now have a burgeoning population of childhood cancer survivors," Henderson said. "Sufferers of once nearly unequivocal deadly diseases are thriving well into adulthood. Unfortunately, it appears that for some the impact of cancer therapy
along with, in some cases, inherent genetic propensity may set the stage for a second cancer diagnosis. It's an important finding that will hopefully allow us to identify at-risk patients and implement better surveillance in clinical practice."

The mean age of study participants at their initial cancer diagnosis was 13.9 years, with a mean age of 33.5 at diagnosis of a secondary GI cancer. Henderson points out that these survivors are still relatively young, and considering the median age of 70 for colorectal cancers in the general population, it's likely that researchers are seeing only the tip of the iceberg. She anticipates the cumulative incidence of secondary gastrointestinal cancers will continue to increase as this population ages.

The results from the study fell in line with earlier findings suggesting that radiation exposure is a substantial risk factor for second cancers in cancer survivors. Those exposed to abdominal radiation were at the greatest risk - 11.2 times that of the general population. Yet, even study participants who did not receive radiation treatment for their primary cancer were also at increased risk. In addition, the study points to increased risk associated with exposure to high doses of procarbazine and cisplatin chemotherapies.

Study authors agree that because curing the primary childhood cancer remains a priority, they do not advocate modifying the current treatment protocols to decrease the long-term risk for gastrointestinal cancers. "However," Henderson added, "pediatric oncologists continually strive to reduce or eliminate late toxicity without affecting the probability of cure. Therefore, the necessity of therapies such as radiation is under constant scrutiny."

Henderson and her colleagues are calling for screening of childhood cancer survivors for GI cancer earlier than current general guidelines, particularly among those with increased risk factors. They recommend
this population be screened every five years, beginning 10 years after radiation treatment, or at age 35, whichever is later. One clear-cut example of the possible impact would be stronger survival rates with early detection of colorectal cancer where the current recommendation is to begin screening at age 50.

"We can't yet predict which patients will face a subsequent cancer, but we can and should devise screening guidelines that take all the risk factors into account," said Henderson. "Waiting until these patients are 50 is simply not enough."

Provided by University of Chicago Medical Center


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