Adult survivors of childhood cancer at risk of becoming frail at an early age

November 18 2013

Adult survivors of childhood cancer are at risk of becoming frail at an early age, but there are steps they can take to reduce their risk and improve their fitness. Credit: Betsy Williford/St. Jude Biomedical Communications

Young adults who survived childhood cancer are more likely than their peers to be frail, according to a St. Jude Children's Research Hospital study, which reported the condition is more common among female survivors than women decades older. The research appears in the November 18 online edition of the *Journal of Clinical Oncology*.

Researchers also found that frail health was associated with a greater risk for adult childhood cancer survivors of death and chronic disease. Being frail was defined by the presence of at least three of the following – weakness, self-reported exhaustion, physical inactivity, low muscle mass and slow walking speed. In the general population, it is most commonly associated with advancing age.

In this study of 1,922 childhood cancer survivors, 13.1 percent of women and 2.7 percent of men qualified as frail despite having an average age of less than 34 years old. In a comparison group of 341 young adults with an average age of 29 years old and no history of childhood cancer, none qualified as frail. Nationally, an estimated 9.6 percent of women age 65 and older and 5.2 percent of men in the same age group meet the definition. The unexpectedly high prevalence of frailty among childhood cancer survivors suggests accelerated aging, researchers said.

After adjusting for existing chronic health problems, researchers calculated that frail childhood cancer survivors were 2.6 times more likely to die than their non-frail counterparts. The risk was highest for frail male survivors, who were at a six-fold increased risk of death compared to male survivors who were not frail. Frail survivors were also more than twice as likely as survivors who were not frail to develop additional chronic health problems.

"There are steps survivors can take to reduce their risk and improve their fitness," said the study's first and corresponding author Kirsten Ness,

Ph.D., an associate member of the St. Jude Department of Epidemiology and Cancer Control. Exercise can reverse frailty in the elderly, and Ness said this study reinforces the need for survivors to work with their health care providers to become more fit.

Ness said quantifying the extent of frailty among childhood cancer survivors will help the medical community recognize and respond to the unique health needs of this growing population, which includes more than 400,000 U.S. residents. St. Jude is working on strategies to prevent or address the condition in this at-risk group.

These results are just the latest findings from the St. Jude Lifetime Cohort Study (St. Jude LIFE). St. Jude LIFE brings the hospital's pediatric cancer survivors back to campus for two to three days of medical testing and assessments. The goal is to better understand and address the challenges facing childhood cancer survivors as they age.

The survivors in this study were treated at St. Jude between 1962 and 2003. At least 10 years had passed since their cancer diagnosis when they joined St. Jude LIFE.

This study found frailty was more common among male survivors who smoked, were underweight and whose pediatric cancer treatment included abdominal or pelvic irradiation. In contrast, lifestyle was not associated with frailty risk in female survivors.

Cranial irradiation was associated with a greater likelihood of frailty in men and women. St. Jude is a pioneer in reducing radiation in treatment of childhood cancer, particularly the most common childhood cancer, acute lymphoblastic leukemia (ALL). Rates of frailty were highest among survivors of central nervous system tumors and other solid tumors, including soft-tissue sarcomas.

Work is underway to better understand frailty in childhood cancer survivors, including how it mirrors or differs from age-related frailty.

For example, in the elderly, muscle weakness appears to precede loss of muscle mass. That differs from childhood cancer survivors, who commonly have less lean muscle mass than Americans of the same age, sex and race. Lean muscle is the skeletal muscle that is the basis of strength and function. Patients experience cancer-related muscle wasting during treatment when nutrition and exercise are also a struggle. The late effects of treatment, including hormonal abnormalities and physical disability, may make it difficult for some survivors to fully recover.

Provided by St. Jude Children's Research Hospital

Citation: Adult survivors of childhood cancer at risk of becoming frail at an early age (2013, November 18) retrieved 31 March 2023 from https://medicalxpress.com/news/2013-11-adult-survivors-childhood-cancer-frail.html