

INFECTIOUS COMPLICATIONS IN SURVIVORS OF CHILDHOOD AND ADOLESCENT CANCER: A REPORT FROM THE CHILDHOOD CANCER SURVIVOR STUDY (CCSS)

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PURPOSE: Little is known about the long-term risks of infectious complications in survivors of childhood cancer. This study reports on the prevalence of and risk factors for infectious complications in survivors of childhood cancer.

PATIENTS AND METHODS: CCSS is a large, retrospective cohort study of 5-year survivors of childhood cancer from 26 participating institutions in North America. We compared incidence of infectious complications between 5-year survivors and their siblings, and infection-related mortality between survivors and the U.S. population. Demographic and treatment variables were analyzed as factors potentially associated with the risk of infectious complications, using Poisson regression models.

RESULTS: CCSS survivors (N=12,365) showed elevated rates, in comparison with sibling controls (N=4,023), for overall infectious complications (Rate Ratio (RR), 1.2; 95% CI, 1.2-1.3), pneumonia (RR, 4.2; 95% CI, 2.6-6.9), hepatitis (RR, 2.4; 95% CI, 1.8-3.1), sinusitis (RR, 1.6; 95% CI, 1.4-1.7) and chronic gingivitis (RR, 1.5; 95% CI, 1.2-1.8). Factors associated with higher rates of overall late infectious complications included: female sex (RR, 1.7; 95% CI, 1.6-1.9), diagnosis of Hodgkin lymphoma (RR, 1.3; 95% CI, 1.1-1.5), and age at cancer diagnosis over 15 years old. Survivors who received steroids had an increased rate of chronic gingivitis (RR, 1.3; 95% CI, 1.1-1.6). Compared with the U.S. population, survivors were at an increased risk of death from infectious causes (RR, 2.5; 95% CI, 1.9-3.2), with females (RR, 2.6; 95% CI, 1.5-4.5) and those exposed to abdominal radiation (RR, 2.4; 95% CI, 1.4-4.1) having the highest mortality.

CONCLUSION: Long-term survivors of childhood cancer remain at increased risk for infectious related complications including death from infectious causes years following completion of therapy. Interventions are needed to target those at highest risk.