

MORTALITY IN FIVE-YEAR SURVIVORS OF CHILDHOOD AND ADOLESCENT
CANCER - PRELIMINARY ANALYSIS OF THE CHILDHOOD CANCER SURVIVOR
STUDY (CCSS).

Mertens, A.*, Neglia, J., Yasui, Y.*, Potter, J., Nesbit Jr, M., Ruccione, K.*, Smithson, A., Robison L., Childhood Cancer Survivor Study, University of Minnesota, Minneapolis, MN, U.S.A.

Objective: Evaluate the mortality experience of five-year survivors of childhood and adolescent cancer within the CCSS cohort.

Methods: The study population includes 20,304 five-year survivors of leukemia, lymphoma, CNS tumor, bone tumor, soft-tissue-sarcoma, Wilms= tumor, and neuroblastoma diagnosed between 1970-86 and prior to the age of 21. Deaths were ascertained through the U.S. National Death Index and review of death certificates. Standardized mortality ratios (SMR) were calculated using age- and sex-specific rates from the U.S. population.

Results: The 2069 confirmed deaths represent an SMR of 9.6 (95% CI=9.2-10.1). Recurrent cancer (relapse mortality) accounted for 67% of deaths. Cause-specific SMRs (95% CI) for non-relapse mortality were: second cancer, 14.2 (12.5-16.2); cardiac, 7.2 (5.7-8.9); respiratory, 10.7 (7.9-14.1); and injury/poisoning, 0.8 (0.6-1.0). Preliminary analyses identified risk factors for non-relapse mortality to include females, (Relative Risk (RR)=2.3, 95% CI=1.9, 2.9) and exposure to both radiation and chemotherapy (RR=7.2, 95% CI=3.0, 17.5). After adjustment for radiation, sex, age at diagnosis and year of diagnosis, exposure (upper tertile) to alkylating agents (RR=3.2, 95% CI=2.7, 5.3), epipodophyllotoxin (RR=2.5, 95% CI= 1.3, 4.8) and anthracyclines (RR=3.5, 95% CI=2.2, 5.7) were associated with non-relapse mortality. Analyses are underway to investigate independent predictors of cause-specific mortality.

Conclusion: Preliminary analyses of the CCSS cohort demonstrate that while recurrent cancer represents a major cause of late mortality, long-term treatment-related complications contribute significantly to late mortality.