

MORTALITY RATES AND CAUSES OF DEATH IN 5-YEAR SURVIVORS OF CHILDHOOD AND ADOLESCENT CANCER. A. Mertens, J. Neglia, Y. Yasui, J. Potter, M. Nesbit Jr, K. Ruccione, A. Smithson, L. Robison; Childhood Cancer Survivor Study (CCSS), University of Minnesota, Minneapolis, MN.

The CCSS is a resource designed to evaluate the long-term effects of cancer and associated therapies in five year survivors of childhood and adolescent cancer. The cohort, established through a consortium of 25 centers, includes 20,316 subjects diagnosed with cancer before the age of 21 during the time period 1970-86. Eligible diagnoses included leukemia, Hodgkin disease (HD), non-Hodgkin lymphoma (NHL), soft tissue sarcoma (STS), neuroblastoma (NBL), tumors of the central nervous system (CNS), bone and kidney. The median age of study subjects at diagnosis of cancer and at last follow-up was 6 years and 25 years, respectively. An analysis of the cohort was undertaken to characterize the mortality experience of these five-year survivors. For cases who resided in the U.S., death certificates were reviewed for 90% of deceased cases and used to classify cause of death. Standardized mortality ratios (SMR) were calculated using age- and sex-specific U.S. rates from the National Center for Health Statistics. The 2071 confirmed deaths represent an annual absolute all-cause mortality rate of 89.1 per 10,000 and an SMR of 9.6 (95% CI=9.2-10.1). Diagnosis-specific mortality experience and the cumulative mortality from the time of cancer diagnosis is provided below:

Original Diagnosis (n)	Deaths(%)	SMR (95% CI)	Cumulative Mortality(%)		
			10yrs	15yrs	20yrs
Total (20,316)	2071(11)	9.6 (9.2-10.1)	6.4	9.3	11.4
Leukemia (6,634)	733 (11)	13.7 (10.2-17.8)	8.2	10.9	12.1
CNS (2962)	393 (13)	9.2 (5.6-14.0)	8.1	12.9	15.4
HD (2711)	338 (12)	18.0 (14.0-22.7)	5.7	9.6	13.2
NHL (1481)	94 ( 6)	13.9 (8.2-21.2)	3.4	5.4	8.1
Bone (1712)	218 (13)	12.9 (8.1-18.8)	8.4	12.0	13.9
STS (1814)	168 ( 9)	16.6 (10.8-23.1)	5.2	7.8	10.3
NBL (1317)	59 ( 4)	10.1 (4.0-20.6)	2.9	4.2	5.0
Kidney (1685)	68 ( 4)	14.1 (7.7-24.7)	1.8	3.1	5.0

While recurrent cancer represents a major cause of late mortality, long-term treatment-related complications account for a sizable proportion of deaths.