

## Chronic medical conditions, health status, and health care practices at 25 years in 5-year survivors of Wilms tumor: A report from the Childhood Cancer Survivor Study.

A. M. Termuhlen, J. M. Tersak, Y. Yasui, Q. Liu, M. Stovall, M. Deutsch, C. A. Sklar, K. C. Oeffinger, L. L. Robison and D. M. Green

The Ohio State University College of Medicine, Nationwide Children's Hospital, Columbus, OH; Children's Hospital of Pittsburgh, Pittsburgh, PA; University of Alberta, Edmonton, AB, Canada; M. D. Anderson Cancer Center, Houston, TX; Children's Hospital, Pittsburgh, PA; Memorial Sloan-Kettering Cancer Center, New York, NY; St. Jude Children's Research Hospital, Memphis, TN

**Background:** High proportions of children with Wilms Tumor (WT), cured by surgery, chemotherapy, ± irradiation (RT), risk late effects of therapy.

**Methods:** Self-reported chronic medical conditions (CMCs), health status, and health care practices were analyzed in this retrospective cohort including 1,256 5-yr survivors of WT diagnosed 1970-1986 and a sibling comparison group (n=4023). The risk of specific CMCs was analyzed by treatment.

**Results:** The cumulative incidence at 25 yrs of any CMC was 51% and severe/disabling CMC was 11%. Compared to the siblings, WT survivors were twice as likely to report a CMC (hazard ratio [HR]2.0, 95% confidence interval (CI), 1.8-2.4) and almost five- times more likely to have a severe/disabling CMC (HR4.7, 95%CI, 3.6-6.1). The HR of specific CMCs were: congestive heart failure (CHF) 23.6 (95% CI, 10.8- 51.5), renal failure 50.7 (95% CI, 14.5-177.4), and hypertension (HTN) 8.2 (95% CI, 6.4-10.5). RT to the heart increased the likelihood of reporting CHF without doxorubicin (HR6.6, 95% CI, 1.6-28.3), with  $\leq 250$  mg/m<sup>2</sup> (HR13.0, 95% CI, 1.9-89.7), and with  $> 250$  mg/m<sup>2</sup> (HR18.3, 95% CI, 3.8-88.2). Doxorubicin without RT did not increase the likelihood of CHF. RT to the contralateral kidney did not increase the likelihood of reporting renal failure or HTN. The prevalence ratio (PR) of adverse health status was significantly different from the sibling group for general overall health (PR 1.7, p=0.001), functional impairment (PR 3.3, p<0.001) and activity limitations (PR 1.9, p<0.001), but not for mental health status (PR 1.2, p=0.09). WT survivors and the siblings showed no differences in self or professional screening for cancer. WT survivors <30 yrs old reported more general medical exams (PR 1.1, p<0.001). Female WT survivors <30 yrs were more likely to report having had a mammogram (PR 1.6, p=0.008). Of female WT survivors who received chest RT, only 13% <30 yrs and 57%  $\geq 30$  yrs reported having had a mammogram.

**Conclusions:** Survivors of WT have an excess risk of chronic medical conditions and adverse health status. The health care practices of WT survivors were similar to their siblings, providing opportunity for intervention.