Chicago — The treatment for pediatric cancers is becoming more successful, but at a price—increased incidences of new primary sarcomas and female infertility, according to two reports by the Childhood Cancer Survivor Study presented at the American Society of Clinical Oncology.

Exposure to radiation at doses over 10 Gy was the most important risk factor for the development of new sarcomas in childhood cancer survivors, said Dr. Tara O. Henderson of the University of Chicago. Overall, radiation treatment was associated with an odds ratio of 4.7 for the development of a subsequent primary sarcoma. In patients who received more than 50 Gy, the odds ratio jumped to 31.6, Dr. Henderson reported.

Ovarian/uterine radiation doses greater than 1,500 cGy were associated with a greater than fivefold increased risk of not having been pregnant, Dr. Green reported. The investigators also looked at chemotherapy agents and found that alkylator and cyclophosphamide exposure was significantly associated with less likelihood of pregnancy in a dose-dependent manner. In her discussion of these studies, Dr. Smita Bhatia of City of Hope National Medical Center in Duarte, Calif., said they highlight a critical need to increase awareness of the health problems faced by childhood cancer survivors—not only among the survivors themselves, but also among the primary physicians who provide most of their care.

One third of childhood cancer survivors will have a life threatening complication 30 years out from diagnosis and treatment of their cancer, she said, citing a recent study (N. Engl. J. Med. 2006;355:1572-82). “Primary cancer will continue to be treated with intense therapeutic exposure, and invariably will result in late effects. We need to focus on genetic predispositions and other factors which contribute toward these late effects, so that we can identify high-risk populations, and screen them appropriately to prevent these complications from happening and decrease the morbidity and mortality associated with late events,” she said.

Dr. Henderson, Dr. Green, and Dr. Bhatia all stated that they had no conflicts of interest to report.