Childhood Ca Survivors Lack Optimal Screening

BY DAMIAN McNAMARA

ORLANDO — Fewer than half of childhood cancer survivors who are deemed to be at high risk of secondary breast, colon, and skin malignancies receive recommended cancer screening and surveillance as adults, according to a new analysis of the large, longitudinal Childhood Cancer Survivors Study.

The deficiency was most notable for colonoscopy: Only 11.5% of 794 survivors who were considered vulnerable to colorectal cancer had a colonoscopy during the 5 years before they were surveyed, Dr. Paul Nathan reported at the annual meeting of the American Society of Clinical Oncology.

Skin cancer is the most common radiation-associated second malignancy in survivors, but just 26.7% of 4,833 survivors at high risk had ever had a complete skin exam, said Dr. Nathan, an oncologist at the Hospital for Sick Children in Toronto.

Women at high risk for breast cancer were more likely to undergo recommended screening, he added, yet only 46.3% of 521 women in this group had a mammogram performed during the 2 years before being asked about screening.

Of the 8,318 survivors surveyed in this phase of the National Cancer Institute–funded study, about 12.5% had been seen at a cancer center or within a long-term follow-up program in the previous 2 years. Another 12% reported no medical care during this time. The remaining patients were "predominantly seen by their primary care physician in their community." Most of the survivors were in the care of family physicians, he said.

Cancer survivors and their primary care physicians need to be more vigilant, Dr. Nathan said. Individual primary care physicians may have only a few childhood cancer survivors in their practice, but they should consider these patients' special requirements. "There is broad consensus that survivors of childhood cancer need regular surveillance and screening in the hope that if we pick up these cancers early, we can change the mortality [and morbidity]," he said.

The study discussant, Dr. Charles L. Bennett, professor of geriatrics, economics, and oncology at Northwestern University in Chicago, said he was unsure whether survivorship care was the responsibility of the oncologist or the primary care provider, but suggested that it is most likely a shared responsibility.

This study is important because "surveillance is essential, yet empirical data are lacking," Dr. Bennett said, adding that "these are real issues. These are lifelong concerns."

The 5-year survival rate is 80% for pediatric cancers, and most patients survive long term (J. Clin. Oncol. 2009;27:2308-18). Dr. Nathan estimated that about 9% of 325,000 survivors of childhood cancer who are alive in the United States will develop a new malignancy within 30 years of their original diagnosis. Secondary malignancies are the leading cause of death among survivors who live at least 20 years beyond initial diagnosis.

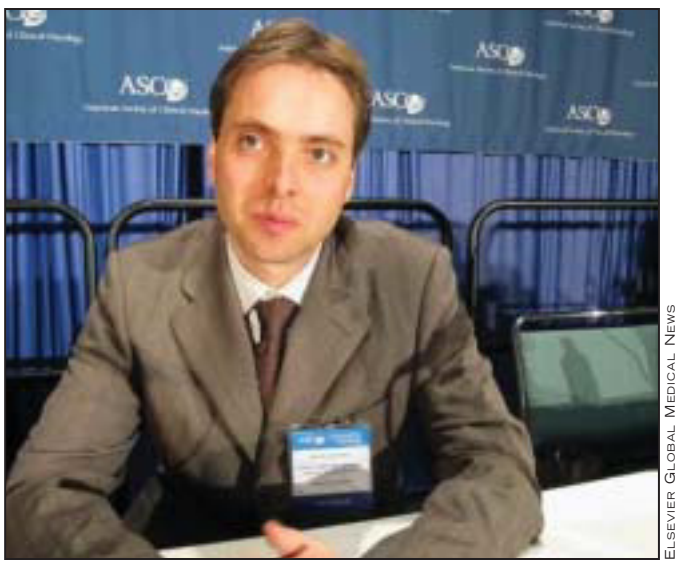
The Childhood Cancer Survivors Study enrolled 20,602 people who were initially diagnosed with cancer in 1970-1986 and had survived at least 5 years. Of the original participants, 3,305 had been lost to follow-up and 1,541 had died by the time of the 2003 follow-up survey that was used for the new study. Another 3,197 declined to participate in the survey and 990 were excluded from the analysis (among them, 960 survivors who had already developed a secondary malignancy). The average age of survivors interviewed was 31 years. A matched group of 2,661 siblings and 8,318 population controls also was assessed.

The study's primary aim was to determine adherence to the Children's Oncology Group's guidelines for following survivors of childhood cancers (www.survivorshipguidelines.org). High risk was identified for three forms of cancer:

► **Breast cancer.** For those who received 20 Gy or more of radiation therapy to the breast during childhood, mammography is recommended every 1-2 years starting at age 25 years, or 8 years after the initial cancer diagnosis.

► **Colorectal cancer.** For those who received 30 Gy or more of radiation to the abdomen, pelvis, or spine, screening colonoscopy is recommended every 5 years starting at age 35 years.

► **Skin cancer.** For those who were exposed to any radiation during childhood, an annual skin examination of treated areas is recommended. "We know the rate of nonmelanoma skin cancers in irradiated areas is approaching 7% for survivors over 30 years," Dr. Nathan noted.



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Fewer than half of childhood cancer survivors at high risk for another malignancy get screened, Dr. Paul Nathan said.

In a secondary analysis, the researchers compared survivors who were not at high risk of secondary cancers with matched controls from the National Health Interview Survey of the general population to determine adherence to U.S. Preventive Services Task Force cancer screening guidelines for breast, colon, and cervical cancer.

This analysis showed that these survivors were more likely than controls to undergo recommended mammography (67%, vs. 58% of controls), were more compliant with Pap smear recommendations (82% vs. 70%), and had a comparable—albeit low—rate of recommended colonoscopy (24% in both groups). However, the number of survivors who reached the minimum age for the colonoscopy recommendation (50 years) was small, Dr. Nathan noted.

Significant predictors of adherence to mammography were older age at interview (relative risk 1.09) and care at a cancer center (RR 1.70). Older age at time of interview was the only significant predictor of colonoscopy adherence (RR 1.08). Predictors of adherence to the skin examination were care at a cancer center (RR 1.55) and the survivor's having a treatment summary (RR 1.30). Being a nonwhite patient was associated with a lower likelihood of adherence to the skin examination guideline (RR 0.63), Dr. Nathan reported.

The study was limited by the fact that the cancer diagnoses occurred from 1970 to 1986, "and clearly, therapy has changed," Dr. Nathan said. Investigators are recruiting another 20,000 adult survivors who were treated as children between 1987 and 1999 to explore similar issues among a more contemporary cohort. The new study population also will include more minorities. About 89% of the survivors in the current study are white non-Hispanics.

As survivors of childhood cancer live longer, increasing attention is being paid to the long-term effects of therapy. A key question is whether changes at the time of the initial therapy will have an impact on these subsequent adverse effects. A consortium of institutions is planning intervention studies to address such questions and to see whether using innovative methods to educate patients about their follow-up needs will make a difference, Dr. Nathan added.

Dr. Nathan reported having no relevant conflicts of interests to disclose. ■

A related video is at www.youtube.com/InternalMedicineNews (search for 67256).

High Homocysteine Not Linked to Cancer Risk in Women

BY BRUCE JANCIN

DENVER — Elevated plasma homocysteine wasn't linked to an overall increase in cancer incidence or mortality in the Women's Health Study.

Indeed, of the 13 most common site-specific forms of cancer in the prospective study, only lung cancer—the fourth most common—was associated with an elevated homocysteine level, Dr. Yiqing Song reported at the annual meeting of the American Association for Cancer Research.

Of 27,764 participants in the Women's Health Study who were at least 45 years old and apparently healthy when they gave a baseline blood sample, 2,637 went on to develop cancers other than nonmelanoma skin cancer during a median follow-up of 13 years. There were 511 deaths due to malignancy.

The adjusted risk of lung cancer was 83% greater among those with a plasma homocysteine level in the highest quintile, with a median level of 15.9 micromol/L, compared with those with levels in the lowest quintile, with a median of 7.44 micromol/L. There were 199 cases of lung cancer during the study period.

But no other type of cancer was significantly related to plasma homocysteine level. Of the other 12 most common cancers, 9 were less common in women with elevated homocysteine levels, but none of the inverse associations achieved statistical significance.

For example, the risk of breast cancer—by far the most common malignancy in the Women's Health Study, with 1,099 cases—was an adjusted 6% less among women with a homocysteine level in the top quintile, compared with those whose level was in the lowest quintile.

The study hypothesis was that an elevated plasma homocysteine level would predict increased cancer risk. A high level of homocysteine is typically caused by inadequate intake of folate and other B vitamins. Deficiencies of these vitamins are believed to promote carcinogenesis through disruption of DNA methylation, repair, and synthesis, explained Dr. Song of Brigham and Women's Hospital, Boston.

In the Women's Health Study, an elevated homocysteine level was associated with a many potentially confounding variables. For instance, women with higher plasma homocysteine were significantly less physically active, heavier, more likely to smoke, and had greater alcohol intake than those with a low homocysteine level. They were also less likely to be on postmenopausal hormone therapy or to take a multivitamin, and they ate fewer fruits and vegetables and more red meat. Multivariate risk adjustment was therefore essential. ■