

CEBP Focus: Second Primary Cancers

Editorial

Second Cancers Are Killing Us!

David S. Alberts

Arizona Cancer Center, Tucson, Arizona

As a Clinical Associate in the Pharmacology Section in the National Cancer Institute in 1967, virtually all of the patients referred to me had far-advanced, metastatic cancers, whether of the breast, colon, prostate, or lung. Treatment choices for disseminated disease were limited to a half dozen Food and Drug Administration–approved cytotoxic agents and another half dozen experimental drugs. Five-year survival rates for all cancers were in the mid-30 percent range and cure rates were virtually nonexistent. Cancer survivorship, as a clinically relevant problem, was 30 to 40 years away, and cancer prevention was a nonexistent field of research. In fact, 4 years later, in 1971, at the time of the establishment of the National Cancer Act, it was estimated that there were only a total of three million cancer survivors in the United States (1).

Fast forward 35 years and the total number of cancer survivors in the United States is estimated to have increased ~4-fold with incremental yearly increases of 2%. Now, cancer survivors represent >3.5% of the U.S. population, with the addition of one million new survivors each year (2). With dramatically improved molecularly-targeted therapies, markedly enhanced screening technologies, and the development of effective secondary prevention strategies, 5-year survival rates have risen into the mid-60 percent range. Suddenly, cancer survivors are everywhere and pose an increasing health care problem, related to both the late effects of cancer treatment and the strong threat of second primary cancers. In fact, second or multiple primary cancers in cancer survivors represent 16% of all new primary cancers.

A comprehensive research effort is needed to address increasingly complex issues of cancer survivorship, especially with respect to the extremely high rate of second cancers. This increasingly large and high-risk population represents an outstanding opportunity for novel cancer screening strategies, the development of targeted chemopreventive agents and vaccines, as well as more sensitive and precise biomarkers of risk and early detection. In this special section of *Cancer Epidemiology, Biomarkers, and Prevention* are presented articles from Drs. Lois Travis, Susan Mayne, and Victor Vogel, who participated as invited speakers in an American Society of Oncology/AACR-sponsored mini symposium entitled “Second Cancers Are Killing Us!” at the AACR’s Frontiers in Cancer Prevention fourth annual meeting in Baltimore, MD in November, 2005. It is anticipated that these three articles, covering the epidemiology, screening, and chemoprevention of second primary cancers will serve to ignite interest in multiple research areas about the long-term follow up and management of the ever increasing population of cancer survivors in the United States.

References

1. Rowland J, Mariotto A, Aziz N, et al. Cancer survivorship—U.S., 1971-2001. *Morbidity and Mortality Weekly Report* 2004;53:526–9.
2. Ganz PA. A teachable moment for oncologists: cancer survivors, 10 million strong and growing! *J Clin Oncol* 2005;23:5458–60.