

New Cancer Research Approaches Specifically Target 60+ Population

By ThirdAge on Monday, July 6, 2015 @ 12:00 am

By Samuel Waxman, M.D.

*Distinguished Service Professor
Medicine, Hematology and Medical
Oncology and Distinguished Service
Professor, Oncological Sciences, Icahn
School of Medicine at Mount Sinai and
Founder & CEO, Samuel Waxman Cancer Research
Foundation.*



One of America's precious resources, its senior population, is not getting its fair share of attention in the war against cancer and the Samuel Waxman Cancer Research Foundation (SWCRF) is determined to do something about it.

Although the World Health Organization's 2014 Cancer Report projected that annual cancer cases will reach 22 million within the next 20 years, relatively little has been discussed in the public arena about the challenges faced by cancer patients over the age of 65 until fairly recently. In fact, 72 is the median age of cancer death according to the National Cancer Institute (NCI), and reports have shown that there is now an increased probability of people between ages 55 and 84 dying of cancer rather than heart disease.

Research is needed.

A major reason why cancer is more prevalent in aging populations is that older cells have had more opportunity to accumulate genomic defects. The accumulation of genomic defects is what helps cause the transformation of a cell to become cancerous. The longer one lives, the longer is one's exposure to inflammation from diet, chronic disease and

various carcinogens, including tobacco, pollution, radiation and harmful sun exposure. Although age-related cancer diagnoses occur most frequently after the age of 60, the accumulation of cancer-causing cellular mutations provoked by genetic and environmental factors must begin at an earlier age.

The Catch-22 of Research

Despite the graying of America, there remains an imbalance in how seniors are represented in clinical trials for potential cancer therapies. Seniors account for two-thirds of patients under treatment for breast, lung, colorectal or prostate cancer, yet comprise only one-third of the participants in clinical trials for drugs under development to treat these categories.

Some determining factors for this Catch-22 include:

- Most conventional cancer therapies have significant side effects
- Older patients are more sensitive to these side effects because they also have other illnesses
- Drug developers shy away from enrolling seniors in clinical trials because their sensitivity to side effects may interfere with a study's outcome.
- Underrepresentation of seniors in trials creates a scarcity of data on how to effectively treat cancer in older patients which, in turn, reinforces this negative trend.

Any assumption that death by cancer is a foregone conclusion for seniors is unfair and shortsighted. Clearly, science must dedicate more resources to this patient population despite the continued cuts to government funding for research.

More therapies with less side effects would be of greatest benefit to aging Americans.

Hope on the Horizon

Epigenetics is the study of external or environmental factors that turn genes of a cell on and off and affect how genes are read. A good example of this is why a liver cell is different from a skin cell – different genes are turned off or on in each cell, even though they both contain the same DNA.

Drugs are being developed that may be able to reprogram faulty genes by epigenetic changes and these offer promise for targeting cancer cells.

Research in the area of epigenetics and its influence on cancer development is a key area of focus of the SWCRF because it offers great hope for treatment with less side effects than conventional chemotherapy, making these options particularly valuable to the senior population. In recent years, the role of epigenetics has grown in importance for cancer research.

In one treatment that involves epigenetics and is currently used for a form of blood cancer called APL (acute promyelocytic leukemia), researchers were able to improve APL's five-year survival rate from 25 percent to 95 percent with less side effects than chemotherapies.

Additional early research being funded by the Samuel Waxman Cancer Research Foundation is exploring the use of epigenomics in other blood cancers, compounds relating to Vitamin A that play a role in cellular differentiation and may prevent myelofibrosis, an age-associated bone marrow failure

syndrome, among other studies.

Interestingly, researchers are also looking at ways to couple epigenetics with immune-therapies in cancer. Immuno-therapies, another hot area of focus for cancer researchers, are developed to boost the immune system of patients.

Collectively, these investigations are paving the way toward new therapeutic strategies that may improve the quality of life for seniors living longer with cancer, and may one day help to convert cancer from a fatal diagnosis to a chronic disease among this growing segment of our population.

About Samuel Waxman Cancer Research Foundation

The Samuel Waxman Cancer Research Foundation is a 39-year-old research organization that funds cutting-edge research that identifies and corrects abnormal gene function that causes cancer and develops minimally toxic treatments for patients. The Foundation's scientific brain trust includes more than 50 scientists collaborating across the world's leading research institutions, including Dana-Farber Cancer Institute, Johns Hopkins University, Memorial Sloan-Kettering Cancer Center, Icahn School of Medicine at Mount Sinai, Sheba Medical Center, the Shanghai Institute of Hematology, and Weill-Cornell Medical Center, among others. For more information visit www.waxmancancer.org.

Tags:

target

cancer

treatment

senior

population

cellular

differentiation

epigenetics

immune therapies