Medical Xpress

Targeted drugs among successes against cancer, says new report

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But aging population and increasing obesity threaten progress.

(HealthDay)—About 14.5 million U.S. cancer survivors are alive today, compared to just 3 million in 1971, the American Association for Cancer Research reported Tuesday.

These individuals amount to 4 percent of the population and include nearly 380,000 survivors of childhood cancer, according to the association's annual progress report. The paper outlines advances in prevention, identification, research and treatment of cancer and details some of the challenges ahead.

But these numbers can be somewhat misleading unless they take into account advances in identifying cancers earlier, said Dr. Otis Brawley, chief medical officer of the American Cancer Society.

Survival rates refer to how long a person lives with cancer (including in remission) while mortality rates refer to the death rate, but survival will be longer if the cancer is found earlier, even if the person dies at the same time they would have.

"People don't want to live longer with cancer," Brawley said. "They want to not die with cancer." But he said mortality rates have also seen big drops, including an overall decline of 22 percent in cancer deaths from 1991 to 2011.

"Prevention has been the biggest contributor, with smoking cessation as a bigger overall driver of the decline in mortality" than scientific treatment advances, Brawley said. "People who stopped smoking in the 1960s and 1970s did not die in the 1990s and beyond, and that's why it took until 1991 for mortality to start going down big-time."

Yet two looming issues may have a significant impact on increasing cancer rates in the future, the report noted.

One is the currently aging population. Most cancers occur in people aged 65 and older, and the number of Americans in this age group is expected to double by the year 2060, the report said.

That portends an increase in cancer diagnoses from 1.6 million in the United States in 2014 to an estimated 2.4 million in 2035, the report stated.

The other issue relates to widespread obesity. The report notes that one-third of all newly diagnosed cancers in the United States are related to being overweight or obese. These include esophageal, colorectal, endometrial, gallbladder, kidney, pancreatic and postmenopausal breast cancers.

"One of the great threats in terms of cancer in the U.S. is the increasing obesity rates," Brawley said. "We think it's the high levels of insulin that obese people have in their blood because insulin spurs on tumor development."

As smoking rates continue declining, "the leading cause of cancer in the U.S. may very well be obesity rather than tobacco use soon," Brawley said.

Another challenge related to cancer prevention, detection and treatment in the United States are health care access disparities for racial and ethnic minorities and poorer people.

Lower incomes are the primary driver of these disparities, Brawley said.

"There is a whole slew of issues with education and access," he said, noting that the black-white disparity in cancer deaths seen in the general population is particularly striking when compared to a population with equal access to care.

"When you start looking at black women treated for breast cancer in military hospitals," for example, Brawley said, "you end up with a population of black women whose outcomes look a lot more like those of white women than those of black women in the U.S. overall. Access to care and equalization of care is really important."

Also noteworthy, the Food and Drug Administration approved six new anticancer drugs in the past year and allowed new uses for five existing anticancer therapeutics, the report said. The FDA has also approved two imaging agents for uses related to cancer.

The new drugs were approved to treat certain types of stomach cancer, thyroid cancer, leukemia, lymphoma, non-Hodgkin lymphoma,

pancreatic cancer, melanoma, lung cancer and breast cancer.

Dr. Tomasz Beer, deputy director of the Knight Cancer Center at Oregon Health and Science University, said it was particularly interesting that only one of the six newly approved therapies was a chemotherapy drug.

"I think the public may not know that cancer therapy is not just chemotherapy anymore," Beer said. "What's new now is focusing on biologic agents that are targeted, and immunotherapy agents. What you're seeing in this report is a sign of what's to come."

Those five new drugs are targeted cancer therapies, which fight cancer differently from chemotherapy. Chemotherapy works by killing all cells in an area, including both normal and cancerous cells.

Targeted therapies, however, focus on specific molecules to prevent a tumor from growing or a cancer from progressing and spreading. These therapies might interfere with blood vessel development in a tumor, kill only cancer cells or, in the case of immunotherapy, help the immune system identify and kill cancer cells.

Dr. Carlos Arteaga, president of the American Association for Cancer Research, highlights the progress being made. "We're witnessing quite a transformative change in the way we treat patients with cancer," he said.

"As a result of advances like these, Americans today are more likely to survive a cancer diagnosis and then enjoy a higher quality of life than at any other time in history," Arteaga, who is director of the Center for Cancer Targeted Therapies at Vanderbilt-Ingram Cancer Center in Nashville, said.

One recent discovery that could lead to new treatments for a type of lung

cancer reveals where cancer research is heading.

A study released Sept. 16 in the journal *Clinical Cancer Research* describes two mutations that cause lung cancer resistance to a drug called alectinib.

Alectinib was developed to inhibit the expression of the ALK gene that causes growth of some non-small cell lung cancers—the most common form of lung cancer—after the cancer has become resistant to an older drug called crizotinib.

Discovering these mutations helped researchers understand how the cancer becomes resistant to alectinib. The researchers then successfully used a new drug, ceritinib (brand name: Zykadia), to treat a patient whose lung cancer had become resistant to alectinib.

"These studies have been invaluable in learning how ALK-positive cancers become resistant to different ALK inhibitors and in identifying the best therapeutic strategies that will re-induce remissions," said study author Dr. Jeffrey Engelman, director of the Center for Thoracic Cancers at the Massachusetts General Hospital Cancer Center, in a news release.

More information: The U.S. National Cancer Institute has more about targeted cancer treatment.

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