Cancer: Chronic care vs. search for a cure

Discovery

Author:
Ruth Williams, Ph.D.

William Sellers, M.D., Global Head of Oncology at the Novartis Institute for Biomedical Research

So it may be surprising to learn there’s a disagreement within the research community about whether it is better to continue searching for a cure for cancer — a complex, multifaceted collection of diseases — or focus on chronic care treatments that prolong life and allow patients to better manage their disease. But the goal is clear for William Sellers, M.D., global head of Oncology at the Novartis Institutes for BioMedical Research in Cambridge, Mass.

“I have a fear that aiming for the chronic therapy is actually going to prevent us from getting to curative therapy,” he says. “If we had to settle for the chronic treatment of cancer, I would settle for that, but I think it would be a shame to aim for that.”

Sellers, who was driven to cancer research in part by the suffering he witnessed on cancer wards during his medical training, is adamant that he doesn’t want to just treat these lingering, lifestyle-destroying diseases. He wants to cure them—all of them. Indeed, striving for anything less does patients a disservice, he says.

“For the patient, the idea of living with cancer is a really tough thing to deal with,” Sellers says. “Certainly it’s better than dying of your cancer, but these patients are never certain about their
future. They’re worried all the time about what might happen if the cancer comes back. That’s a pretty big toll,” he says.

The danger of defeatism

Treating cancer as a chronic condition is an idea that has emerged during the past few decades — “A period of, I would almost say, nihilism,” says Sellers. “People just sort of said, ‘We’re never going to cure cancer. Let’s forget trying to do that and let’s settle for managing it as a chronic disease.’ ”

I have a fear that aiming for the chronic therapy is actually going to prevent us from getting to curative therapy.

William Sellers, MD, Global Head of Oncology at Novartis Institutes for BioMedical Research

But there is reason to believe that chronic cancers and even the most life-threatening cancers, such as melanoma, glioma, and pancreatic cancer, could be cured. “Testicular cancer was far worse,” he says. “People lived six to eight weeks and that was it. It was one of the most aggressive, horrific cancers you can imagine. But now the standard therapy cures more than 90 percent of patients.”

The problem with settling for chronic treatments, according to Sellers, “is that if people only think we can treat cancer chronically they may not be willing to push the therapy to a point where cures might be obtainable. This is, I believe, a risk to the field.”

Despite the hopes of patients to be able to leave chemotherapy and its toxic side effects behind in favor of newer cancer medicines with fewer side effects, Sellers says researchers might have to be willing to allow some degree of toxicity in their treatments to enable cures. “If you are not willing to have any toxicity to the therapy, you may never achieve cures, even if you have the right drugs,” he says.

Individualized cancer care

Novartis researchers are looking deep within cancer cells, sequencing their genomes and developing therapies targeted to the specific mutations they may carry.

Lung cancer, for example, comprises several different diseases with distinct genetic roots. In a subgroup of patients with lung cancer, tumor growth is driven by mutations in a gene called EGFR. These patients benefit dramatically from drugs that target EGFR. Mutations in the
same gene cause some cases of colon cancer and glioblastoma. In other words, the same molecular pathway plays a role in other types of cancer. If doctors know the genetic profile of a tumor, then they can select the appropriate targeted therapy, assuming that it already exists.

Sellers is also excited about the potential of a treatment developed by Carl June, a professor of immunotherapy at the University of Pennsylvania, and his colleagues. The new technique involves extracting a patient’s immune cells, genetically reprogramming them to recognize and kill cancer cells and then returning them to the patient.

“Carl showed that the reprogrammed T cells expand dramatically and wipe out the tumor,” he says. “In a significant number of cases, patients now appear to be cancer-free.”

Engineering T cells is not the only way Novartis researchers are using aspects of the immune system to target and kill cancer cells. In another approach, they are planning to attach toxins to antibodies that have been specifically designed to recognize cancer cells.

“Normally such an agent would be too toxic to give to a human because it would be nonspecific and it would kill healthy and tumor cells,” Sellers says.

When it’s attached to an antibody, however, it homes to the cancer cells, killing only them. Such antibody-drug conjugates represent another weapon in the oncology arsenal.

“Ultimately, we’re going to have genetic information from every patient’s tumor, we’re going to have some idea of the surface expression of the patient’s tumor, and we’re going to have combinations of genetic and immunological therapies,” he says. Chemotherapy and radiation may continue to be effective in the context of these newer therapies.

Armed with these options, new and old, Sellers is confident that “one tumor at a time, we’ll get to curative states, with patients coming off therapy and living tumor free.”

Tags:
Cancer [4]
Chronic Illness [5]
Gene Sequencing [6]
Social Media [7]

Source URL: https://www.novartis.com/stories/discovery/cancer-chronic-care-vs-search-cure?topic=All&page=3&hootPostID=64eebe04d0944df75a83a566b82977cb

Links