Healthy Lifestyle, Reducing Side Effects and Getting the Best Care

The latest research on healthy life and prevention, improving outcomes, reducing side effects and getting the best precision medicine. Part three of an interview with Yung S. Lie, PhD, president and CEO of the Damon Runyon Cancer Research Foundation.

August 22, 2019 By Bob Barnett

Are you supporting research in the effects of lifestyle on cancer prevention and treatment?

In the early 1950s, we supported the work of Paul Talalay, MD, whose pioneering work in the field of chemoprevention let to the demonstration in 1992 that broccoli and other cruciferous vegetables contain a cancer-fighting substance called sulforaphane. Today, we have researchers who are working on the effects of diet on susceptibility to cancer and the ability to be responsive to treatment. As we learn more about the microbiome—all the bacteria that live in a person's gut—we're recognizing that there's a balance between "good" and "bad" bacteria that needs to be kept. Overuse of antibiotics is clearly an issue because it disrupts this balance by clearing all bacteria, both good and bad. We know the microbiome is involved in inflammation, and inflammation in the gut can contribute to increased cancer risk and progression of cancer. The microbiome on our skin is involved in progression of skin cancer and other skin diseases. Plus, we have researchers looking at the effects of exercise on cancer patients, as well as stress, which can be a contributing factor to the development and progression of cancer.

Paul Talalay, MD, pioneered the field of chemoprevention with the demonstration that broccoli and other cruciferous vegetables contain a cancer-fighting substance called sulforaphane.Mike Ciesielski

What work are you supporting to minimize side effects?

One researcher is looking at these very severe side effects that some patients experience with checkpoint immunotherapy, which in some cases can be fatal. She's looking across all cancer types. Are there ways we can predict these dangerous side effects in advance and minimize them? It's really important, because we want to make sure that we don't expose people to side effects that might be very damaging for them.

When side effects are severe, it can make it impossible for some people to continue with their treatments.

Yes, absolutely. That's one reason why we are funding scientists who are working on pain perception and management, which can affect cancer patients who are on many different therapies. Pain can result in discontinuation of treatment, which can in turn lead to the cancer recurring. So it's really important to have a good understanding of pain perception, which goes back to basic neuroscience. Another important area is nausea. We have one scientist who is working on understanding what the brain is doing in sensing and creating that effect. We're also working on "chemo brain," that sort of fogginess and dulling of senses, trying to figure out ways to reduce that for patients who are undergoing treatment.

Most people with cancer these days are still treated with chemotherapy, cytotoxic compounds that can be broad-spectrum and attack healthy cells. Is there research focusing on making chemotherapy more effective?

One of our researchers is using genetic profiling to get a better understanding of which patients will respond to specific chemotherapies. This is an effort to avoid giving a patient a drug that their cancer is unlikely to respond to, so that we can limit unnecessary side effects—and minimize the appropriate dose. Historically, the idea was to throw a lot of chemotherapy at a patient, as much as they can possibly tolerate, in the hopes that that would kill all of the cancer. But that came with a lot of toxicity and side effects. What's happening now is that we're trying to figure out what the appropriate dose is so that you can give enough that it will fight the cancer, without giving too much.

How can our readers take advantage of the latest research?

We're huge advocates of encouraging patients to speak to their oncologists and patient advocacy organizations about the available clinical trials that might be appropriate for them. There have been so many new advances that there are a lot of experimental therapies that could be beneficial to patients as they are newly diagnosed and looking at different options. Or, for patients whose cancer doesn't respond to first line therapies, clinical trials may offer other treatment options.

People sometimes have misunderstandings about clinical trials. They're concerned they'll get a placebo, a sugar pill, rather than a "real" treatment. They don't realize that they will get the best standard of care for their particular cancers, as well as the experimental agent.

It's really important for patients to understand how clinical trials have changed over the last 10 years. You're not going into a trial and being a guinea pig. Modern clinical trials are now structured in such a way that patients are only enrolled in the studies in which they have the best chance of responding. I recommend working with a patient advocacy organization for your particular cancer—for example, if you have bladder cancer, a bladder cancer advocacy organization—and with your oncologist, to help guide you through the process of finding an appropriate clinical trial.

What advice would you give to someone who is newly diagnosed with cancer?

It's important to be your own advocate. Ask questions of your oncologist. We have a much better understanding of the genetic basis underlying many different cancers, so I encourage patients to have their tumors genetically profiled. It's personalized medicine. It can help guide your therapy.

If you had a crystal ball, what do you predict in the next 10 years?

There are going to be improved and new targeted therapies, immunotherapies and chemotherapies that will enable precise, effective combinations of treatment for each patient. We've made a lot of significant progress against cancer—the cancer death rate has dropped 27% in the last 25 years—but our goal is to make all cancers treatable diseases.

We're excited about working with the Damon Runyon Cancer Research. How do you see our collaboration unfolding?

In the months ahead, the Damon Runyon Cancer Research Foundation and Cancer Health will collaborate to bring content to your audience about the state of cancer research and latest advances. We'll highlight our scientists, their innovative research past and present, and the positive changes this work has brought to the real-life journeys of patients, families and caregivers.

Section One: How the Damon Runyon Cancer Research Foundation Finds Cures

Section Two: The Next Frontiers in Cancer Therapy

Section Three: Healthy Lifestyle, Reducing Side Effects and Getting the Best Care

---