CURES WITHIN REACH: A CANCER TREATMENT UPDATE

by N. Simon Tchekmedyian, MD

As we enter our 22nd year in practice, we are harnessing the power of the newest technologies to cure more cancer patients than ever before.

Here is an update of some of the latest happenings in cancer treatment and research.

N. Simon Tchekmedyian, MD

LYMPHOMA

New treatments are based on an understanding of the mechanisms of lymphoma cell growth and death. The monoclonal antibody rituximab has dramatically improved our ability to treat malignant lymphomas. New and more potent antibodies are also being tested for both lymphomas and chronic lymphocytic leukemia; and a plethora of new molecules targeting the different receptors of lymphoma cells have also entered clinical testing. One example of this is enzastaurin, a molecule that targets PKC beta, a marker associated with a more aggressive behavior of the lymphoma cells. New treatments address the genetic and molecular reasons for the distinctive sub-types of lymphoma, such as mantle cell lymphoma.

LOW PLATELET COUNTS AND ANEMIA

Low platelet counts can lead to bleeding. A new molecule that stimulates the production of platelets is under testing in hopes of avoiding platelet transfusions in patients with low counts. Although they only last for a few days, platelet transfusions can be inconvenient and patients also run the risk of building an immune response against transfused platelets. Studies are also focusing on the identification of so-called PNH cells in some patients with chronic anemia, which could uncover the usefulness of a new medication called eculizumab.

MALIGNANT MELANOMA

At our recent yearly clinical research conference with the UCLA team at the Translational Oncology Research International Network, our program was credited with having treated the first human being with an investigational monoclonal antibody called CTLA-4 in our Long Beach office. Studies continue with this antibody, which boosts the immune system so that it fights melanoma cells. New approaches that address genetic abnormalities in melanoma cells with the use of nanotechnology are being studied. These include nanoparticle-mediated delivery of genetic material and chemotherapy drugs to cancer cells.

BREAST CANCER

The newest diagnostic tools allow us to tailor treatments not only to the location and extent of breast cancer, but also to the specific features of the cancer cells.

We now have an algorithm that allows us to determine the best treatment based on the many features of the cancer cells. Herceptin, which evolved out of research conducted by Dr. Dennis Slamon at UCLA, is now responsible for an unprecedented improvement in the treatment of breast cancer across the world. We have been very fortunate to be a part of this successful quest. However, we consider that to be just a starting point in a new era for breast cancer therapy.

Additional research shows that we can reduce side effects, such as heart problems, and improve efficacy by utilizing newer treatment combinations and formulations. New medications also target the vasculature and attack specific molecular components of breast cancer cells. We are now conducting over 15 studies on this disease.

And the FDA has recently approved a new chemotherapy drug called ixabepilone, which belongs to a new class of drugs called epothilones, for the treatment of breast cancer.

ENDOMETRIAL AND OVARIAN CANCER

Research shows that some targets identified in breast cancer cells are also present in ovarian cancer cells. Additional mechanisms and targets are being identified very quickly, with help from newer technologies that determine gene expression. These new findings should lead to much-needed advances in the efficacy of therapy for ovarian and endometrial cancers.

PROSTATE CANCER

The number of prostate cancer deaths has been declining probably due to increased public awareness and earlier detection; unfortunately, there are still over 27,000 prostate cancer deaths yearly in the US and new treatments are needed. We have just started participation in a new clinical trial with a derivative of pomegranate extract which had favorable results during earlier research. New molecules that lower the testosterone level are being tested to inhibit prostate cancer cells. Other new therapies under testing (bevacizumab and erlotinib) may prevent the re-growth of prostate cancer after patients have their initial surgery or radiation. Satraplatin, a new investigational oral chemotherapy, is also under testing in prostate cancer.

KIDNEY CANCER

Three new drugs have been approved recently to treat kidney cancer, a disease that for decades did not have any specific, approved therapy. The drugs are sorafenib, sunitinib, and temsirolimus. Research is also moving forward with the use of angiogenesis inhibitors, including bevacizumab, pazopanib and lapatinib.

LUNG CANCER

Lung cancer remains the leading cause of cancer deaths for both men and women. The hope lies with newer molecules that are able to

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IS THAT TATTOO REAL?

Susan's Son Michael's Tribute Tattoo

"Cancer gave me direction and uncovered the inner strength that was unknowingly inside," says Susan Olmstead, a two-time cancer survivor.

Susan's challenges seemed overwhelming when she was first diagnosed with colorectal cancer in 2004, and then insurmountable when she was diagnosed a second time earlier this year. Yet Susan's whispers of inner strength didn't allow her to give into her fear.

"My decision to do everything in my power to survive – which meant having a colostomy – came with a personal promise to live my life to the fullest, not to look back, but rather to nurture the next day and look forward to the future.

"The turmoil began in 2004 like a raging storm," she says. "You see, the surgery took the lower half of my bowel, and I had no more function there. I was forced to wear a colostomy bag, and will for the rest of my life."

Susan also became Pacific Shores Medical Group's first patient to use a new portable infusion pump, which she carried inside a small fanny pack. "I was a little concerned that it was going to get in the way, but it really didn't," she says. "It was very comfortable."

Like many people with cancer, Susan has experienced depression and stress during her treatment; however, her mother and son, Michael, have given her a lot of emotional support.

Michael, who was recently drafted as a New York Mets pitcher, had his own tribute for Susan: a tattoo on his arm depicting a cross of two baseball bats over a ball, with Susan's initials and the family name underneath.

"The first thing she said was, 'Is it real'?" Michael says. "It's as real as it gets," Michael replied. "She was stunned... When she saw her initials she started crying."

"I looked at it and saw the initials on the bats, and he said the two bats symbolize your two bouts with cancer," Susan says. "I was very, very touched he would do that."

Although she is not entirely out of the woods, Susan is now considered cancer-free. "When she learned her cancer responded well to the treatments, she was very happy," Dr. Wu says. "She has been able to tolerate her treatments very well."

"I'm looking at this as the second part of my life. I have a great, positive attitude and I'm starting maintenance treatments with Dr. Wu."