New lymphoma therapies targets diverse and difficult cancer

April 24 2008

The fifth leading cause of cancer in the United States, lymphoma is made up of more than 40 rare and highly diverse diseases that target the body's lymphatic system. Lymphomas include both one of the fastest growing cancers -- Burkitt's lymphoma, which can double in size in as little as a day -- and one of the slowest, chronic lymphocytic leukemia (CLL).

While all lymphoma types can be cured or managed as a chronic disease, its complexity and variation do not allow for a one-size-fits-all treatment approach. Instead, it necessitates highly specialized and individualized approaches.

With a dozen new therapies in development -- one of the largest portfolios of lymphoma drugs under development anywhere -- the Herbert Irving Comprehensive Cancer Center of NewYork-Presbyterian Hospital and Columbia University Medical Center is meeting this challenge with highly effective new treatments for the disease, giving hope to the more than one million lymphoma patients worldwide.

In 2006, NewYork-Presbyterian/Columbia recruited Dr. Owen A. O'Connor, one of the world's top lymphoma researchers, to lead its Lymphoid Development and Malignancy Program, and direct more than 25 full-time scientists and physician scientists.

"By increasing the number and quality of treatment options for lymphoma patients, we are improving their chances for survival. This is

especially critical for patients who haven't responded to standard therapies," says Dr. O'Connor, who is also chief of the Lymphoma Service at NewYork-Presbyterian/Columbia and associate professor of medicine at Columbia University College of Physicians and Surgeons.

One of the most promising new therapies developed at NewYork-Presbyterian/Columbia is PDX (pralatrexate) for T-cell lymphoma -- among the most fatal forms of the disease. The drug is uniquely designed to camouflage itself as a folic acid, which allows it to be absorbed by the tumor, where it attacks the cancer. The therapy has been shown effective in 54 percent of patients who did not respond to other treatments. The drug is now being evaluated around the world, and if its activity is confirmed, it may get regulatory approval some time next year.

"Our hope is that the national multi-center clinical trial that is currently underway to evaluate this drug will result in an improved treatment option for patients," says Dr. O'Connor, who has played a leading role in developing the drug.

Researchers are also exploring novel lymphoma treatments that are not chemotherapies. These include drugs targeting Bcl-6, a gene cloned by Dr. Riccardo Dalla-Favera in 1993, and an enzyme known as histone deacetylase. Work by Dr. Dalla-Favera has shown that drugs affecting these two targets will markedly synergize with conventional chemotherapy, and may lower the amount of chemotherapy necessary to achieve remission.

"We are very excited about the promise of these new therapies. Our lymphoma program includes some of the nation's brightest scientists working together to translate laboratory discoveries into improved treatment options for patients," says Dr. Dalla-Favera, who is director of the Herbert Irving Comprehensive Cancer Center at NewYork-Presbyterian/Columbia, director of the Institute of Cancer Genetics at

Columbia University Medical Center and Uris Professor of Pathology and Genetics & Development at Columbia University College of Physicians and Surgeons.

Source: Columbia University Medical Center