

Novel immunotherapy trial for lymphoma offers hope to patients

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Researchers at Sylvester Comprehensive Cancer Center at the University of Miami Miller School of Medicine are testing a novel cellular immunotherapy approach to treating patients with diffuse large B-cell lymphoma who have failed standard therapy. This investigational anti-CD19 chimeric antigen receptor T cell (CAR-T) therapy, known as KTE-C19, is being studied in a Phase II clinical trial for patients with aggressive non-Hodgkin's lymphoma. Sylvester is the first cancer center in South Florida to treat patients using this new approach.

"CAR-T cells represent a remarkable new way of harnessing the immune system and redirecting it to destroy [cancer cells](#)," said Lazaros J. Lekakis, M.D., a hematologic oncologist at Sylvester and principal investigator for the trial at the [cancer center](#). "In this trial, Kite Pharma, the sponsor of the study, genetically engineers the patient's own T cells, an important component of the immune system, to recognize lymphoma cells and attack them in a way that mimics the way the immune system fights serious infections."

In this clinical trial, the patient's own T cells are first collected from the peripheral blood and shipped to a special manufacturing facility. There, the T cells are genetically engineered to display a novel receptor on their surface called a chimeric antigen receptor, which enables the T cells to recognize a specific protein present on [lymphoma cells](#) called CD19. The modified cells are then sent to Sylvester, where they are transfused back to the patient to target the lymphoma.

"Kite Pharma is privileged to be collaborating with Sylvester and its distinguished researchers on the development of KTE-C19," said Arie Beldegrun, M.D., FACS, Kite's Chairman, President, and Chief Executive Officer. "The successful development of next-generation cancer therapies requires the kind of world-class expertise, vision and commitment that Sylvester contributes to our program. We share their tireless commitment to the introduction of innovative cancer therapies with the potential to transform patient care."

"Our first CAR-T cell [patients](#) had an aggressive form of diffuse large B-cell lymphoma, having failed multiple lines of standard chemotherapy," said Joseph Rosenblatt, M.D., chief of the division of hematology at Sylvester. "Our patients were very brave in seeking this investigational therapy, and so far we are very encouraged by the preliminary response to the therapy."

Non-Hodgkin's lymphoma is a common form of blood cancer with a rising incidence that is diagnosed in more than 70,000 patients each year in the United States. Although many non-Hodgkin's lymphoma patients are cured using standard chemotherapy, substantial numbers of patients fail treatment and require additional options. CAR-T cell therapy provides an innovative new option for patients who have failed standard approaches.

"We are thrilled to bring novel and extremely promising trials of CAR-T cell therapies to patients in South Florida," said Krishna V. Komanduri, M.D., director of the Adult Stem Cell Transplant Program at Sylvester. "While we have known for some time that T cells from [stem cell transplant](#) donors can cure blood cancers that fail chemotherapy, the ability to induce remissions using genetically engineered T cells from patients represents a true therapeutic breakthrough."

"Sylvester is devoted to testing cutting-edge therapies that have real

potential to benefit patients at our center, our region and throughout the world, "said Sylvester Director Stephen D. Nimer, M.D. "Sylvester has embarked on an aggressive program of recruiting physicians and scientists with expertise in immunology, stem cell transplantation, and immunotherapy, so we can incorporate novel cellular therapies, including genetically engineered T cells that are modified to specifically attack cancer [cells](#) into our treatments for patients with a variety of cancers."

Provided by University of Miami Leonard M. Miller School of Medicine

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