CAR-T for More Cancers

Customized treatments demonstrate good response rates for mantle cell lymphoma and chronic lymphocytic leukemia.

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Chimeric antigen receptor T-cell therapy, better known as CAR-T, reprograms patients' T cells to attack their cancer. The first two CAR-Ts were approved in 2017 to treat children with acute lymphoblastic leukemia and adults with large B-cell lymphoma (see "Pioneering Patient"). But the customized immunotherapy holds promise for more types of blood cancer, researchers reported at the American Society of Hematology Annual Meeting in December.

The experimental CAR-T liso-cel led to cancer regression in 82% of study participants with previously treated chronic lymphocytic leukemia in a Phase I/II trial. Liso-cel also shows promise for large B-cell lymphoma and appears safe for people treated as outpatients, suggesting it may not have to be administered in a hospital.

In the Phase II ZUMA-2 study of KTE-X19, a CAR-T candidate for mantle cell lymphoma, 93% of patients saw their tumors shrink, including 67% with complete responses. Kite, a Gilead company, has submitted an application for Food and Drug Administration approval.

Finally, two dual-target CAR-Ts produced good response rates in people with relapsed or nonresponsive multiple myeloma. JNJ-4528 uses two synthetic receptors to target the BCMA antigen on myeloma cells. In the Phase I/II CARTITUDE-1 study, all of the first 29 participants experienced cancer regression, yielding an overall response rate of 100%. A CAR-T dubbed BM38, which targets both BCMA and the CD38 receptor on myeloma cells, had a response rate of 90%.

"To see some patients in this heavily pretreated population surviving for a year or more with a one-time treatment and a manageable safety profile is remarkable," said CARTITUDE-1 lead investigator Deepu Madduri, MD, of the Tisch Cancer Institute at Mount Sinai in New York City. "These patients feel that they have their quality of life back."

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