CAR-T therapy found effective in Black and Hispanic patients

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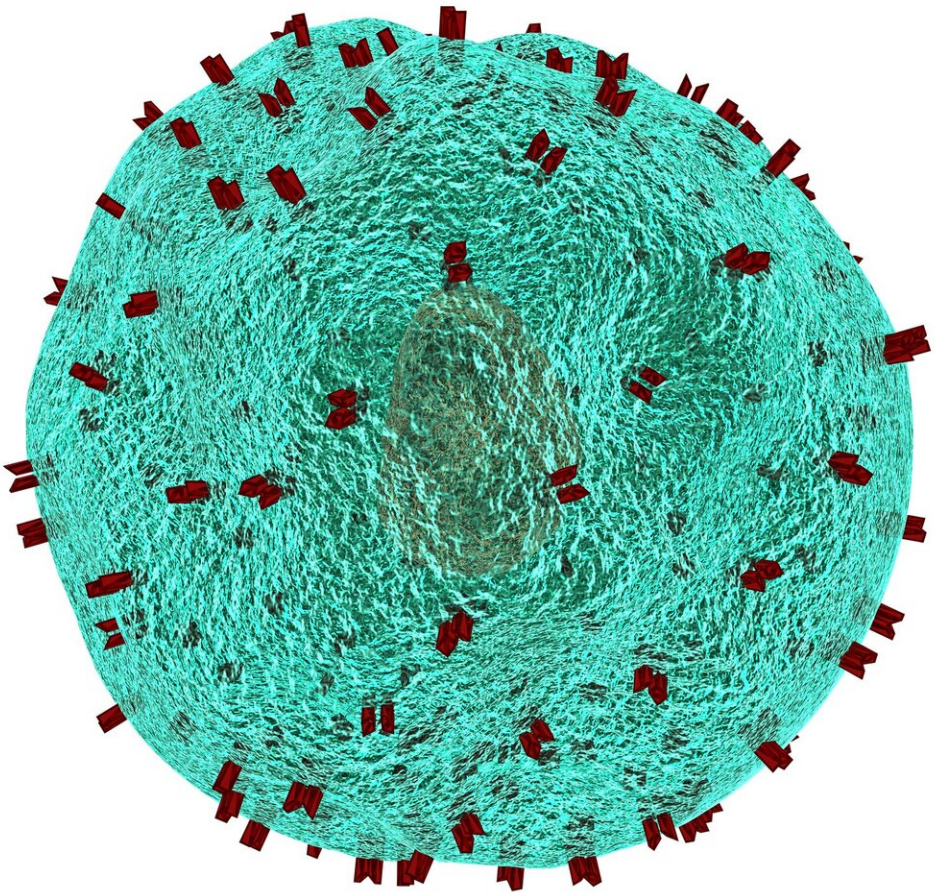

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CAR-T therapy, a form of immunotherapy that revs up T-cells to recognize and destroy cancer cells, has revolutionized the treatment of blood cancers, including certain leukemias, lymphomas, and most recently, multiple myeloma. However, Black and Hispanic people were largely absent from the major clinical trials that led to the U.S. Food and Drug Administration approval of CAR-T cell therapies.

In a study published today in *Bone Marrow Transplantation (BMT),* investigators at the National Cancer Institute-designated Montefiore Einstein Cancer Center (MECC) report that Black and Hispanic patients had outcomes and side effects following CAR-T treatment that were comparable to their white and Asian counterparts.

"Representation in cancer clinical trials is vital to ensuring that treatments are safe and effective for everyone," said Mendel Goldfinger, M.D., co-corresponding author of the paper, a medical oncologist at Montefiore Health System, assistant professor of medicine at Albert Einstein College of Medicine, and member of the MECC Cancer Therapeutics Program. "We couldn't have been happier to learn that our patients who identify as Black and Hispanic have the same benefits from CAR-T therapy as white patients. We can only begin to say that a cancer treatment is transformational when these therapies benefit everyone who comes to us for care."

People who identify as Black and Hispanic often have tumor biology, immune system biology, and side effects that are distinct from white people. However, very few minorities were enrolled in the major trials that led the FDA to approve CAR-T cell therapy.

Parity for Black and Hispanic Patients

The new *BMT* study evaluated outcomes for 46 participants treated at Montefiore between 2015 and 2021. Seventeen of the participants were Hispanic, 9 were African American, 15 were white, and 5 were Asian.

Among Black and Hispanic patients, 58% achieved a complete response after treatment and 19% achieved a partial response. For white and Asian patients, 70% achieved a complete response and 20% had a partial response, indicating no statistical differences among racial and ethnic backgrounds. Results were similar with respect to major side effects experienced: Approximately 95% of participants in each group had mild to moderate cytokine release syndrome, a common side effect to immunotherapy in which people experience fever and other flu-like symptoms.

Diversifying cancer clinical trials

"Our findings demonstrate that we are able to effectively treat people from historically marginalized groups using CAR-T; our hope is that more people from a diverse range of racial and ethnic backgrounds will be included in clinical trials," said co-author Amit Verma, M.B.B.S., associate director of translational science at MECC, director of the division of hemato-oncology at Montefiore and Einstein, and professor of medicine and of developmental and molecular biology at Einstein. Ira Braunschweig, M.D., associate professor of medicine at Einstein and director of Stem Cell Transplantation and Cellular Therapy and clinical program director, Hematologic Malignancies at Montefiore, is also co-corresponding author on the study.

At Montefiore, approximately 80% of clinical trial participants are minorities, compared with the nationwide figure of only 8%.

"As an academic medical center, it is not enough to make novel therapies like CAR-T available," said Susan Green-Lorenzen, R.N. M.S.N., system senior vice president of operations at Montefiore and study co-author. "We need to be at the forefront of ensuring that these treatments are effective for the communities we serve—this research reflects this commitment."

More information: Astha Thakkar et al, Efficacy and safety of CAR-T cell therapy in minorities, *Bone Marrow Transplantation* (2022). DOI: 10.1038/s41409-022-01670-1

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