

Pediatric brainstem cancer eradicated in mice using CAR-T treatment

Engineered human immune cells can vanquish a deadly pediatric brain tumor in a mouse model, a study from the [Stanford University School of Medicine](#) has demonstrated.

[The study](#), which was published online April 16 in Nature Medicine, represents the first time a severe brainstem cancer, diffuse intrinsic pontine glioma, has been eradicated in mice with the tumor. DIPG affects a few hundred school-age children across the country each year and has a median survival time of only 10 months; there is no cure. In mice whose brainstems were implanted with human DIPG, engineered immune cells known as chimeric antigen receptor T cells — or CAR-T cells — were able to eliminate tumors, leaving very few residual cancer cells.

“I was pleasantly surprised with how well this worked,” said [Michelle Monje](#), MD, PhD, assistant professor of neurology and a senior author of the study.

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When the brains of the mice were examined via immunostaining after treatment, the animals had, on average, a few dozen cancer cells left, compared with tens of thousands of cancer cells in animals that received a control treatment.

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However, some mice experienced dangerous levels of brain swelling, a side effect of the immune response triggered by the engineered cells, the researchers said, adding that extreme caution will be needed to introduce the approach in human clinical trials.

Read full, original post: [Altered immune cells clear childhood brain tumor in mice](#)