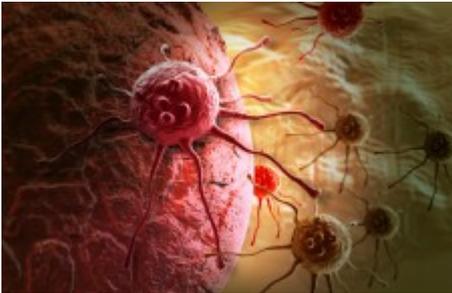


# Immuno-therapy raises hope in battling acute leukemia

By ACSH Staff — February 20, 2014



Modern clinical research has turned to harnessing a patient's

own immune system to block the proliferation of cancer cells. The most recent success originates from T-cell therapy performed in 16 patients with relapsed or refractory B-cell acute lymphoblastic leukemia (B-ALL). Fourteen of them responded completely to the treatment, yielding an overall 88% response rate previously unheard of. Dr. Reiner J. Brentjens, senior author of [this clinical study](#) [1], conducted at Memorial Sloan Kettering Center, says It was an impressive response rate in such a [sick] patient population.

T-cells are biologically poised to fight any foreign invader in the body. As such, scientists enlist them to fight cancer by engineering host T cells to target foreign cancer-specific antigens. In this study, T cells were genetically modified to recognize and kill cells bearing the CD19 protein, ubiquitous on the B-ALL cell surface. The newly-engineered T cells are called CAR-T cells (chimeric antigen receptor). They eradicate tumors in patients with this aggressive form of leukemia, at least for a given period of time.

Researchers don't know how long the beneficial effects of the treatment last. However, they identified some interventions that might sustain the effects of this immunotherapy. For example, they found tools to diagnose and curb the effects of severe cytokine release syndrome, which causes a type of systemic inflammatory reaction, involving high fevers. With methods to detect patients at risk of complications, and established preventive agents, CAR-T cells may become a long-term treatment providing hope for patients like these, who have had very few options.

ACSH's Dr. Gil Ross had this perspective: I am highly impressed by this admittedly small, phase I in fact, study, but even a temporary response of 88 percent in a well-known rapidly lethal disease is a huge accomplishment. The news articles don't highlight the downside: only four of the 14 responders remain in remission, but why quibble?

**Source URL:** <https://www.acsh.org/news/2014/02/20/immuno-therapy-raises-hope-battling-acute-leukemia>  
**Links**

[1] <http://stm.sciencemag.org/content/6/224/224ra25>