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New immune Tx achieves remission in B-cell malignancies

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(HealthDay)—A new T-cell immunotherapy has led to sustained

regression in many previously relapsing and treatment-resistant cases of acute lymphoblastic leukemia, non-Hodgkin's lymphoma, and chronic lymphocytic leukemia, according to research presented at the annual meeting of the American Association for the Advancement of Science (AAAS), held from Feb. 11 to 15 in Washington, D.C.

The therapy involves removing T cells from patients, using gene transfer to introduce highly potent receptors that target the cancer (chimeric antigen receptors), and then placing them back in the body. The altered T cells then seek and destroy cancer. In a clinical trial, symptoms vanished in 94 percent of leukemia patients who received the treatment. The response rate was more than 80 percent in patients with other B-cell malignancies, and half achieved total remission, *CNBC* reported.

The results are unprecedented, according to researcher Stanley Riddell, M.D., an immunotherapy researcher and oncologist at the Fred Hutchinson Cancer Research Center in Seattle. "In the laboratory and in clinical trials, we are seeing dramatic responses in patients with tumors," he said at the AAAS meeting. "Unlike a chemotherapy drug which destroys cancer cells that are growing, you put in a living therapy that engages the cancer in hand to hand combat." In patients who receive the therapy, "the bone marrow just goes from being full of leukemia to being in remission, and very large tumors simply melt away," Riddell said on his company website, *CNBC* reported.

The results are revolutionary, according to Chiara Bonini, M.D., of the San Raffaele Scientific Institute in Milan. "The last time (I saw) a change in remission rates like this must have been in 2000," she said during the presentation. "T cells are a living drug, and in particular they have the potential to persist in our body for our whole lives."

The research is funded by Juno Therapeutics, which was initially formed on technology from researchers at Fred Hutchinson, Memorial Sloan-

Kettering Cancer Center, and Seattle Children's Research Institute to commercialize promising immunotherapies.

More information: Abstract