

Vaccine for multiple myeloma produces cancer-fighting cells

1 year after BMT, it's not clear whether the vaccine stops cancer from worsening



A personalized vaccine helps produce cells that fight multiple myeloma. But it's unclear if the vaccine stops multiple myeloma from worsening.

Multiple myeloma is a blood cancer. Blood or marrow transplant (BMT) can treat multiple myeloma, but the multiple myeloma usually comes back, or relapses.

Researchers studied a personalized vaccine to see if it would prevent relapse after BMT. Each patient's vaccine was made just for them, using their own tumor cells and dendritic cells combined into one cell in a lab. This vaccine was given to each patient to provide immunity against their cancer cells.

Dendritic cells are a special kind of white blood cell that can recognize cancers and teach other white blood cells (T cells) to search and destroy cancer. So the dendritic cells are like generals who tell soldier T cells to target cancer cells.

The multiple myeloma study took place in the US during 2016-2018. It included 140 people, aged 70 and younger.

People were randomly divided into 3 groups of treatments:

- Vaccine + 2 medicines, called GM-CSF and lenalidomide
- 2 medicines (GM-CSF and lenalidomide)
- 1 medicine (lenalidomide)

One year later:

- All 3 groups of people were equally likely to be alive without cancer.
- People who got dendritic cell vaccines had more T cells that fight multiple myeloma compared to people who did not get vaccines.

Researchers said a study longer than 1 year might show whether or not the vaccine is helpful in the long-term.

About the same number of people in all 3 groups had side effects, so it's unlikely that the effects were from the vaccine alone. The most common side effects were disorders of the blood, digestive system, and nervous system.

Learn more about

- [Multiple myeloma](#) at BeTheMatch.org
- [Clinical trials for vaccines and cancer](#) at CTsearchsupport.org
- More [study summaries](#) at CIBMTR.org

Source

Chung DJ, Shah N, Wu J, et al. [Randomized Trial of a Personalized Dendritic Cell Vaccine after Autologous Stem Cell Transplant for Multiple Myeloma](#). *Clinical Cancer Research*. 2023. Epub 2023/07/18. doi: 10.1158/1078-0432.Ccr-23-0235.

Clinical Trial IDs: BMT CTN 1401; ClinicalTrials.gov NCT02728102

Sponsor: Blood and Marrow Transplant Clinical Trials Network (BMT CTN)

Center for International Blood and Marrow Transplant Research, Medical College of Wisconsin, Clinical Cancer Center, 9200 W. Wisconsin Avenue, Suite C5500, Milwaukee, WI 53226, 414-805-0700.

BMT CTN is a collaboration of the Medical College of Wisconsin; the National Marrow Donor Program (NMDP); and The Emmes Company. It is supported by the National Heart, Lung and Blood Institute and by the National Cancer Institute.

Learn more at [BMTCTN.net](#)

This plain-language summary was written by Jennifer Motl at the Medical College of Wisconsin and reviewed by an author of the article.

© 2023 by CIBMTR, [CC BY-SA 4.0](#).