BMT CTN Research News

Medicines given after transplant have unique effects



Researchers learned more about how different medicines given after transplant can affect people's immune systems.

A clinical trial included 324 adults who received blood or marrow transplant (BMT) to treat a blood cancer. Everyone got BMT in the US during 2019-2022. After BMT, they got certain medicines: either cyclophosphamide or a combination of methotrexate with tacrolimus.

These medicines prevent graft-versus-host disease (GVHD). GVHD is a serious effect of BMT where the donated immune cells attack the patient's cells. GVHD may hurt a patient's health and quality of life.

Compared to patients who got methotrexate and tacrolimus, the patients who got cyclophosphamide were:

- Less likely to get chronic GVHD
- More likely to get some infections
- Equally likely to have cancer return

Researchers said that was because cyclophosphamide has unique effects on the number and type of a patient's T cells, when compared to methotrexate and tacrolimus. A T cell is a type of immune cell that both fights infections and can cause GVHD after transplant.

This is important, because doctors can closely watch patients' immune systems before and after transplant, and tailor medicines to each patient's unique needs.

Depending on the patient, doctors might:

- Give fewer medicines that weaken the immune system
- Give more germ-fighting medicines

Keep in mind

Every person is different. Ask your doctor what's right for you.

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- NMDP Patient Support Center at NMDP.org or 1 (888) 999-6743
- More BMT CTN trials at BMTCTN.net
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Source

DeWolf S, Siegel SJ, Schmalz J, et al. Graft-versus-host disease prophylaxis shapes T cell biology and immune reconstitution after hematopoietic cell transplant. Science Translational Medicine. 2026 Oct 21;18(872):eaef7406. doi:10.1126/scitranslmed.aef7406.

Clinical Trial IDs: BMT CTN 1801; ClinicalTrials.gov NCT03959241

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