Post-Transplant Cyclophosphamide, Tacrolimus, and Mycophenolate Mofetil as the New Standard for Graft-versus-Host Disease (GVHD) Prophylaxis in Reduced Intensity Conditioning Hematopoietic Cell Transplantation

A Blood and Marrow Transplant Clinical Trials Network (BMT CTN) phase III study, BMT CTN 1703

Highlights for Physicians:

The purpose of this phase III randomized clinical trial was to assess the outcomes of a novel three-drug combination for graft-versus-host disease (GVHD) prevention following HLA-matched allogeneic hematopoietic cell transplantation (alloHCT) with reduced-intensity conditioning (RIC). Key findings revealed:

- **Patients undergoing the new combination of post-transplant cyclophosphamide (PTCy)-tacrolimus (Tac)-mycophenolate mofetil (MMF) had a notably higher GVHD-free, relapse-free survival rate at 1-year** compared to those on the standard Tac-methotrexate (MTX) regimen.
- **The new approach reduced the incidence of both acute and chronic GVHD** without increasing disease relapse risks.
- **The outcomes strongly call for a shift in the standard GVHD prevention protocol,** offering patients the optimal chance at event-free survival post-alloHCT.

Results at a Glance:

BMT CTN 1703: Adult patients from 37 centers in the U.S. (n=431) who received alloHCT from a matched related donor, matched unrelated donor, or mismatched unrelated donor with RIC were randomized into two groups. The first (experimental-prophylaxis group) received PTCy/Tac/MMF and the second received the standard Tac/MTX regimen.

- The experimental-prophylaxis group exhibited significantly better GVHD-free, relapse-free survival compared to the standard-prophylaxis group, with a hazard ratio of 0.64 (p=0.001) in the multivariate analysis.
- At 1-year post-transplant, the adjusted GVHD-free, relapse-free survival was 52.7% in the experimental group, compared to 34.9% in the standard group.
- While patients under the experimental regimen experienced less severe acute or chronic GVHD and a higher rate of immunosuppression-free survival at 1 year, overall survival, disease-free survival, relapse, transplantation-related death, and engraftment were comparable between the groups.

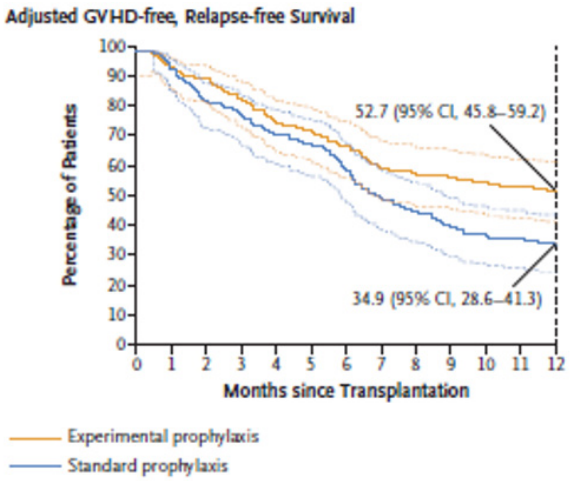

Figure: GVHD-free, Relapse-free Survival Outcomes. Used with permission of the study team.

Advancing Practice and Improving Outcomes:

NMDP/Be The Match and the CIBMTR® (Center for International Blood and Marrow Research®) are committed to patients thriving after transplant. Providing GVHD prophylaxis using treatment from evidence-based research can optimize survivorship. Our research programs are committed to evaluating novel treatment strategies that can improve patient outcomes and quality of life.

You can support your patient's journey both pre- and post-transplant by:

- Discussing treatment options early with your patients to ensure an optimal donor can be secured.
- Collaborating with members of the health care team to determine the best treatment plan for your patients to prevent both acute and chronic GVHD.
- Accessing tools and resources to stay updated on recent evidence-based practice that can potentially transform the standards of care for your patients.

Read the publication in *The New England Journal of Medicine* (DOI:10.1056/NEJMoa2215943).

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