

CAST regimen effective for GVHD prevention in haploidentical transplantation

WHY?

- More strategies are needed to reduce the rates of acute graft-versus-host disease (GVHD) after allogeneic (cells from a donor) blood or marrow transplant (BMT)
- It is unknown whether a combination of other drugs with the standard treatment of post-transplant cyclophosphamide (PTCy) is safe and effective at preventing acute GVHD

WHAT?

- Phase 1b-2 clinical trial
- Led by New York University Langone Health
- Study examined the combination of PTCy, abatacept and short course of tacrolimus (CAST) after peripheral blood haploidentical (half-matched) BMT

WHEN?

2020-2022

WHO?

- 46 patients
 - Median age 60 years old (range 18-74)
 - 41.3% racially/ethnically diverse
 - Haploidentical BMT for malignant disease
 - Received either full or reduced intensity conditioning

RESULTS

- At day 120 after BMT, 17% of patients had developed grade 2-4 acute GVHD
- No patients developed grade 4 acute GVHD
- Of the 18 patients who received 4 doses of abatacept, 17% developed grade 2-4 acute GVHD and no patients developed grade 3-4 acute GVHD
- Side effects of the treatment were similar to those expected in patients receiving a haploidentical BMT with PTCY

Read the CAST for GVHD study results in Blood Advances (DOI: [10.1182/bloodadvances.2023010545](https://doi.org/10.1182/bloodadvances.2023010545))

IMPACT

- The clinical trial showed the CAST regimen is safe and effective in reducing the rates of grades 2-4 acute GVHD after haploidentical BMT.
- The CAST regimen appears to improve upon outcomes compared to standard PTCy-based approaches to prevent acute GVHD.
- This was a small study but may be a promising option for reducing the risk of acute GVHD.
- It's important to reduce GVHD to improve the long-term quality of life of patients who've had haploidentical hematopoietic stem cell transplantation.
- The study team has initiated a subsequent trial using the CAST combination while reducing the dose of PTCy after haploidentical BMT.

FROM THE EXPERTS

"Moving forward, it is crucial that we reduce treatment-related mortality associated with allogeneic transplantation. Now that PTCy-based prophylaxis has been established as a new standard for GvHD prevention; future efforts must focus on building upon this platform. The CAST regimen is a step in that direction. Albeit biased, I can now foreCAST a future with no GvHD!"



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