

ScienceDirect<sup>®</sup>

Blood

Volume 142, Supplement 1, 2 November 2023, Page 2233

Poster Abstracts

732.Allogeneic Transplantation: Disease Response and Comparative Treatment Studies

# Mismatched Unrelated Donor Transplantation with Ptcy-Based Gvhd Prophylaxis Is Associated with Better Survival Than Double Unit Umbilical Cord Blood Transplantation in Patients with AML in First CR: A Study from the ALWP of the EBMT

Frederic Baron MD PhD<sup>1</sup>, Myriam Labopin<sup>2,3</sup>, Jurjen Versluis MD PhD<sup>4</sup>, Jan Vydra<sup>5</sup>, Peter A. Von Dem Borne MD PhD<sup>6</sup>, Emma Nicholson MD PhD<sup>7</sup>, Didier Blaise<sup>8</sup>, Robinson Stephen Jr.<sup>9</sup>, Kulagin Aleksandr Sr.<sup>10</sup>, Claude-Éric Bulabois MD<sup>11</sup>, Montserrat Rovira MD PhD<sup>12</sup>, Patrice Chevallier MD<sup>13</sup>, Édouard Forcade<sup>14</sup>, Jenny Louise Byrne MD PhD<sup>15</sup>, Jaime Sanz Caballer MDPhD<sup>16</sup>, Annalisa Ruggeri MD PhD<sup>17</sup>, Mohamad Mohty MDPhD<sup>18</sup>, Fabio Ciceri<sup>19</sup>

[Show more](#) ▾[Share](#) [Cite](#)<https://doi.org/10.1182/blood-2023-186293>[Get rights and content](#)

## Disclosures

**Baron:** *ExCellThera Inc:* Consultancy; *Takeda:* Honoraria; *Incyte Biosciences:* Consultancy. **Versluis:** *AbbVie:* Honoraria; *ExCellThera:* Consultancy. **Nicholson:** *Kite-Gilead:* Honoraria, Membership on an entity's Board of Directors or advisory committees, Research Funding; *Novartis:* Honoraria, Membership on an entity's Board of Directors or advisory committees. **Blaise:** *Jazz Pharmaceuticals:* Honoraria. **Bulabois:** *ASTELLAS:* Speakers Bureau; *BMS:* Consultancy. **Chevallier:** *Incyte:* Honoraria, Research Funding; *Sanofi:* Honoraria; *Mallinckrodt Pharmaceuticals:* Honoraria; *Takeda:* Honoraria; *Immedica Pharma:* Honoraria; *Servier:* Honoraria. **Forcade:** *Sanofi:* Speakers Bureau; *GSK:* Speakers Bureau; *Alexion:* Other: Travel support, Speakers Bureau; *Jazz:* Other: Travel support; *Gilead Sciences:* Other: Travel support, Speakers Bureau; *Novartis:* Consultancy, Other: Travel support, Speakers Bureau; *MSD:* Other: Travel support; *Astellas:* Speakers Bureau. **Mohty:** *JAZZ PHARMACEUTICALS:* Honoraria, Research Funding. **Ciceri:** *ExCellThera:* Other: Scientific Advisory Board .

**Background:** The best donor option for acute myeloid leukemia (AML) patients lacking an HLA-matched donor has remained unknown. The recently reported BNT CTN 1101 trial observed higher non-relapse mortality (NRM) and lower overall survival (OS) in patients randomized to double-unit unrelated umbilical cord blood transplantation (dCBT) in comparison to those randomized to HLA-haploidentical bone marrow transplantation with post-transplant cyclophosphamide (PTCy)-based graft-versus-host disease (GVHD) prophylaxis<sup>1</sup>. In addition, recent registry studies observed at least as good transplantation outcomes in AML patients given grafts from 9/10 HLA-matched unrelated donor (UD 9/10) with PTCy-based GVHD prophylaxis as those given grafts from HLA-haploidentical donors<sup>2,3</sup>. These observations prompted us to perform a retrospective registry study comparing hematopoietic cell transplantation (HCT) outcomes between UD 9/10 and dCBT. **Methods:** Inclusion criteria consisted of adult patient, AML in CR1 at transplantation, either peripheral blood stem cells (PBSC) from UD 9/10 with PTCy as GVHD

prophylaxis or dCBT, transplantation between 2013 and 2021, and no *in vivo* T-cell depletion. **Results:** A total of 208 dCBT patients and 270 UD 9/10 allo-HCT were included. The 180-day cumulative incidence of grade II-IV acute GVHD was 29% in UD 9/10 versus 44% in dCBT recipients (P=0.001). The 2-year cumulative incidences of relapse and of NRM were 23.5% and 12.5%, respectively, in UD 9/10 recipients versus 27% (P=0.39) and 18% (P=0.07), respectively in dCBT recipients. Two-year OS and LFS were 70% and 64%, respectively, in UD 9/10 recipients versus 60% (P=0.016) and 55% (P=0.028), respectively in dCBT recipients. In multivariate analyses, in comparison with UD 9/10 recipients, dCBT patients had a higher non-relapse mortality (HR=2.35, 95% CI: 1.23-4.48; P=0.01), comparable relapse incidence (HR=1.12, 95% CI: 0.67-1.86; P=0.66), lower leukemia-free survival (HR=1.5, 95% CI: 1.01-2.23; P=0.047), and lower overall survival (HR=1.66, 95% CI: 1.08-2.55; P=0.02). **Conclusions:** In summary, our results suggest that transplantation outcomes are better with UD 9/10 with PTCy-based GVHD prophylaxis than with dCBT for AML patients in CR1. These data might support the use of UD 9/10 with PTCy-based GVHD prophylaxis in AML patients lacking an HLA-matched donor.

## References

Fuchs, E. J. *et al.* Double unrelated umbilical cord blood vs HLA-haploidentical bone marrow transplantation: the BMT CTN 1101 trial. *Blood* **137**, 420-428 (2021).

Baron, F. *et al.* Comparison of HLA-mismatched unrelated donor transplantation with post-transplant cyclophosphamide versus HLA-haploidentical transplantation in patients with active acute myeloid leukemia. *Bone Marrow Transplant.* **57**, 1657-1663 (2022).

Battipaglia, G. *et al.* Post-transplant cyclophosphamide in one-antigen mismatched unrelated donor transplantation versus haploidentical transplantation in acute myeloid leukemia: a study from the Acute Leukemia Working Party of the EBMT. *Bone Marrow Transplant.* **57**, 562-571 (2022).

[Special issue articles](#)   [Recommended articles](#)

---

## References (0)

---

## Cited by (0)

[View full text](#)

Copyright © 2023 The American Society of Hematology. Published by Elsevier Inc. All rights reserved.



All content on this site: Copyright © 2024 Elsevier B.V., its licensors, and contributors. All rights are reserved, including those for text and data mining, AI training, and similar technologies. For all open access content, the Creative Commons licensing terms apply.

