

MATCHED-SIBLING, MATCHED-UNRELATED, OR HAPLOIDENTICAL TRANSPLANTATION FOR ACUTE LEUKEMIAS AND MYELODYSPLASIA IN BRAZIL: A PROSPECTIVE MULTICENTER STUDY IN COLLABORATION WITH THE CIBMTR

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Introduction: Matched-Sibling Donor (MSD) is considered the gold standard in Hematopoietic Cell Transplantation (HCT). However, for patients lacking an MSD, alternative options include a Matched-Unrelated (MUD) or Haploidentical (HAPLO) donor. Although MUD is an established procedure in Brazil, with the third-largest unrelated donor registry (REDOME), HAPLO with Posttransplant Cyclophosphamide (PTCy) is a novel procedure that has become extremely popular worldwide since the original report in 2008. **Objectives:** To compare outcomes of HCT using MSD, MUD, and HAPLO in Brazil. **Methods:** This is a registry-based multicenter prospective study including patients who underwent HCT with MSD, MUD, or HAPLO (with PTCy) donor for Acute Lymphoblastic Leukemia (ALL), Acute Myeloid Leukemia (AML), or Myelodysplasia (MDS) between 2018 and 2021. The data were reported to the Center for International Blood and Marrow Transplant Research (CIBMTR), which curated the database before providing it to us. Studied outcomes were Overall Survival (OS) and Graft-versus-host disease-, Relapse-Free Survival (GRFS). Survival curves were estimated with the Kaplan-Meier method and compared with the logrank test. Multivariable analysis was performed with Cox models. Multivariable models were selected based on the lowest AIC. This study was approved by the CIBMTR and by local Ethics Committees. **Disclaimer:** The CIBMTR has not yet reviewed or endorsed the results. **Results:** We included 513, 262, and 480 patients in the MSD, MUD, and HAPLO groups, respectively, with median

follow-up times of 25-, 33-, and 24-months. MSD patients were generally older, and MUD patients had a longer time to transplant. Almost all MUD patients received ATG. Other variables were roughly balanced. Two-year OS was 58% for MSD, 61% for MUD, and HAPLO 54% ($p=0.03$). In OS multivariable analysis, HAPLO was associated with inferior OS ($HR=1.30$, $p=0.009$) compared with MSD, while MUD was not significantly different ($HR=0.93$, $p=0.58$). Additionally, HAPLO was associated with lower OS compared with MUD ($HR=1.39$, $p=0.007$). Of note, results were poorer in older patients, those receiving peripheral blood (PBSC, $HR=1.21$, $p=0.05$), and higher DRI groups. Two-year GRFS was 27% for MSD, 37% for MUD, and 28% HAPLO ($p=0.05$). In GRFS multivariable analysis, HAPLO led to inferior GRFS ($HR=1.19$, $p=0.03$) compared with MSD, with MUD showing no significant difference ($HR=0.95$, $p=0.59$). HAPLO also had a lower GRFS compared to MUD ($HR=1.26$, $p=0.02$). **Discussion:** Our results show that HAPLO's outcomes are slightly poorer compared to MSD or MUD. Some international reports have reached the same result, especially when MUD receives PTCy. Many factors may have influenced the results, two of the most obvious being the high prevalence of CMV in our population and the high genetic miscegenation in Brazil. Moreover, time-to-transplant was longer in MUD, indicating that there could be some kind of survival bias. Our series represents one of the largest in the world in a study conducted with the support of the CIBMTR. **Conclusion:** MUD transplants should not be systematically replaced by HAPLO in Brazil. However, in situations where the expected time to transplant with MUD donors is long, HAPLO can offer acceptable results, given the small magnitude of the effect and the possibility of survival bias in the MUD group.

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SOBREVIDA APÓS UM SEGUNDO TRANSPLANTE DE CÉLULAS TRONCO HEMATOPOIÉTICAS (TCTH) EM PACIENTES PEDIÁTRICOS COM LEUCEMIAS AGUDAS: PODEMOS FAZER MELHOR?

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