the family. **Conclusions:** 20% of the patients were unable to perform HCT. Since allogeneic HCT is the only curative treatment available in our country, not performing it may impact the patients'quality of life and ultimately their survival. Despite the small number of patients, the importance of this survey is to understand the problems of our patients and, therefore, to implement strategies that can minimize some of the factors that prevented HCT from being performed. Universal leukodepletion of red blood cells has significantly decreased alloimmunization on other countries and must be considered in patients who may need a HCT or may need to be transfused for many years. The possibility of searching for an unrelated donor must be respected as a universal right of the patients in need for an allogeneic HCT.

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ENCOURAGING OUTCOMES OF SECOND ALLOGENEIC STEM CELL TRANSPLANT FOR ACUTE LEUKEMIAS AND MYELODYSPLASTIC SYNDROMES FROM TWO CENTERS IN SÃO PAULO, BRAZIL

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Objectives: Second allogeneic Hematopoietic Stem Cell Transplant (HSCT) is the only curative treatment option for patients who relapse after a first transplant for malignant diseases. Previously reported outcomes for this intervention are often dismal, with high Relapse Incidence (RI), Non-Relapse Mortality (NRM), and low Overall Survival (OS). Here, we present encouraging results from two centers in São Paulo performing second HSCT for acute leukemias and Myelodysplastic Syndromes (MDS). **Material and methods:** This retrospective observational study included 17 patients, aged 18 years or older, who underwent a second allogeneic HSCT for relapsed acute leukemia (AML, n = 9, ALL, n = 7) or MDS (n = 2) at two Brazilian centers in São Paulo between November 2012 and March 2024. Clinical data were collected using standardized forms based on information obtained from medical records. **Results:** The median age was 37-years (range: 18–65), with a majority of male patients (n = 11, 61%). The majority of donors were haploidentical (n = 14, 78%), followed by matched sibling donors (n = 3, 17%) and matched unrelated donors (n = 1, 5%). Most patients (n = 16, 89%) received Reduced-Intensity Conditioning (RIC) regimens, with mobilized peripheral blood as the stem cell source in 15 patients (83%) and bone marrow in 3 patients (17%). All but one patient had different donors from the first HSCT. Among the patients, 10 (55%) were not in remission before the transplant. The median follow-up was 19-months (range: 9–19). The Cumulative Incidence (CI) of acute GVHD grade II–IV was 36%, and grade III–IV was 16% at 100-days. The CI of chronic GVHD at 2-years was 20%. The CI of relapse/progression was 12% at 100-days and 20% at two years, and CI of NRM was 13% at 100-days and remained 13% at two years. OS and Progression-Free Survival (PFS) at two years were 72% and 62%, respectively. When stratified by diagnosis, the 2-year OS rates were 27% for acute lymphoblastic leukemia (ALL), and 100% for AML or MDS. **Discussion:** A second HSCT is a feasible and safe curative option for malignant hematologic diseases in the challenging setting of relapse or failure after a first allogeneic HSCT, especially in AML. These findings may reflect improvements in supportive therapies, the growing use of RIC regimens, and personalized immunosuppressive therapy timing. The superior 2-year OS observed in myeloid malignancies may reflect the superior graft-versus-leukemia effect elicited by HSCT in these diseases, even in the setting of a previous relapse/failure. **Conclusion:** Although previous data have reported low rates of survival and high TRM, here we present encouraging results supporting that second HSCT can elicit positive outcomes when performed with judicious choices of patients, donors, conditioning regimens and imunossupressive therapy modulation.

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TERAPIA COM CÉLULAS T MODIFICADAS DIRECIONADAS AO ANTÍGENO DE MATURAÇÃO DE CÉLULAS B: AVANÇOS NO TRATAMENTO DO MIELOMA MÚLTIPLO

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Objetivos: Analisar os avanços na terapia com células T modificadas direcionadas ao Antígeno de Maturação de Células B (BCMA) para o tratamento do mieloma múltiplo, avaliando inovações tecnológicas, segurança e impacto na redução da carga tumoral dos pacientes recidivantes e refratários. **Materiais e métodos:** Este estudo é uma revisão de literatura baseada em evidências científicas da PubMed, utilizando os descritores "CAR-T cells", "BCMA", "*multiple myeloma*"e "*immunotherapy*". A pesquisa inclui apenas meta-análises, revisões sistemáticas, ensaios clínicos e ensaios clínicos randomizados publicados entre 2019 a 2024. **Resultados:** Os avanços na terapia com células T CAR direcionadas ao BCMA têm sido notáveis para o tratamento do Mieloma Múltiplo Recidivante e Refratário (RRMM). Em um estudo com BM38 CAR-Ts, uma abordagem bispecífica direcionada ao BCMA e CD38, observou-se uma alta taxa de resposta clínica de 87%, com uma mediana de sobrevida livre de progressão (PFS) de 17,2 meses. Os eventos adversos mais comuns foram a síndrome de liberação de citocinas (87% dos pacientes) e toxicidades hematológicas frequentes, sem neurotoxicidade observada. A persistência das células CAR-T foi detectável em 77,8% dos pacientes aos 9 meses e 62,2% aos 12 meses. Outro estudo com CT103A, uma terapia totalmente humana direcionada