pacientes para o polimorfismo A>G (rs17576) *MMP9*, seguindo as frequências de 59,3% do genótipo AA, 35,2% do AG e 5,5% do GG. O alelo G foi associado ao desenvolvimento do LB (OR 1,99; p = 0,013), em relação ao alelo A. O genótipo AG+GG, mostrou associação para o desenvolvimento do LB, em comparação ao AA (OR 2,24; p = 0,024). A análise pelo teste G (Williams) fortaleceu as associações, p = 0,008 e p = 0,016, respectivamente. Os casos e controles estavam em equilíbrio de Hardy-Weinberg (p = 0,935; p = 0,715). **Discussão:** A busca pelo entendimento da gênese molecular do LB e por marcadores de prognósticos deve ser constante. Esse é o primeiro estudo que associa o polimorfismo rs17576 ao LB. Esses achados poderão contribuir para uma medicina de precisão, a partir da criação de melhores protocolos de estratificação de risco e de tratamento, com base na susceptibilidade genética dos indivíduos. **Conclusão:** O trabalho sugere uma associação do polimorfismo rs17576 da MMP9 com o risco do desenvolvimento do LB em pacientes pediátricos. Por fim, mais estudos precisam ser conduzidos para validar esse marcador em outras populações.

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REVOLUTIONIZING POST-TRANSPLANT CARE IN PEDIATRIC ACUTE MYELOID LEUKEMIA (AML) WITH TAILORED MAINTENANCE THERAPIES: A LEAP TOWARDS ENHANCED SURVIVAL AGAINST ACTIVE DISEASE

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Pediatric Acute Myeloid Leukemia (AML) presents significant treatment challenges, particularly post-transplant relapses. The use of the only specific immunotherapy for AML may increase transplant-related toxicities due to the calicheamicin. This scarcity of effective post-transplant strategies underscores a critical need for innovative approaches to improve survival, especially for those undergoing transplantation with active disease. The objective of his study is to describe the experience and effectiveness of the tailored post-transplant maintenance therapy used in pediatric AML, particularly those who entered transplantation with active disease, to enhance survival and cure rates. Methods: Retrospective analysis of 30 pediatric AML patients transplanted between 2014 and 2024. From 2021 on, high risk or FLT3-ITD+ patients transplanted with active disease, received azacytidine or decitabine, FLT3 inhibitors and venetoclax. We collected demographic data, disease characteristics, treatment regimens, and clinical outcomes, using Kaplan-Meier survival estimates and log-rank test to assess the impact of maintenance therapy. Results: The median age of participants was 4 years, 63% male. Most conditioning regimens were myeloablative and busulfan-based (63%). Twenty transplants were haploidentical (67%). Notably, 53% of the transplants were performed with > 5% marrow blasts. Among the total of 30 transplants, due to insurance restraints, only 8 (27%) received post-transplant maintenance therapy: 7 a hypomethylating agent, 5 in combination with venetoclax and 2 FLT3 inhibitors. Maintenance was started at a median of D+59 with a duration of 5 months (1-18 months). Of the 11 patients transplanted with negative MRD, 9 did not receive maintenance and 3 relapsed (33%). Two MRD negative patients received maintenance and remain in remission. Of the 19 patients with active disease or positive MRD, those who received maintenance had a much lower relapse rate (17% vs. 46%). No patient who received maintenance developed poor graft function or graft failure. There was no mortality from infectious causes in this group. The overall survival, relapse-free survival, and median follow-up time for who received maintenance therapy were 86%, 86% and 26 months, compared to 25%, 19% and 42 months for those who did not (p 0.02 and p 0.01 respectively). Conclusion: Preliminary results suggest that maintenance therapy post-transplant significantly enhances outcomes for children with AML, even those with traditionally poorer prognoses due to active disease at the time of transplant. These findings highlight the potential of tailored maintenance therapies to extend survival and reduce relapse rates, providing a new avenue for treatment protocols in a challenging patient subset. Further research is warranted to confirm these findings and potentially guide practice.

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BRIDGING THE GAP IN POST-TRANSPLANT CARE FOR PEDIATRIC ACUTE LYMPHOBLASTIC LEUKEMIA (ALL): INNOVATIVE MAINTENANCE STRATEGIES TO REDUCE RELAPSE RATE AND ENHANCE SURVIVAL

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Relapsed Acute Lymphoblastic Leukemia (ALL) post-hematopoietic stem cell transplantation (HCT) have very poor outcomes. Patients face increased toxicity and poorer responses to therapy. With limited access to Chimeric Antigen Receptor (CAR) T-cell therapy, and the toxicity of a second HCT, alternative strategies are critically needed. Objective: To evaluate the impact of novel maintenance therapies post-HCT in pediatric ALL on reduce relapse rates and survival outcomes. Methods: This is a retrospective study of 64 pediatric ALL patients who underwent HCT between 2014 and 2024. From 2021 on, T-cell ALL, and B-cell ALL transplanted with measurable disease, primary refractory disease, or post-second HCT and who had adequate clinical conditions and access, received maintenance therapy. The maintenance therapies included tyrosine kinase inhibitors, blinatumomab, inotuzumab, hypomethylating agents and venetoclax. Data on demographics, treatment regimens, and clinical outcomes were retrospectively collected. Results: Maintenance was administered to 38% of patients. All but three were transplanted after