

ONCODAILY MEDICAL JOURNAL

abstract

Initiation of Haploidentical Stem Cell Transplantation With Post-Transplant Cyclophosphamide in Children: A Low-Middle-Income Country Institutional Experience

Syed Ibrahim Bukhari, Javeria Saeed, Zehra Fadool, Asim Fakhruddin Belgaumi, Naureen Allani, Sadaf Altaf

DOI: 10.69690/ODMJ-018-0425-1526



SIOP Asia, 2025, Saudi Arabia



Initiation of Haploidentical Stem Cell Transplantation With Post-Transplant Cyclophosphamide in Children: A Low-Middle-Income Country Institutional Experience

Authors: Syed Ibrahim Bukhari, Javeria Saeed, Zehra Fadoo, Asim Fakhruddin Belgaumi, Naureen Allani, Sadaf Altaf

Affiliation: Aga Khan University, Karachi, Pakistan

DOI: [10.69690/ODMJ-018-0425-1526](https://doi.org/10.69690/ODMJ-018-0425-1526)

Introduction: Haploidentical hematopoietic stem cell transplantation (HSCT) is a curative treatment, especially for countries where bone marrow registries are nonexistent. We present our experience with haploidentical HSCT in pediatric patients.

Methodology: Retrospective data collected and analyzed for patients ≤ 18 years, from January 2017 to December 2022.

Results: The cohort consisted of 20 patients with median age at transplant of 61.5 (IQR: 124) months. Fourteen (70%) were malignant and 6 (30%) were benign diseases. Donors were father in majority (9/20; 45%). Stem cell source was peripheral blood 8, marrow 8, and combined 4. c-specific antibodies were positive in 6 (30%). Median CD34 cell dose infused: $9.35 \times 10^6/\text{kg}$. Median engraftment time: 15 (IQR: 17) days. Acute and chronic graft-versus-host disease (GVHD) occurred in 12/20 (60%) and 5/20 (25%),

respectively. Complications included infection/sepsis (14/20; 70%), cytomegalovirus reactivation (14/20; 70%), sinusoidal obstruction syndrome (1/20; 5%), primary graft failure (PGF) (6/20; 30%), and secondary graft failure (4/20; 20%).

PGF was more common in benign conditions ($p = 0.003$) and less prevalent in cases with aGVHD ($p = 0.007$). aGVHD was more common in malignant conditions ($p = 0.007$). Overall survival (OS), relapse-free survival (RFS), and treatment-related mortality (TRM) were 40%, 50%, and 35%, respectively. Median time of survival and relapse were 8 (IQR: 15) and 9 (IQR: 13) months, respectively.

Conclusion: OS was comparable to that of other low-middle-income countries. GVHD was a major challenge, along with sepsis and CMV infection. Half of the leukemias relapsed. Graft failure was a major concern in nonmalignant diseases.