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*abstract*

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

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doi.org/10.69690/ODMJ-018-0425-1526

SIOP ASIA 2025
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# Initiation of Haploidentical Stem Cell Transplantation With Post-Transplant Cyclophosphamide in Children: A Low–Middle-Income Country Institutional Experience

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***DOI:*** *https://doi.org/10.69690/ODMJ-018-0425-1526*

**Introduction:** Haploidentical hematopoietic stem cell transplant (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 × 106/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.