

INCIDENCE AND RISK FACTOR OF VENO-OCCLUSIVE DISEASE AND ENDOTHELIAL DYSFUNCTION EVENTS IN HAPLOIDENTICAL STEM CELL TRANSPLANTATION WITH POST-TRANSPLANT CYCLOPHOSPHAMIDE

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Background: Venous Occlusive Disease (VOD) and other endothelial dysfunction events (EDE) following Hematopoietic Stem Cell Transplantation (HSCT) are significant complications. In Argentina, access to defibrotide is limited. Objectives: We aimed to evaluate the incidence of EDE, including VOD, in Haploidentical Stem Cell Transplant (HaploSCT) with Post-Transplant Cyclophosphamide (PTCy) and identify its risk factors. Another objective is to determine the impact of EDE on overall survival (OS). Methods: A retrospective analysis from 2015-2022 included 310 patients (median age 42, range 18-77) who underwent HaploSCT with PTCy. Diagnoses included Acute Myeloid Leukemia, Acute Lymphoblastic Leukemia, and Myelodysplastic Syndromes. Gray's test assessed VOD and EDE incidence, considering death without VOD and EDE as a competing event. Fine-Gray was used for multivariate analysis, and Kaplan-Meier with a log-rank test for OS. Results: The overall VOD incidence was 2.9% at 3 months, with a median onset of 25 days (range: 8-57). Patients aged ≤ 25 years had a significantly higher 3-month cumulative incidence (CI) of VOD (9.5%) compared to those > 25 years (1.2%) ($p < 0.001$). Multivariate analysis identified age ≤ 25 years (HR=8.02, $p=0.003$) and HCT-CI score ≥ 3 (HR=34.82, $p<0.001$) as significant risk factors for VOD. The 1-year CI of EDE was 5.4%, with a median onset of 30 days (range: 8-664). Other different forms of EDE were Thrombotic Microangiopathy (31.3%), Engraftment Syndrome (6.3%), and Diffuse Alveolar Hemorrhage (6.3%). Patients ≤ 25 years had a higher incidence of EDE (11.2%) compared to those > 25 years (4.4%) ($p=0.042$). Two-year OS was lower in patients who developed EDE compared to those without (22% vs 53%, $p=0.004$). Conclusion: Younger patients (≤ 25 years) and those with a high HCT-CI score are at significantly higher risk for VOD after HaploSCT. EDE are more common in younger patients and are associated with lower overall survival.