

## **ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION IN ADULTS WITH MYELOYDYSPLASTIC SYNDROME AND MYELOYDYSPLASTIC/MYELOPROLIFERATIVE OVERLAP NEOPLASMS: RESULTS OF THE ARGENTINEAN GROUP OF BONE MARROW TRANSPLANTATION AND CELL THERAPY**

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**Background:** Allogeneic hematopoietic stem cell transplantation (AHSCT) is a curative approach for patients with myelodysplastic syndrome (MDS) and myelodysplastic/myeloproliferative overlap neoplasms (MDS/MPN).

**Methods:** A multicenter retrospective study analyzed the outcomes of 204 adult patients diagnosed with MDS (n=179) and MDS/MPN (n=25) who underwent AHSCT in Argentina from 2015 to 2023. The primary objective was to evaluate progression-free survival (PFS) and overall survival (OS). Additionally, the cumulative incidence (CI) of relapse, non-relapse mortality (NRM) and associated prognostic factors were assessed.

**Results:** The median age at transplant was 57 years (range: 17–75), 60% being male. Transplants were performed using matched sibling donors (n=63), haploidentical donors (n=69), and unrelated donors (n=72). Conditioning regimens included myeloablative (n=108) and non-myeloablative (n=96) protocols. The median follow-up time was 14.9 months (range: 0.2-107 months). The unadjusted 3-year PFS and OS were 41% (95% CI: 34%-49%) and 47% (95% CI: 40%-55%) respectively, with no significant differences between donor types. The 1-year CI of relapse and NRM were 19% (95% CI: 14%-26%) and 24% (95% CI: 19%-31%), respectively. Multivariate analysis showed that adverse cytogenetic risk (HR: 3.8; 95% CI: 1.2-11.2) increased CI of relapse. Additionally, HCT-comorbidity index score  $\geq 3$  (HR: 1.88; 95% CI: 1.09%-3.25%), grade 3-4 acute GVHD (HR: 3.63; 95% CI: 1.80%-7.31%), poor graft function (HR: 2.46; 95% CI: 1.4-4.3), age between 40-60 years (HR: 2.9; 95% CI: 1.2-6.1) and over 60 years (HR: 2.1; 95% CI: 0.99-4.7), were associated with worse OS. A grade 3-4 acute GVHD (HR: 5.5; 95% CI: 2.8-10.5) and poor graft function (HR: 4.14; 95% CI: 2.26-7.5) were factors that increased NRM.

**Conclusions:** AHSCT is a feasible procedure in Argentina, with over 45% of patients achieving long-term survival. Adverse cytogenetic risk may identify patients at higher risk of relapse; grade 3-4 acute GVHD, poor graft function and comorbidity decrease the OS.