

Outcomes and Prognostic Factors of Allogeneic Hematopoietic Stem Cell Transplantation in Patients Aged ≥ 65 Years with Acute Myeloid Leukemia: A Single-Center Retrospective Analysis

Özkan, Gülkan¹; GÖREN, Deniz²; Alaycı, Birkan³; ÖZÇELİK, Nurcan⁴; Özçelik, Emine Tülay⁵; ARAT, Mutlu⁵

*¹Department of Hematology, Memorial Şişli Hospital, Istanbul, Türkiye * Department of Hematology, Bahçeşehir University Faculty of Medicine, Istanbul, Türkiye, ²Hematology Department and Hematopoietic Stem Cell Transplantation Unit, Memorial Sisli Hospital, Istanbul, Turkey, ³Internal Medicine, Liv Vadi Hospital, Istanbul, Turkey, ⁴Hematopoietic Stem Cell Transplantation Unit, Memorial Sisli Hospital, Istanbul, Turkey, ⁵Hematology Department and Hematopoietic Stem Cell Transplantation, Florence Nightingale Hospital, Istanbul, Turkey*

Background. Older adults with AML have a poor prognosis, shaped both by patient factors (age, comorbidity, functional status) and disease factors (adverse cytogenetic/molecular abnormalities, secondary AML). Venetoclax-based therapy has improved survival in patients unfit for intensive chemotherapy, while allogeneic hematopoietic stem cell transplantation (allo-HSCT) remains the only potentially curative option for selected patients in remission. We evaluated overall survival (OS), leukemia-free survival (LFS), and GVHD-free, relapse-free survival (GRFS) in older adults with AML transplanted at our center.

Methods. We retrospectively analyzed patients aged ≥ 65 years with AML who underwent a first allo-HSCT at a single center (n=23). The primary endpoint was OS; secondary endpoints were LFS and GRFS. Survival was estimated by Kaplan–Meier, and baseline variables were assessed with log-rank tests and univariable Cox regression. Given the few events, no multivariable analysis was performed; penalized Cox models served as sensitivity analyses.

Results. Median age at transplant was 67.5 years (range 65.4–74.0); 64% had secondary AML, 74% were in first complete remission (CR1), and 74% received reduced-intensity conditioning. Median follow-up of survivors was 18.9 months. Median OS, LFS, and GRFS were 12.1, 8.1, and 4.8 months; OS at 1/2/3 years was 55%/36%/30%. Fifteen patients (65%) died, most often from infection. No factor reached significance; older age (HR 1.27 per year, p=0.055) and female sex (HR 0.37, p=0.06) showed the strongest, borderline associations.

Conclusions. In this small single-center cohort, survival after allo-HSCT at age ≥ 65 was limited and lay at the lower end of published series, consistent with enrichment for secondary AML (64%) and disease beyond CR1 (26%). Registry data report ~48% 2-year OS in selected patients ≥ 70 transplanted in CR1, and a meta-analysis pooled 2-/3-year OS of 45%/38% in patients >60 , versus 36%/30% here. As real-world data on transplanted older adults, these findings may inform future comparative studies.