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ORAL ABSTRACTS

721.ALLOGENEIC TRANSPLANTATION: CONDITIONING REGIMENS, ENGRAFTMENT AND ACUTE TOXICITIES

Comparing Older Matched Related to Younger Matched Unrelated Donors in Acute Myeloid Leukemia in Remission Using Post-Transplant Cyclophosphamide

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Backgroud. Over the past 25 years, the landscape of allogeneic stem cell transplantation (allo-SCT) changed from being rarely performed in patients 50 years or older to accounting for a little less than half of the transplantations reported in USA and Europe. Older patients will on average have older matched related siblings (MRD) being considered as donors with issues such as comorbidities, risk of clonal haematopoiesis of indeterminate potential, and impaired immune and regenerative potential of stem cells. Although younger HLA-matched unrelated donors (MUD) are an important alternative in this context, it remains unclear whether the use of MUD is associated with better outcomes. This is especially true in the context of post-transplant cyclophosphamide (PTCy) as graft-versus-host disease (GvHD) prophylaxis.

Methods. The aim of this study was to compare the graft-relapse-free survival (GRFS) for patients diagnosed with acute myeloid leukemia (AML) in first complete remission (CR1), aged 50y or more, and having received a first allo-SCT from a 10/10 MUD younger than 40y or a MRD older than 50y using PTCy for in-vivo T-cell depletion. All transplants were performed between 2015-2021 at the EBMT centres.

Results. A total of 410 consecutive patients were included, 172pts receiving a MRD, 238pts transplanted from a MUD. All patients with detailed conditioning regimen dosages were classified according to the transplant conditioning intensity (TCI) score in low (1-2), intermediate (2.5-3.5), high (4-6). TCI-score was available for 345 patients and was as follows: low in 53pts (36.8%), intermediate in 79pts (54.9%) and high in 12pts (8.3%) for MRD, low in 91pts (45.3%), intermediate in 93pts (46.3%) and high in 17pts (8.5%) for MUD (p=0.26). Only patients with available TCI-score were analysed. In univariate analysis the 2-year GRFS was 58% (49.8-65.3%) for TCI intermediate-high and 43.1% [34.3-51.5] for TCI low (p=0.005). In TCI-score intermediate-

high non-relapse mortality (NRM) wasn't higher compared to TCI-score low (12.7% [12.2-24] vs 13.7% [8.4-20.3], p=0.53) but relapse incidence (RI) was lower (17.7% [12.2-24] vs 33.2% [25.1-41.5], p=0.003). As a strong interaction between TCI-score and type of donor was found, we compared transplant outcomes between MRD and MUD separately for TCI-score low and TCI-score intermediate-high. In TCI-score low, 2-year GRFS was 44.4% [33.5-54.8] for MUD and 40.9% [26.4-54.9] for MRD (p=0.83) (Figure 1A). In multivariable analysis (MVA) type of donor was not a risk factors for neither GRFS (HR 0.98, CI: 0.57-1.69; p=0.95) nor for any other transplant outcome. In TCI-score intermediate-high, 2-year GRFS was 67.2% [55.8-76.2] for MUD and 46.1% [34.4-57.1] for MRD (p=0.001) (Figure 1B). In MVA MUD were associated to better GRFS (HR 0.41, CI: 0.24-0.7; p=0.001), lower NRM (HR 0.19, CI: 0.07-0.55; p=0.002) and lower RI (HR 0.32, CI: 0.14-0.73; p=0.007) without advantages in terms of neither aGvHD nor cGvHD.

Conclusions. In patients with AML in CR1, aged 50y or more and receiving a conditioning regimen with TCI-score ≥ 2.5 in the PTCy setting, a MUD younger than 40y is associated to longer GRFS, lower NRM and lower RI compared to a MRD older than 50y. For patients receiving regimens with TCI-score low transplant outcomes are independent on the type of HLA-matched donor.

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Figure 1. GRFS according to donor type in TCI-score low (A) and intermediate-high (B)

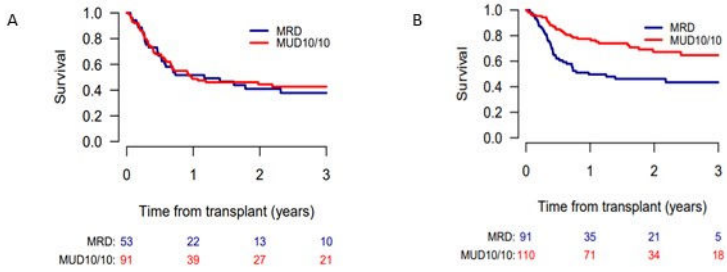

Figure 1

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