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Is young matched unrelated donor comparable or superior to older sibling donor? An analysis of 76 allografted patients aged above 50 years from the Czech Acute Leukaemia Clinical Register (ALERT)

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Abstract

Allo-SCT can be the only curative option even in the elderly. However, the siblings of elderly pts are naturally older and often ineligible for stem cell collection. The question is whether younger unrelated donors could compensate for the higher immune incompatibility.

Method: we retrospectively analyzed 76 AML pts aged above 50 (median 55y) from 5 Czech and Slovak centres allografted either with related (SIB group, n=47) or unrelated, 9–10/10 HLA allele-level matched donors (MUD group, n=29). Groups were comparable in terms of age, remission status pre-SCT, cytogenetic risk, donor sex, CMV D-/R- status, and conditioning. As expected, the MUDs were significantly younger and received more CD34+.

Results: After a median follow-up of 18 months, 39 pts (51%) are alive. The 3-y Kap.-Meier OS and EFS probabilities were 42% and 40%, respectively, while overall NRM and relapse rates were 25% (19/76) and 26% (20/76), respectively. After splitting the pts into SIB vs. MUD, the figures were as follows: number of surviving pts 24/47 vs. 15/29, resulting in median OS probabilities for SIB and MUD of 16 and 21 months (p=0.817), respectively. The relapse rates were not significantly higher in the SIB group (30% vs. 21%, p=0.433); whereas the NRM rate was similar (23% vs. 28%, p=0.77). The incidences of aGVHD were identical both for SIB and MUD, comparable results were also reported for extensive cGVHD incidences.

Conclusions: unrelated donors did not adversely affect the SCT outcome in AML patients aged ≥50, and the younger allele-matched unrelated donor is—at least—the equivalent of an older HLA-identical sibling. We should not be reluctant with MUD in older pts, and molecularly-matched young unrelated donors should be tested in appropriately designed trials with the larger patient's cohort.

Keywords: allo-SCT, donor, age, HLA compatibility