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723.ALLOGENEIC TRANSPLANTATION: LONG-TERM FOLLOW-UP AND DISEASE RECURRENCE

A Single Center Retrospective Study on the Efficacy of Haploidentical Hematopoietic Stem Cell Transplantation in Patients with Myeloid Neoplasms over 50 Years Old

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Objective: This study aims to evaluate the efficacy and safety of haploidentical hematopoietic stem cell transplantation in patients with myeloid neoplasms over 50 years old, and to compare the differences in survival, recurrence, and adverse reactions between patients aged 50-55 and over 55 years old.
Methods: The patients with myeloid neoplasms over 50 years old who received haploidentical hematopoietic stem cell transplantation from November 2016 to December 2021 in the Bone Marrow Transplantation Center of the First Affiliated Hospital, Zhejiang University, School of Medicine were enrolled. According to the age at the time of transplantation, patients were divided into Group A (50-55 years old) and Group B (≥ 55 years old). The differences in Overall survival (OS), progression free survival (PFS), non-relapse mortality (NRM), cumulative incidence of relapse (CIR), incidence of graft versus host disease (GVHD), and infection rate between the two groups were analyzed.
Results: A total of 163 patients (group A, n=77; group B, n=86) were enrolled, including 112 cases of acute myeloid leukemia (AML), 39 cases of myelodysplastic neoplasms (MDS), 4 cases of chronic myeloid monocyte leukemia (CMML), 3 cases of primary myelofibrosis (MF), and 5 cases of chronic myeloid leukemia (CML).
There were no statistically significant differences in baseline data between the two groups, including follow-up time, disease categories, HCT-CI score, remission status of AML patients, minimal residual lesion (MRD) level of AML patients, and IPSS-R score of MDS patients. However, more patients in Group A received myeloablative (MAC) conditioning than patients in Group B (92.2% vs 50%, P=0.000).
The median follow-up time was 741 (7-2377) days. The overall 2-year OS is 73.0% ± 3.5%, 2-year PFS is 71.3% ± 3.6%, 2-year NRM is12.23%(7.65%-17.93%), and 2-year CIR is 17.20%(11.64%-23.69%).
All patients in group A achieved hematopoietic reconstitution except one patient died of graft failure, while 5 patients of group B died of graft failure(P=0.126). Neutrophils and platelet reconstruction in Group B was slightly longer than in Group A. The neutrophils reconstruction occurred at a median of 12 (8-20) day and 13 (9-25) day, respectively (P=0.007), and platelet reconstruction occurred at a median of 12 (9-28) day and 13 (8-37) day, respectively (P=0.055).
The 2-year OS of Group A and Group B was 76.6% ± 4.8% and 69.0 ± 5.1%, respectively (P=0.199); The 2-year PFS was 76.2% ± 4.9% and 66.9 ± 5.1%, respectively (P=0.236); The 2-year NRM was 9.16% (4.00% -16.96%) and 18.61% (11.18% -27.51%), respectively (P=0.094); The 2-year CIR was similar, with 14.66% (7.74% -23.67%) and 19.16% (11.48% -28.33%), respectively (P=0.782). Interestingly, there was a difference in NRM between patients receiving reduced-intensity (RIC) and MAC conditioning in Group B, which was 10.2% (3.69% -20.61%) and 25.58% (13.64% -39.34%), respectively (P=0.043), while there was no difference in CIR, which was 17.31% (7.88% -29.80%) and 18.90% (8.71% -32.06%), respectively (P=0.933). It is suggested that in older patients, the strength of conditioning regimen has a greater impact on NMR.

The incidence of grade 3-4 aGVHD within 100 days in all patients was 11.84% (7.31% -17.56%), and the incidence of 2-year intensive cGVHD was 8.19% (4.58% -13.14%). The incidence of grade 3-4 aGVHD within 100 days was similar between the two groups, with 9.46% (4.13% -17.46%) and 14.10% (7.46% -22.81%) (P=0.368), respectively. The 2-year intensive cGVHD was 8.07% (3.26% -15.72%) and 8.28% (3.62% -15.42%) (P=0.890), with similar incidence rates. The incidence of bacterial septicemia, pneumonia, invasive fungal infection, herpes virus and other infections were similar in both groups.
Univariate and multivariate analysis both showed that 50-55 years old was an independent protective factor of OS (2.384 (1070-5.312), P=0.034) and GRFS (2.683 (1.181-6.094), P=0.018) in AML patients.
Conclusion: Haploidentical hematopoietic stem cell transplantation is an effective and safe treatment for myeloid neoplasms over the age of 50. Compared with patients aged 50 to 55 years old, patients with myeloid neoplasms aged over 55 years old had similar efficacy and safety. The impact of MAC and RIC pretreatment on the prognosis of patients at different ages may be different. This retrospective study is limited in number and needs more cases and prospective cohort study to further verify.

Disclosures No relevant conflicts of interest to declare.

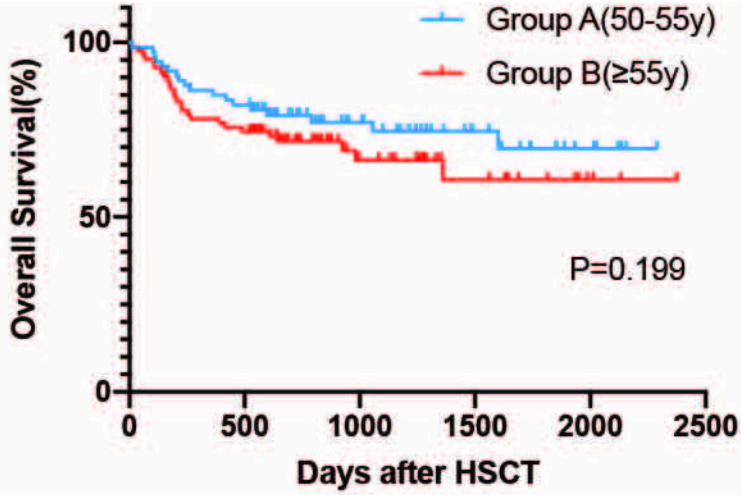

Figure 1: Overall survival from the time of HSCT

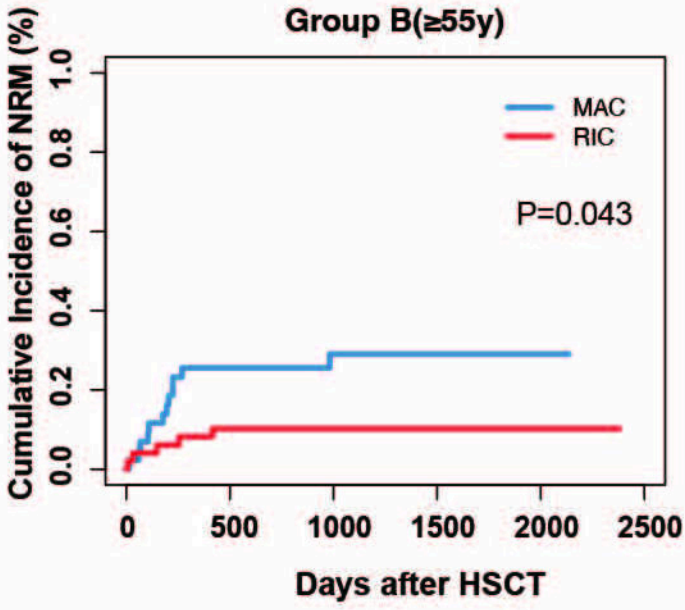

Figure 2: Cumulative incidence of NRM of Group B patients from the time of HSCT

Figure 1

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