ALLOGENEIC TRANSPLANT OUTCOMES IN PATIENTS WITH MYELODYSPLASTIC NEOPLASMS

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Introduction

Myelodysplastic neoplasms (MDS) is a heterogeneous group of hematopoietic malignancies. So far allogeneic hematopoietic stem cell transplantation (allo-HSCT) remains the only curative treatment. Here we present the single institution experience of allo-HSCT in adult MDS patients.

Methods

We retrospectively analyzed data from 151 patients with different MDS subtypes according to the 2016 WHO classification. All patients were treated from 2008 to 2024 at our institution. We performed risk stratification with the IPSS-R prognostic score. We assessed response according to the IWG 2006 criteria. We analyzed 2-year overall survival (OS), relapse incidence (RI), and non-relapse mortality (NRM) after allo-HSCT.

Fig. 1. 2-year overall survival of patients with MDS after allo-HSCT: 49% (95%CI 52-75)

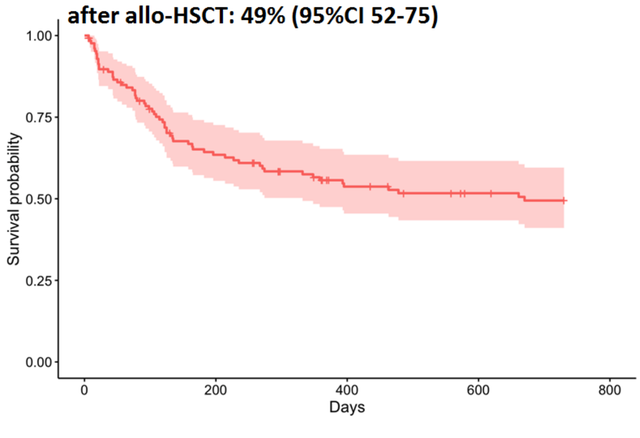
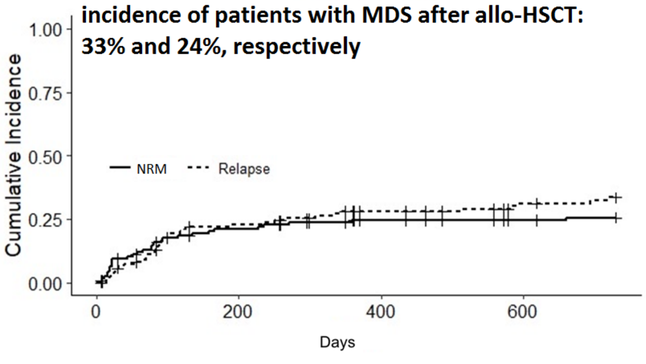


Fig. 2. 2-year relapse and non-relapse mortality incidence of patients with MDS after allo-HSCT: 33% and 24%, respectively



Results

The study included 151 patients (male to female 81:70). The median age at diagnosis was 48 years (18–81). High risk MDS was established in 86/135 patients. Eighty-four patients (84/124) were treated with hypomethylating agents. No response was observed in 49% (61/124) of patients. Twenty-three patients (15%) were transplant-ineligible due to disease progression (n=14) or significant comorbidity (n=9). The median time from diagnosis to allo-HSCT was 11 months (1–112), and the median follow-up after allo-HSCT was 10 months (1–65). Bone marrow blasts before allo-HSCT comprised less than 10% in 94/128 patients. During the pretransplant period cytogenetic clonal evolution was observed in 29/128 patients. The donor was HLA-matched in 77% of patients, unrelated in 63% of patients, haploidentical in 7% of patients. Graft-versus-host disease prophylaxis with posttransplantation cyclophosphamide was used in 78% of patients. In 70% of patients we used peripheral blood as graft source. In 93% of patients we used reduced intensity conditioning with fludarabine and busulfan. The 2-year OS was 49% (Fig. 1), the RI was 33%, and the NRM was 24% (Fig. 2). OS in patients with a pre-transplant blast count over 10% was 29% versus 57% ($p<0.01$). OS in patients with a pre-transplant cytogenetic evolution was 23% versus 61% ($p<0.001$).

Conclusions

Allo-HSCT remains the mainstay of MDS treatment though substantial number of patients experience treatment failure before or after allo-HSCT. There is a high need for precise prognostic tools and effective treatment options. In allo-HSCT setting such issues as optimal bridging, timing, and relapse prevention are pending.