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POSTER ABSTRACTS

732.ALLOGENEIC TRANSPLANTATION: DISEASE RESPONSE AND COMPARATIVE TREATMENT STUDIES

Excellent Outcome Following Maintenance Therapy with Gilteritinib after Allogeneic Hematopoietic Stem Cell Transplantation for FLT3-Mutated Acute Myeloid Leukemia Even in Non-Remission Status

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[Background] FMS-like tyrosine kinase 3 (FLT3) mutation has been shown to be a poor prognostic factor for recurrence and overall survival in AML. In recent years, various FLT3 inhibitors have been successively developed and reported to improve the prognosis of FLT3-mutated AML. However, relapse after allogeneic stem cell transplantation(allo-HSCT) remains high, and strategies to improve prognosis are desired. Clinical trials have been conducted using FLT3 inhibitors as maintenance therapy allo-HSCT to reduce the relapse rate and some efficacy has been reported, but real-world data on maintenance therapy with gilteritinib for FLT3-mutated AML after allo-HSCT are limited, especially after cord blood transplantation (CBT).
[Objective and method] To assess the efficacy, safety, clinical features and outcome of gilteritinib maintenance after allo-HSCT for FLT3-mutated AML, we retrospectively analyzed patients underwent allo-HSCT, most of which are CBT for FLT3-mutated AML from April 2019 to October 2022.
[Result] During the study period, 46 patients received allo-HSCT for FLT3-mutated AML in our institute. The median follow-up day of survivors was 649 (115-1149). The median age of the patients was 55 years (range, 20-75). Twenty-seven patients had de novo AML, 16 had AML with myelodysplasia related changes, and 3 had therapy related AML. One had favorable karyotype, 37 had intermediate, and 6 had adverse. Thirty-six patients received myeloablative pretransplant conditionings (MAC), and 10 received reduced intensity conditionings (RIC). All but 9 were in in non-remission at HSCT. The majority, 40, had used unrelated cord blood, 3 did unrelated bone marrow, 2 did unrelated peripheral blood, and 1 did related peripheral blood as grafts. Twenty-eight patients received gilteritinib maintenance therapy after HSCT, whereas 18 did not. Between the 2 groups, the patient characteristics, AML status, and HSCT procedures were well balanced. At 2 years after HSCT, overall survival (OS), disease free survival (DFS), relapse rate (RR), and non-relapse mortality (NRM) of whole studied population were 65.0%, 56.3%, 27.0%, and 21.1%, respectively. Patients with gilteritinib maintenance showed significantly superior OS and DFS to those without gilteritinib maintenance (2-year OS; 84.2% vs 35.7%, P = 0.0030, 2-year DFS; 71.4% vs 30.4%, P = 0.0036)(Figure 1A, 1B). RR and NRM tended to be lower in patients with gilteritinib maintenance than those without (2-year RR; 41.4% vs 18.1%, P = 0.1350, 2-year NRM; 34.4% vs 11.9%, P = 0.0548). Even if in non-remission status at HSCT, 23 patients with gilteritinib maintenance showed excellent outcome with 2-year OS 81.6%, DFS 70.9%, RR 21.2%, and NRM13.9%. A subanalysis of the four groups by with or without gilteritinib maintenance and by pretreatment conditioning intensity showed that patients who received MAC and gilteritinib maintenance had the most superior 2-year OS 94.1%.
[Conclusion] Our data indicated that following maintenance therapy with gilteritinib after allo-HSCT could overcome the poor prognosis of FLT3-mutated AML even for those in non-remission status, despite the profound chemo-resistant character of FLT3-mutated AML.

Disclosures No relevant conflicts of interest to declare.

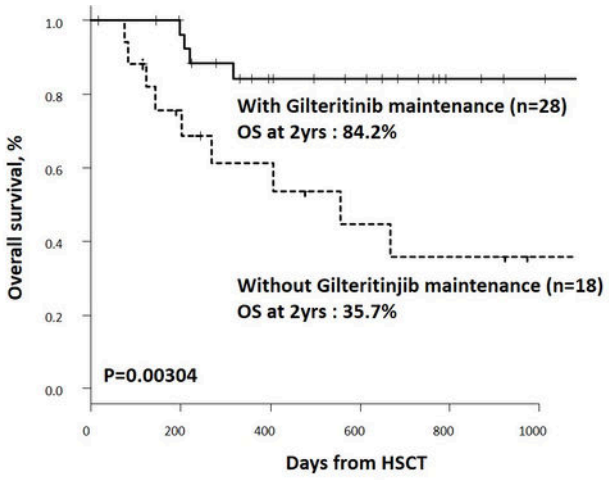

Figure 1A

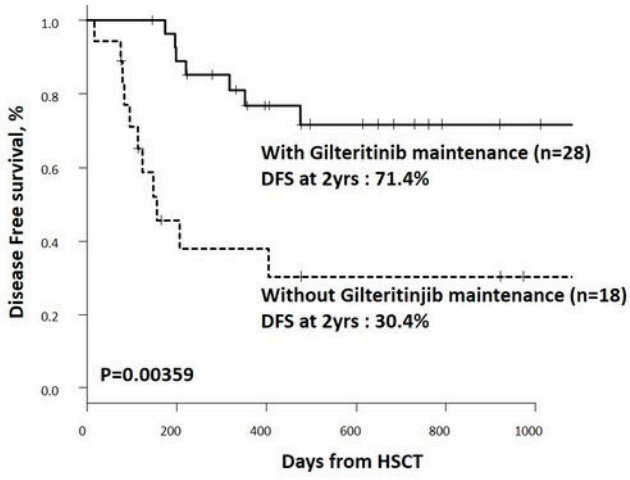

Figure 1B

Figure 1

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