Abstract: P575

Title: GILTERITINIB MAINTENANCE AFTER ALLOGENEIC STEM CELL TRANSPLANTATION FOR FLT3 MUTATED ACUTE MYELOID LEUKEMIA

Abstract Type: Poster Presentation

Session Title: Acute myeloid leukemia - Clinical

Background:

Gilteritinib is approved for FLT3 mutated (FLT3m) relapsed or refractory AML (R/R AML). The role of Gilteritinib maintenance for post-allogeneic stem cell transplantation (alloSCT) is under evaluation in multicenter randomized, phase 3 trials. Herein, we present our real-life experience of Gilteritinib maintenance in FLT3m AML patients after alloSCT.

Aims:

To evaluate the safety and efficacy of Gilteritinib maintenance post alloSCT in FLT3m AML

Methods:

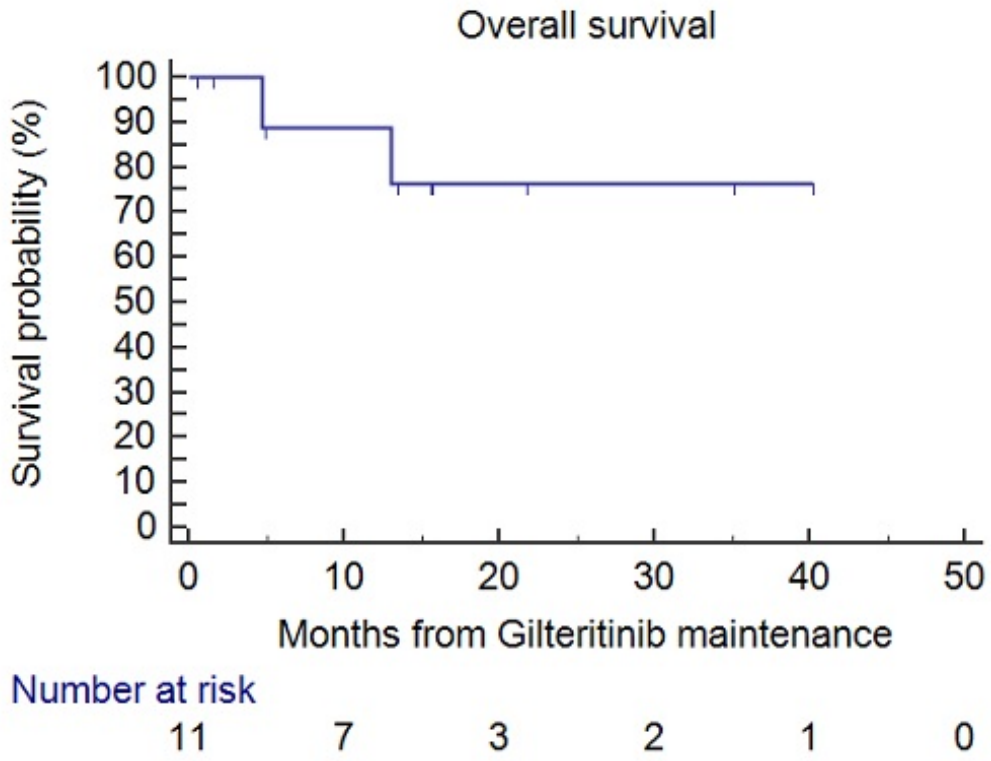
Data was collected retrospectively. The patients were older than 18 years of age, had undergone alloSCT for FLT3m AML, and started Gilteritinib maintenance post-transplant. All patients provided informed consent for treatment and data collection. We evaluated baseline characteristics, duration and dosing of Gilteritinib maintenance, measurable residual disease (MRD) kinetics, overall survival (OS), and CTCAE v5.0 adverse events of special interest (QT prolongation, ALT/AST elevation, pancreatitis, PRESS syndrome).

Results:

Eleven patients (6 male) were enrolled in the study. The median age was 64 (46-74) and the median ECOG was 1 (0-2). FLT3-ITD mutation was identified in 8/11 patients, FLT3-TKD in 2/11 and 1 patient had FLT-ITD and FLT3-TKD. All patients had intermediate ELN2022 risk karyotypes. Previous FLT3 inhibitors were used in 10/11 patients (Midostaurin (2), Gilteritinib (5), Midostaurin and Gilteritinib (3). 2/11 patients proceeded to alloSCT in CR1 after standard intensive chemotherapy, whereas 9/11 had R/R AML and were all exposed to Venetoclax+Gilteritinib prior to alloSCT. RIC was administered in 10/11 patients. The median time of starting Gilteritinib after alloSCT was 68 days (28-391) with a median dose of 80mg/d (40-120mg/d). Additional DLIs were used in 2 cases. 8/11 patients were MRD positive prior to Gilteritinib maintenance, whereas 3/11 patients were MRD negative. The median duration of Gilteritinib maintenance was 411 days (19-658). 5/8 patients converted from MRD positive to MRD negative disease on Gilteritinib maintenance. Gilteritinib was stopped in 4 patients due to GVHD (1) or disease relapse (3). All 3 relapsed patients had positive MRD prior to Gilteritinb and had NRAS mutations. Clonal evolution at relapse post-Gilteritinib was identified in 2 cases: loss of FLT3-ITD and acquired monosomal karyotype (1), newly gained BCR-ABL1 translocation (1). PRESS syndrome, pancreatitis, and grade ≥3 QTcF prolongation was not observed. Grade 3 ALT/AST elevation was reported in 2/11 patients. 12 and 24 month OS was 89% and 76%, respectively.

Summary/Conclusion:

A proportion of FLT3m AML patients remain in prolonged CRs on Gilteritinib maintenance after alloSCT despite prior exposure to Midostaurin, Gilteritinib and Venetoclax. Conversion from positive MRD to negative MRD was confirmed in several cases. Relapses post-Gilteritinib maintenance were enriched with RAS pathway mutations and clinically relevant clonal evolution such as loss of FLT3m or gain of BCR-ABL1. The toxicity of Gilteritinib was manageable



Keywords: AML, Allo-SCT, FLT3, Maintenance