



The 65th ASH Annual Meeting Abstracts

POSTER ABSTRACTS

615.ACUTE MYELOID LEUKEMIAS: COMMERCIALLY AVAILABLE THERAPIES, EXCLUDING TRANSPLANTATION AND CELLULAR IMMUNOTHERAPIES**Comparison of Safety and Efficacy between Venetoclax Combined with CAG (cytarabine, aclarubicin, G-CSF) Regimen and CAG Regimen Alone in Patients with Relapsed or Refractory Acute Myeloid Leukemia**

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Background: Patients with relapsed or refractory (R/R) acute myeloid leukemia (AML) have dismal outcomes, representing an urgent unmet need. The BCL2 inhibitor venetoclax has exhibit encouraging anti-tumor activity in AML. The clinical efficacy of the CAG regimen in patients with R/R AML has been confirmed in previous studies. The aim of this study was to retrospectively compare the safety and efficacy of the combination of venetoclax with CAG regimen and CAG alone in patients with R/R AML.

Patients and methods: We retrospectively reviewed and compared the efficacy and safety of venetoclax combined with the CAG regimen (Ven-CAG group, n=37) and CAG regimen alone (CAG group, n=37) for 74 patients with R/R AML treated at our institution between August, 2016 and March 2023. The patients included those who were refractory to at least one cycle of induction chemotherapy, and patients with relapsed leukemia. According to the duration from complete remission (CR) to relapse, the relapsed patients were further divided into two subgroups, the favorable-risk relapsed group (the duration ≥ 12 months) and the poor-risk relapsed group (the duration < 12 months). The incidence of composite complete remission (CCR), minimal residual disease (MRD) status, one-year overall survival (OS), and adverse events (AEs) were analyzed and compared in two groups.

Results: Patient age, sex, ELN risk stratification, disease status, risk stratification according to the duration from CR to relapse were comparable between two groups (Table 1). The CCR of Ven-CAG group was 78.4% (29/37), which was superior to 56.8% (21/37) of CAG group ($P=0.047$). Furthermore, the rate of MRD elimination in patients who achieved CCR in Ven-CAG group was significantly higher than that in CAG group [44.8% (13/29) vs. 9.5% (2/21), $P=0.007$] (Table 2). The rate of MRD elimination in favorable-risk relapsed group (CR to hematological relapse ≥ 12 months) was higher in Ven-CAG group [100% (5/5) vs. 25% (1/4), $P=0.048$]. The one-year OS were 78.4% (95% CI, 62.3%-94.5%) and 66.7% (95% CI, 51.2%-82.2%) in Ven-CAG and CAG group ($P=0.225$), respectively. The incidences of grade 3-4 hematologic AEs in Ven-CAG group and CAG group were 100% (37/37) and 97.3% (36/37), respectively ($P=1.000$). The incidences of febrile neutropenia were 67.6% (25/37) and 62.2% (23/37), respectively ($P=0.626$). Among patients who achieved CCR, the median time for neutrophil recovery in the Ven-CAG group and CAG group were 8 (3-30) days and 9.5 (3-31) days ($P=0.781$), while the median time for platelet recovery was 9 (3-28) days and 8 (3-19) days ($P=0.708$). The incidences of grade 3-4 non-hematologic AEs were comparable in Ven-CAG and CAG group (32.4% vs. 35.1%, $P=0.806$). The most common nonhematologic AEs were infections, with the incidences of 18.9% and 27%, respectively ($P=0.407$). No patients died within 4 weeks after initiating the induction course in Ven-CAG group. There was one case of early death during induction in CAG group due to cerebral hemorrhage.

Conclusions: Venetoclax added to CAG regimen was safe and active in patients with R/R AML, producing higher CCR and MRD-negative remissions than CAG regimen alone. These results highlight the incremental benefit of venetoclax added to CAG regimen. This requires further verification through prospective, larger size clinical trials.

Disclosures No relevant conflicts of interest to declare.

Table 1. Patient characteristics of CAG group and Ven-CAG group.

Patient characteristics	CAG group (n=37)	Ven-CAG group (n=37)	p-value
Patient age, year, median (range)	46 (16-76)	43 (18-68)	0.957
Patient sex			0.806
Male	25 (67.6%)	24 (64.9%)	
Female	12 (32.4%)	13 (35.1%)	
ELN risk stratification			0.857
Favorable-risk	13 (35.1%)	11 (29.7%)	
Intermediate-risk	11 (29.7%)	11 (29.7%)	
Poor-risk	13 (35.1%)	15 (40.5%)	
Disease Status			0.308
Refractory to one cycle of induction chemotherapy	27 (73.0%)	21 (56.8%)	
Refractory to ≥2 cycles of induction chemotherapy	0	4 (10.8%)	
Relapse	10 (27.0%)	12 (32.4%)	
Risk stratification according to the duration from CR to relapse			0.415
Favorable-risk (the duration≥12 months)	7/10 (70%)	6/12 (50%)	
Poor-risk (the duration<12 months)	3/10 (30%)	6/12 (50%)	

Table 2. The efficacy of CAG group and Ven-CAG group.

Patient characteristics	CAG group (n=37)		Ven+CAG group (n=37)		p-value	
	CR/CRi rate	MRD eliminated rate	CR/CRi rate	MRD eliminated rate	CR/CRi rate	MRD eliminated rate
All patients	21/37 (56.8%)	2/21 (9.5%)	29/37 (78.4%)	13/29 (44.8%)	0.047	0.007
Disease Status						
Refractory AML						
No remission after 1 cycle of treatment	17/27 (63.0%)	1/17 (5.9%)	16/21 (76.2%)	6/16 (37.5%)	0.327	0.039
No remission after ≥2 cycles of treatment	0		3/4 (75%)	0/3	NA	NA
Relapse	4/10 (40%)	1/4 (25%)	10/12 (83.3%)	7/10 (70%)	0.074	0.245
Favorable-risk* (CR to hematological relapse ≥12 months)	4/7 (57.1%)	1/4 (25%)	5/6 (83.3%)	5/5 (100%)	0.559	0.048
Poor-risk* (CR to hematological relapse <12 months)	1/3 (33.3%)	0/1	5/6 (83.3%)	2/5 (40%)	NA	NA
One-year overall survival	66.7% (95% CI, 51.2%-82.2%)		78.4% (95% CI, 62.3%-94.5%)		0.225	

*Risk stratification of relapse according to the time from CR to hematological relapse.

Figure 1

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