Revumenib in the Real World: Interim Findings from the ROAR Study in Relapsed/Refractory Acute Leukemia

PF542

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INTRODUCTION

- Revumenib, a first-in-class, oral, potent, and selective menin inhibitor, is used for the treatment of relapsed/refractory (R/R) acute myeloid leukemia (AML) harboring an *NPM1* mutation (*NPM1*m) or R/R acute leukemia with a *KMT2A* translocation in adult and pediatric patients ≥1 year based on data from the AUGMENT-101 trial (NCT04065399)[1,2]
- Real-world evidence offers critical insights into drug safety, effectiveness, and treatment decisions across broader patient populations beyond controlled trials

OBJECTIVE

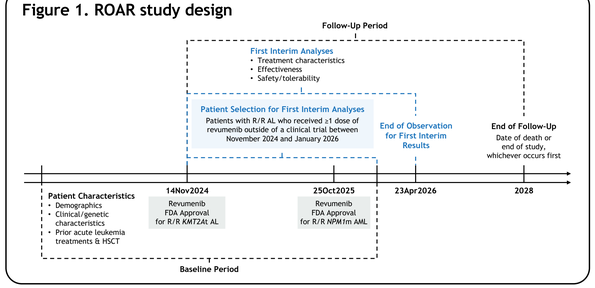
- To describe treatment characteristics, effectiveness, and tolerability among patients with R/R acute leukemia treated with revumenib in the real-world setting

METHODS

Study design

- ROAR (Real-world Outcomes for Acute leukemia treated with Revumenib) is an ongoing, multicenter, longitudinal study being conducted in the United States (**Figure 1**)
- First interim results are reported for patients with R/R acute leukemia who received ≥1 dose of revumenib outside of a clinical trial after 14Nov2024 with data cutoff of 23Apr2026

Figure 1. ROAR study design



Outcomes/analyses

- Patient and treatment characteristics, overall survival (OS), event-free survival (EFS), and safety are reported for all patients (overall population)
  - OS: time from first dose to death or censoring using the Kaplan Meier (KM) method
  - EFS: time from first dose to relapse, death, or censoring, whichever occurred first
  - Duration of revumenib treatment: time from revumenib initiation to discontinuation or data cutoff date for patients who remain on treatment
- Using ELN 2022 criteria[3] for AML and NCCN guidelines[4] for ALL, treatment response in this real-world study was assessed using 2 analytical approaches: (1) the overall population, applying an intention-to-treat framework, and (2) the response-evaluable population, defined as patients with sufficient exposure to revumenib (≥1 treatment cycle)[5]:
  - ORR = CR + CRh + CRi + MLFS
  - CRc = CR + CRh + CRi
- Safety outcomes include grade ≥3 QTcF prolongation and differentiation syndrome (DS) observed from revumenib initiation to 14 days after discontinuation

RESULTS

Patient and treatment characteristics

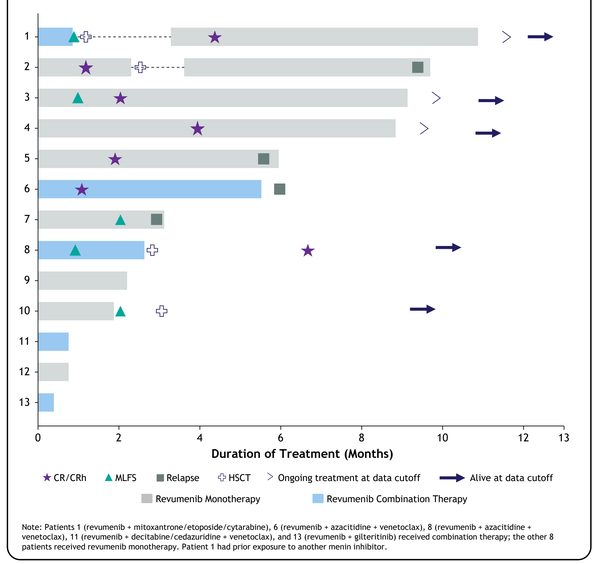
- As of 23Apr2026, 13 patients from 1 center were included in the overall population (**Table 1**)
  - 11 patients were included in response-evaluable population
- Two patients (15.4%) had a *FLT3*-ITDm, 1 (7.7%) had an *IDH1*m, and 1 (7.7%) had an *IDH2*m
- Patients were heavily pretreated with a median of 2 (range, 1-5) prior lines of therapy
  - 69.2% had prior venetoclax exposure; 46.2% had prior HSCT; 38.5% received ≥3 prior lines
  - One patient (7.7%) had prior exposure to another menin inhibitor
- Eight patients (61.5%) received revumenib monotherapy while 5 (38.5%) received revumenib combination therapy
- Median duration of revumenib treatment was 3.1 mo (range, 0.4-11.0) in overall population
  - In response-evaluable population, median treatment duration was 5.5 mo (0.8-11.0)

Table 1. Patient and treatment characteristics

	Overall Population[a]		
	Total (N=13)	Revumenib Monotherapy (n=8)	Revumenib Combination Therapy (n=5)[b]
Age at revumenib initiation, median (range), y	41 (28-80)	40 (28-69)	44 (35-80)
Female, n (%)	9 (69.2)	6 (75.0)	3 (60.0)
Race, White, n (%)	10 (76.9)	6 (75.0)	4 (80.0)
Leukemia subtype, n (%)			
AML	12 (92.3)	7 (87.5)	5 (100)
ALL	1 (7.7)	1 (12.5)	0
Genetic abnormality, n (%)			
*KMT2A*r	11 (84.6)	7 (87.5)	4 (80.0)
t(6;11)(q27;q23)	5 (45.4)	3 (42.9)	2 (50.0)
t(9;11)(p21;q23)	2 (18.2)	1 (14.3)	1 (25.0)
t(9;11)(p22;q23)	1 (9.1)	1 (14.3)	0
Other[c]	3 (27.3)	2 (28.5)	1 (25.0)
*NPM1*m	2 (15.4)	1 (12.5)	1 (20.0)
No. of prior lines of treatment, median (range)	2 (1-5)	2 (1-5)	3 (1-4)
Prior venetoclax, n (%)	9 (69.2)	5 (62.5)	4 (80.0)
Prior HSCT, n (%)	6 (46.2)	5 (62.5)	1 (20.0)
Follow-up from revumenib initiation, median (range), mo	8 (2-11)	7 (2-11)	9 (4-11)
Duration of revumenib treatment, mo[d]			
Median (range)	3.1 (0.4-11.0)	4.5 (0.8-9.7)	2.6 (0.4-11)
Mean (SD)	4.8 (3.8)	5.2 (3.7)	4.1 (4.4)

[a]Patient characteristics were similar between overall population and response-evaluable population; [b]Combination regimens were revumenib + azacitidine + venetoclax (n=2); revumenib + mitoxantrone/etoposide/cytarabine; revumenib + gilteritinib; revumenib + decitabine/cedazuridine + venetoclax (n = 1 each); [c]del11q23/q23, t(11;16)(q23;p13.3), and t(4;11)(q21;q23); [d]Duration of revumenib treatment in response-evaluable population: median 5.5 mo (range, 0.8-11.0), mean 5.5 mo (SD, 3.6).

Figure 2. Swimmers plot



Note: Patients 1 (revumenib + mitoxantrone/etoposide/cytarabine), 6 (revumenib + azacitidine + venetoclax), 8 (revumenib + azacitidine + venetoclax), 11 (revumenib + decitabine/cedazuridine + venetoclax), and 13 (revumenib + gilteritinib) received combination therapy; the other 8 patients received revumenib monotherapy. Patient 1 had prior exposure to another menin inhibitor.

Effectiveness

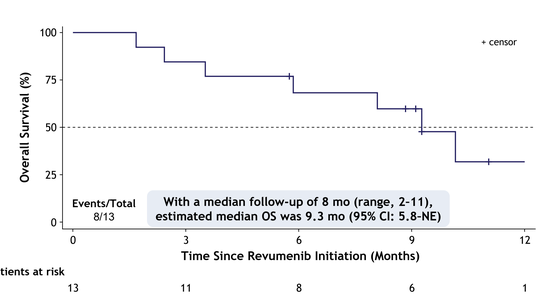
- Among the response-evaluable population, ORR was 85.7% with revumenib monotherapy and 75.0% with combination therapy while CRc was 57.1% and 75.0%, respectively (**Table 2**)
- Among 9 patients who achieved ORR, 4 went to HSCT; 2/4 resumed revumenib post HSCT
- Among 7 CRc responders, MRD assessment (by flow) was available for 2; both were MRD negative at best response

Table 2. Effectiveness

	Response-evaluable Population[a]			
	Total (n=11)	Revumenib Monotherapy (n=7)	Revumenib Combination Therapy (n=4)	Overall Population (N=13)
ORR, n (%)	**9 (81.8)**	**6 (85.7)**	**3 (75.0)**	**9 (69.2)**
Time to first response, median (range), mo	1.1 (0.8-3.9)	1.9 (1.0-3.9)	0.9 (0.8-1.1)	1.1 (0.8-3.9)
Time to best response, median (range), mo	2.0 (0.8-7.4)	2.0 (1.0-7.4)	2.7 (0.8-6.7)	2.0 (0.8-7.4)
Duration of response, median (range), mo	4.9 (1.0-10.2)	4.3 (1.0-8.2)	8.4 (4.9-10.2)	4.9 (1.0-10.2)
CRc, n (%)[b]	**7 (63.6)**	**4 (57.1)**	**3 (75.0)**	**7 (53.8)**
CR, n (%)	6 (54.5)	3 (42.9)	3 (75.0)	6 (46.2)
CRh, n (%)	1 (9.1)	1 (14.3)	0	1 (7.7)
CRi, n (%)	0	0	0	0
MLFS, n (%)	2 (18.2)	2 (28.6)	0	2 (15.4)
No response, n (%)	2 (18.2)	1 (14.3)	1 (25.0)	2 (15.4)
Not evaluable for response, n (%)	0	0	0	2 (15.4)
Received HSCT after revumenib, n	**4[c]**	**2[c]**	**2**	**4[c]**
Resumed revumenib post HSCT, n	**2**	**1**	**1**	**2**

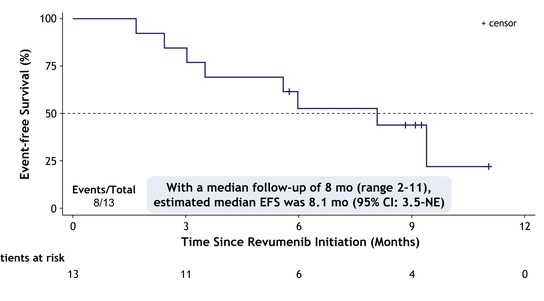
[a]Response-evaluable population defined as patients who received ≥1 treatment cycle with revumenib. Two patients were excluded as they received <1 treatment cycle and had no bone marrow assessment available; [b]CRc = CR + CRh + CRi; [c]One HSCT was second HSCT for the patient.
MLFS, morphologic leukemia-free state.

Figure 3. Overall survival from revumenib initiation



- One death occurred while patient was on revumenib due to disease progression (not related to revumenib). Seven deaths occurred after patients discontinued revumenib (deaths occurred at a median of 2.8 months after last dose)

Figure 4. Event-free survival



- Four patients relapsed after achieving a response (3 who received revumenib monotherapy, 1 who received combination therapy)

Safety

- One patient (7.7%) had grade 3 QTcF prolongation attributed to concomitant QTcF–prolonging medication; event resolved after discontinuation of concomitant drug (**Table 3**)
- Three patients (23.1%) experienced DS: 1 patient (7.7%) had grade 3 DS (managed with DS–directed treatment without revumenib dose modification) and 2 (15.4%) had grade 2 DS
- No patient discontinued revumenib due to QTcF prolongation or DS

Table 3. Safety

	Overall Population (N=13)
Grade ≥3 QTcF prolongation, n (%)	1 (7.7)[a]
Grade ≥3 differentiation syndrome, n (%)	1 (7.7)[a]
Grade ≥3 QTcF prolongation or differentiation syndrome leading to:	
Revumenib interruption, n (%)	0
Revumenib reduction, n (%)	0
Revumenib discontinuation, n (%)	0

[a]No grade 4 or 5 events were reported.

CONCLUSIONS

- In this first interim analysis of ROAR, revumenib demonstrated meaningful real-world effectiveness as both monotherapy and in combination regimens in patients with R/R *KMT2Ar* and *NPM1*m acute leukemia
- High response rates, rapid time to response, successful bridging to HSCT, and an estimated median OS of 9.3 months collectively underscore the clinical benefit and real-world utility of revumenib in this heavily pretreated population
- Revumenib was generally well tolerated, with real-world safety findings consistent with the established safety profile in patients with R/R *KMT2Ar* and *NPM1*m acute leukemia
- ROAR is an ongoing study, with additional data from new centers expected to further inform the real-world effectiveness and safety of revumenib

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ACKNOWLEDGMENTS

The ROAR study is supported by Syndax Pharmaceuticals, Inc.