

Oral azacitidine preserves favorable level of fatigue and health-related quality of life for patients with acute myeloid leukemia in remission: results from the phase III, placebo-controlled QUAZAR AML-001 trial

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Supplementary Appendix

Supplementary Table 1. Baseline demographic and disease characteristics in the health-related quality of life (HRQoL) evaluable population

Variable	Oral Azacitidine N = 225	Placebo N = 219	All Patients N = 444
Age, years, median (min, max)	68 (55, 86)	68 (55, 82)	68 (55, 86)
Sex, n (%)			
Female	114 (50.7)	101 (46.1)	215 (48.4)
Male	111 (49.3)	118 (53.9)	229 (51.6)
WHO AML classification, n (%)			
Recurrent genetic abnormalities	37 (16.4)	43 (19.6)	80 (18.0)
Myelodysplasia-related changes	47 (20.9)	38 (17.4)	85 (19.1)
Therapy-related	2 (0.9)	0 (0.0)	2 (0.5)
Not otherwise specified	139 (61.8)	137 (62.6)	276 (62.2)
Missing	0	1 (0.5)	1 (0.2)
AML type, n (%)			
Primary (<i>de novo</i>)	201 (89.3)	204 (93.2)	405 (91.2)
Secondary	24 (10.7)	15 (6.8)	39 (8.8)
Cytogenetic risk status at induction, n (%)			
Intermediate	195 (86.7)	192 (87.7)	387 (87.2)
Poor	30 (13.3)	27 (12.3)	57 (12.8)
ECOG PS score, n (%)			
0	112 (49.8)	109 (49.8)	221 (49.8)
1	95 (42.2)	95 (43.4)	190 (42.8)
2-3	18 (8.0)	15 (6.8)	33 (7.4)
MRD-positive at randomization, n (%)	99 (44.0)	109 (49.8)	208 (46.8)
Bone marrow blasts, %, median (min, max)	2.0 (0.0, 5.0)	2.0 (0.0, 6.5)	2.0 (0.0, 6.5)
Consolidation therapy after IC, n (%)			
Yes	178 (79.1)	180 (82.2)	358 (80.6)
1 cycle	108 (60.7)	96 (53.3)	204 (57.0)
2 cycles	65 (36.5)	71 (39.4)	136 (38.0)
3 cycles	5 (2.8)	13 (7.2)	18 (5.0)
No	47 (20.9)	39 (17.8)	86 (19.4)
Response following induction, n (%)			
CR	176 (78.2)	185 (84.5)	361 (81.3)
CRi	49 (21.8)	34 (15.5)	83 (18.7)
Time from diagnosis to randomization, months, median (min, max)	4.2 (1.5, 9.2)	4.2 (1.4, 10.9)	4.2 (1.4, 10.9)
Time from start of induction to randomization, months, median (min, max)	4.0 (1.4, 8.8)	4.0 (1.3, 15.1)	4.0 (1.3, 15.1)
The HRQoL-evaluable population was based on baseline completion of the FACIT-Fatigue Scale.			

AML, acute myeloid leukemia; CR, complete remission; CRi, CR with incomplete blood count recovery; ECOG PS, Eastern Cooperative Oncology Group performance status; IC, induction chemotherapy; MRD, measurable residual disease; WHO, World Health Organization.

Supplementary Table 2. Baseline FACIT-Fatigue and EQ-5D-3L scores in QUAZAR AML-001 and historical reference values from general populations

HRQoL Assessment	QUAZAR AML-001			Reference value from general population
	Oral Azacitidine	Placebo	All Patients	
	Mean [SD]			Mean
FACIT-Fatigue scale	40.8 [8.6]	40.7 [8.3]	40.8 [8.4]	43.2*
EQ-5D-3L health utility index	0.80 [0.10]	0.79 [0.14]	0.80 [0.12]	0.76 [†]
EQ-5D visual analogue scale	74.6 [17.4]	75.4 [16.2]	75.0 [16.8]	75.1 [†]

*Reference value from a general population in Germany (N = 2,426)¹; data were re-weighted with age distributions by gender from the study population.

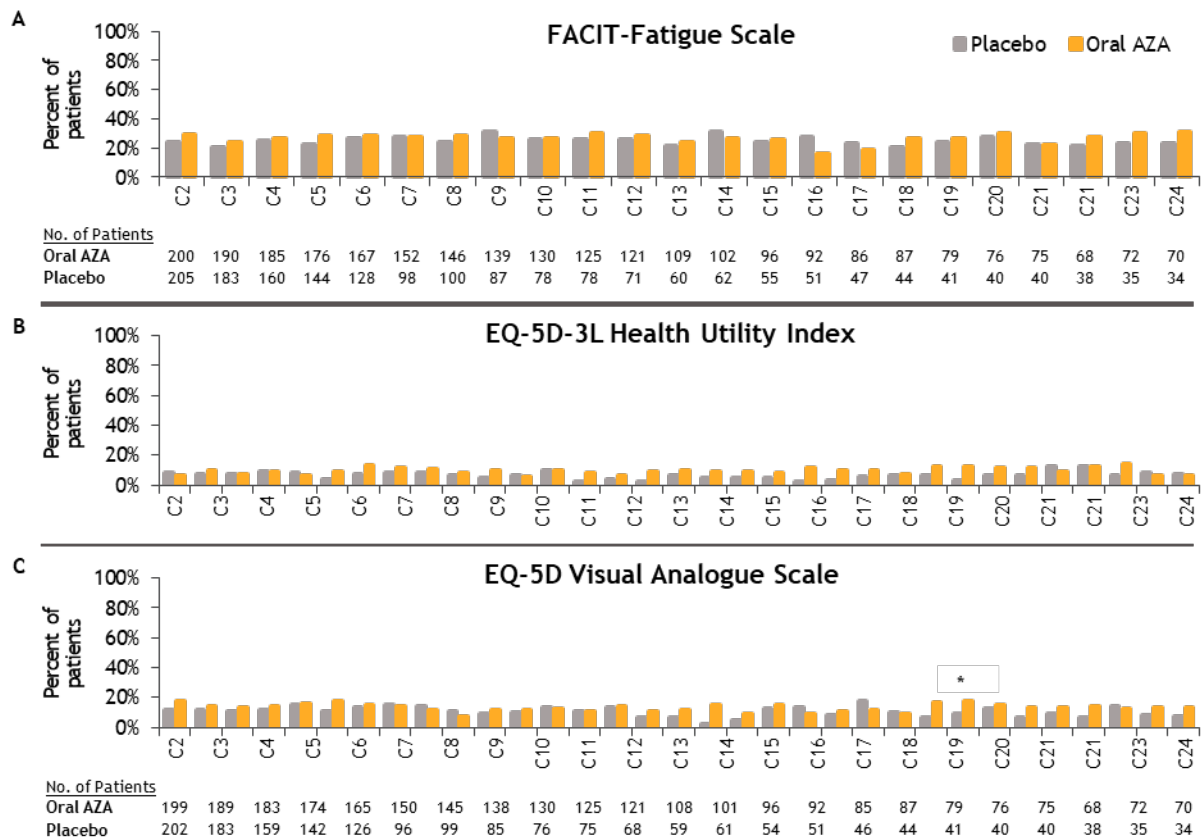
[†]Reference value from a general population aged 65-74 years in the United States (N = 38,678).²

FACIT, Functional Assessment of Chronic Illness Therapy; HRQoL, health-related quality of life; SD, standard deviation.

1. Montan I, Lowe B, Cella D, et al. General population norms for the functional assessment of chronic illness therapy (FACIT)-fatigue scale. *Value Health* 2018;21:1313–1321.

2. Szende A, Janssen B, Cabases J. Self-Reported Population Health: An International Perspective based on EQ-5D. in *Self-reported population health: an international perspective based on EQ-5D* (eds. Szende, A., Janssen, B. & Cabases, J.) 2014.;Springer, Dordrecht (NL)

Supplementary Figure 1. Proportions of patients in the Oral-AZA and placebo treatment arms that experienced clinically meaningful deterioration on the A) FACIT-Fatigue scale; B) EQ-5D-3L Health Utility Index score; and C) EQ-5D Visual Analog Scale



Data are reported from day 1 of each treatment cycle.

*Indicates a statistically significant ($P < 0.05$) difference between treatment arms.

AZA, azacitidine; FACIT, Functional Assessment of Chronic Illness Therapy; No., number.