

Figure S1: Venn diagram demonstrating cytotypic landscape in the younger ts-AML cohort. Values indicate the number of patients with a particular karyotype. Patients with two or more concurrent karyotypic abnormalities fall under the overlapping regions. N = 51. Abbreviations used: Fav-favorable. Oblong circle represents patients with 3q abnormality; 1 patient had a t(1;3) [intermediate risk].

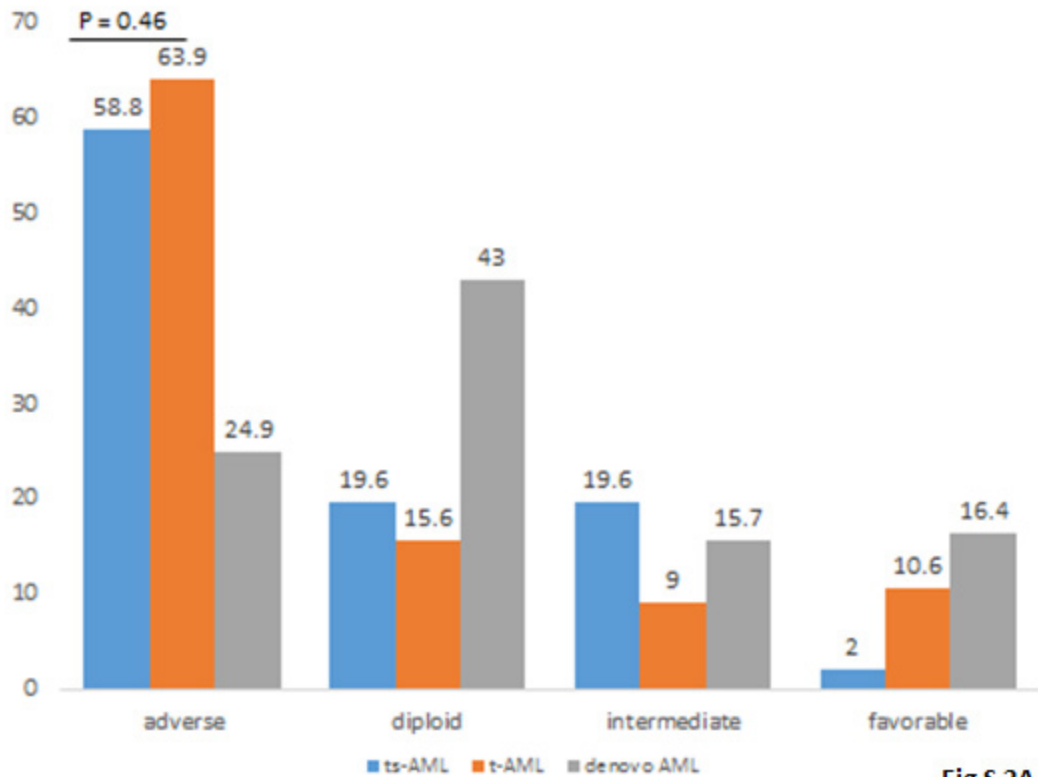


Figure S2A: Frequency karyotype distribution in the ts-AML, t-AML, and denovo AML cohorts in the younger AML cohort.

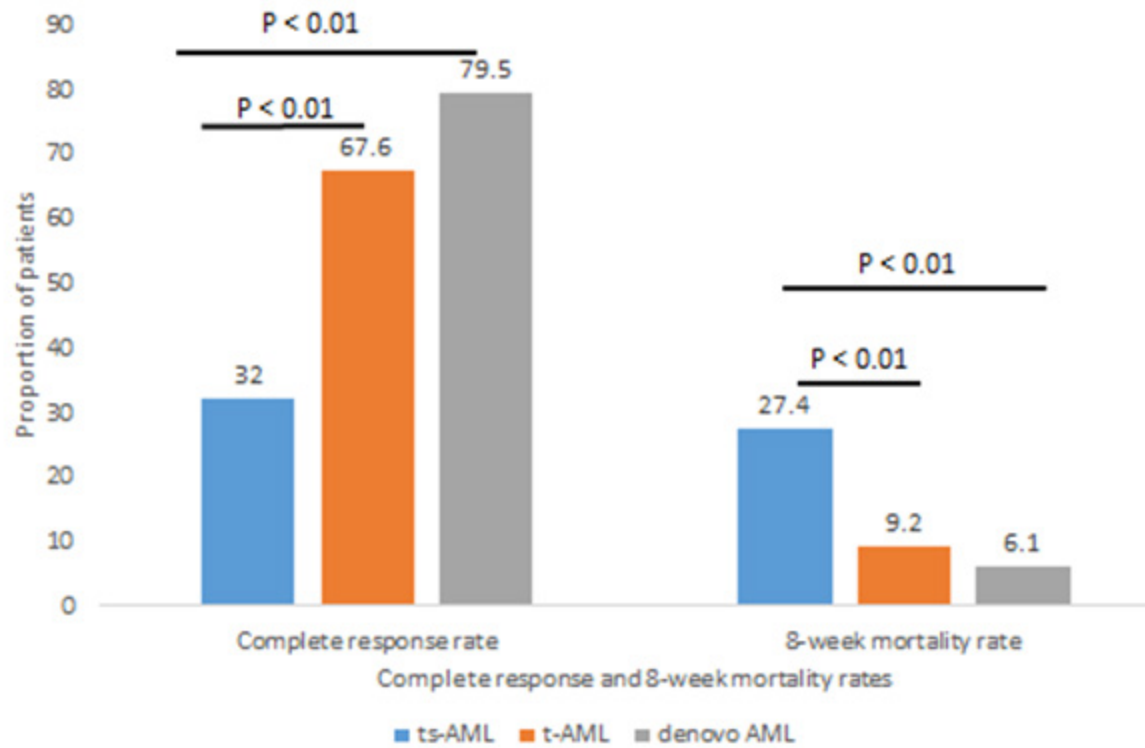
**Fig S2B**

Figure S2B: CR and 8-week mortality rates comparing the three cohorts in younger AML: ts-AML, t-AML, and denovo AML.

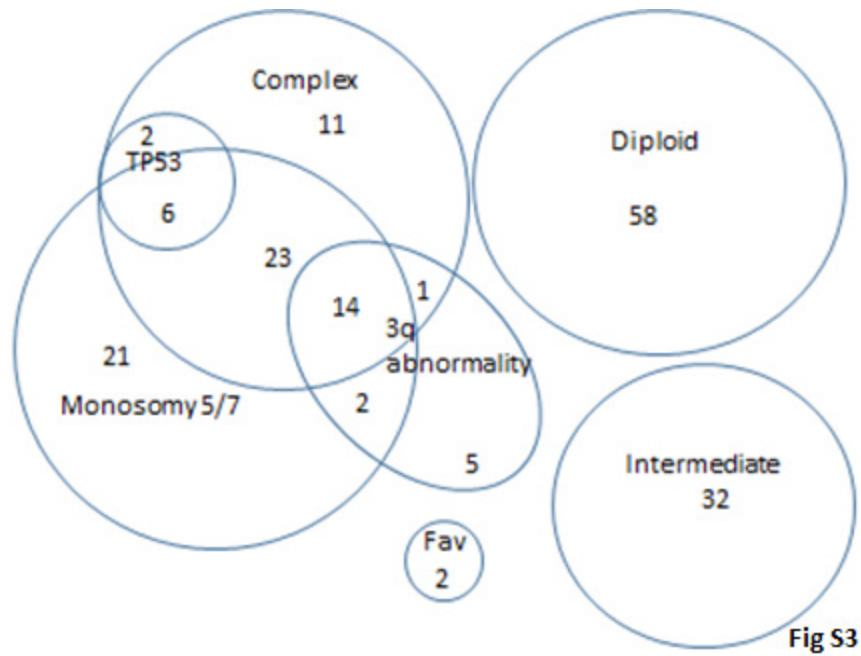


Figure S3: Venn diagram demonstrating cytogenetic landscape in the older ts-AML cohort. Values indicate the number of patients with a particular karyotype. Patients with two or more concurrent karyotypic abnormalities fall under the overlapping regions. N = 179.

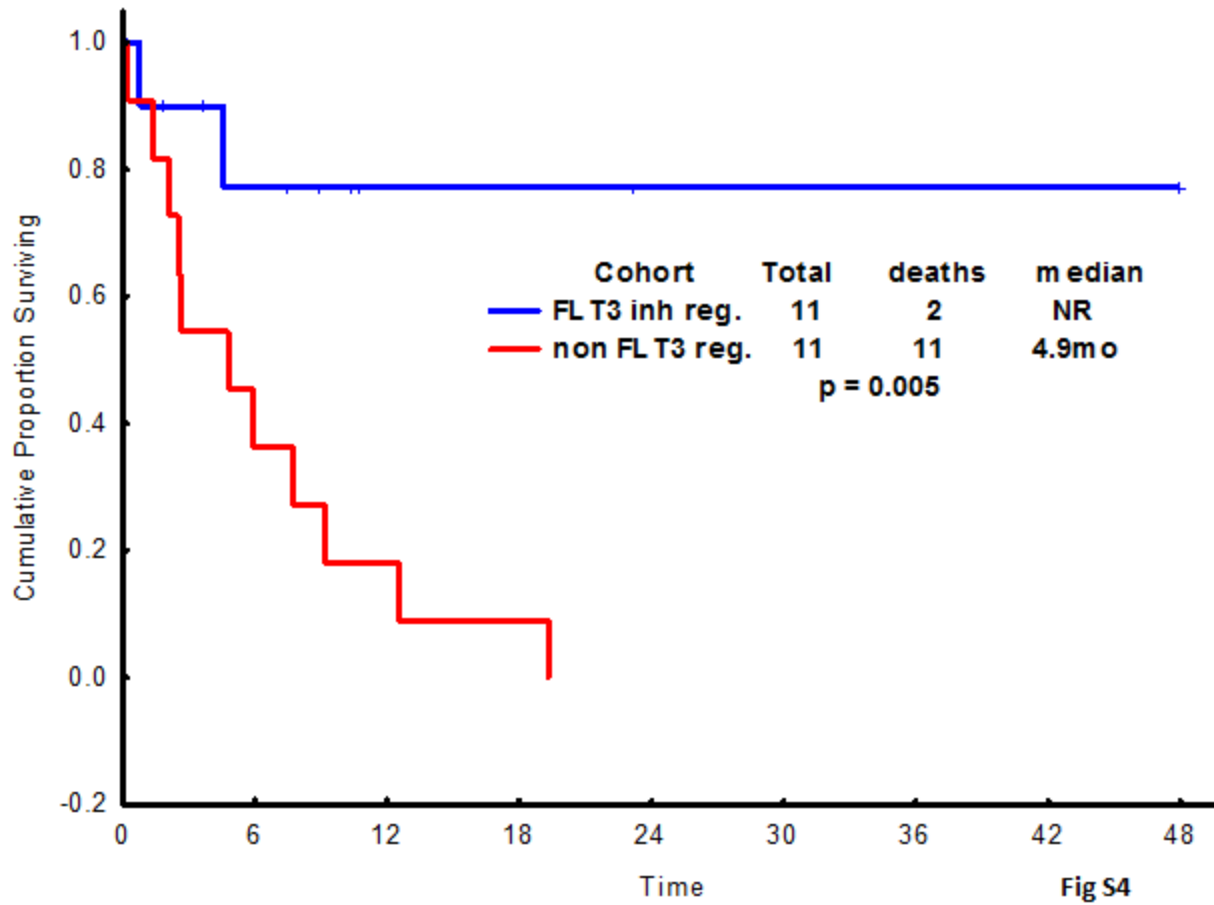


Figure S4: FLT3-ITD ts-AML outcomes by regimen (FLT3 inhibitor inclusive regimen vs. non FLT3-inhibitor regimen). Twenty two of 24 FLT3-ITD patients available for survival analysis.

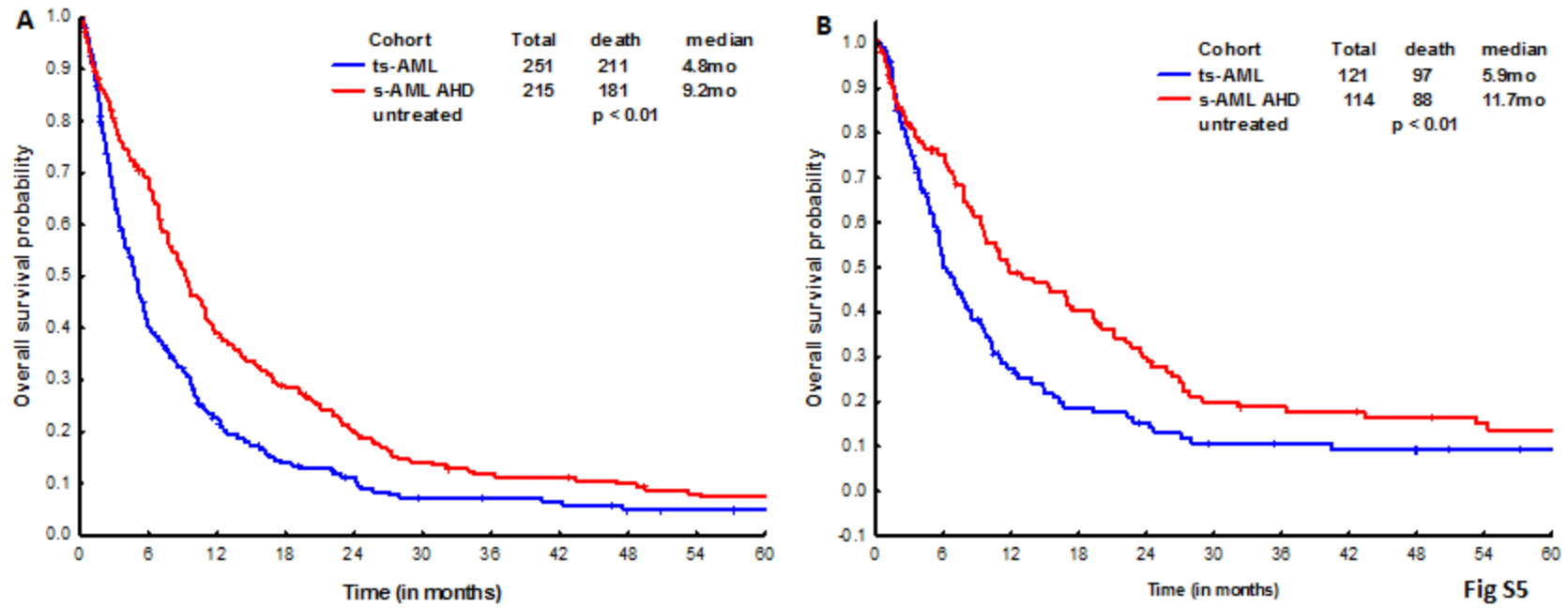


Figure S5: OS in s-AML based on prior treatment of AHD (ts-AML vs s-AML untreated for prior AHD): (A) total population, (B) in AML with non-adverse cytogenetics.

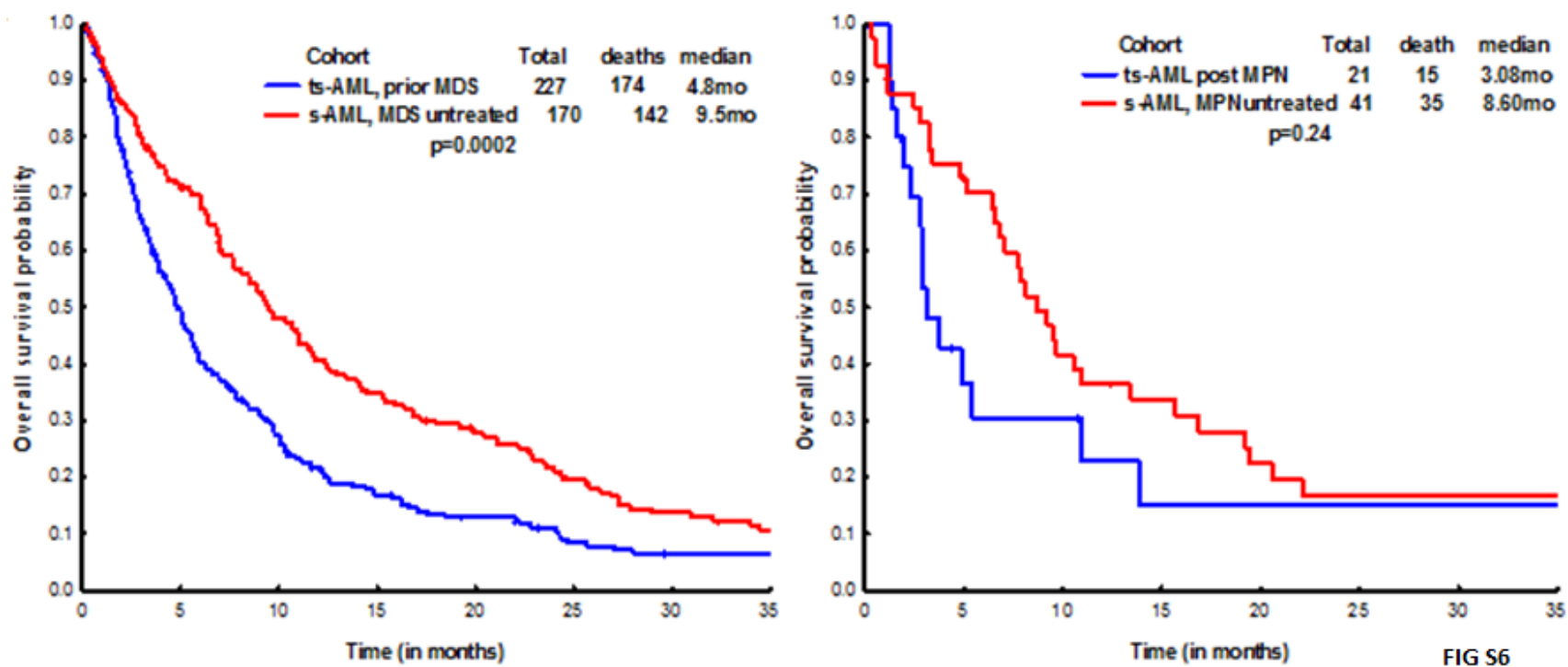


Figure S6: OS by ts-AML status in s-AML based on AHD type (A) prior MDS, (B) prior MPN.

Table S1: Predictors for OS in the overall AML study population

Variable	Univariate survival comparisons		Multivariate survival analysis	
	Hazard ratio (95% CI)	p-value	Hazard ratio (95% CI)	p-value
Age (≥60)	2.4 (2.2-2.6)	<0.001	1.87 (1.53-2.28)	<0.001
FLT3	1.3 (1.02-1.6)	<0.001	1.31 (1.06-1.62)	0.012
NPM1	0.7 (0.6-0.8)	<0.001	0.80 (0.65-0.99)	0.044
RAS	0.8 (0.7-0.97)	0.023	1.02 (0.83-1.26)	0.82
Ts-AML	2.2 (1.9-2.5)	<0.001	2.1 (1.68-2.71)	<0.001
s-AML, AHD untreated	1.4 (1.2-1.6)	<0.001	1.45 (1.14-1.83)	0.002
High/intermediate anthracycline based	0.6 (0.5-0.6)	<0.001	0.71 (0.59-0.85)	<0.001
Adverse cytogenetics	2.5 (2.3-2.8)	<0.001	2.56 (2.18-3.00)	<0.001
WBC (≥10K/microL)	0.99 (0.9-1.1)	0.83	-	-
Platelet (≥50K/microL)	0.8 (0.7-0.9)	<0.001	0.78 (0.68-0.89)	<0.001
BM Blasts (≥30%)	0.91 (0.83-1.0)	0.057	1.24 (1.06-1.46)	0.007
t-AML	1.7 (1.5-1.9)	<0.001	1.35 (1.13-1.60)	0.001

Abbreviations used: CR: complete response. WBC-white blood cell count. BM-bone marrow. S-AML-secondary AML. Ts-AML-treated secondary AML. AHD-antecedent hematological disorder. T-AML-therapy related AML. MDS-myelodysplastic syndrome. Gp-group.