

Pre-transplantation minimal residual disease with cytogenetic and molecular diagnostic features improves risk stratification in acute myeloid leukemia

Betül Oran,¹ Jeff L. Jorgensen,² David Marin,¹ Sa Wang,² Sairah Ahmed,¹ Amin M. Alousi,¹ Borje S. Andersson,¹ Qaiser Bashir,¹ Roland Bassett,³ Genevieve Lyons,³ Julianne Chen,¹ Katy Rezvani,¹ Uday Popat,¹ Partow Kebriaei,¹ Keyur Patel,² Gabriela Rondon,¹ Elizabeth J. Shpall¹ and Richard E. Champlin¹

¹Department of Stem Cell Transplantation and Cellular Therapy; ²Department of Hematopathology and ³Department Biostatistics, the University of Texas MD Anderson Cancer Center, Houston, TX, USA

©2017 Ferrata Storti Foundation. This is an open-access paper. doi:10.3324/haematol.2016.144253

Received: April 19, 2016.

Accepted: August 18, 2016.

Pre-published: August 18, 2016.

Correspondence: boran@mdanderson.org

Supplementary Table 1: Standardized Reporting for Correlation of Cytogenetic and Molecular Genetic Data in Acute Myeloid Leukemia with Clinical Data According to the ELN Guideline

ELN Genetic Risk Group	Subsets
Favorable	t(8;21)(q22;q22); <i>RUNX1-RUNX1T1</i> inv(16)(p13.1q22) or t(16;16)(p13.1;q22); <i>CBFB-MYH11</i>
	Mutated <i>NPM1</i> without <i>FLT3-ITD</i> (normal karyotype)
	Mutated <i>CEBPA</i> (normal karyotype)
Intermediate-I	Mutated <i>NPM1</i> and <i>FLT3-ITD</i> (normal karyotype)
	Wild-type <i>NPM1</i> and <i>FLT3-ITD</i> (normal karyotype)
	Wild-type <i>NPM1</i> without <i>FLT3-ITD</i> (normal karyotype)
Intermediate-II	t(9;11)(p22;q23); <i>MLLT3-MLL</i> Cytogenetic abnormalities not classified as favorable or adverse
Adverse	inv(3)(q21q26.2) or t(3;3)(q21;q26.2); <i>RPN1-EVI1</i> t(6;9)(p23;q34); <i>DEK-NUP214</i> t(v;11)(v;q23); <i>MLL</i> rearranged-5 or del(5q); -7; abn(17p); complex karyotype

Supplementary Table 2: Coefficients from the multivariate regression model for 1-year relapse incidence.

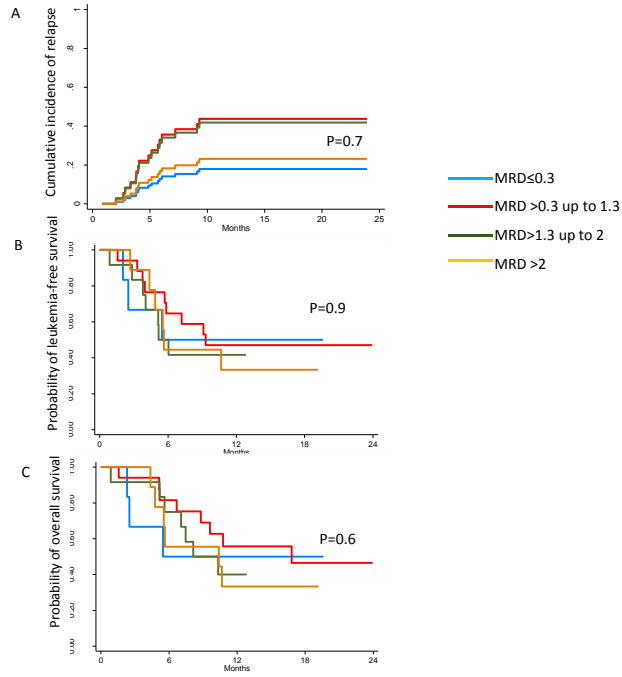
	Coefficient	95% CI	p
High risk vs. low risk	1.79	0.7-2.8	0.001
RIC vs. MAC	0.8	0.04-1.6	0.039

Figure Legends

Supplementary Figure 1: The level of MRD categorized as $\leq 0.3\%$, $>0.3\%$ but $\leq 1.3\%$, $>1.3\%$ but $\leq 2\%$ and $>2\%$ did not have an impact on the relapse incidence (A), leukemia-free survival (B) and overall survival (C).

Supplementary Figure 2: The proposed scoring system for 1-year relapse incidence based on MRD at HSCT, ELN risk classification and the conditioning regimen intensity identified 3 risk groups: 1) Low risk group with a score of 0-1 and 1- year relapse incidence of 6.9% 2) Intermediate risk group with risk score of 2 and 1-year relapse incidence of 26.9% and 3) high risk group with score of 3 and 1-year relapse incidence of 47.2%.

Supplementary Figure 1: The impact of the level of MRD by MFC on relapse incidence (A), LFS (B) and OS (C)



Supplementary Figure 2: Prognostic score for 1-year relapse incidence

