

Relative impact of residual cytogenetic abnormalities and flow cytometric measurable residual disease on outcome after allogeneic hematopoietic cell transplantation in adult acute myeloid leukemia

Corentin Orvain,^{1,2,3,4,5} Jacob A. Wilson,⁶ Min Fang,^{1,7} Brenda M. Sandmaier,^{1,2} Eduardo Rodríguez-Arbolí,^{1,8} Brent L. Wood,⁹ Megan Othus,¹⁰ Frederick R. Appelbaum^{1,2} and Roland B. Walter^{1,2,7,11}

¹Clinical Research Division, Fred Hutchinson Cancer Center, Seattle, WA, USA; ²Department of Medicine, Division of Hematology/Oncology, University of Washington, Seattle, WA, USA; ³Maladies du Sang, CHU d'Angers, Angers, France; ⁴Fédération Hospitalo-Universitaire Grand-Ouest Acute Leukemia, FHU-GOAL, Angers, France; ⁵Université d'Angers, INSERM UMR 1307, CNRS UMR 6075, Nantes Université, CRCI2NA, Angers; ⁶Cytogenetics Laboratory, Fred Hutchinson Cancer Center, Seattle, WA, USA; ⁷Department of Laboratory Medicine and Pathology, University of Washington, Seattle, WA, USA; ⁸Department of Hematology, Hospital Universitario Virgen del Rocío, Instituto de Biomedicina de Sevilla (IBIS/CSIC/CIBERONC), University of Seville, Seville, Spain; ⁹Department of Pathology and Laboratory Medicine, Children's Hospital, Los Angeles, CA, USA; ¹⁰Public Health Sciences Division, Fred Hutchinson Cancer Center, Seattle, WA, USA and ¹¹Department of Epidemiology, University of Washington, Seattle, WA, USA.

Correspondence: R.B. Walter
rwalter@fredhutch.org

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SUPPLEMENTAL INFORMATION

SUPPLEMENTAL TABLE 1. Details regarding cytogenetic and FISH studies in the 506 patients included in the analysis and according to abnormal and normal results pre-HCT.

	All patients (n=506)	Abnormal at HCT (n=119)	Normal at HCT (n=387)
≥ 20 metaphases	480 (95%)	106 (89%)	374 (97%)
Normal karyotype/Normal FISH	262 (52%)	0	262 (68%)
Abnormal karyotype/Normal FISH	30 (6%)	30 (25%)	0
Normal karyotype/Abnormal FISH	0	0	0
Abnormal karyotype/Abnormal FISH	55 (11%)	55 (46%)	0
FISH not done	133 (26%)	21 (18%)	112 (29%)
10 - 20 metaphases	17 (3%)	9 (8%)	8 (2%)
Normal karyotype/Normal FISH	4 (1%)	0	4 (1%)
Abnormal karyotype/Normal FISH	2	2 (2%)	0
Normal karyotype/Abnormal FISH	0	0	0
Abnormal karyotype/Abnormal FISH	5 (1%)	5 (4%)	0
FISH not done	6 (1%)	2 (2%)	4 (1%)
3 - 10 metaphases	9 (2%)	4 (3%)	5 (1%)
Normal karyotype/Normal FISH	5 (1%)		5 (1%)
Abnormal karyotype/Normal FISH	0	0	0
Normal karyotype/Abnormal FISH	0	0	0
Abnormal karyotype/Abnormal FISH	3 (1%)	3 (2%)	0
FISH not done	1	1 (1%)	0

Abbreviations: HCT, hematopoietic cell transplantation.

SUPPLEMENTAL TABLE 2. Details regarding molecular studies in the 506 patients included in the analysis, stratified by cytogenetics and MFC status before HCT

	Abnormal Cytogenetics at Diagnosis (n=506)	Cyto N MFC- (n=327)	Cyto AbN MFC- (n=63)	Cyto N MFC+ (n=60)	Cyto AbN MFC+ (n=56)
Cytogenetic/molecular risk (ELN2017), n (%)					
Favorable	69 (14%)	54 (17%)	8 (13%)	3 (5%)	4 (7%)
Intermediate	193 (38%)	141 (43%)	20 (32%)	18 (30%)	14 (25%)
Adverse	244 (48%)	132 (40%)	35 (56%)	39 (65%)	38 (68%)
FLT3-ITD mutation, n (%)	59 (12%)	51 (16%)	4 (6%)	1 (2%)	3 (5%)
<i>Missing</i>	200	127	19	29	25
FLT3-ITD mutation, n (%)	10 (2%)	7 (2%)	1 (2%)	1 (2%)	1 (2%)
<i>Missing</i>	341	221	37	44	39
NPM1 mutation, n (%)	24 (5%)	18 (6%)	6 (10%)	0	0
<i>Missing</i>	221	141	20	35	25
CEBPA double mutation, n (%)	9 (2%)	7 (2%)	1 (2%)	1 (2%)	0
<i>Missing</i>	284	185	26	43	30

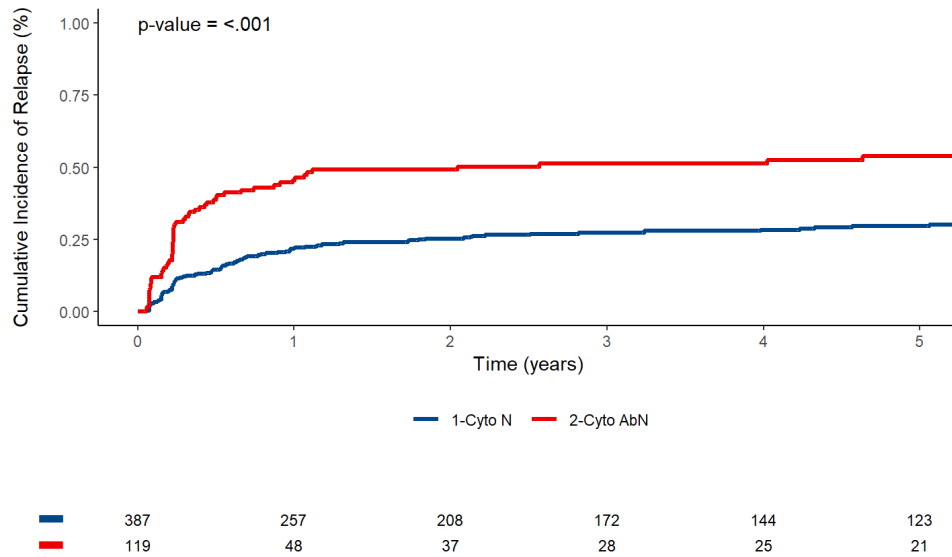
SUPPLEMENTAL TABLE 3. Characteristics of cytogenetic abnormalities in patients with abnormal pre-HCT cytogenetics with and without positive MFC.

	Cyto AbN/MFC- (n=63)	Cyto AbN/MFC+ (n=56)	P
Proportion of abnormal metaphases (IQR)	29% (12 - 62%)	15% (10 - 36%)	0.068
Cytogenetic abnormalities, n (%)			
del(20q)	5 (8%)	3 (5%)	0.72
Trisomy 8	3 (5%)	4 (7%)	0.71
CBF	2 (3%)	3 (5%)	0.67
<i>DEK-NUP214</i>	1 (2%)	0	>0.9
MLL	4 (6%)	5 (9%)	0.73
<i>MECOM</i>	1 (2%)	2 (4%)	0.60
Chromosome 5 abnormality	5 (8%)	1 (2%)	0.21
Chromosome 7 abnormality	2 (3%)	9 (16%)	0.024
Complex non-monosomal	5 (8%)	6 (11%)	0.75
Complex monosomal	4 (6%)	17 (30%)	<0.001
Non-adverse	31 (49%)	8 (14%)	<0.001
Type of cytogenetic abnormality, n (%)			
Deletion	26 (41%)	34 (61%)	0.043
Extra material	12 (19%)	30 (54%)	<0.001
Translocation	35 (56%)	30 (54%)	0.86

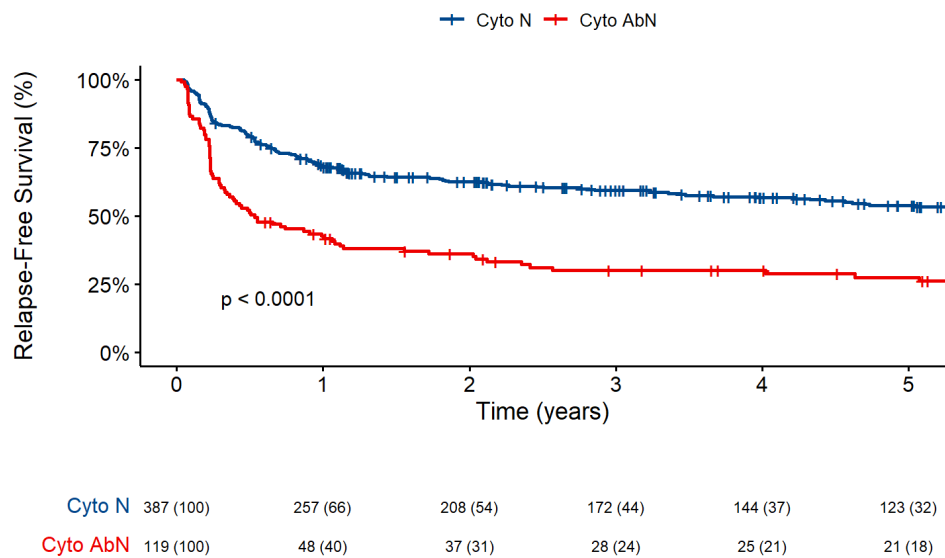
Abbreviations: MFC, multiparameter flow cytometry.

SUPPLEMENTAL FIGURE 1. Post-HCT outcomes for 506 adults with AML and initial abnormal cytogenetics undergoing allogeneic HCT while in first or second morphologic remission, stratified by pre-HCT cytogenetics. (A) Cumulative incidence of relapse, (B) relapse-free survival, (C) overall survival, and (D) cumulative incidence of non-relapse mortality.

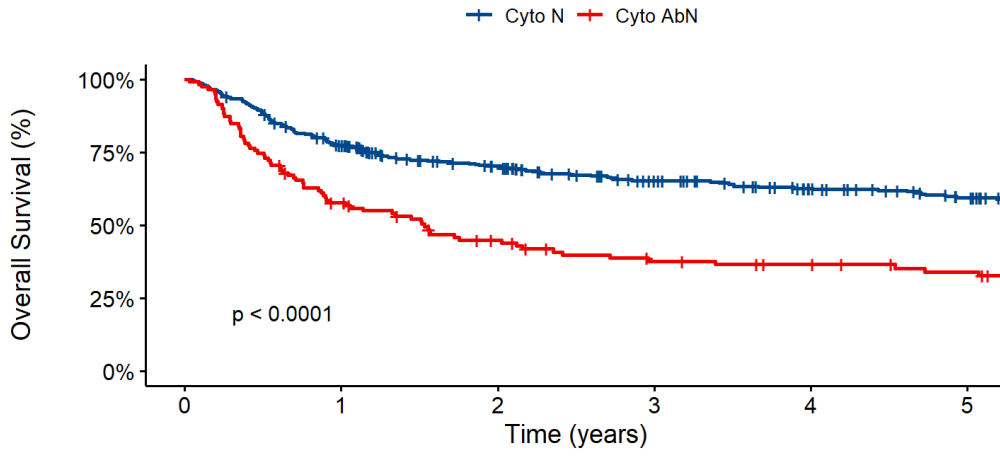
(A)



(B)

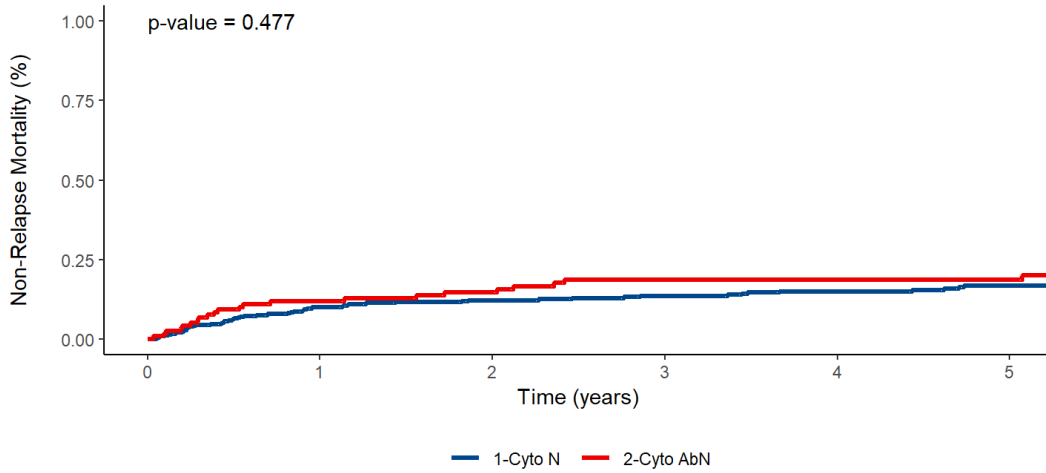


(C)



Cyto N	387 (100)	292 (75)	237 (61)	194 (50)	165 (43)	143 (37)
Cyto AbN	119 (100)	66 (55)	46 (39)	35 (29)	31 (26)	26 (22)

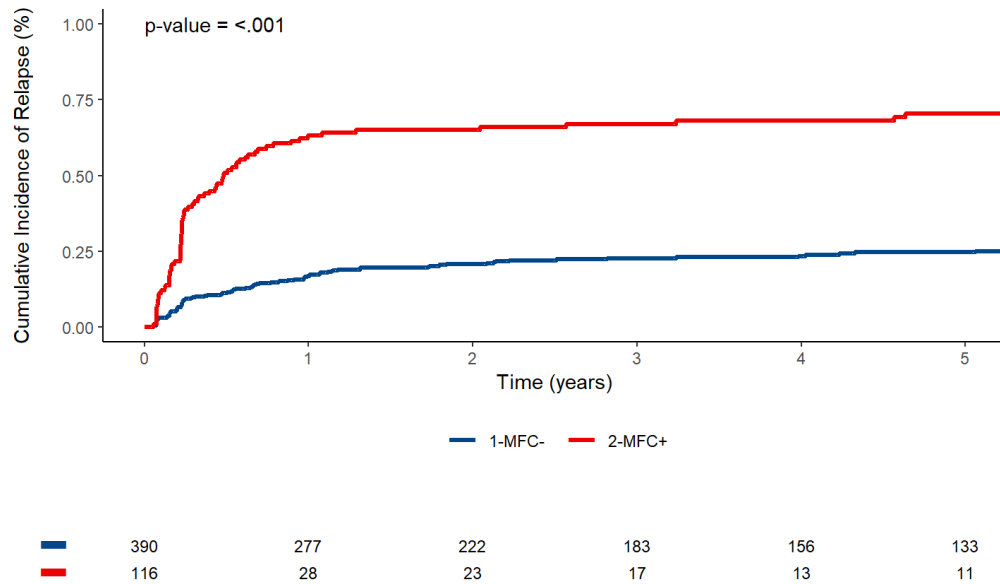
(D)



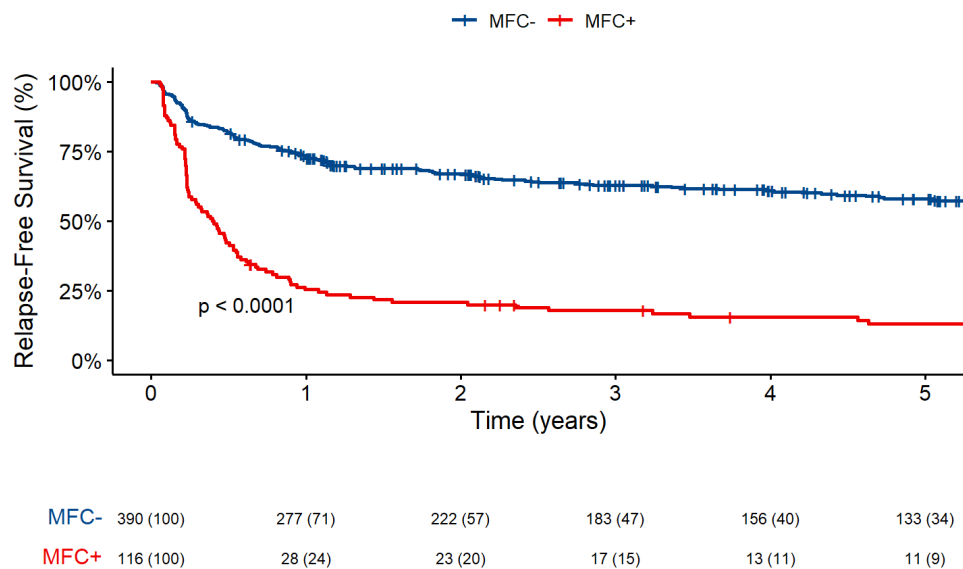
1-Cyto N	387	257	208	172	144	123
2-Cyto AbN	119	48	37	28	25	21

SUPPLEMENTAL FIGURE 2. Post-HCT outcomes for 506 adults with AML and initial abnormal cytogenetics undergoing allogeneic HCT while in first or second morphologic remission, stratified by pre-HCT MFC. (A) Cumulative incidence of relapse, (B) relapse-free survival, (C) overall survival, and (D) cumulative incidence of non-relapse mortality.

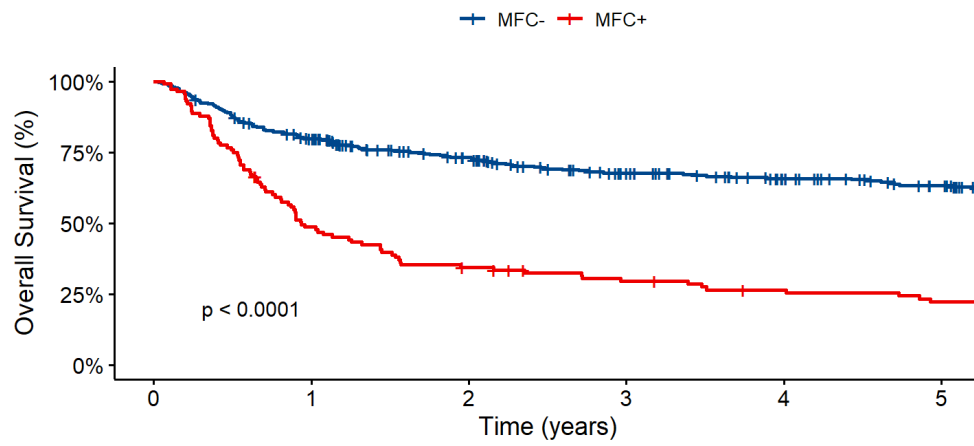
(A)



(B)

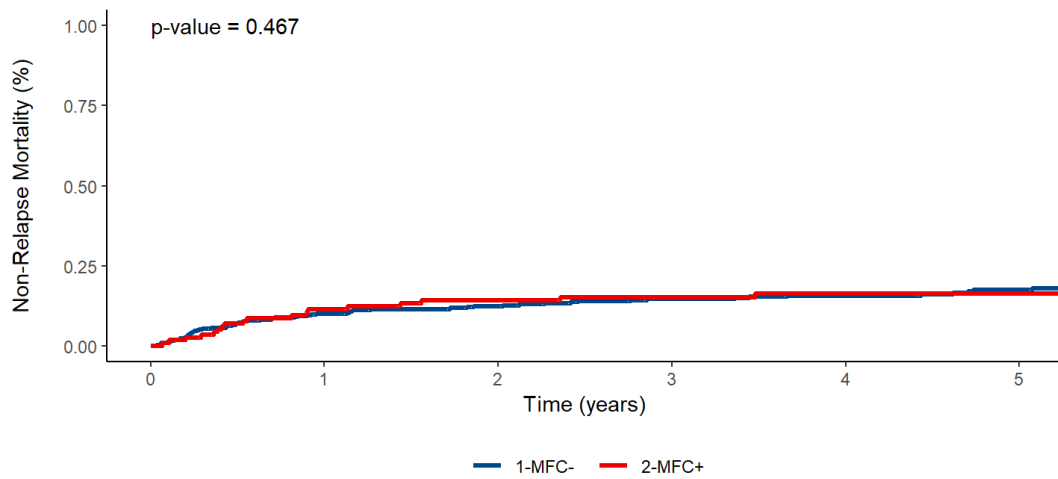


(C)



MFC-	390 (100)	303 (78)	245 (63)	199 (51)	171 (44)	148 (38)
MFC+	116 (100)	55 (47)	38 (33)	30 (26)	25 (22)	21 (18)

(D)



1-MFC-	390	277	222	183	156	133
2-MFC+	116	28	23	17	13	11