

Mixed myeloid chimerism and relapse of myelofibrosis after allogeneic stem cell transplantation

Samer A. Srouf,¹ Amanda Olson,¹ Stefan O. Ciurear,¹ Parth Desair,² Qaiser Bashir,¹ Betul Oran,¹ Prithviraj Boser,³ Rohtesh Mehtar,¹ Keyur P. Patel,³ Naveen Pemmarajur,³ Naval Daverr,³ Srdan Verstovsek,³ Richard E. Champlin¹ and Uday R. Popat¹

¹Department of Stem Cell Transplantation and Cellular Therapy, The University of Texas MD Anderson Cancer Center, Houston; ²Department of Medicine, The University of Texas Health Science Center at San Antonio, San Antonio; ³Department of Leukemia, The University of Texas MD Anderson Cancer Center, Houston and ⁴Department of Hematopathology, The University of Texas MD Anderson Cancer Center, Houston, TX, USA

Correspondence: UDAY R. POPAT - upopat@mdanderson.org

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Supplemental figure legends**Supplemental Figure 1. Flow chart of MF patient cohorts and frequency of relapse**

according to myeloid chimerism status. *These two patients underwent immunosuppression reduction before any evidence of relapse. One was converted to full donor chimerism, and the other had progressive loss of donor myeloid chimerism and graft failure. **This patient with mixed T-cell chimerism had a molecular relapse (recurrent JAK2 mutation) that responded to a tacrolimus dose reduction (converted to full donor chimerism and had molecular remission).

Supplementary Figure 2. Flow chart for outcomes and interventions done for MF patients with mixed myeloid chimerism.

Supplemental Figure 3. Kaplan-Meier estimates for progression-free survival (A) and overall survival (B) of the study patients by mixed myeloid chimerism status.

Supplementary table 1. Individual patient characteristics and outcomes for the mixed myeloid chimerism patients

No.	Age in years	Gender	Molecular status prior to transplant*	Progression**	Immunosuppression reduction	Response to immunosuppression reduction	GVHD	Subsequent Treatment	Final response	Follow-up in days	Status at last follow-up	Cause of death
1.	54	F	Positive	Yes	Yes	Yes	Yes	None	CR	3005	Alive	NA
2.	53	F	Positive	Yes	Yes	No	No	Second allo-SCT	CR	3071	Alive	NA
3.	27	M	Negative	Yes	Yes	No	No	Second allo-SCT	CR	2563	Alive	NA
4.	54	F	Positive	Yes	Yes	No	No	Second allo-SCT	CR	2103	Alive	NA
5.	70	F	Negative	Yes	Yes	Yes	Yes	None	CR	1480	Alive	NA
6.	45	F	Positive	Yes	Yes	No	No	Second allo-SCT	CR	1420	Alive	NA
7.	65	F	Negative	No	Yes	Yes	Yes	None	CR	1040	Alive	NA
8.	55	M	Negative	Yes	Yes	Yes	Yes	None	CR	742	Alive	NA
9.	41	M	Positive	Yes	Yes	Yes	Yes	None	CR	824	Alive	NA
10.	56	F	Positive	Yes	Yes	Yes	Yes	None	CR	2267	Alive	NA
11.	60	M	Positive	Yes	Yes	Yes	Yes	None	CR	1950	Alive	NA
12.	55	M	Positive	No	Yes	Yes	Yes	None	CR	1684	Alive	NA
13.	60	M	Negative	Yes, AML	Yes	No	No	Second allo-SCT	CR	3028	Alive	NA
14.	60	M	Negative	Yes	Yes	No	No	Stem cell boost with no response, second allo-SCT	CR	2758	Alive	NA
15.	67	F	Positive	Yes	Yes	Yes	Yes	None	CR	726	Alive	NA
16.	52	F	Positive	Yes	Yes	NE	NE	NA	NE	98	Alive	NA
17.	61	F	Positive	Yes	Yes	No	Yes	Second allo-SCT	CR	1680	Alive	NA
18.	59	F	Positive	Yes, AML	Yes	No	No	Induction with idarubicin and cytarabine, followed by second allo-SCT	NR	259	Dead	AML
19.	63	F	Positive	Yes	Yes	No	No	Hydroxyurea, followed by splenectomy	NR	1089	Dead	Progression
20.	63	M	Negative	Yes	Yes	Yes	Yes	None	CR	103	Dead	GVHD
21.	70	M	Positive	Yes	Yes	Yes	Yes	None	CR	1030	Dead	GVHD
22.	59	M	Positive	Yes	Yes	No	No	DLI	NR	385	Dead	Progression
23.	62	M	Negative	Yes†	Yes	No	Yes	Decitabine	NR	211	Dead	Progression
24.	62	F	Positive	Yes	Yes	No	Yes	None	NR	121	Dead	GVHD, progression
25.	59	M	Positive	Yes, AML	Yes	No	Yes	Decitabine	NR	247	Dead	AML
26.	74	F	Negative	Yes	Yes	No	No	Decitabine, followed by investigational therapies	NR	625	Dead	Progression
27.	54	M	Negative	Yes	NA#	NA	NA	Second allo-SCT	CR	2472	Dead	Second malignancy
28.	59	M	Negative	Yes, AML	Yes	No	No	Hydrea	NR	206	Dead	AML
29.	58	F	Positive	Yes	Yes	No	Yes	Lenalidomide	NR	982	Dead	Progression
30.	51	F	Negative	Yes, AML	Yes	No	No	Induction with idarubicin and cytarabine, followed by re-induction with decitabine	NR	261	Dead	AML
31.	46	M	Positive	Yes	NA#	NA	NA	DLI	CR	1210	Dead	Second malignancy
32.	51	F	Positive	Yes, AML	NA#	NA	NA	Induction with cladribine, idarubicin, and cytarabine (CIA)	NR	1348	Dead	AML
33.	63	M	Positive	Yes, AML	Yes	No	No	Induction with Fludarabine and Cytarabine	NR	344	Dead	AML
34.	58	M	Negative	Yes, AML	Yes	No	No	None	NR	341	Dead	AML
35.	54	M	Negative	Yes	No	NA	NA	None	NR	117	Dead	Progression

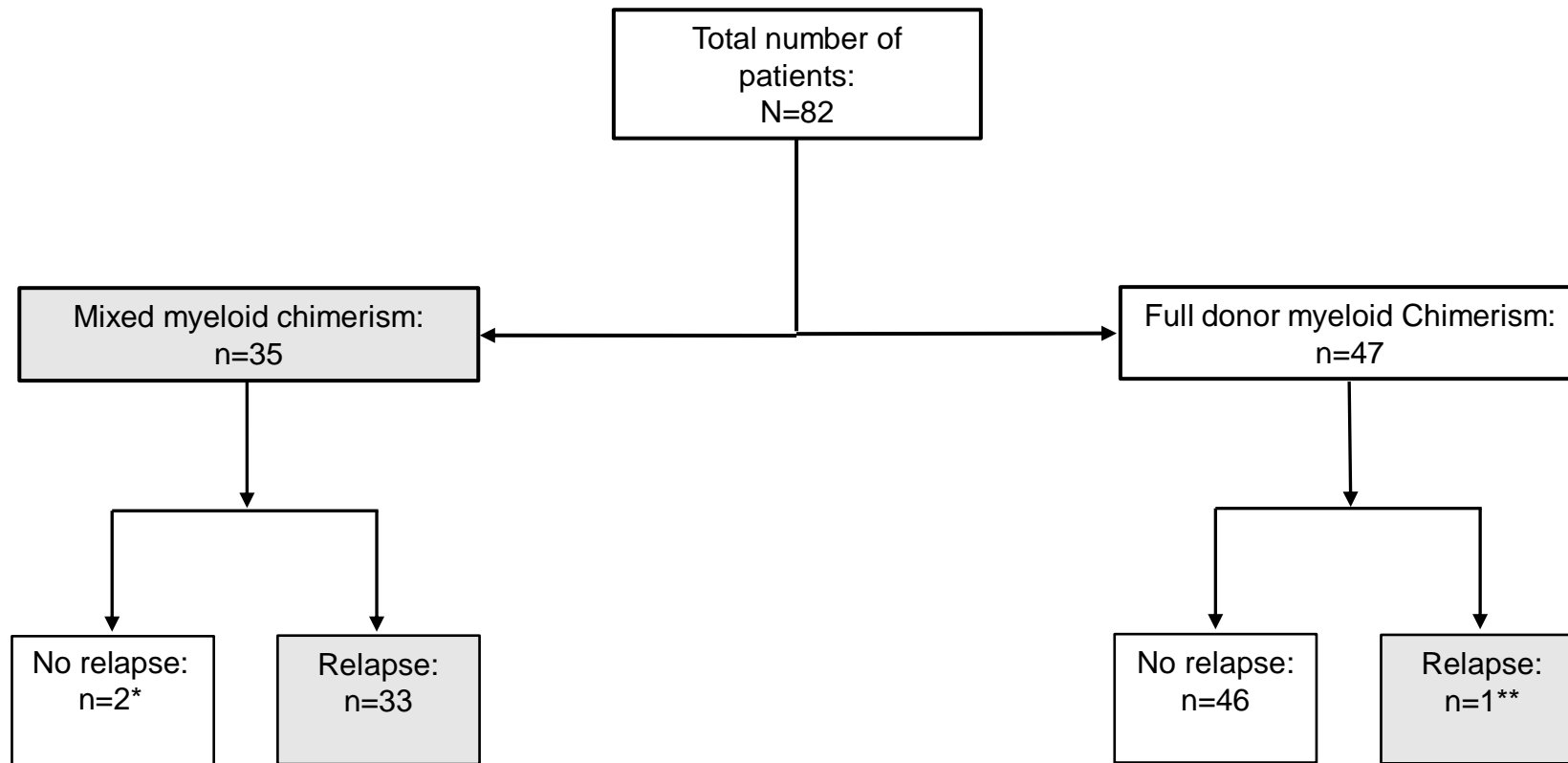
Abbreviations: allo-SCT, allogeneic stem cell transplantation; AML, acute myeloid leukemia; CR, complete remission; DLI, donor lymphocyte infusion; F, female; GVHD, graft-versus-host disease; M, male; MF, myelofibrosis; NA, not applicable; NE, not evaluable; NR, no response

*All patients had positive JAK2 mutation except for one patient with MPL mutation

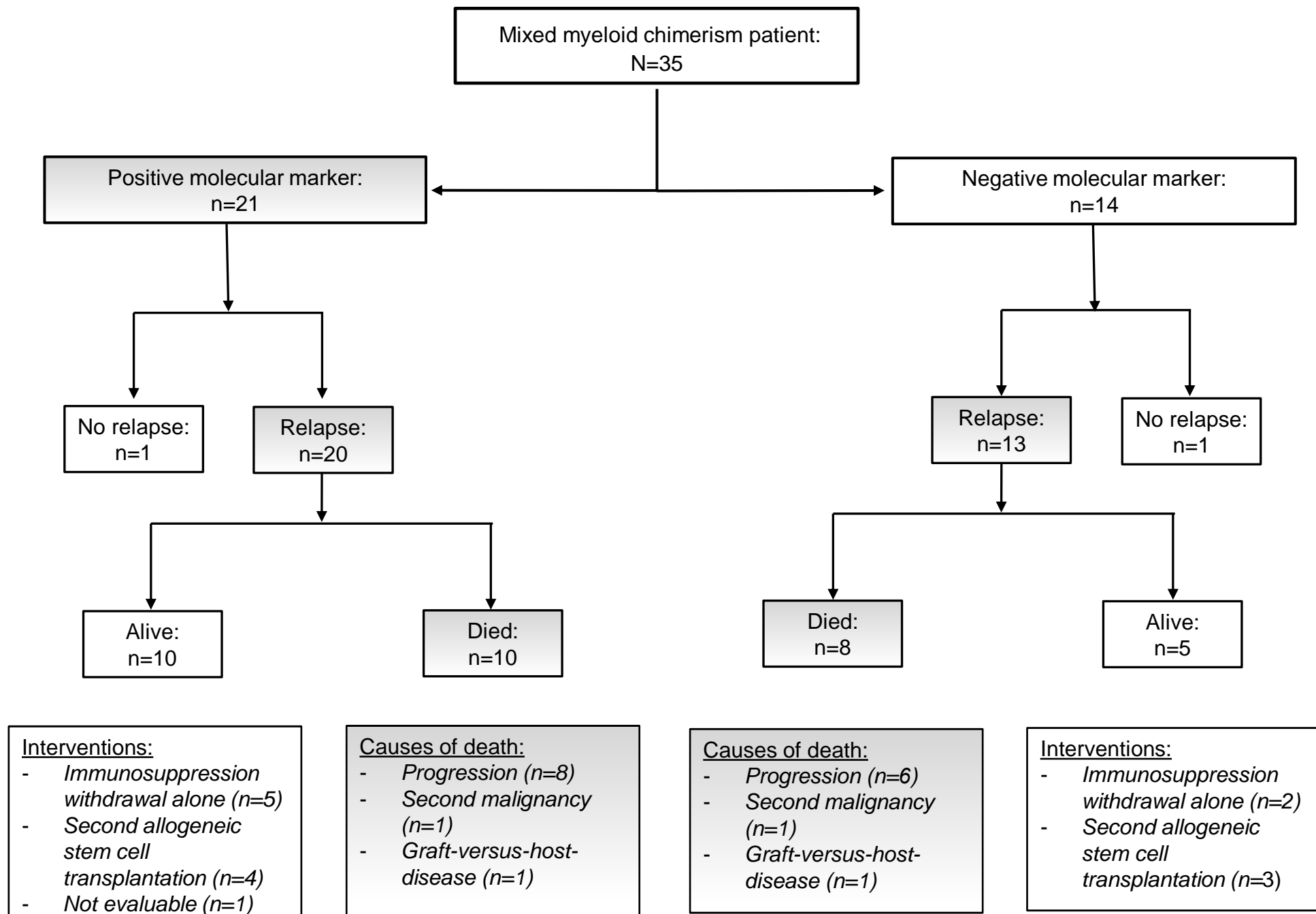
**All patients with molecular relapse had morphological bone marrow features of residual/progressive myelofibrosis, except for patient No. 31

†Patient progressed with bone marrow blasts of 19%, accelerated phase myelofibrosis

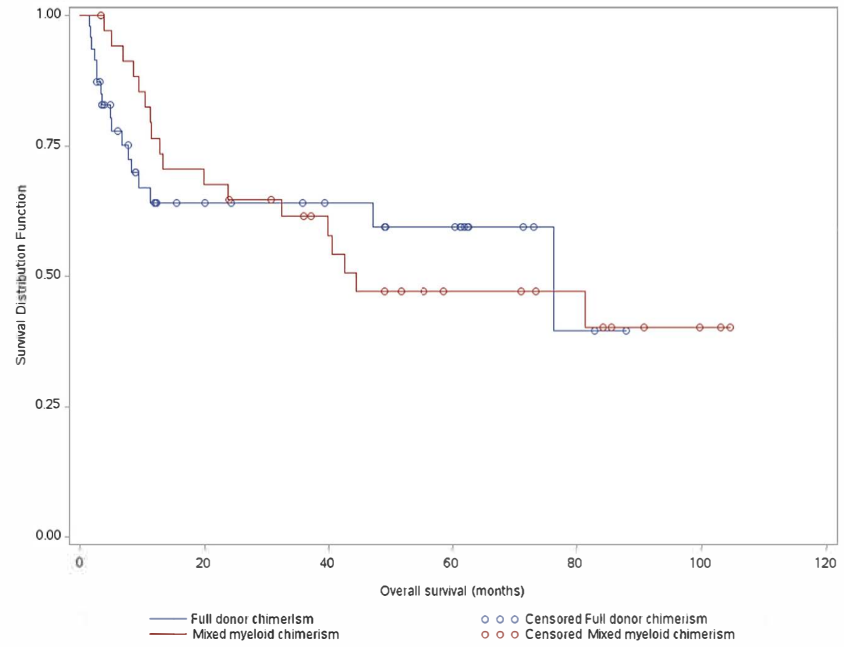
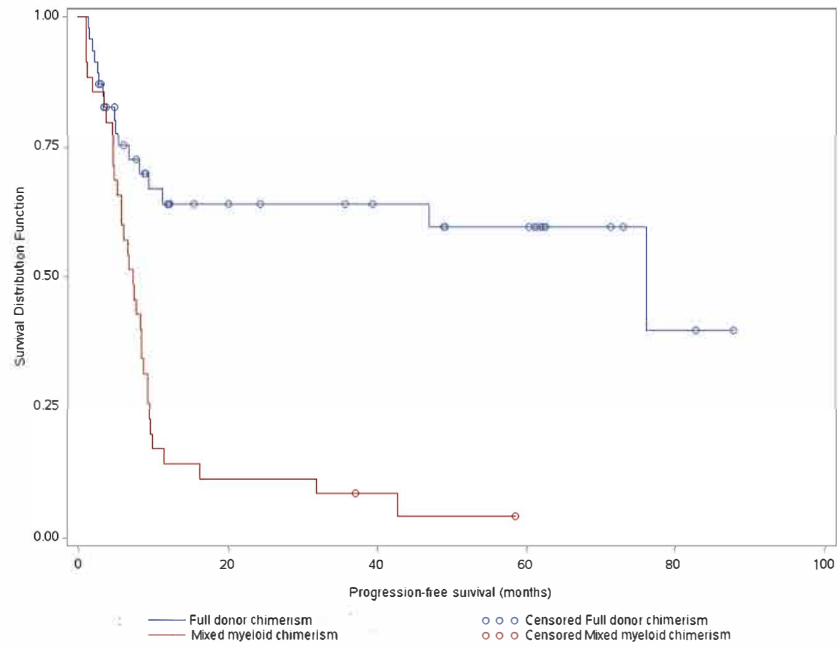
#Patients were off immunosuppression on the date they found to have mixed myeloid chimerism



Supplementary figure 1



Supplementary figure 2



Supplementary Figure 3