

Minimal residual disease monitoring in childhood Philadelphia chromosome-positive acute lymphoblastic leukemia: prognostic significance and correlation between multiparameter flow cytometry and real-time quantitative polymerase chain reaction

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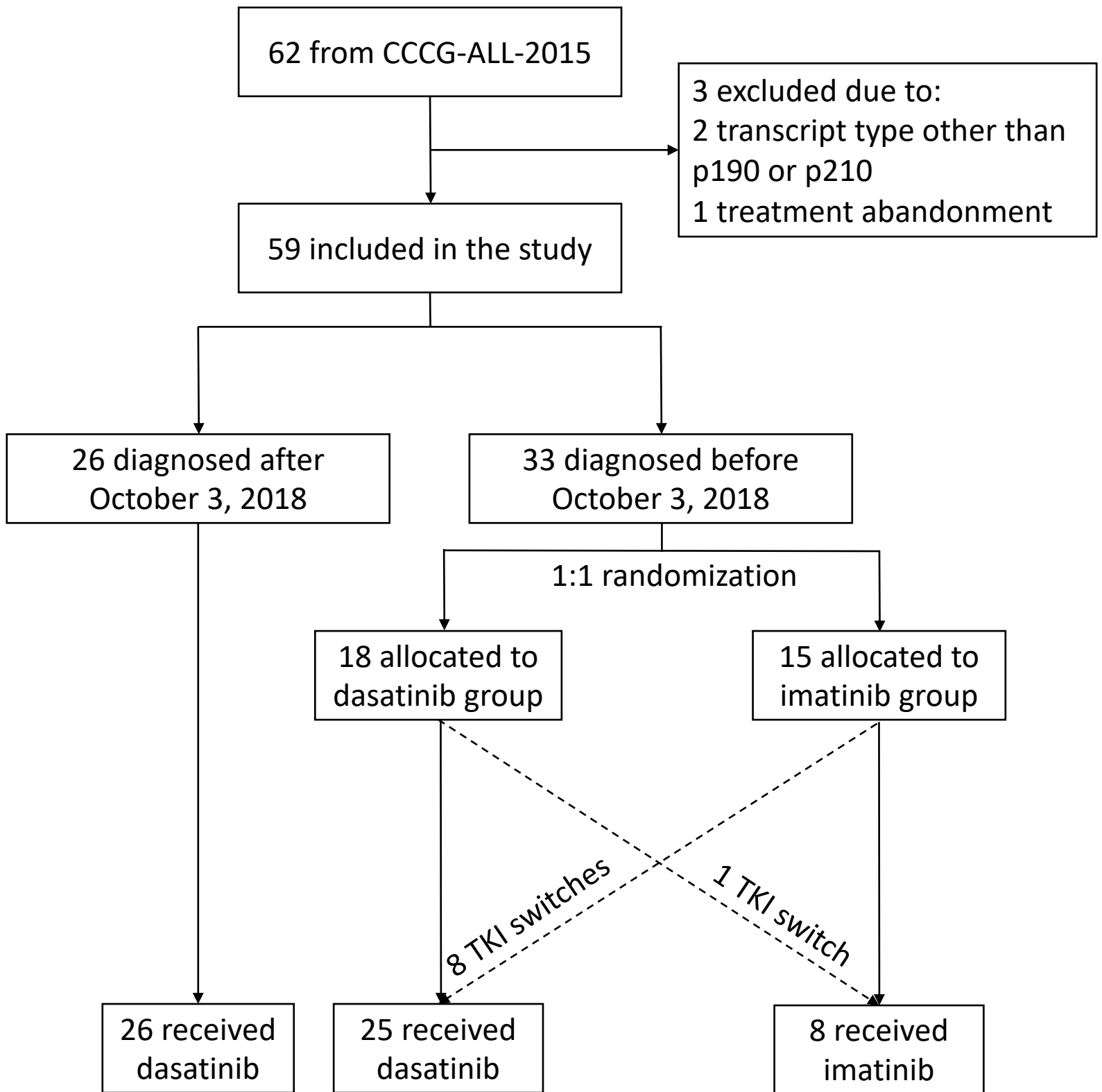
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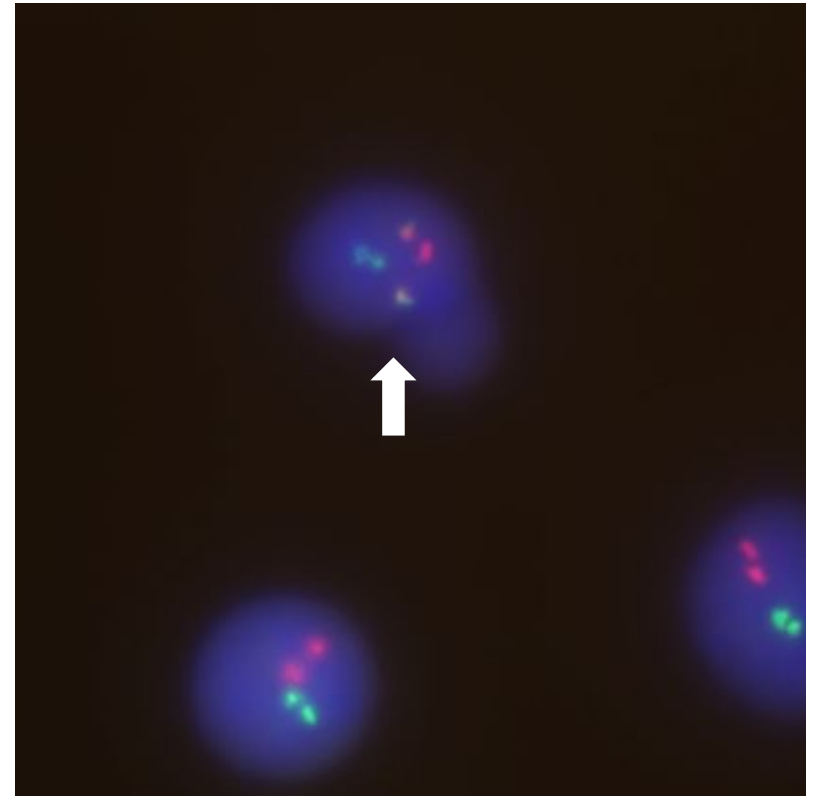
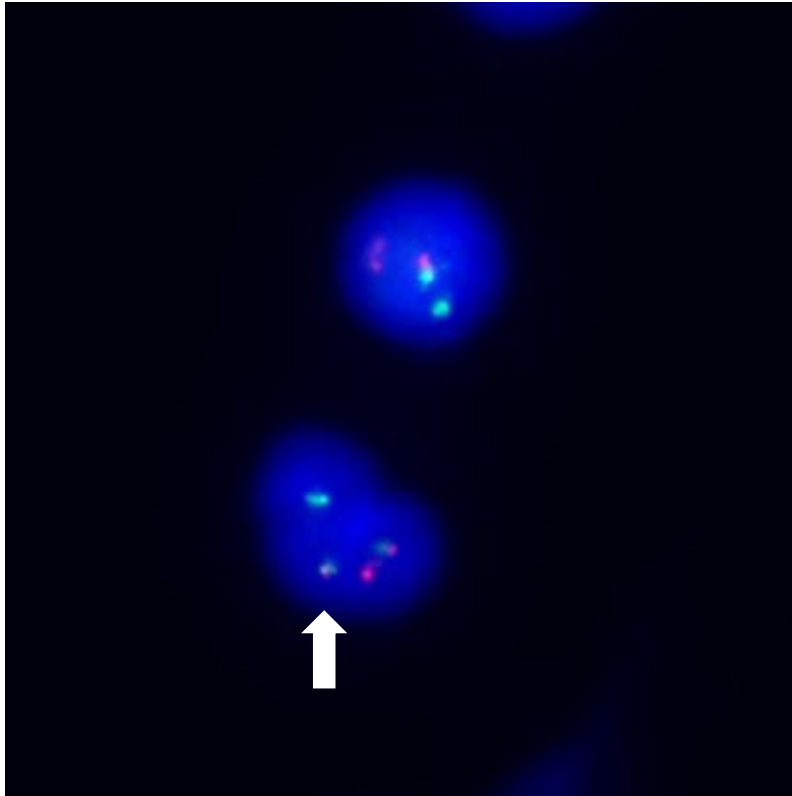
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Supplemental Figure 1. Inclusion of patients and trial profile. All patients diagnosed after October 3, 2018 received dasatinib because the interim analysis showed significantly improved 3-year event-free survival in the dasatinib group. Therefore, the chair of the data and safety monitoring committee recommended that randomization be stopped.



Supplemental Figure 2. Representative pictures of metamyelocyte carrying *BCR::ABL1* fusion gene confirmed by fluorescence in situ hybridization. White arrows denote signals of *BCR::ABL1* fusion, with red signals originating from *ABL1* probes and green signals from *BCR* probes.

Supplemental Table 1. Multivariate analyses of cumulative incidence of relapse and event-free survival of intention-to-treat patients.

		CIR					EFS			
		Full multivariate model			Stepwise multivariate model		Full multivariate model		Stepwise multivariate model	
Characteristic	Level	N	HR (95%CI)	P value	HR (95%CI)	P value	HR (95%CI)	P value	HR (95%CI)	P value
Gender	Female	25								
	Male	34	3.81(1.20-12.1)	0.023	4.18(1.38-12.7)	0.011	3.07(1.12-8.42)	0.03	3.20(1.19-8.59)	0.021
Age at diagnosis (years)	<10	34								
	≥10	25	1.47(0.41-5.36)	0.56			1.15(0.40-3.33)	0.80		
WBC at diagnosis (×10 ⁹ /L)	<50	21								
	≥50	38	8.13(1.98-33.3)	0.004	6.52(1.92-22.2)	0.003	6.21(1.70-22.73)	0.006	6.36(1.95-20.82)	0.002
CNS status	CNS1	55								
	CNS2 or traumatic lumbar puncture	4	0.47(0.06-3.66)	0.47			1.31(0.21-8.02)	0.77		
Disease subtype	Typical ALL	43								
	CML-like	16	0.20(0.04-1.18)	0.076	0.24(0.07-0.79)	0.02	0.30(0.08-1.17)	0.083	0.32(0.10-1.02)	0.054
Initial TKI group	Dasatinib	44								
	Imatinib	15	3.11(1.08-8.95)	0.035	2.43(0.94-6.26)	0.066	2.18(0.71-6.70)	0.17	2.40(0.95-6.09)	0.065
TP1 MRD by MFC	<0.01%	50								
	≥0.01%	9	7.94(2.00-31.5)	0.003	5.14(1.67-15.8)	0.004	3.86(0.90-16.54)	0.069	3.59(1.16-11.10)	0.027
TP1 MRD by RT-qPCR	<0.01%	31								
	≥0.01%	28	0.70(0.21-2.38)	0.57			0.80(0.26-2.46)	0.70		

CIR, cumulative incidence of relapse; EFS, event-free survival; CI, confidence interval; HR, hazard ratio; WBC, white blood cell count; CNS, central nervous system; ALL, acute lymphoblastic leukemia; CML, chronic myelogenous leukemia; TKI, tyrosine kinase inhibitor; MRD, minimal residual disease; MFC, multiparametric flow cytometry; RT-qPCR, quantitative reverse transcriptase polymerase chain reaction.