

Title: Epstein – Barr virus and Cytomegalovirus reactivation after allogeneic hematopoietic cell transplantation in patients with non-Hodgkin lymphoma: the prevalence and impacts on outcomes

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Table S2. Variables influencing EBV and CMV reactivation of subgroup in Univariate and Multivariate Analysis

	EBV												CMV																			
	T-cell lymphoblastic				Non lymphoblastic T-cell				B-cell lymphoblastic				Non lymphoblastic B-cell				T-cell lymphoblastic				Non lymphoblastic T-cell				B-cell lymphoblastic				Non lymphoblastic B-cell			
	lymphoma				lymphoma				lymphoma				lymphoma*				lymphoma				lymphoma				lymphoma				lymphoma			
	Univariate		Multivariate		Univariate		Multivariate		Univariate		Multivariate		Univariate		Multivariate		Univariate		Multivariate		Univariate		Multivariate		Univariate		Multivariate		Univariate		Multivariate	
	Analysis		Analysis		Analysis		Analysis		Analysis		Analysis		Analysis		Analysis		Analysis		Analysis		Analysis		Analysis		Analysis		Analysis		Analysis		Analysis	
	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P	HR	P
(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)		(95%CI)
Sex: Female vs male	0.532				1.271				0.684							0.905				1.100				0.677				0.805				
	(0.148-1.9	0.333			(0.446-3.	0.654			(0.080-5	0.729		-	NA			(0.278-2.	0.868			(0.550-2	0.787			(0.235-1.	0.471			(0.419-1.	0.517			
	10)				628)				.867)							942)				.201)				954)				549)				
	0.041				0.558				0.966							0.042				1.047				0.185				0.857				
Age: ≥40 vs <40	(0.000-53.	0.383			(0.125-2.	0.446			(0.113-8.	0.975		-	NA			(0.000-8	0.411			(0.470-2	0.910			(0.004-8.	0.394			(0.486-1.	0.594			
	365)				497)				283)							1.861)				.332)				983)				510)				
Autologous HCT before	19.908		3.913		1.174				6.150											1.984								11.463		6.271		
	(2.071-191	0.010	(0.311-49.	0.291	(0.262-5.	0.834			(0.639-5	0.116		-	NA			-	NA			(0.399-9	0.403			-	NA			(2.060-6	0.005	(1.075-36	0.051	
	.407)		307)		250)				9.167)											.863)								3.778)		.582)		
CAR-T cell therapy before									3.023															0.042				0.545				
	-	NA			-	NA			(0.350-2	0.315		-	NA			-	NA			-	NA			(0.000-1	0.555			(0.070-4.	0.562			
									6.118)															578.658)				237)				

no

Disease status:	2.937	1.411	1.190	5.648	1.766	0.713	0.933	1.180	1.891													
advanced status vs	(1.025-8.4	0.045	(0.786-2.5	0.248	(0.700-2.	0.521	(1.022-3	0.047	(0.655-4.	0.261	-	NA	(0.196-2.	0.607	(0.466-1	0.844	(0.557-2.	0.665	(0.884-4.	0.101		
CR	13)		30)		023)		1.200)		759)				591)		.866)		500)		047)			
Donors type:																						
HLA-mismatched	1.387				3.458		1.531						1.146		0.887		1.352		2.039	1.641		
donors vs	(0.465-4.1	0.557			(0.772-15	0.105	(0.179-1	0.697			-	NA	(0.374-3.	0.811	(0.433-1	0.742	(0.469-3.	0.577	(1.059-3.	0.033	(0.247-10	0.609
HLA-matched	40)				.480)		3.118)						507)		.815)		897)		926)	.915)		
donors																						
Type of graft		0.590			0.376		0.416					NA	NA		0.240		0.635		0.131			
BM	1				1		-				-		-		1		-		1			
	2.586				0.217										0.267				0.180			
PB	(0.318-21.	0.375			(0.037-1.	0.087	1				-		-		(0.024-2	0.282	1		(0.030-1.	0.062		
	052)				252)										.958)				087)			
	1.738				0.279		0.514								0.323		1.488		0.559			
BM+PB	(0.209-14.	0.609			(0.056-1.	0.119	(0.103-2				-		-		(0.036-2	0.314	(0.288-7.		(0.115-2.	0.470		
	455)				390)		.558)								.910)		682)		709)			
IPI stratification		0.061			0.135	0.330		0.911				NA	0.039	0.015	0.392		NA		0.703			
Low risk	1		1		1						-		1	1	1		-		1			
Low-intermediate	1.649		1.639		4.097		0.690						2.969	1.755	0.287				0.275			
risk	(0.332-8.1	0.540	(0.323-8.3	0.551	(0.529-31	0.177	(0.115-4.	0.685			-		(0.347-2	0.321	(0.201-15.	0.611	(0.058-1	0.127	-	(0.032-2.	0.236	
	86)		24)		.757)		138)						5.418)	346)	.427)				323)			
High-intermediate	3.954		3.799		1.742		0.942						8.772	10.911	1.046				0.338			
risk	(0.765-20.	0.101	(0.725-19.	0.114	(0.109-27	0.695	(0.085-1	0.961			-		(1.056-7	0.044	(1.298-91.	0.028	(0.174-6	0.961	-	(0.039-2.	0.327	
	437)		912)		.879)		0.422)						2.906)	719)	.274)				955)			
	19.702		16.088		10.639								26.842	7.371								
High risk	(1.608-241	0.020	(1.107-23	0.042	(0.633-17	0.100	-				-		(1.600-4	0.022	(0.419-12	0.172	-	NA	-	-	NA	
	.401)		3.701)		8.731)								50.256)	9.785)								
NCCN-IPI stratification		0.139			0.599		0.929					NA	0.394		0.060		NA		0.497			
Low risk	1				1		1				-		1		1		-		1			
Low-intermediate	4.243				2.534		1.522						4.163		0.163				0.391			
risk	(0.548-32.	0.167			0.372		0.702				-		0.172		0.018		-		0.266			
	(0.548-32.				(0.329-19		(0.177-1						(0.537-3		(0.036-0				(0.036-2.			

	880)		.516)		3.048)			2.251)		.731)			495)											
High-intermediate risk	11.230 (1.015-124	0.049			1.435 (0.090-22	0.798	-	0.988	-			3.751 (0.235-5	0.381 0.350	(0.040-3	0.405	-		(0.030-2.	0.250					
	.285)				.975)							9.989)		.579)				489)						
Ann Arbor		NA				NA		0.046	0.467		NA		NA		NA		NA		0.804					
I	-				-		1	1	-			-		-		-		1						
II	-				-		-	-	-			-		-		-		-						
							4.201	4.607										0.944						
III	-				-		(0.160-1	0.389	(0.171-1	0.364	-			-		-		(0.059-1	0.967					
							09.960)		24.299)									5.122)						
							0.173	0.712										0.580						
IV	-				-		(0.018-1	0.129	(0.058-8.	0.790	-			-		-		(0.073-4.	0.606					
							.665)		699)									593)						
Time from diagnosis to HCT:	1.199 (0.705-2.0	0.503			0.705 (0.244-2.	0.518		1.520 (0.649-3	0.335		-	NA		1.346 (0.780-2.	0.286		0.898 (0.438-1	0.769	(0.828-6.	0.107	1.120 (0.614-2.	0.712		
≥ 8m vs <8m	37)				035)		.559)						322)				.842)	911)		042)				
Chemotherapy lines: ≥ 6 vs <6	1.661 (0.981-2.8	1.606 0.059			1.965 (0.894-2.8	0.113		2.771 (0.943-8	0.064	(0.712-6.	0.169	-	NA		1.300 (0.743-2.	0.357		0.907 (0.443-1	0.788	(0.924-7.	0.070	2.669 (0.567-2.	0.620	
	12)				86)		051)	.141)		989)				274)			.856)	715)		590)				
ATG use: yes vs no	7.241 (0.946-55.	4.286 0.057			5.504 (0.521-35.	0.176		0.699 (0.128-3	0.680		-	NA		1.070 (0.329-3.	0.910		0.460 (0.109-1	0.290	(0.290-2	0.415	0.460 (0.109-1.	0.041	2.598 (0.322-20	0.370
	421)				256)		.229)	.833)						476)			.937)	0.051)		937)		.927)		
TBI use: yes vs no	1.165 (0.390-3.4	0.784			0.628 (0.196-2.	0.434		1.047 (0.192-5	0.958		-	NA		0.977 (0.301-3.	0.969		1.926 (0.481-7	0.355	(0.342-6.	0.577	1.531 (0.458-5.	0.489		
	77)				014)			.725)						175)			.711)	855)		112)				
Rituximab: yes vs no							0.411							2.675			2.675		1.117		0.611			
	-	NA			-	NA		(0.053-3	0.468		-	NA		(0.345-2	0.347		(0.325-2	0.360	(0.216-5.	0.895	(0.165-2.	0.461		
							.866)							20.772)			2.031)		766)		264)			
Prophylactic therapy		0.406				0.616			0.845		-	NA		0.437			0.483		0.549			0.321		
Ganciclovir	1				1			1						1			1		1		1			
Foscarnet	0.446	0.298			1.174	0.773		1.082	0.931					0.372	0.198		1.704	0.515	0.366	0.360	3.412	0.133		

	(0.098-2.0	(0.394-3.	(0.180-6	(0.082-1.	(0.343-8	(0.043-3.	(0.687-1
	37)	502)	.496)	679)	.459)	142)	6.935)
	1.678	0.405	0.549		2.994	0.441	2.302
Acyclovir	(0.364-7.7 0.507	(0.050-3. 0.399	(0.057-5 0.604	- NA	(0.499-1 0.230	(0.051-3. 0.456	(0.421-1 0.336
	36)	302)	.291)		7.948)	787)	2.592)
Neutrophil	0.304					0.211	0.216
recovery: yes vs	(0.039-2.3 0.254	- NA	- NA	- NA	- NA	(0.024-1. 0.165	(0.027-1. 0.152
no	52)					894)	759)
Platelet	0.482	0.406	0.223	2.992	2.202	0.585	0.381 0.786
recovery: yes vs	(0.150-1.5 0.223	(0.126-1. 0.132	(0.025-2 0.180	(0.389-2 0.282	(0.271-1 0.460	(0.070-4. 0.621	(0.121-1. 0.098 (0.216-2. 0.715
no	56)	311)	.000)	3.026)	7.910)	897)	195) 866)
acute GVHD				- NA			
None	1	1	1	1	1	1	1
	0.467	1.150	1.585	1.554	1.839	0.887	2.266
acute GVHD	(0.156-1.3 0.503	(0.402-3. 0.794	(0.290-8 0.595	(0.508-4. 0.440	(0.439-7 0.405	(0.198-3. 0.875	(0.716-7. 0.164
	95)	286)	.661)	759)	.703)	968)	171)
None,grade I	1	1	1	1	1	1	1
	0.712	1.780	1.333	1.319	1.333	1.176	1.505
Grade II-IV	(0.399-1.2 0.251	(0.611-5.1 0.290	(0.599-2 0.481	(0.764-2. 0.321	(0.667-2 0.416	(0.556-2. 0.671	(0.846-2. 0.164
	72)	83)	.970)	277)	.667)	488)	678)
chronic GVHD				- NA			
None	1	1	1	1	1	1	1
	0.360	0.482	1.180	5.280	7.814	0.876	0.325
	(0.080-1.6 0.183	(0.134-1. 0.265	(0.216-6 0.848	(1.725-1 0.004 (2.263-26. 0.001	(0.177-4 0.871	(0.044-3. 0.357	(0.071-1. 0.147
chronic GVHD	21)	738)	.447)	6.159)	979)	.343)	074) 487)
None,limited	1	1	1	- NA	1	1	1
	0.670	0.906	1.011	2.348	1.287	0.195	0.201
	(0.242-1.8 0.442	(0.252-3. 0.880	(0.345-2 0.984	(1.339-4. 0.003	(0.578-2 0.536	(0.002-1 0.465	(0.005-8. 0.394
Extensive	58)	261)	.962)	119)	.867)	5.683)	088)

Abbreviations: NHL: non-Hodgkin lymphoma; EBV: Epstein – Barr virus; CMV: Human cytomegalovirus; CR: complete remission; BM: bone marrow; PB:peripheral blood; dUCB: double umbilical cord blood graft; IPI: the International Prognostic Index; ATG: antithymocyte globulin; TBI: total body irradiation; GVHD: graft-versus-host disease.