

Article title

Early administration of remdesivir plus convalescent plasma therapy is effective to treat COVID-19 pneumonia in B-cell depleted patients with hematological malignancies

Journal name

Annals of Hematology

Author names

^{1,2,#} Ferenc Magyar, ^{1,2,#} László Imre Pinczés, ^{1,2} Edit Páyer, ^{1,2} Katalin Farkas, ³ Szilvia Ujfalusi, ³ Ágnes Diószegi, ⁴ Máté Sik, ¹ Zsófia Simon, ⁵ Gergely Nagy, ⁶ Zsuzsanna Hevessy, ^{6,&} Béla Nagy Jr., ^{1,2,&} Árpád Illés

These first authors equally contributed to this work.

& These last authors equally contributed to this work.

Affiliation

¹ Division of Hematology, Department of Internal Medicine, Faculty of Medicine, University of Debrecen, Debrecen, Hungary; ² Doctoral School of Clinical Medicine, University of Debrecen, Debrecen, Hungary; ³ Division of Endocrinology, Department of Internal Medicine, Faculty of Medicine, University of Debrecen, Debrecen, Hungary; ⁴ Department of Radiology, Faculty of Medicine, University of Debrecen, Debrecen, Hungary; ⁵ Department of Emergency Medicine, Faculty of Medicine, University of Debrecen, Debrecen, Hungary; ⁶ Department of Laboratory Medicine, Faculty of Medicine, University of Debrecen, Debrecen, Hungary

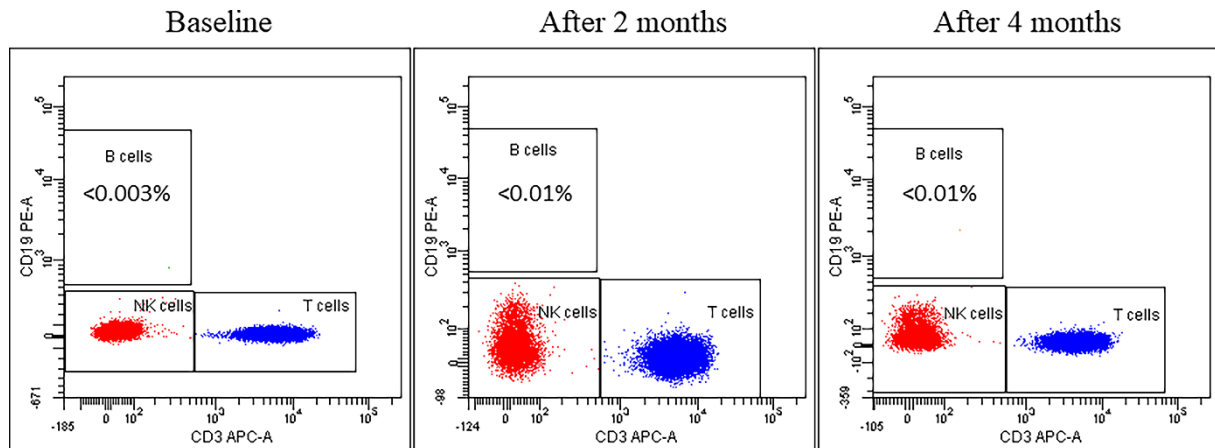
Corresponding author

László Imre Pinczés pinczes.laszlo.imre@med.unideb.hu

	ANC (G/L)	ALC (G/L)	IgG (g/L)	IgA (g/L)	IgM (g/L)	CD3+ (cell/uL)	CD4+ (cell/uL)	CD8+ (cell/uL)	CD4/CD8 (ratio)	CD56+/CD3- (cell/uL)	CD19+ (cell/uL)
Patient #1	2.32	0.56	7.87	0.61	0	348	67	277	0.24	26	0
Patient #2	2.01	0	7.5	0.8	0.26	273	169	101	1.67	222	0
Patient #3	0.81	0	0	0	0	371	265	102	2.60	34	77.7
Patient #4	1.84	0.84	4.61	0	0.33	105	42	62	0.67	16	0
Patient #5	7.4	1.34	2.04	0.16	0.17	537	165	339	0.49	102	0
Patient #6	1.19	0.80	2.61	0	0	538	255	282	0.90	16	0
Patient #7	1.75	0.93	n/a	n/a	n/a	455	309	128	2.41	18	21
Patient #8	5.87	0.15	11.5	0	0	108	43	58	0.74	15	23
Patient #9	3.31	0.24	10.00	0	1.1	23	18	5	3.81	6	0
Patient #10	4.35	0.41	n/a	n/a	n/a	187	53	133	0.39	26	0
Patient #11	9.25	0.37	3.30	0	0	215	55	159	0.35	3	0
Patient #12	4.15	5.44	8.63	1.62	0.21	1613	1029	501	2.060	250	51.7
Patient #13	0.38	0.48	13.9	2.3	0.55	508	68	388	0.17	24	0
Patient #14	3.88	1.11	4.03	0.97	0	297	111	171	0.65	101	28.7
Patient #15	8.83	0.34	14.1	1.8	1.98	306	188	106	1.78	87	9
Patient #16	0.27	0	n/a	n/a	n/a	1125	673	385	1.75	193	0
Patient #17	2.09	0.47	7.8	0.8	0.49	85	41	43	0.94	33	6.7
Patient #18	3.62	0.73	10.8	1.3	0.64	499	243	231	1.050	68	0
Patient #19	3.92	1.93	5.19	1.14	0.38	382	104	243	0.43	20.00	9
Patient #20	1.06	0.89	7.40	0.90	0	591	113	471	0.24	24	0
Normal value	1.68-8	0.9-3.1	7-16	0.7-4	0.4-2.3	550-1800	310-1150	140-850	-	80-690	< 80
All patients											
Median	2.815	0.52	7.5	0.8	0.21	359.5	112	165	0.82	26	0
Min	0.27	0	0	0	0	23	18	5	0.17	3	0
Max	9.25	5.44	14.1	2.3	1.98	1613	1029	501	3.81	250	77.7
Patients receiving anti-CD20 therapy											
Median	2.32	0.48	7.45	0.705	0.085	348	111	171	0.65	26	0
Min	0.38	0	0	0	0	23	18	5	0.17	3	0
Max	9.25	1.34	13.9	2.3	1.1	591	265	471	3.81	222	77.7
Patients without anti-CD20 therapy											
Median	3.92	0.84	8.63	1.14	0.33	382	188	128	1.75	20	9
Min	0.27	0	4.61	0	0	105	42	58	0.43	15	0
Max	8.83	5.44	14.1	1.8	1.98	1613	1029	501	2.41	250	51.7

Online Resource 1 Baseline absolute neutrophil and lymphocyte counts, immunoglobulin G, A and M levels, T-cell (CD3+, CD4+, CD8+, CD4+/CD8+), NK-cell (CD56+/CD3-) and B-cell (CD19+) compartments of the peripheral blood at COVID-19 diagnosis. Data of anti-CD20 exposed patients is indicated in bold.

Abbreviations: ANC, absolute neutrophil count; ALC, absolute lymphocyte count; Ig, immunoglobulin



Online Resource 2 Evaluation of the ratio of peripheral B-cells in a COVID-19 patient with hematological malignancy by flow cytometry. Lymphocyte subpopulations were analyzed based on CD19-PE and CD3-APC positivities (Becton Dickinson) and the percentage of B-cells was determined in case of anti-CD20 therapy and after 2 and 4 months on a FACSanto II flow cytometer. No detectable B-cell population was observed at any time point. During the flow cytometric analysis of the samples, 500.000 cells were collected with a sensitivity of 10/500.000, while 100.000 cells were studied in the follow-up samples showing a sensitivity of 10/100.000.