

Age sex	GATA2-MonoMAC disease [#] / Cutaneous warts	Protocol* Donor Product PTCy [†]	NK cells /μl	B cells /μl	Monocytes k/μl	CD4+ Tcells/μl	CD8+ Tcells/μl	Transplant outcome
38. 45 F	RCMD- Mycobacterial disease/no	1 MRD PBSC	0	5	30	40	27	Alive 9y5m
39. 33 M	RCMD- Mycobacterial disease/yes	1 URD PBSC	16	3	100	441	283	Alive 10y5m
40. 23 F	RCMD- mycobacterial disease/no	1 URD PBSC	14	7	260	315	542	Alive 9y10m
41. 33 M	RCMD/no	1 URD PBSC	10	18	10	309	288	Died 1 yr, 6m Failed 2 nd transplant
42. 15 M	RCMD- mycobacterial disease/yes	1 UCB	6	0	10	126	152	Alive 9y8m
43. 22 F	CMML/no	1 HRD BM	146	0	460	644	1330	Died D1
44. 21 F	MonoMAC- mycobacterial disease/no	1 HRD BM	6	2	220	122	1918	Alive 6y11m
45. 24 M	MDS- mycobacterial disease/yes	2 MRD PBSC	1	0	30	149	142	Alive 7y3m
46. 17 M	MDS/no	2 URD PBSC	8	15	50	322	323	Died d745 GVHD
47. 25 F	AML/no	2 URD PBSC	0	0	30	28	14	Died d160 Relapsed AML
48. 18 M	MDS/yes	2 URD BM	5	8	10	128	470	Alive 4y8m
49. 21 M	MDS/yes	2 URD BM	0	16	20	354	405	Alive 4y6m
50. 25 M	MonoMAC- AML/yes	2 URD PBSC	51	2	680	221	245	Alive 4y5m
51. 33 M	MDS/yes	2 URD BM	1	24	10	322	259	Alive 4y4m

52. 18 F	MDS/no	2 URD BM	19	0	0	369	208	Alive 3y7m
53. 30 M	MDS/yes	2 URD PBSC	69	32	100	705	700	Alive 3y4m
54. 45 F	MDS/yes	2 HRD BM PTCy	1	41	10	171	391	Alive 6y2m
55. 16 F	MDS- mycobacterial disease/no	2 HRD BM PTCy	36	10	10	216	174	Alive 4y3m
56. 39 F	MDS- mycobacterial disease/no	2 HRD PBSC PTCy	42	5	20	292	117	Alive 1y4m, relapse 1y4m
57. 42 F	BMID- mycobacterial disease/no	2 HRD BM PTCy	30	2	0	114	111	Alive 1y1m
58. 24 F	MDS/yes	2 MRD BM PTCy	5	57	10	395	286	Alive 3y11m
59. 25 F	BMID- mycobacterial disease/no	2 HRD BM PTCy	0	1	1	361	284	Alive 1y5m
60. 15 M	BMID/yes	2 MRD BM PTCy	10	58	2	529	865	Alive 1y3m
61. 15 M	CMML/yes	2 HRD PBSC PTCy	30	13	4	2105	2221	Alive 1y4m
62. 22 F	BMID- mycobacterial disease/yes	2 HRD BM PTCy	0	8	27	465	308	Alive 1y6m
63. 13 M	BMID/yes	2 URD BM PTCy	10	22	11	166	321	Alive 1y9m
64. 52 F	MonoMAC- MDS/no	2 URD PBSC PTCy	117	85	0	654	908	Died 1y6m GVHD

65. 37 M	MDS/yes	2 MMUD BM PTCy	73	23	10	151	276	Alive 2y5m
66. 18 F	MDS/yes	2 MRD BM PTCy	550	75	77	951	857	Alive 2y8m
67. 23 M	MDS/yes	2 URD BM PTCy	10	6	6	277	257	Alive 2y9m
68. 20 F	BMID-probable mycobacterial disease/no	2 MRD BM PTCy	20	14	10	483	371	Alive 2y9m
69. 18 M	BMID/no	2 HRD BM PTCy	20	40	46	1020	749	Alive 3y2m
70. 20 F	MDS/yes	2 HRD BM PTCy	20	10	27	367	596	Alive 3y4m
71. 30 M	MDS/yes	2 MUD PBSC PTCy	72	0	390	38	270	Alive 3m
72. 18 F	MDS/no	2 MUD BM PTCy	5	60	70	1060	1407	Alive 4m
73. 36 F	MDS/yes	2 MUD PBSC PTCy	130	45	80	1674	1110	Alive 6 m
74. 22 F	BMID/yes	2 HRD PBSC PTCy	3	20	132	417	4	Secondary graft failure 2 nd tx d145 Alive 7m
75. 19 F	BMID/yes	2 MUD BM PTCy	5	71	120	989	1284	Alive 8m

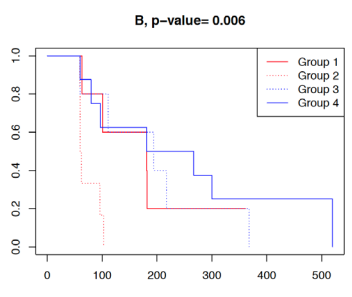
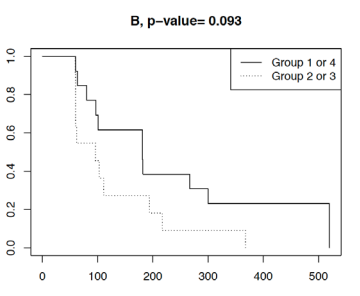
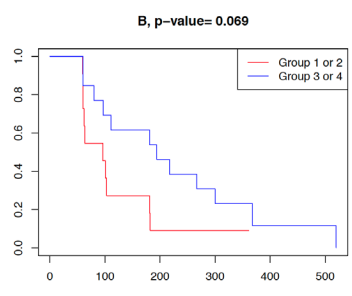
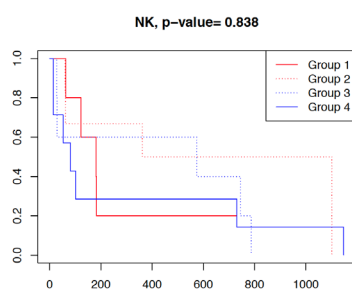
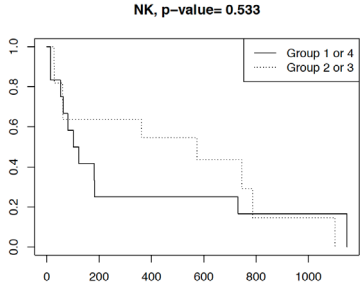
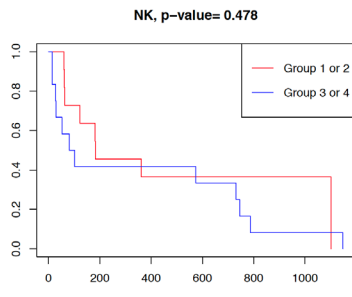
*Protocol 1, Reduced Intensity Conditioning, Protocol 2, myeloablative busulfan-based conditioning

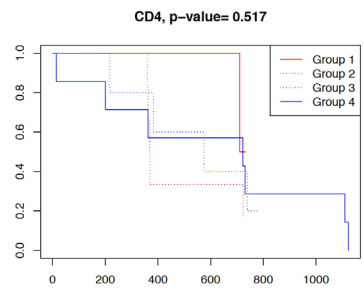
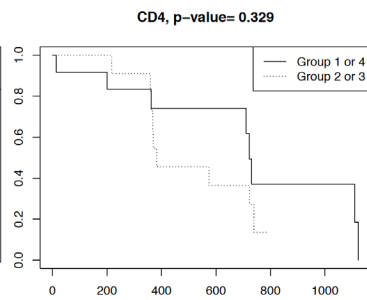
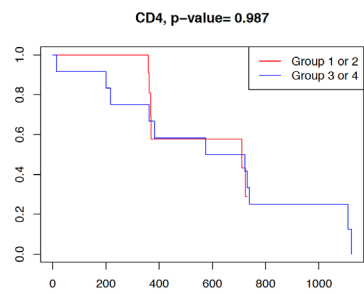
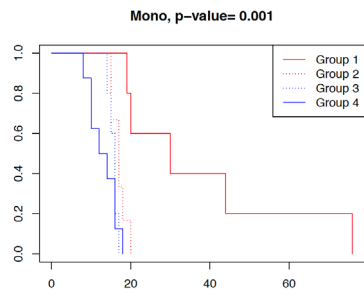
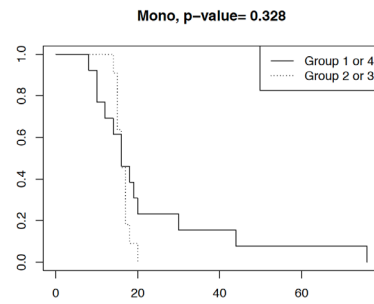
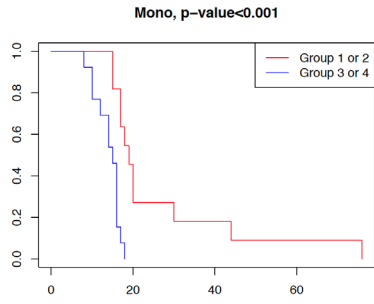
† PTCy: post transplant cyclophosphamide

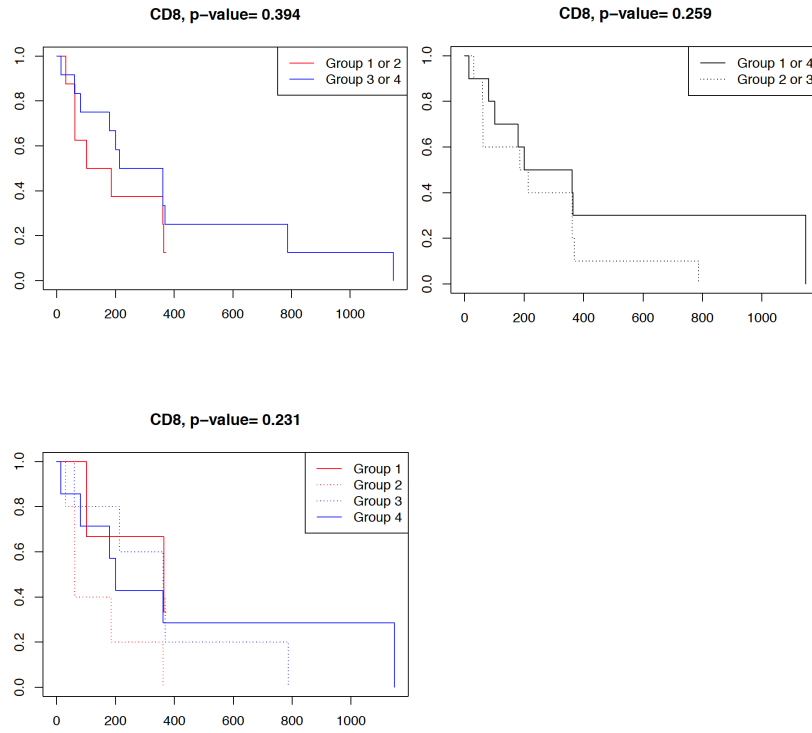
#RCMD: Refractory Cytopenia with multilineage dysplasia, RAEB: Refractory Anemia with Excess Blasts, BMID: Bone Marrow disorder with immune deficiency, AML: Acute myeloid leukemia, CMML: chronic myelomonocytic leukemia

MUD: Matched unrelated Donor, MRD: Matched related donor, UC: umbilical cord blood, HRD: haplo-identical related donor. MMUD: Mismatched (9/10) unrelated donor
BM: bone marrow, PBSC: peripheral blood stem cells

Supplementary Table 1. GATA2 deficient HCT recipients without historical or prevalent HPV anogenital disease







Supplementary Figure 1. Cellular reconstitution per day post-transplant by immunological subset, immunosuppression (per protocol [PP] or intensified/prolonged [IP] immunosuppression) and relation to group of HPV outcome: Group 1, persistent HPV disease with IP; Group 2, persistent HPV disease (PP); Group 3, resolved HPV disease (PP); Group 4, resolved HPV disease (IP).

Age sex Duration HPV disease	GATA2 or MonoMAC Bone marrow disease	Protocol Donor Product	NK cells/ μl	B cells/ μl	Mono- cytes k/μl	CD4+ Tcells/μl	CD8+ Tcells/ μl	Transplant outcome
2. 27 F 4 yr	MonoMAC AML**	1 MUD PBSC	62	27	80	412	479	Died d 123 srGVHD liver/GI
4. 49 F unk	RCMD	1 MRD PBSC	2	3	0	140	86	Died d 88 sepsis/GVHD
8. 28 M unk	RCMD	1 Double UCB	0	1	40	154	78	Died 1 year, sepsis
9. 26 F unk	RCMD	1 Double UCB	4	12	20	178	119	Died d 295
14. 28 F 2 years	MDS	1 MUD BM	0	10	0	211	142	Died d 227 sepsis
15. 38 F unk	MDS	2 MUD PBSC	7	21	0	509	418	Lost to follow-up
16. 24 F 5 years	MDS	2 MUD BM PTCy	7	11	10	487	405	Died d 125 complications of hemorrhagic cystitis
25. 45M 5 years	MDS	2 MRD BM PTCy	18	2	10	201	360	No recurrence
36. 39 F unk	MDS	2 MUD BM PTCy	54	1	30	130	193	Alive, secondary graft failure/2 nd transplant 9 months
37. 31 F unk	BMID	2 MRD BM PTCy	5	36	0	348	588	Alive 6 months

MRD: matched related donor, MUD: matched unrelated donor, UCB: umbilical cord blood, BM: bone marrow, PBSC: peripheral blood stem cells, GVHD: graft versus host disease, sr: steroid refractory

*Protocol 1, Reduced Intensity Conditioning, Protocol 2, myeloablative busulfan-based conditioning

† PTCy: post transplant cyclophosphamide

#RCMD: Refractory Cytopenia with multilineage dysplasia, BMID: Bone Marrow disorder with immune deficiency, AML: Acute myeloid leukemia

Supplementary Table 2. Transplant characteristics and outcome for recipients without sufficient follow-up.