Outcomes of patients with relapsed aggressive adult T-cell leukemia-lymphoma: clinical effectiveness of anti-CCR4 antibody and allogeneic hematopoietic stem cell transplantation

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Supplemental Data

Supplemental Table 1. Patients characteristic grouped according to first salvage chemotherapy and response to first salvage chemotherapy

Abbreviations: ATL=adult T-cell leukemia-lymphoma; ATL-PI=ATL-prognostic index; Ab=antibody; CTx=chemotherapy; mLSG15=vincristine (VCR), cyclophosphamide (CY), doxorubicin (DOX) and prednisone (PSL), DOX, ranimustine (MCNU), and PSL-vindesine (VDS), etoposide (ETO), carboplatin (CBDCA), and PSL; CHOP=CY, DOX, VCR and PSL; EPOCH=ETO, PSL, VCR, CY and DOX; mEPOCH=ETO, DOX, VCR, PSL and CBDCA(13)

*Five patients received anti-CCR4 antibody in combination with chemotherapy.

**Response rate was calculated in patients whose data about response to first salvage chemotherapy was available.

Supplemental Table 2. Multivariate analysis of overall mortality after the introduction of salvage chemotherapy

Abbreviations: allo-HSCT=allogeneic hematopoietic stem cell transplantation; ATL-PI=adult T-cell leukemia-lymphoma -prognostic index; CTx=chemotherapy

Supplemental Table 3. Patient characteristics of transplanted patients grouped according to the use of anti-CCR4 antibody (n=132)

Abbreviations: ATL-PI=adult T-cell leukemia-lymphoma prognostic index; CR=complete remission; PR=partial remission; SD=stable disease, PD=progressive disease

Supplemental Table 1

	mLSG15	CHOP	Irinotecan-containing	EPOCH	mEPOCH	Oral topoisomerase II inhibitors	Anti-CCR4 Ab ±CTx[*]	Others	Total
n	96	59	99	42	22	112	55	238	723
Age									
median	59	59	62	61	63	61.5	63	61	61
range	25-70	25-70	35-70	31-70	43-70	31-70	46-70	28-70	25-70
Sex									
Female	36 (37.5)	24 (40.7)	42 (42.4)	20 (47.6)	11 (50.0)	66 (58.9)	22 (40.0)	94 (39.5)	315 (43.6)
Male	60 (62.5)	35 (59.3)	57 (57.6)	22 (52.4)	11 (50.0)	46 (41.1)	33 (60.0)	144 (60.5)	408 (56.4)
ATL subtype									
Acute	71 (74.0)	47 (79.7)	64 (64.6)	29 (69.0)	15 (68.2)	77 (68.8)	36 (65.5)	161 (67.6)	500 (69.2)
Lymphoma	25 (26.0)	12 (20.3)	35 (35.4)	13 (31.0)	7 (31.8)	35 (31.3)	19 (34.5)	77 (32.4)	223 (30.8)
Modified ATL-PI									
Low	20 (20.8)	11 (18.6)	27 (27.3)	9 (21.4)	7 (31.8)	25 (22.3)	16 (29.1)	62 (26.1)	177 (24.5)
Intermediate	57 (59.4)	34 (57.6)	52 (52.5)	26 (61.9)	13 (59.1)	75 (67.0)	26 (47.3)	139 (58.4)	422 (58.4)
High	19 (19.8)	14 (23.7)	20 (20.2)	7 (16.7)	2 (9.1)	12 (10.7)	13 (23.6)	37 (15.5)	124 (17.2)
Primary induction therapy									
mLSG15	26 (27.1)	26 (44.1)	76 (76.8)	13 (31.0)	8 (36.4)	47 (42.0)	39 (70.9)	97 (40.8)	332 (45.9)
CHOP	52 (54.2)	21 (35.6)	10 (10.1)	23 (54.8)	7 (31.8)	33 (29.5)	13 (23.6)	95 (39.9)	254 (35.1)
Others	18 (18.8)	12 (20.3)	13 (13.1)	6 (14.3)	7 (31.8)	32 (28.6)	3 (5.5)	46 (19.3)	137 (18.9)
Response to induction therapy									
Chemo-sensitive	60 (62.5)	34 (57.6)	71 (71.7)	23 (54.8)	14 (63.6)	83 (74.1)	31 (56.4)	140 (58.8)	456 (63.1)
Chemo-refractory	34 (35.4)	24 (40.7)	26 (26.3)	18 (42.9)	8 (36.4)	29 (25.9)	22 (40.0)	89 (37.4)	250 (34.6)
Unknown	2 (2.1)	1 (1.7)	2 (2.0)	1 (2.4)	0 (0.0)	0 (0.0)	2 (3.6)	9 (3.8)	17 (2.4)
Year at diagnosis									
2000-2006	39 (40.6)	34 (57.6)	39 (39.4)	29 (69.0)	9 (40.9)	56 (50.0)	2 (3.6)	118 (49.6)	326 (45.1)
2007-2013	57 (59.4)	25 (42.4)	60 (60.6)	13 (31.0)	13 (59.1)	56 (50.0)	53 (96.4)	120 (50.4)	397 (54.9)
Transplantation after relapse									
No	81 (84.4)	40 (67.8)	88 (88.9)	36 (85.7)	17 (77.3)	95 (84.8)	37 (67.3)	197 (82.8)	591 (81.7)
Yes	15 (15.6)	19 (32.2)	11 (11.1)	6 (14.3)	5 (22.7)	17 (15.2)	18 (32.7)	41 (17.2)	132 (18.3)
Response to salvage therapy**									
Complete remission	7 (8.2)	0 (0.0)	2 (2.2)	1 (2.6)	1 (4.5)	2 (2.1)	12 (25.0)	12 (5.8)	37 (5.8)
Partial remission	21 (24.7)	16 (30.2)	11 (12.0)	5 (13.2)	7 (31.8)	10 (10.3)	11 (22.9)	41 (19.9)	122 (19.0)
Overall response rate	28 (32.9)	16 (30.2)	13 (14.1)	6 (15.8)	8 (36.4)	12 (12.4)	23 (47.9)	53 (25.7)	159 (24.8)

Supplemental Table 2

Variable	Hazard ratio	95% CI	P-value
Allo-HSCT			
(as time-dependent variable)	0.74	0.58-0.95	0.018
Modified ATL-PI			
Low	1	Reference	
Intermediate	1.34	1.10-1.63	0.004
High	2.27	1.77-2.92	<0.001
Chemo-sensitivity to first-line CTx			
Sensitive	1	Reference	
Refractory	1.24	1.05-1.47	0.013
Age at diagnosis			
$\leq$60 years	1	Reference	
$\geq$61 years	1.32	1.12-1.57	0.001
Year at diagnosis			
2000-2006	1	Reference	
2007-2013	0.83	0.71-0.98	0.029
Use of anti-CCR4 antibody as first salvage			
No	1	Reference	
Yes	0.64	0.46-0.88	0.006

Supplemental Table 3

Pretransplant anti-CCR4 antibody	No N = 107	Yes N = 25	P value
Age at diagnosis			
Median, range	52 (25-69)	61 (46-68)	<0.001
Sex			
Female	41 (38.3%)	5 (20.0%)	0.104
Male	66 (61.7%)	20 (80.0%)	
Year of diagnosis			
2000-2006	48 (44.9%)	1 (4.0%)	<0.001
2007-2013	59 (55.1%)	24 (96.0%)	
Modified ATL-PI at diagnosis			
Low	29 (27.1%)	10 (40.0%)	0.143
Intermediate	65 (60.7%)	10 (40.0%)	
High	13 (12.1%)	5 (20.0%)	
Use of moga as first salvage			
No	107 (100.0%)	7 (28.0%)	<0.001
Yes	0 (0.0%)	18 (72.0%)	
First line best response			
CR	19 (17.8%)	3 (12.0%)	0.737
PR	50 (46.7%)	9 (36.0%)	
SD	7 (6.5%)	2 (8.0%)	
PD	29 (27.1%)	9 (36.0%)	
Unknown	1 (9.3%)	0 (0.0%)	
Second line best response			
CR	8 (7.5%)	7 (28.0%)	0.025
PR	30 (28.0%)	4 (16.0%)	
SD	25 (23.4%)	3 (12.0%)	
PD	32 (29.9%)	6 (24.0%)	
Unknown	3 (2.8%)	2 (8.0%)	
Pretransplant disease status			
CR	9 (8.4%)	9 (36.0%)	0.005
PR	23 (21.5%)	6 (24.0%)	
SD	14 (13.1%)	2 (8.0%)	
PD	60 (56.1%)	8 (32.0%)	
Stem cell source			
Matched related	25 (23.4%)	3 (12.0%)	0.054
Unrelated	41 (38.3%)	14 (56.0%)	
Cord blood	31 (29.0%)	3 (12.0%)	
Mismatched related	9 (8.4%)	5 (20.0%)	
Intensity of conditioning regimen			
Myeloablative	44 (41.1%)	6 (24.0%)	0.169
Reduced-intensity	63 (58.9%)	19 (76.0%)	