

**Supplementary Table 1:** Clinical, disease and treatment characteristics of T-PLL patients.

T-PLL, t-cell prolymphocytic leukemia; PS, performance status; Hb: hemoglobin; WBC, white blood cells; LDH, lactate dehydrogenase; PB, peripheral blood; BM, bone marrow; HSCT, hematopoietic stem cell transplantation; HDCT, high dose chemotherapy; FBC, fludarabine, busulfan, cyclophosphamide; FC, fludarabine, cyclophosphamide; GvHD, graft versus host disease; DLI, donor lymphocyte infusion; FU, follow-up.

\* In two patients alemtuzumab was followed subsequently by either IDA-FLAG/HAM or pentostatin and subsequent bendamustine.

\*\* In one patient CHOEP-14 was followed by IDA-FLAG and subsequently alemtuzumab.

**Supplementary Table 2:** Characteristics of ten T-PLL patients at time of allogeneic HSCT and last follow-up

HSCT, hematopoietic stem cell transplantation; FU, follow-up; GvHD, graft versus host disease; FBC, fludarabine, busulfan, cyclophosphamide; MUD, matched unrelated donor; CR, complete remission; PD, progressive disease; mMRD, mismatched related donor; mMUD, mismatched unrelated donor; MRD, match related donor.

**Supplementary Table 3:** Immunophenotype by flow cytometry at the time of diagnosis

**Supplemental Table S1:**

<b>Parameters</b>	<b>n=10</b>
Age, median, years (range)	63 (40-71)
Males : females	5 : 5
PS status at diagnosis, 0 vs 1 vs 2	4 : 5 : 1
<b>Laboratory values, median (range)</b>	
Hb, g/L	130 (111-140)
WBC, G/L	113 (29-992)
Platelets, G/L	140 (61-405)
LDH, IU/L	781 (206-3418)
<b>Disease sites apart of PB and BM</b>	
Splenomegaly, n (%)	7/10 (70%)
Lymphadenopathy, n (%)	6/10 (60%)
Plural effusion, n (%)	3/10 (30%)
Skin lesions, n (%)	2/10 (20%)
<b>Cytogenetics</b>	(5/10 available)
Chromosome 14 aberration	3/5
Complex cytogenetics	1/5
Chromosome 11 aberrations	2/5
Chromosome 17 aberrations	1/5
TCL1 rearrangement	1/5
<b>Induction regimens prior allogeneic HSCT</b>	
Alemtuzumab containing regimens	10/10
Alemtuzumab only	7/10
Alemtuzumab followed by conventional chemotherapy*	2/10
Conventional chemotherapy followed by alemtuzumab**	1/10
<b>HDCT preceding allogeneic HSCT</b>	
FBC-8	5/10
FBC-12	3/10
FC	2/10
<b>CMV reactivation prior/after HSCT</b>	5/6
<b>GvHD</b>	5/10
Limited	0/5
Extensive	5/5
<b>DLI application following decreased donor chimerism</b>	3/10
Donor chimerism reconstitution	3/3
GvHD induced by DLI	3/3
Time from diagnosis to allogeneic HSCT, median, months (range)	6 (4-13)
Time from diagnosis to last FU, median, months (range)	21 (4-96)

**Supplemental Table S2:**

Patient №	Therapy lines № prior allogeneic HSCT	Conditioning regimen	Donor type	Remission status at HSCT	Months from diagnosis to HSCT	Months from diagnosis to last FU	DLI application №/month after HSCT	<u>CMV status donor/recipient before HSCT</u>	CMV reactivation after SCT	GvHD after HSCT/grade I-IV	Relapse/progress in months after allogeneic HSCT	Death in months after allogeneic HSCT	Outcome after HSCT
# 1	3	FBC-8	MUD	CR	9	37	No	<u>positive/positive</u>	Yes	cGvHD, III	No relapse	+28	Death in CR from infection following cGvHD
# 2	3	FBC-8	MUD	Progress	13	14	No	<u>negative/negative</u>	No	No	+ 1	+1	Death in PD
# 3	1	FBC-12	MUD	Relapse	4	5	No	<u>positive/negative</u>	Yes	No	+ 1	+1	Death in PD
# 4	1	FBC-12	mMRD	CR	4	21	DLI № 1/+14	<u>negative/negative</u>	No	cGvHD, IV, provoked by DLI	No relapse	+17	Death in CR from infection provoked by DLI induced GvHD
# 5	1	FC	mMUD	CR	12	87	DLI № 5/+4, 9, 64, 66, 68	<u>positive/negative</u>	Yes	cGvHD, IV, provoked by DLI	+ 59	+75	Death in PD following 2 <sup>nd</sup> allogeneic HSCT
# 6	1	FC	MRD	CR	7	96	DLI № 5/+2, 3, 4, 85, 88	<u>positive/positive</u>	No	cGvHD, IV, provoked by DLI	+ 84	+89	Death in PD
# 7	1	FBC-12	MUD	CR	5	18	No	<u>positive/negative</u>	Yes	No	+ 12	+13	Death in relapse
# 8	1	FBC	MRD	CR	7	21	No	<u>positive/negative</u>	No	cGvHD, IV	No relapse	+14	Death in CR from infection following GvHD
# 9	3	FBC-8	MUD	Progress	4	4	No	<u>positive/positive</u>	No	No	-	+1	Death in septic shock one day after HSCT
# 10	1	FBC-8	MUD	CR	4	16	No	<u>positive/positive</u>	Yes	No	No relapse	+12	Death in CR from CMV pneumonia

**Supplemental Table S3**

Patient	CD3	CD4	CD8	CD7	CD52	CD25	CD16	CD56	CD57	TCR $\alpha/\beta$	TCR $\gamma/\delta$	CD4/CD8 ratio
#5	+	+	-	+	+	-	-	-	-	+	-	147.88
#6	+	-	+	+	+	(+)	-	-	-	+	-	0.02
#7	-	+	-	+	+	-	-	-	-	-	-	318.70