

Supplementary Tables

Supplementary table 1. Prespecified DLBCL-related drugs and respective codes utilised in the study

ATC	Drug
L01AA01	Cyclophosphamide
L01CA02	Vincristine
L01XC02	Rituximab
H02AB06	Prednisolone
L01DB01	Doxorubicin
H02AB07	Prednisone
A01AC02	Dexamethasone
L01CB01	Etoposide
L04AX03	Methotrexate
L01BC01	Cytarabine
L01AA06	Ifosfamide
V03AF01	Mesna
L01AD01	Carmustine
L01AA03	Melphalan
L01XA02	Carboplatin
L01BC05	Gemcitabine
L01DB07	Mitoxantrone
L01XA01	Cisplatin
L01AC01	Thiotepa
L01XA03	Oxaliplatin

Abbreviations: ATC, The Anatomical Therapeutic Chemical Classification System

Supplementary table 2. Abbreviations of immunochemotherapy treatment regimens assessed in the study

Regimen*	Drugs
(R-)CHOP	Rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone/prednisolone
(R-)CHOEP/ (R-)DA-EPOCH	Rituximab, cyclophosphamide, doxorubicin, etoposide, vincristine, prednisone/prednisolone
(R-)COP	Rituximab, vincristine, prednisone/prednisolone
(R-)CEOP	Rituximab, etoposide, vincristine, prednisone/prednisolone
(R-)MINE	Rituximab, mesna, ifosfamide, mitoxantrone, etoposide
(R-)ICE	Rituximab, ifosfamide, carboplatin, etoposide
(R-)CISGEM	Rituximab, cisplatin, gemcitabine
(R-)GDP	Rituximab, gemcitabine, cisplatin, dexamethasone
(R-)DHAP	Rituximab, dexamethasone, cytarabine, cisplatin
R-GEMOX	Rituximab, gemcitabine, oxaliplatin
MATRIX	Methotrexate, cytarabine, thiotepa, rituximab
BEAM	Carmustine, etoposide, cytarabine, melphalan
Unspecified regimen	A treatment combination not fitting with any of the prespecified treatment regimens

* Note that rituximab was not used to define the treatment line and thus, marked here as “(R-)” in the regimen abbreviation

Supplementary table 3. Annual proportion of DLBCL patients stratified according to the available information on International Prognostic Index (IPI) risk score at index, among 587 adult patients at the Hospital District of Southwest Finland during 2010–2019

Index year	N	N		Proportion %	
		IPI available	Missing	IPI available	Missing
2010	61	31	30	51.7	49.2
2011	61	22	39	36.1	63.9
2012	65	23	42	35.4	64.6
2013	69	37	32	53.6	46.4
2014	70	36	34	51.4	48.6
2015	71	38	33	53.5	46.5
2016	55	35	20	63.6	36.4
2017	59	28	31	47.5	52.5
2018	57	39	18	68.4	31.6
2019	19	10	9	52.6	47.4

Supplementary table 4. Annual proportion of DLBCL patients stratified according to the available information on stage at index, among 587 adult patients at the Hospital District of Southwest Finland during 2010–2019

Index year	N	N		Proportion (%)	
		Stage available	Missing	Stage available	Missing
2010	61	42	19	68.9	31.1
2011	61	38	23	62.3	37.7
2012	65	32	33	49.2	50.8
2013	69	34	35	49.3	50.7
2014	70	44	26	62.9	37.1
2015	71	49	22	69.0	31.0
2016	55	41	14	74.5	25.5
2017	59	33	26	55.9	44.1
2018	57	42	15	73.7	26.3
2019	19	15	4	78.9	21.1

Supplementary table 5. Annual proportion of DLBCL patients with and without records on immunochemotherapy/line of treatment (ICT LOT), among 587 adult patients at the Hospital District of Southwest Finland during 2010–2019

	ICT LOT		No ICT LOT detected		All
Index year	N	%	N	%	N
2010	42	68.9	19	31.1	61
2011	46	75.4	15	24.6	61
2012	48	73.8	17	26.2	65
2013	55	79.7	14	20.3	69
2014	56	80.0	14	20.0	70
2015	55	77.5	16	22.5	71
2016	45	81.8	10	18.2	55
2017	46	78.0	13	22.0	59
2018	51	89.5	6	10.5	57
2019 (until March 31)	10	52.6	9	47.4	19

Supplementary table 6. Median duration of immunochemotherapy treatment lines (ICT LOTs) determined by a Kaplan-Meier estimate, among 454 adult DLBCL patients at the Hospital District of Southwest Finland during 2010–2019.

Strata	N	Events (N)	Median (days)	Lower 95% CI	Upper 95% CI
ICT LOT 1	454	383	128	126	131
ICT LOT 2	102	76	69	60	85
ICT LOT 3	32	21	105	63	155
ICT LOT 4	8	5	53	2	-

Supplementary table 7. The most often administered drugs related to the immunochemotherapy (ICT) of DLBCL stratified by ICT line of treatment (ICT LOT), among 454 adult DLBCL patients at the Hospital District of Southwest Finland during 2010–2019

		ICT LOT 1 (n=454)		ICT LOT 2 (n=102)		ICT LOT 3 (n=32)		ICT LOT 4 (n=8)
ATC	Drug*	N	%	N	%	N	%	N
L01AA01	Cyclophosphamide	394	86.8	16	15.7	<10	<31.3	<10
L01CA02	Vincristine	389	85.7	11	10.8	<10	<31.3	<10
L01XC02	Rituximab	384	84.6	69	67.6	18	56.2	<10
H02AB06	Prednisolone	350	77.1	58	56.9	12	37.5	<10
L01DB01	Doxorubicin	337	74.2	<10	<9.8	0	0.0	<10
H02AB07	Prednisone	158	34.8	21	20.6	0	0.0	<10
A01AC02	Dexamethasone	91	20.0	39	38.2	22	68.8	<10
L01CB01	Etoposide	84	18.5	68	66.7	12	37.5	<10
L04AX03	Methotrexate	72	15.9	<10	<9.8	<10	<31.3	0
L01BC01	Cytarabine	50	11.0	21	20.6	<10	<31.3	<10
L01AA06	Ifosfamide	24	5.3	60	58.8	10	31.3	0
V03AF01	Mesna	24	5.3	61	59.8	11	34.4	<10
L01AD01	Carmustine	12	2.6	15	14.7	<10	<31.3	<10
L01AA03	Melphalan	10	2.2	13	12.7	<10	<31.3	<10
L01XA02	Carboplatin	<10	<2.2	23	22.5	<10	<31.3	0
L01BC05	Gemcitabine	<10	<2.2	14	13.7	17	53.1	<10
L01DB07	Mitoxantrone	<10	<2.2	34	33.3	<10	<31.3	0
L01XA01	Cisplatin	<10	<2.2	<10	<9.8	10	31.3	<10
L01AC01	Thiotepa	<10	<2.2	<10	<9.8	<10	<31.3	0
L01XA03	Oxaliplatin	0	0.0	<10	<9.8	0	0	0

Abbreviations: ATC, The Anatomical Therapeutic Chemical Classification System

* Drugs are listed according to the frequency in the first LOT and according to the ATC code

Supplementary table 8. Kaplan-Meier probabilities of overall survival stratified by age at index, among 587 adult DLBCL patients at the Hospital District of Southwest Finland during 2010–2019

Time (months)	Number at risk		Censored		Survival probability (%)		95% lower CI		95% upper CI	
	65 or more	Less than 65	65 or more	Less than 65	65 or more	Less than 65	65 or more	Less than 65	65 or more	Less than 65
12	195	178	30	19	60.0	88.7	54.7	83.6	65.0	92.3
24	154	146	45	36	51.8	80.9	46.4	74.8	57.0	85.7
36	111	124	72	52	45.8	77.4	40.3	70.9	51.2	82.7
48	85	100	90	75	42.3	76.7	36.7	70.1	47.8	82.1
60	66	75	103	95	39.1	72.4	33.4	65.0	44.7	78.5
72	44	56	121	114	36.4	72.4	30.5	65.0	42.3	78.5
84	23	33	140	136	34.1	70.3	27.8	61.9	40.4	77.2
96	15	15	148	153	34.1	67.5	27.8	57.5	40.4	75.7
108	4	4	159	162	34.1	50.4	27.8	25.2	40.4	71.1

Supplementary table 9. Kaplan-Meier probabilities of overall survival stratified by the status of immunochemotherapy treatment lines (ICT LOT), among 587 adult DLBCL patients at the Hospital District of Southwest Finland during 2010–2019

Time (months)	Number at risk		Censored		Survival probability (%)		95% lower CI		95% upper CI	
	ICT LOT	No ICT LOT	ICT LOT	No ICT LOT	ICT LOT	No ICT LOT	ICT LOT	No ICT LOT	ICT LOT	No ICT LOT
12	325	48	40	9	79.7	40.0	75.6	31.3	83.2	48.4
24	262	38	70	11	71.3	33.2	66.8	25.0	75.4	41.5
36	207	28	107	17	66.1	29.3	61.2	21.4	70.5	37.6
48	164	21	145	20	64.4	24.8	59.4	17.2	68.9	33.1
60	124	17	176	22	60.4	22.4	55.0	15.0	65.3	30.7
72	87	13	209	26	58.2	22.4	52.6	15.0	63.3	30.7
84	50	6	243	33	55.3	22.4	49.1	15.0	61.1	30.7
96	26	4	266	35	53.9	22.4	47.2	15.0	60.1	30.7
108	6	2	284	37	46.0	22.4	33.3	15.0	57.9	30.7

Supplementary table 10. Kaplan-Meier probabilities of overall survival from stem cell transplantation, among 25 adult DLBCL patients at the Hospital District of Southwest Finland during 2010–2019

Time (months)	Number at risk	Censored	Survival probability (%)	95% lower CI	95% upper CI
12	18	3	82.7	60.2	93.2
24	11	8	72.9	49.1	86.9
36	8	10	66.3	41.1	82.7
48	3	15	66.3	41.1	82.7
60	2	16	66.3	41.1	82.7
72	2	16	66.3	41.1	82.7
84	2	16	66.3	41.1	82.7

Supplementary table 11. Kaplan-Meier estimates of overall survival of all patients from the first-line immunochemotherapy, among 454 adult immunochemotherapy-treated DLBCL patients at the Hospital District of Southwest Finland during 2010–2019

Time (months)	Number at risk	Censored	Survival probability (%)	95% lower CI	95% upper CI
12	321	41	79.0	74.8	82.5
24	255	72	70.0	65.4	74.2
36	199	111	65.0	60.1	69.5
48	157	147	62.9	57.9	67.5
60	116	182	60.1	54.8	65.0
72	84	212	59.0	53.6	64.0
84	47	245	55.3	49.0	61.1
96	22	268	51.3	43.2	58.8
108	1	289	51.3	43.2	58.8

Supplementary table 12. Kaplan-Meier estimates of overall survival from the last detected line of immunochemotherapy (ICT LOT, referred as “LOT” in the table), among 454 adult immunochemotherapy-treated DLBCL patients at the Hospital District of Southwest Finland during 2010–2019

Time (months)	Number at risk				Censored				Survival probability (%)				95% lower CI				95% upper CI			
	1st LOT	2nd LOT	3rd LOT	4th LOT	1st LOT	2nd LOT	3rd LOT	4th LOT	1st LOT	2nd LOT	3rd LOT	4th LOT	1st LOT	2nd LOT	3rd LOT	4th LOT	1st LOT	2nd LOT	3rd LOT	4th LOT
3	314	54	18	5	8	2	1	1	91.4	79.8	78.8	71.4	87.9	68.2	56.2	25.8	93.9	87.5	90.6	92.0
6	280	44	10	4	18	4	2	1	84.3	67.8	46.7	57.1	80.0	55.2	25.4	17.2	87.8	77.5	65.4	83.7
12	243	34	8	3	37	7	3	1	78.8	56.3	41.5	42.9	74.0	43.5	21.1	9.8	82.8	67.3	60.8	73.4
24	199	29	5	3	65	9	4	1	73.2	51.2	31.1	42.9	68.0	38.3	13.2	9.8	77.7	62.6	51.0	73.4
36	159	20	5	2	98	16	4	2	70.5	47.1	31.1	42.9	65.1	34.2	13.2	9.8	75.2	58.9	51.0	73.4
48	122	15	3	1	131	20	6	3	68.6	44.6	31.1	42.9	63.0	31.6	13.2	9.8	73.5	56.8	51.0	73.4
60	90	12	3	1	159	23	6	3	66.0	44.6	31.1	42.9	60.1	31.6	13.2	9.8	71.3	56.8	51.0	73.4
72	64	9	1		183	26	8		64.4	44.6	31.1		58.2	31.6	13.2		70.0	56.8	51.0	
84	36	5			208	30			60.6	44.6			53.2	31.6			67.2	56.8		

Supplementary table 13. Kaplan-Meier estimates of time to next immunochemotherapy treatment (ICT LOT, referred as “LOT” in the table), among 454 adult immunochemotherapy-treated DLBCL patients at the Hospital District of Southwest Finland during 2010–2019

	Number at risk				Censored				Treatment free proportion (%)				95% lower CI				95% upper CI			
Time (months)	1st LOT	2nd LOT	3rd LOT	4th LOT	1st LOT	2nd LOT	3rd LOT	4th LOT	1st LOT	2nd LOT	3rd LOT	4th LOT	1st LOT	2nd LOT	3rd LOT	4th LOT	1st LOT	2nd LOT	3rd LOT	4th LOT
3	391	69	24	5	8	2	1	1	87.8	69.4	77.8	71.4	84.4	59.4	58.9	25.8	90.5	77.4	88.7	92.0
6	323	55	13	4	18	4	2	1	74.6	57.2	44.2	57.1	70.2	46.9	26.3	17.2	78.4	66.2	60.7	83.7
12	272	43	9	3	37	7	3	1	67.0	47.4	33.2	42.9	62.4	37.2	17.1	9.8	71.2	56.9	50.1	73.4
24	213	31	5	3	65	9	4	1	59.0	36.1	22.1	42.9	54.1	26.5	9.2	9.8	63.5	45.7	38.6	73.4
36	166	21	5	2	98	16	4	2	54.8	32.1	22.1	42.9	49.8	22.7	9.2	9.8	59.5	41.8	38.6	73.4
48	126	15	3	1	131	20	6	3	52.3	28.9	22.1	42.9	47.2	19.8	9.2	9.8	57.1	38.8	38.6	73.4
60	92	12	3	1	159	23	6	3	49.4	28.9	22.1	42.9	44.1	19.8	9.2	9.8	54.5	38.8	38.6	73.4
72	65	9	1		183	26	8		47.5	28.9	22.1		42.0	19.8	9.2		52.8	38.8	38.6	
84	36	5			208	30			43.9	28.9			37.7	19.8			49.9	38.8		
96	17				225				39.8				32.1				47.5			
108	1				241				39.8				32.1				47.5			

Supplementary table 14. Kaplan-Meier probabilities of overall survival stratified by IPI risk score/data missing, among 587 adult DLBCL patients at the Hospital District of Southwest Finland during 2010–2019

Time (months)	Number at risk							Censored							Survival probability (%)							95% lower CI							95% upper CI						
	0	1	2	3	4	5	Mis sing	0	1	2	3	4	5	Mis sing	0	1	2	3	4	5	Mis sing	0	1	2	3	4	5	Mis sing	0	1	2	3	4	5	Mis sing
3	27	74	109	93	56	9	121	1	3	0	7	3	1	1	100.0	100.0	98.2	93.3	89.2	82.5	65.6			93.0	86.5	78.7	46.1	58.2			99.6	96.8	94.7	95.3	71.9
6	27	73	101	82	48	7	100	1	4	4	8	4	2	2	100.0	100.0	94.5	83.3	78.0	72.2	54.6			88.3	74.4	65.6	35.7	47.2			97.5	89.2	86.3	90.2	61.5
12	25	69	88	64	38	7	82	3	8	9	15	9	2	3	100.0	100.0	86.8	71.6	69.6	72.2	45.3			78.7	61.6	56.5	35.7	38.0			92.0	79.5	79.4	90.2	52.3
24	21	60	70	49	29	7	64	4	11	20	24	13	2	7	87.5	91.3	79.6	64.4	60.3	72.2	37.5	66.1	81.7	70.4	53.7	46.6	35.7	30.5	95.8	96.0	86.2	73.2	71.5	90.2	44.5
36	21	48	58	36	18	5	49	4	21	28	34	21	3	13	87.5	88.2	74.8	60.1	53.1	60.2	31.8	66.1	77.8	64.8	49.1	38.8	24.4	25.1	95.8	93.9	82.3	69.4	65.4	83.2	38.8
48	17	38	43	27	15	4	41	8	28	42	42	24	4	17	87.5	82.4	73.4	58.3	53.1	60.2	29.2	66.1	70.2	63.3	47.1	38.8	24.4	22.6	95.8	89.9	81.2	68.0	65.4	83.2	36.0
60	12	28	34	22	14	3	28	12	37	48	46	25	5	25	82.0	80.2	68.1	55.9	53.1	60.2	25.1	58.5	67.4	56.8	44.1	38.8	24.4	18.7	92.9	88.4	77.0	66.1	65.4	83.2	32.0
72	7	22	19	17	12	2	21	17	43	62	50	26	6	31	82.0	80.2	65.9	52.8	49.3	60.2	24.1	58.5	67.4	54.0	40.2	34.3	24.4	17.7	92.9	88.4	75.3	63.9	62.6	83.2	31.1
84	4	15	12	10	6	2	7	20	50	68	57	32	6	43	82.0	80.2	60.8	52.8	49.3	60.2	21.1	58.5	67.4	45.7	40.2	34.3	24.4	14.5	92.9	88.4	72.9	63.9	62.6	83.2	28.5
96	2	8	6	4	6	1	3	22	56	74	63	32	7	47	82.0	74.0	60.8	52.8	49.3	60.2	21.1	58.5	55.4	45.7	40.2	34.3	24.4	14.5	92.9	85.8	72.9	63.9	62.6	83.2	28.5

Supplementary table 15. Kaplan-Meier probabilities of overall survival stratified for stages I-IV/data missing, among 587 adult DLBCL patients at the Hospital District of Southwest Finland during 2010–2019

Time (months)	Number at risk					Censored					Survival probability (%)					95% lower CI					95% upper CI				
	I	II	III	IV	Mis sing	I	II	III	IV	Mis sing	I	II	III	IV	Mis sing	I	II	III	IV	Missin g	I	II	III	IV	Mis sing
3	50	51	79	151	158	2	1	3	8	2	94.4	98.1	96.4	89.7	73.6	83.6	87.4	89.1	84.1	67.2	98.2	99.7	98.8	93.4	79.0
6	46	50	71	136	135	3	2	4	11	5	88.7	98.1	87.8	82.5	64.2	76.5	87.4	78.5	75.9	57.4	94.7	99.7	93.2	87.4	70.2
12	44	44	63	108	114	4	7	6	24	8	86.7	96.0	80.2	72.9	55.5	74.2	84.8	69.8	65.4	48.6	93.5	99.0	87.4	79.0	61.9
24	35	33	54	85	93	7	12	9	38	15	74.3	82.6	72.5	66.5	48.6	59.8	68.1	61.3	58.5	41.7	84.2	90.9	81.0	73.3	55.2
36	29	27	45	59	75	12	17	12	59	24	71.8	80.1	64.3	61.8	43.6	57.0	65.1	52.5	53.4	36.7	82.3	89.1	73.8	69.2	50.3
48	21	20	33	47	64	19	22	23	70	31	69.3	73.5	62.8	60.8	41.2	54.0	56.7	50.9	52.2	34.3	80.3	84.7	72.5	68.3	47.9
60	19	16	27	34	45	20	23	28	82	45	66.0	62.3	60.7	59.3	37.4	50.0	43.5	48.5	50.4	30.5	77.9	76.4	70.8	67.1	44.4
72	15	12	20	26	27	24	27	34	88	62	66.0	62.3	58.0	55.6	36.5	50.0	43.5	45.3	45.8	29.6	77.9	76.4	68.8	64.3	43.5
84	10	8	14	16	8	29	31	39	98	79	66.0	62.3	54.2	55.6	32.2	50.0	43.5	40.1	45.8	24.1	77.9	76.4	66.3	64.3	40.6
96	5	4	7	9	5	34	34	46	105	82	66.0	49.8	54.2	55.6	32.2	50.0	23.3	40.1	45.8	24.1	77.9	71.6	66.3	64.3	40.6
108	1	1	3	2	1	37	37	50	112	85	33.0	49.8	54.2	55.6	25.8	2.0	23.3	40.1	45.8	13.9	73.1	71.6	66.3	64.3	39.4

Supplementary table 16. Kaplan-Meier probabilities of time from a pathologist's diagnosis until a subsequent clinical evaluation (index) and the beginning of the first immunochemotherapy treatment line (ICT LOT), among 456 adult DLBCL patients at the Hospital District of Southwest Finland during 2010–2019

	Number at risk		Survival probability (%)		95% lower CI		95% upper CI	
Time (days)	Time until index	Time until 1st ICT LOT	Time until index	Time until 1st ICT LOT	Time until index	Time until 1st ICT LOT	Time until index	Time until 1st ICT LOT
10	353	304	79.0	86.9	74.9	82.9	82.6	90.1
20	206	244	44.5	67.4	39.8	62.2	49.2	72.1
30	88	150	18.9	42.4	15.3	37.2	22.7	47.6
40	42	98	9.1	27.3	6.6	22.7	12.0	32.1
50	19	51	4.4	13.7	2.8	10.3	6.7	17.5
60	15	33	3.5	9.3	2.1	6.5	5.5	12.7
70	13	14	2.8	4.1	1.5	2.3	4.7	6.5
80	10	10	2.3	2.9	1.2	1.5	4.1	5.1
90	7	8	1.6	2.3	0.7	1.1	3.2	4.3