

Figure S1 Flow chart of the clinical studies. PI-DLBCL, primary intestinal diffuse large B-cell lymphoma.

Table S1 Clinical characteristics of patients with PI-DLBCL

Characteristics	Discovery cohort		Validation cohort	
	Cases	%	Cases	%
Sex				
Male	72	67.3	55	71.4
Female	35	32.7	22	28.6
Age				
>60 y	47	43.9	41	53.2
≤60 y	60	56.1	26	46.7
Ann Arbor stage				
I	33	30.8	10	13.0
II	44	41.1	31	40.3
III	7	6.5	13	16.9
IV	23	21.5	23	30.0
Lugano stage				
I	28	26.2	6	7.8
II1	31	29.0	15	19.5
II2	5	4.7	5	6.5
IIIE	20	18.7	40	52.0
IV	23	21.5	11	14.3
ECOG score				
0	10	9.3	3	3.9
1	68	63.6	34	44.2
2	24	22.4	29	37.7
3	4	3.7	9	11.7
4	1	0.9	2	2.6
B symptom				
Present	46	43.0	24	31.2
Absent	61	57.0	53	68.8
LDH (U/L)				
>200	35	32.7	34	44.2
≤200	72	67.3	43	55.8
Ki67 expression				
>80%	17	15.9	52	67.5
≤80%	53	49.5	25	32.5
NA	37	34.6	0	0
IPI score				
0	29	27.1	8	10.4
1	30	28.0	15	19.5
2	21	19.6	29	37.7
3	16	15.0	14	18.2
4	8	7.5	11	14.3
5	3	2.8	0	0
Extranodal involvement				
≥2	27	25.2	37	48.1
<2	80	74.8	40	51.9

PI-DLBCL, primary intestinal diffuse large B-cell lymphoma; ECOG, Eastern Cooperative Oncology Group; LDH, lactate dehydrogenase; IPI, international prognostic index.

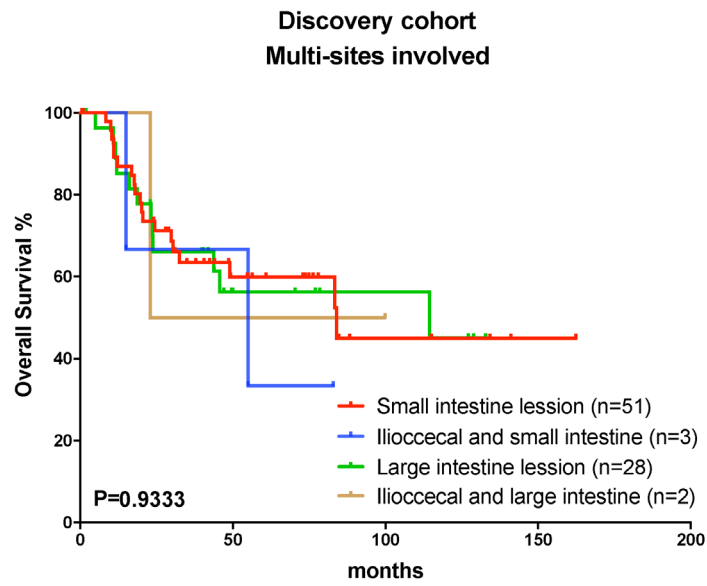


Figure S2 OS of multi-site involved patients. Kaplan-Meier estimates of OS of the PI-DLBCL patients in the discovery cohort with different sites involved. Log rank test was used to test the significance, and censored patients were indicated by crosses. OS, overall survival; PI-DLBCL, primary intestinal diffuse large B-cell lymphoma.

Table S2 Clinical characteristics of patients with PI-DLBC

Characteristics	Discovery cohort			Validation cohort		
	Ileocecal group	Nonileocecal group	P value	Ileocecal group	Nonileocecal group	P value
Sex						0.324
Male	17	55	0.445	16	39	
Female	6	29		4	18	
Age						0.482
>60 y	13	34	0.170	12	29	
≤60 y	10	50		8	28	
Ann Arbor stage						0.106
I-II	20	57	0.071	15	31	
III-IV	3	27		5	26	
Lugano stage						0.074
I/II1/II2	17	47	0.120	10	16	
IIE/IV	6	37		10	41	
ECOG score						0.214
0-1	18	60	0.514	12	25	
2-3	5	24		8	32	
B symptom						0.489
Present	9	37	0.673	5	19	
Absent	14	47		15	38	
Extranodal involvement						0.175
≥2	5	22	0.663	7	30	
<2	18	62		13	27	
Ki67 expression						0.779
>80%	2	15	0.122	13	39	
≤80%	18	35		7	18	
NA	3	34		0	0	
IPI score						0.802
0	8	21	0.825	5	3	
1	6	24		4	11	
2	4	17		4	25	
3	5	11		4	10	
4	0	8		3	8	
5	0	3		0	0	
OS						
5 years	86.7%	56.6%	0.017			
3 years				91.7%	52.2%	0.002
PFS						
5 years	81.2%	52.4%	0.004			
3 years				85.7%	47.1%	0.005

PI-DLBCL, primary intestinal diffuse large B-cell lymphoma; ECOG, Eastern Cooperative Oncology Group; LDH, lactate dehydrogenase; IPI, international prognostic index; OS, overall survival; PFS, progression-free survival.

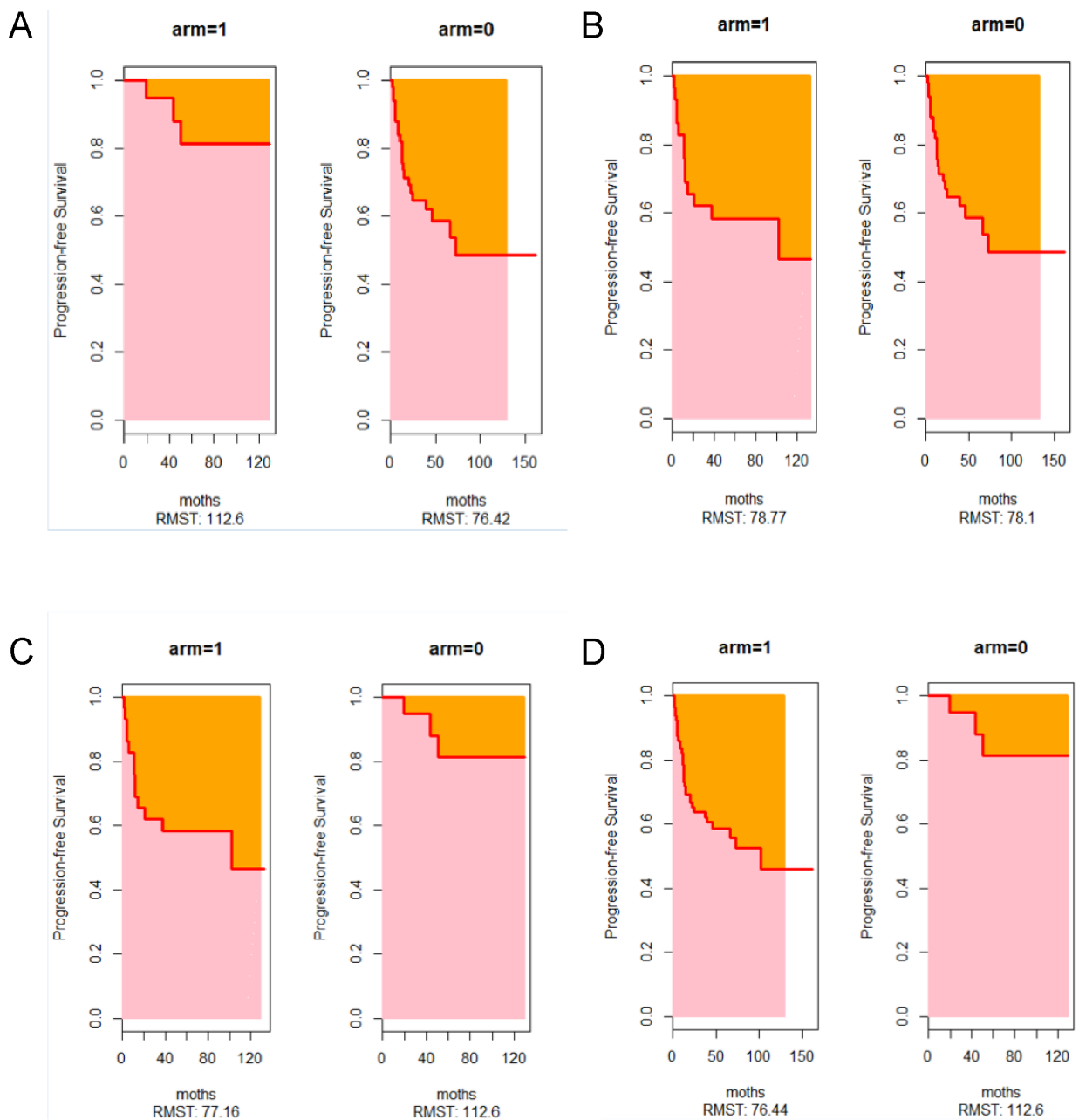


Figure S3 RMST analysis of the non-ileocecal group in the discovery cohort. (A) Comparison between surgery with the lymphadenectomy subgroup and surgery without lymphadenectomy subgroup, $P=0.003$. (B) Comparison between no surgery subgroup and surgery without lymphadenectomy subgroup, $P=0.962$. (C) Comparison between surgery with lymphadenectomy subgroup and no surgery subgroup, $P=0.011$. (D) Comparison between surgery with lymphadenectomy subgroup and surgery without lymphadenectomy or no surgery subgroup, $P=0.001$. RMST, restricted mean survival time.

Table S3 Biomarkers of patients with PI-DLBCL

Biomarkers	3-yr-OS	3-yr-PFS	P value
MYC			
>40%	73.6	69.4	0.274
≤40%	58.9	54.4	0.413
BCL-2			
>50%	56.1	52.9	<0.001
≤50%	84.2	79.1	0.003
BCL-6			
>30%	63.8	55.7	0.961
≤30%	67.6	60.4	0.578
Ki67			
>80%	52.5	48.3	<0.001
≤80%	80.4	74.5	0.001

PI-DLBCL, primary intestinal diffuse large B-cell lymphoma; OS, overall survival; PFS, progression-free survival.

Table S4 Univariate analysis of prognostic factors for OS and PFS in patients with PI-DLBCL

Factors	OS			PFS		
	P	HR	95% CI	P	HR	95% CI
Age, y (≤60 vs. >60 y)	0.001	2.289	1.378–3.804	0.012	1.913	1.153–3.716
Sex (male vs. female)	0.185	0.710	0.428–1.178	0.192	0.709	0.423–1.188
Ann Arbor (I/II/III/IV)	<0.001	1.696	1.355–2.124	<0.001	1.621	1.292–2.034
Lugano (I/II1/II2/III/IV)	<0.001	1.665	1.357–2.044	<0.001	1.651	1.343–2.030
B symptom (absent vs. present)	0.850	1.050	0.635–1.736	0.956	1.014	0.608–1.692
ECOG (0/1/2/3/4)	<0.001	2.782	2.048–3.779	<0.001	2.504	1.822–3.442
No. of extranodal involvements (<2 vs. ≥2)	<0.001	2.693	1.643–4.413	<0.001	2.712	1.639–4.488
LDH (≤200 vs. >200)	0.703	1.000	1.000–1.000	0.414	1.000	1.000–1.000
Serum ALB (<32 vs. ≥32 g/L)	0.904	1.000	1.000–1.000	0.914	1.000	1.000–1.000
β2 microglobulin (normal vs. abnormal)	0.749	1.000	1.000–1.000	0.782	1.000	1.000–1.000
CRP (normal vs. abnormal)	0.520	1.000	1.000–1.000	0.577	1.000	1.000–1.000
Ki67 (≤80% vs. >80%)	<0.001	3.090	1.673–5.707	0.003	2.521	1.372–4.630
BCL-2 (≤50% vs. >50%)	0.025	1.000	1.000–1.000	0.003	3.037	1.464–6.300
Phenotype (GCB vs. non-GCB)	0.241	1.000	1.000–1.000	0.229	1.000	1.000–1.000
Serum CA125 (normal vs. abnormal)	0.858	1.000	1.000–1.000	0.937	1.000	1.000–1.000
Serum CA199 (normal vs. abnormal)	0.927	1.000	1.000–1.000	0.700	1.000	1.000–1.000
Primary involved sites (ileocecal vs. non-ileocecal)	0.001	2.392	1.441–3.970	0.001	2.109	1.335–3.332

OS, overall survival; PFS, progression-free survival; PI-DLBCL, primary intestinal diffuse large B-cell lymphoma; ECOG, Eastern Cooperative Oncology Group; LDH, lactate dehydrogenase; ALB, albumin; CRP, C-reactive protein; GCB, germinal center B cell-like.

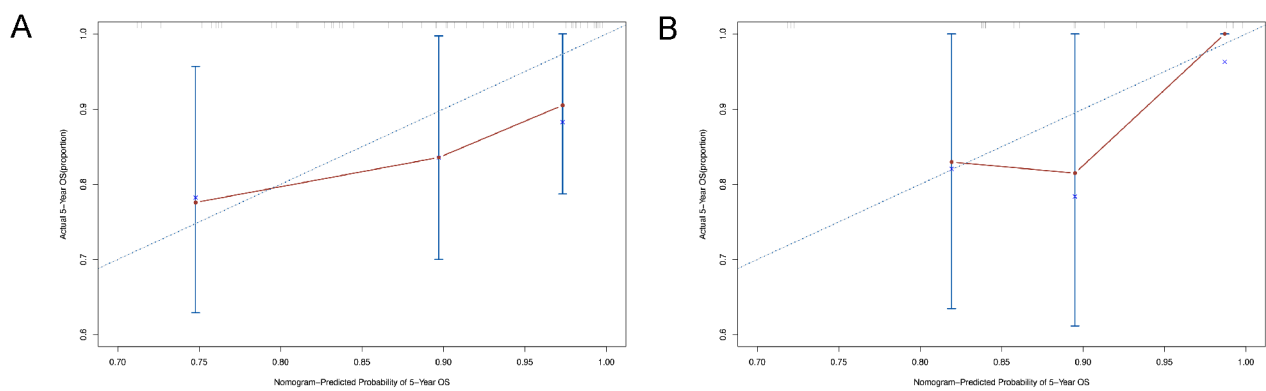


Figure S4 Calibration curves for the nomogram in discovery cohort and validate cohorts. Calibration curves for the nomogram in the discovery cohort (A) and validation cohort (B). The X-axis is the predicted survival calculated by the nomogram, and the Y-axis is the actual survival estimated by the Kaplan-Meier method. The 95% CIs of the Kaplan-Meier estimates are indicated by blue vertical lines at each point. The blue dashed line represents the reference line and is a 45° diagonal.

Table S5 Review of literature on PI-DLBCL

No. (reference)	Number of primary intestinal NHL cases	Country or region	Observation factors	Survival (OS)	P value	Time of publication	Publication	
1 (7)	345 (PI-DLBCL)	Korea	The surgery/chemotherapy group in localized DLBCL (n=163)	3y-OS: 91%	0.3034	2011	Blood	
			The chemotherapy group in localized DLBCL (n=87)	3y-OS: 62%				
			The surgery/chemotherapy group in disseminated DLBCL (n=25)	3y-OS: 47%				
			The chemotherapy group in disseminated DLBCL (n=52)					
2 (29)	581 (PI-NHL)	Korea	The ileocecal region of NHL (n=231)	–	0.006	2011	BMC Cancer	
			The small intestinal region of NHL (n=162)					
			The large intestinal region of NHL (n=125)					
			Multiple intestinal of NHL (n=3)					
3 (9)	106 (PI-DLBCL)	Korea	IPI risk group	–	0.021	2014	J Korean Med Sci	
			ECOG performance score	–				0.045
			Modified Ann Arbor stage	–				0.358
			Lugano stage	–				0.401
4 (28)	40 (PI-DLBCL)	Korea	Modified Ann Arbor stage	–	<0.001	2007	Leukemia Research	
5 (31)	76 (DLBCL)	Korea	The surgery + RCHOP group in DLBCL (n=47)	3y-OS: 94.2%	0.049	2014	American Journal of Clinical Oncology	
			The RCHOP group in DLBCL (n=29)	3y-OS: 80.7%				
6 (20)	40 (PI-NHL)	China	Ann Arbor stage	–	0.64	2008	Int J Hematol	
			IPI score	–				0.73
			Surgery (n=5)	–				0.62
			Surgery + chemotherapy (n=24)	–				
			Surgery + radiotherapy (n=4)	–				
			Surgery + chemotherapy + radiotherapy (n=6)	–				
7 (18)	66 (PI-DLBCL)	Switzerland	Small intestinal region (n=37)	5y-OS: 56%	0.78	2001	Annals of Oncology	
			Colon-rectal region (n=8)	5y-OS: 50%				
			Small and large intestinal region (n=21)	5y-OS: 57%				
			IPI score	–				0.27
			ECOG score	–				0.23
			Serum ALB level normal (n=27)	5y-OS: 70%				0.004
			Serum ALB level low (n=31)	5y-OS: 39%				
8 (19)	23 (PI-NHL)	Japan	LDH normal or abnormal (primary small intestinal NHL)	–	0.050	2009	Leuk Lymphoma	
			Ann Arbor stage (primary small intestinal NHL)	–				0.413
			IPI score (primary small intestinal NHL)	–				0.090
			Surgery or not (primary small intestinal NHL)	–				0.103
			Chemotherapy or not (primary small intestinal NHL)	–				0.782
9 (16)	21 (PI-NHL)	Germany	Intestinal B-cell lymphoma	2y-OS: 94%	–	2003	Journal of Clinical Oncology	
10 (3)	96 (PI-NHL)	Japan	The primary intestinal lymphoma (n=94)	3y-OS: ~63%	–	2003	Cancer	

PI-DLBCL, primary intestinal diffuse large B-cell lymphoma; NHL, non-Hodgkin lymphoma; OS, overall survival; IPI, international prognostic index; ECOG, Eastern Cooperative Oncology Group; ALB, albumin; LDH, lactate dehydrogenase.