

Supplementary materials

Table S1 Test for non-proportionality based on scaled Schoenfeld residuals from the primary overall survival (OS) Cox model and the surgical margin – stratified OS Cox model.

Variable	Primary Cox model			Stratified Cox model		
	χ^2	df	P-value	χ^2	df	P-value
Gender	0.188	2	0.664	0.272	1	0.60
Differentiation	0.229	1	0.892	0.664	2	0.72
T Stage	0.908	1	0.341	1.606	1	0.21
N Stage	2.857	1	0.091	2.147	1	0.14
Surgical margin	4.575	1	0.032			
Group	0.937	2	0.626	0.941	2	0.62
Global	12.005	8	0.151	6.209	7	0.52

Table S2 Multivariable Cox proportional hazards model for overall survival stratified by surgical margin status.

Variable	HR (95%CI)	P-value
Gender (Female vs Male)	0.726 (0.482–1.094)	0.125
Differentiation (Moderate vs Poor)	0.761 (0.494–1.171)	0.214
Differentiation (Well vs Poor)	0.329 (0.115–0.943)	0.038
T stage (T3-T4 vs T1-T2)	1.909 (1.209–3.015)	0.006
N stage (N1-N2 vs N0)	1.137 (0.761–1.698)	0.531
Group (PD vs DP)	0.729 (0.434–1.223)	0.231
Group (TP vs DP)	1.604 (0.911–2.825)	0.102

Table S3 Test for non-proportionality based on scaled Schoenfeld residuals from the primary disease free survival (DFS) Cox model.

Variable	χ^2	df	P-value
Differentiation	5.621	2	0.060
Intravascular cancer thrombus	0.769	1	0.381
Nerve invasion	0.189	1	0.663
T Stage	0.123	1	0.726
N Stage	0.629	1	0.428
Surgical margin	3.393	1	0.065
Group	1.450	2	0.484
Global	16.872	9	0.051

Table S4.Standardized mean differences before and after inverse probability of treatment weighting (IPTW) for age, gender, body mass index, and T stage.

Variable	Before IPTW					After IPTW				
	DP (n=107.0)	PD (n=41.0)	TP (n=26.0)	P	SMD	DP (n=107.0)	PD (n=41.0)	TP (n=26.0)	P	SMD
T Stage,N(%)				0.001	0.636				1.000	<0.001
T1-T2	72(67.3)	32(78.0)	9(34.6)			69.6(65.1)	26.8(65.7)	17.8(66.8)		
T3-T4	35(32.7)	9(22.0)	17(65.4)			37.3(34.9)	14.0(34.3)	8.9(33.2)		

Table S5.Multivariate Cox regression analyses of overall survival in all patients after inverse probability of treatment weighting.

Variable	HR (95%CI)	P-value
Gender(Female vs Male)	0.771 (0.516 – 1.152)	0.204
Differentiation (Moderate vs Poor)	0.844 (0.540 – 1.318)	0.455
Differentiation (Well vs Poor)	0.448 (0.166 – 1.212)	0.114
N stage (N1-N2 vs N0)	1.125 (0.749 – 1.691)	0.570
Group (PD vs DP)	0.699 (0.430 – 1.136)	0.148
Group (TP vs DP)	1.820 (0.962 – 3.445)	0.066
Surgical margin(R1 vs R0)	3.072 (1.949 – 4.841)	<0.001

Table S6.Multivariate Cox regression analyses of disease free survival in all patients after inverse probability of treatment weighting.

Variable	HR (95%CI)	P-value
Differentiation (Moderate vs Poor)	0.872 (0.581 – 1.309)	0.509
Differentiation (Well vs Poor)	0.595 (0.319 – 1.110)	0.103
N stage (N1-N2 vs N0)	1.475 (1.021 – 2.131)	0.038
Group (PD vs DP)	0.773 (0.487 – 1.228)	0.276
Group (TP vs DP)	1.447 (0.791 – 2.646)	0.230
Surgical margin(R1 vs R0)	3.061 (2.004 – 4.677)	<0.001
Intravascular cancer thrombus(Present vs absent)	1.196 (0.798 – 1.791)	0.387
Nerve invasion((Present vs absent)	1.273 (0.746 – 2.172)	0.375