

Table S1. Clinicopathological characteristics predicting RFS and DSS after propensity score matching.

Characteristics	No.	5-year RFS, %	MST, months	Univariate analysis			Multivariate analysis			5-year DSS, %	MST, months	Univariate analysis			Multivariate analysis		
				RR	95% CI	P-value	RR	95% CI	P-value			RR	95% CI	P-value	RR	95% CI	P-value
Sex				0.734	0.421-1.281	0.274						0.694	0.378-1.275	0.237			
Male	40	21.9	12.4						30.7	32.1							
Female	30	25.5	21.6						42.1	42.6							
Age, years				1.249	0.723-2.158	0.424						1.217	0.673-2.202	0.515			
<69	39	26.6	18.1						39.2	42.6							
≥69	31	20.0	12.4						30.7	36.5							
Body mass index, kg/m ²				1.194	0.691-2.061	0.523						0.979	0.542-1.770	0.945			
<22.3	37	28.8	17.9						34.9	36.5							
≥22.3	33	18.2	13.0						35.1	42.6							
Preoperative biliary drainage				1.189	0.685-2.061	0.537						1.734	0.954-3.151	0.067			
No	38	22.8	21.2						43.2	50.5							
Yes	32	25.8	12.4						25.6	27.8							
Hemoglobin, g/dl				1.125	0.651-1.943	0.672						0.974	0.539-1.761	0.931			
<12.9	36	24.4	15.2						36.1	33.2							
≥12.9	34	24.3	12.4						33.6	42.6							
CRP, mg/dl				1.572	0.905-2.731	0.105						1.917	1.049-3.503	0.031	1.52	0.807-2.869	0.195
<0.20	35	28.3	23.8						45.7	50.5							
≥0.20	35	20.6	12.4						23.4	27.8							

Albumin, g/dl				0.671	0.379- 1.188	0.168					0.663	0.358- 1.227	0.187			
<3.9	40	13.9	13.0							27.2	33.2					
≥3.9	30	36.1	21.2							45.9	50.0					
Hemoglobin				1.240	0.692- 2.221	0.281						1.183	0.625- 2.239	0.340		
A1c, %																
<5.8	33	30.9	17.9							42.2	43.5					
≥5.8	37	16.9	12.7							28.0	38.1					
Creatinine, mg/dl				0.915	0.530- 1.579	0.748						0.845	0.465- 1.534	0.579		
<0.67	37	20.2	12.3							29.1	41.6					
≥0.67	33	26.9	17.9							41.9	36.5					
AST, U/l				1.445	0.836- 2.498	0.185						1.440	0.795- 2.608	0.226		
<32	36	28.8	21.6							41.6	50.0					
≥32	34	17.7	12.1							29.1	33.2					
ALT, U/l				1.118	0.647- 1.931	0.690						1.355	0.749- 2.452	0.313		
<45	36	24.7	21.2							40.4	43.5					
≥45	34	22.7	12.4							29.4	33.2					
Total bilirubin, mg/dl				1.176	0.681- 2.031	0.559						1.475	0.814- 2.672	0.197		
<0.8	36	22.5	21.2							41.0	50.0					
≥0.8	34	23.4	12.3							28.8	28.6					
CA19-9, U/ml				1.401	0.813- 2.416	0.222						1.056	0.584- 1.907	0.857		
<73	35	27.5	20.3							36.3	41.6					
≥73	35	19.9	12.1							34.7	38.6					
CEA, ng/ml				0.919	0.532-	0.762						0.896	0.494-	0.718		

					1.587							1.624					
<2.5	37	21.0	15.2							32.9	36.5						
≥2.5	33	26.7	18.1							37.6	44.4						
Tumor size, mm				2.133	1.228-3.704	0.006	1.5 15	0.832-2.757	0.174			1.842	1.013-3.350	0.042	1.05 2	0.542-2.042	0.880
<28	37	35.5	21.6							47.5	50.5						
≥28	33	10.6	11.1							22.5	36.5						
UICC T category				3.060	1.213-7.718	0.013	2.0 26	0.741-5.538	0.169			4.054	1.252-13.120	0.011	2.21 6	0.634-7.743	0.212
T1	11	53.0	55.0							70.7	59.6						
T2-3	59	18.1	12.4							28.6	33.0						
UICC N category				2.150	1.215-3.806	0.007	1.6 82	0.929-3.047	0.086			2.331	1.233-4.405	0.007	3.33 3	1.474-7.538	0.004
N0	30	35.4	24.6							51.0	50.0						
N1-2	40	14.4	12.1							23.6	27.3						
UICC M category				1.743	0.814-3.730	0.147						1.442	0.669-3.107	0.348			
M0	61	25.4	17.9							39.5	41.6						
M1 ^a	9	11.1	8.8							0	36.5						
R0 resection				1.260	0.501-3.172	0.893						0.731	0.288-1.859	0.158			
No	7	28.6	13.0							28.6	21.0						
Yes	63	25.4	17.9							36.6	42.6						
Procedure				1.203	0.660-2.193	0.546						0.934	0.481-1.816	0.841			
PD, TP	51	24.5	15.2							34.7	38.1						
DP	19	21.1	12.7							36.1	43.5						
Portal vein resection				1.104	0.519-2.350	0.797						0.942	0.371-2.393	0.900			

No	61	26.3	12.7							34.4	41.6						
Yes	9	0.0	17.9							41.7	33.0						
Operation time, min				1.457	0.843- 2.518	0.174						1.399	0.773- 2.533	0.265			
<310	36	31.4	18.5							39.7	43.5						
≥310	34	15.1	12.4							30.0	32.1						
Anesthesia time, min				1.205	0.698- 2.080	0.503						1.204	0.666- 2.177	0.539			
<374	35	29.4	17.9							38.3	42.6						
≥374	35	16.8	13.0							31.8	38.1						
Intraoperative blood loss, ml				1.604	0.915- 2.811	0.095						1.489	0.821- 2.701	0.187			
<728	35	34.6	17.9							42.7	43.5						
≥728	35	12.0	15.2							26.7	36.5						
ANH				1.585	0.915- 2.745	0.097						1.654	0.908- 3.011	0.097			
No	35	30.1	18.1							44.6	50.5						
Yes	35	17.2	12.1							24.8	32.1						
Intraoperative fluid given, ml				1.444	0.837- 2.492	0.183						1.524	0.842- 2.758	0.161			
<3700	39	28.7	18.1							39.7	44.4						
≥3700	31	13.8	12.1							29.5	33.0						
Intraoperative urine output, ml				1.218	0.704- 2.109	0.480						1.246	0.688- 2.259	0.467			
<500	40	25.4	18.1							39.0	42.6						
≥500	30	21.4	12.1							29.2	38.1						
Total in-out balance, ml				1.231	0.714- 2.123	0.452						1.394	0.770- 2.522	0.270			
<2368	35	25.7	18.1							36.7	43.5						

≥2368	35	20.1	13.0							34.6	32.1						
Total in-out balance, ml/kg/h				1.038	0.601-1.794	0.893						1.091	0.603-1.971	0.774			
<6.5	36	21.6	15.2							33.5	43.5						
≥6.5	34	24.5	12.3							37.4	36.5						
Postoperative complications				1.169	0.586-2.333	0.658						1.311	0.646-2.661	0.452			
Clavien-Dindo grade 0-2	57	23.2	17.9							38.6	38.1						
Clavien-Dindo grade ≥3	13	23.1	12.4							23.1	43.5						
Pancreatic fistula				0.966	0.454-2.053	0.927						1.151	0.533-2.483	0.721			
ISGPF grade non-A	59	22.4	17.9							37.2	38.1						
ISGPF grade B-C	11	27.3	15.2							27.3	44.4						
Postoperative hospital stay, days				0.851	0.494-1.468	0.561						0.974	0.539-1.759	0.929			
<17	36	19.6	12.7							37.0	33.0						
≥17	34	26.5	15.2							33.7	42.6						
Adjuvant chemotherapy				0.604	0.325-1.018	0.060						0.392	0.206-0.744	0.007	0.230	0.099-0.537	0.001
No	16	13.3	9.8							13.3	21.0						
Yes	54	27.2	18.5							42.4	44.4						

^aAll of the patients were diagnosed with M1 due to positive lymph nodes other than the regional lymph nodes. P-values were obtained using Cox regression analysis. ALT, alanine aminotransferase; ANH, acute normovolemic hemodilution; AST, aspartate aminotransferase; CA19-9, carbohydrate antigen 19-9; CEA, carcinoembryonic antigen; CRP, C-reactive protein; DP, distal pancreatectomy; DSS, disease-specific survival; ISGPF, International Study Group of Pancreatic Fistula; MST, median survival time; PD, pancreatoduodenectomy; RFS, recurrence-free survival; RR, relative risk; TP, total pancreatectomy; UICC, Union for International Cancer Control.