

Figure S1 Kaplan-Meier curves for CSS between the adjuvant chemotherapy (+) and adjuvant chemotherapy (-) groups were compared in SA: (A) overall patients; (B) stage I patients; (C) stage II patients; (D) stage III patients. CSS, cancer-specific survival; SA, small intestinal adenocarcinoma.

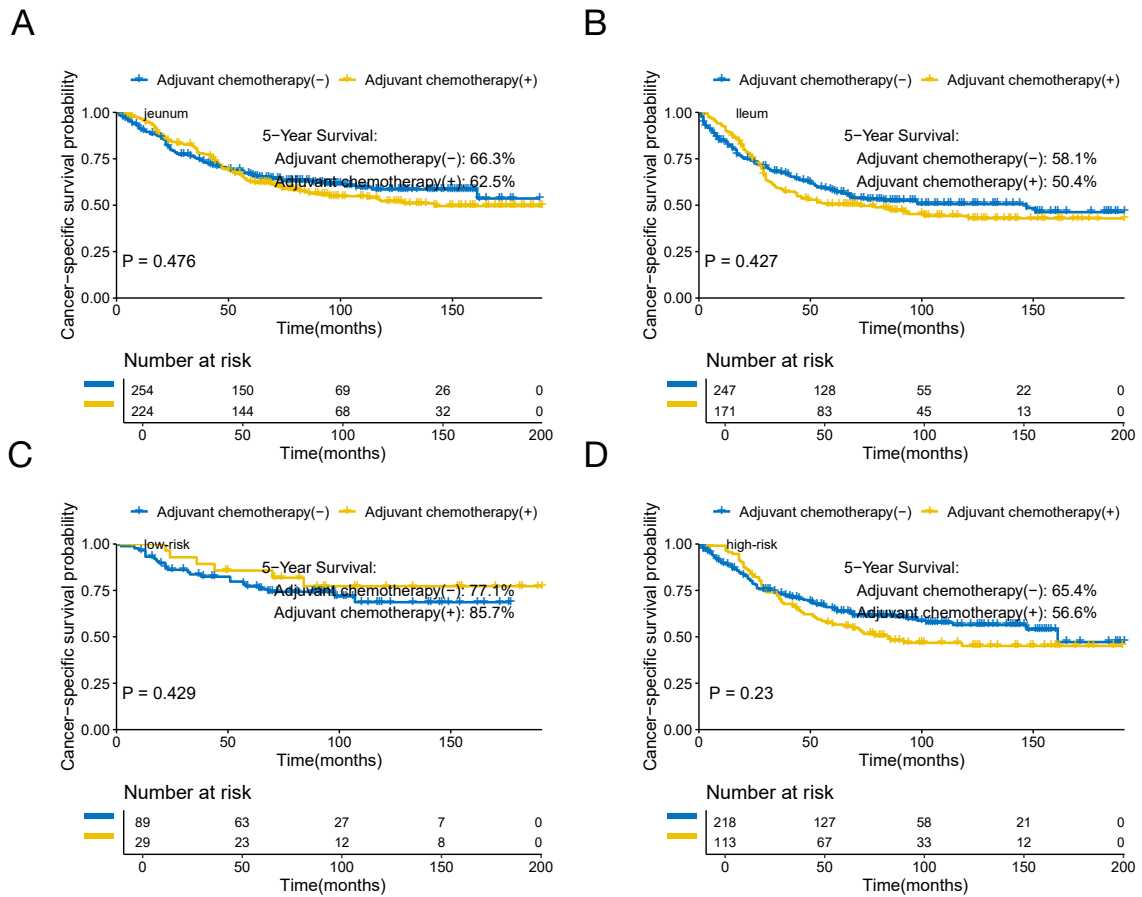


Figure S2 Kaplan-Meier curves of subgroups for CSS between the adjuvant chemotherapy (+) and adjuvant chemotherapy (-) groups were compared in SA: (A) jejunum; (B) ileum; (C) low-risk group; (D) high-risk group. CSS, cancer-specific survival; SA, small intestinal adenocarcinoma.

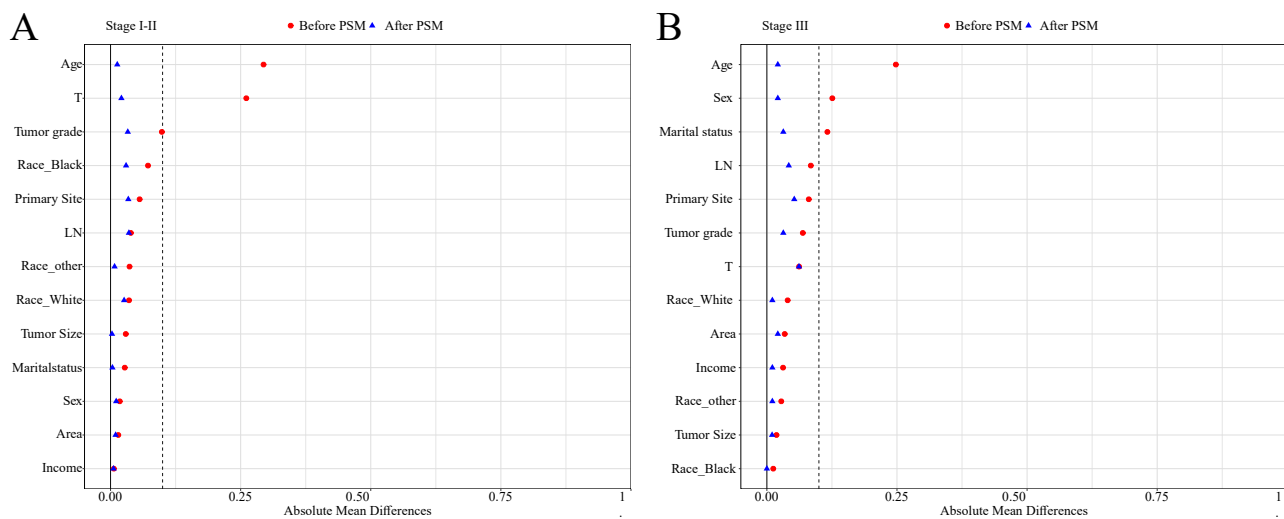


Figure S3 Absolute mean differences before and after PSM: (A) stages I–II patients; (B) stage III patients. Income: median household income; LN: number of lymph nodes examined. LN, lymph node; PSM, propensity score matching; T, tumor.

Table S1 The results of univariable and multivariate analyses affecting OS and CSS for patients with the primary tumor located in the jejunum

Variables	All, n (%)	OS		CSS	
		Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P	Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P
Age (years)					
<60	204 (42.7)				
≥60	274 (57.3)	1.70 (1.32–2.20), P<0.001	1.65 (1.27–2.15), P<0.001	1.24 (0.92–1.65), P=0.153	
Sex					
Female	189 (39.5)				
Male	289 (60.5)	0.99 (0.77–1.27), P=0.918		1.06 (0.79–1.42), P=0.706	
Race					
Black	99 (20.7)				
Other	30 (6.3)	0.52 (0.28–1.00), P=0.050		0.43 (0.19–0.94), P=0.036	0.58 (0.26–1.30), P=0.186
White	349 (73.0)	0.90 (0.67–1.21), P=0.473		0.83 (0.59–1.16), P=0.282	1.00 (0.70–1.42), P=0.998
Area					
Rural	60 (12.6)				
Urban	418 (87.4)	0.69 (0.49–0.97), P=0.032	0.64 (0.46–0.91), P=0.012	0.68 (0.46–1.01), P=0.054	
Marital status					
Married	298 (62.3)				
Single	180 (37.7)	1.58 (1.23–2.03), P<0.001	1.54 (1.20–1.99), P=0.001	1.44 (1.07–1.92), P=0.015	1.41 (1.04–1.91), P=0.025
Income					
<\$70,000	133 (27.8)				
≥\$70,000	345 (72.2)	1.01 (0.77–1.33), P=0.953		0.90 (0.66–1.22), P=0.490	
Tumor size (cm)					
<5	266 (55.6)				
≥5	212 (44.4)	0.79 (0.62–1.01), P=0.063		0.71 (0.53–0.95), P=0.020	0.71 (0.52–0.96), P=0.026
Tumor grade					
I–II	345 (72.2)				
III–IV	133 (27.8)	1.18 (0.91–1.55), P=0.213		1.21 (0.89–1.65), P=0.233	
LN					
<8	187 (39.1)				
≥8	291 (60.9)	0.70 (0.55–0.89), P=0.004	0.63 (0.48–0.81), P<0.001	0.75 (0.56–1.00), P=0.047	0.66 (0.48–0.91), P=0.011
T					
T1	15 (3.1)				
T2	25 (5.2)	0.78 (0.31–1.95), P=0.600		0.8 (0.42–2.1), P=0.710	
T3	263 (55.0)	0.93 (0.46–1.91), P=0.851		1.05 (0.52–2.21), P=0.92	
T4	175 (36.6)	1.47 (0.72–3.02), P=0.293		1.82 (0.82–3.02), P=0.513	
N					
N0	286 (59.8)				
N1	178 (37.2)	1.41 (1.10–1.81), P=0.007	2.16 (1.61–2.90), P<0.001	1.85 (1.38–2.47), P<0.001	2.17 (1.60–2.95), P<0.001
N2	14 (2.9)	1.78 (0.87–3.63), P=0.116	2.96 (1.41–6.22), P=0.004	1.94 (0.85–4.45), P=0.117	2.48 (1.06–5.79), P=0.036
Adjuvant chemotherapy					
No	254 (53.1)				
Yes	224 (46.9)	0.78 (0.61–1.00), P=0.048	0.64 (0.48–0.85), P=0.002	1.11 (0.83–1.48), P=0.477	

Income: median household income; LN: number of lymph nodes examined. CI, confidence interval; CSS, cancer-specific survival; HR, hazard ratio; N, node; OS, overall survival; T, tumor.

Table S2 The results of univariable and multivariate analyses affecting OS and CSS for patients with the primary tumor located in the ileum

Variables	All, n (%)	OS		CSS	
		Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P	Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P
Age (years)					
<60	130 (31.1)				
≥60	288 (68.9)	1.94 (1.46–2.57), P<0.001	2.22 (1.67–2.95), P<0.001	1.70 (1.23–2.36), P=0.001	1.95 (1.40–2.71), P<0.001
Sex					
Female	193 (46.2)				
Male	225 (53.8)	1.16 (0.91–1.47), P=0.236		1.16 (0.87–1.53), P=0.306	
Race					
Black	52 (12.4)				
Other	20 (4.8)	0.46 (0.20–1.04), P=0.063		0.33 (0.12–0.96), P=0.041	0.32 (0.11–0.92), P=0.035
White	346 (82.8)	1.18 (0.82–1.71), P=0.369		1.05 (0.70–1.59), P=0.810	0.90 (0.59–1.37), P=0.624
Area					
Rural	58 (13.9)				
Urban	360 (86.1)	0.97 (0.69–1.38), P=0.886		1.25 (0.80–1.95), P=0.319	
Marital status					
Married	240 (57.4)				
Single	178 (42.6)	1.01 (0.80–1.29), P=0.910		1.00 (0.75–1.33), P=0.997	
Income					
<\$70,000	135 (32.3)				
≥\$70,000	283 (67.7)	0.67 (0.52–0.86), P=0.001	0.64 (0.49–0.82), P<0.001	0.68 (0.51–0.91), P=0.009	0.69 (0.51–0.93), P=0.013
Tumor size (cm)					
<5	265 (63.4)				
≥5	153 (36.6)	1.02 (0.80–1.31), P=0.875		1.10 (0.82–1.46), P=0.522	
Tumor grade					
I–II	275 (65.8)				
III–IV	143 (34.2)	1.63 (1.28–2.09), P<0.001	1.61 (1.25–2.07), P<0.001	1.82 (1.37–2.42), P<0.001	1.56 (1.16–2.10), P=0.003
LN					
<8	120 (28.7)				
≥8	298 (71.3)	0.79 (0.61–1.02), P=0.072		0.81 (0.60–1.09), P=0.160	
T					
T1	27 (6.5)				
T2	37 (8.9)	0.85 (0.44–1.65), P=0.632	0.78 (0.40–1.52), P=0.459	1.05 (0.40–2.75), P=0.924	0.94 (0.36–2.47), P=0.894
T3	211 (50.5)	1.21 (0.72–2.04), P=0.472	1.01 (0.59–1.72), P=0.975	1.85 (0.85–3.99), P=0.119	1.47 (0.67–3.21), P=0.339
T4	143 (34.2)	2.08 (1.23–3.51), P=0.006	1.78 (1.03–3.07), P=0.038	4.04 (1.87–8.71), P<0.001	3.22 (1.46–7.11), P=0.004
N					
N0	256 (61.2)			2.13 (1.60–2.83), P<0.001	1.72 (1.28–2.32), P<0.001
N1	149 (35.6)	1.60 (1.25–2.05), P<0.001	1.42 (1.10–1.84), P=0.008	2.89 (1.40–5.97), P=0.004	2.71 (1.30–5.64), P=0.008
N2	13 (3.1)	2.84 (1.53–5.25), P<0.001	2.79 (1.50–5.22), P=0.001		
Adjuvant chemotherapy					
No	247 (59.1)				
Yes	171 (40.9)	0.87 (0.68–1.11), P=0.276		1.12 (0.85–1.48), P=0.428	

Income: median household income; LN: number of lymph nodes examined. CI, confidence interval; CSS, cancer-specific survival; HR, hazard ratio; N, node; OS, overall survival; T, tumor.

Table S3 The results of univariable and multivariate analyses affecting OS and CSS for patients with the low-risk SA

Variables	All, n (%)	OS		CSS	
		Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P	Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P
Age (years)					
<60	46 (39.0)				
≥60	72 (61.0)	2.76 (1.46–5.23), P=0.002	2.37 (1.20–4.71), P=0.013	1.46 (0.68–3.14), P=0.337	
Sex					
Female	54 (45.8)				
Male	64 (54.2)	0.87 (0.51–1.49), P=0.612		0.85 (0.41–1.75), P=0.654	
Race					
Black	22 (18.6)				
Other	12 (10.2)	0.61 (0.19–1.93), P=0.402		0.55 (0.06–5.32), P=0.608	
White	84 (71.2)	0.85 (0.44–1.67), P=0.645		2.12 (0.64–7.03), P=0.219	
Area					
Rural	15 (12.7)				
Urban	103 (87.3)	0.69 (0.33–1.41), P=0.303		0.87 (0.30–2.49), P=0.788	
Marital status					
Married	77 (65.3)				
Single	41 (34.7)	1.32 (0.75–2.32), P=0.343		1.13 (0.53–2.44), P=0.750	
Income					
<\$70,000	23 (19.5)				
≥\$70,000	95 (80.5)	0.58 (0.32–1.08), P=0.085		0.81 (0.33–1.99), P=0.645	
Primary site					
Ileum	52 (44.1)				
Jejunum	66 (55.9)	0.60 (0.35–1.03), P=0.064		0.79 (0.38–1.63), P=0.519	
Tumor size (cm)					
<5	59 (50.0)				
≥5	59 (50.0)	0.69 (0.40–1.18), P=0.175		0.40 (0.18–0.88), P=0.022	
Adjuvant chemotherapy					
No	89 (75.4)				
Yes	29 (24.6)	0.44 (0.20–0.93), P=0.027	0.65 (0.29–1.46), P=0.293	0.70 (0.28–1.71), P=0.430	

Income: median household income. CI, confidence interval; CSS, cancer-specific survival; HR, hazard ratio; OS, overall survival; SA, small intestinal adenocarcinoma.

Table S4 The results of univariable and multivariate analyses affecting OS and CSS for patients with the high-risk SA

Variable	All, n (%)	OS		CSS	
		Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P	Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P
Age (years)					
<60	121 (36.6)				
≥60	210 (63.4)	2.24 (1.61–3.10), P<0.001	2.20 (1.59–3.05), P<0.001	1.58 (1.11–2.26), P=0.012	1.58 (1.11–2.26), P=0.012
Sex					
Female	146 (44.1)				
Male	185 (55.9)	1.23 (0.92–1.64), P=0.165		1.21 (0.86–1.69), P=0.276	
Race					
Black	63 (19.0)				
Other	17 (5.1)	0.55 (0.24–1.24), P=0.149		0.56 (0.23–1.36), P=0.201	
White	251 (75.8)	1.04 (0.72–1.51), P=0.825		0.84 (0.56–1.27), P=0.414	
Area					
Rural	42 (12.7)				
Urban	289 (87.3)	0.94 (0.62–1.42), P=0.768		1.07 (0.64–1.77), P=0.800	
Marital status					
Married	192 (58.0)				
Single	139 (42.0)	1.32 (0.99–1.75), P=0.057		1.19 (0.85–1.66), P=0.313	
Income					
<\$70,000	97 (29.3)				
≥\$70,000	234 (70.7)	0.85 (0.63–1.16), P=0.305		0.74 (0.52–1.04), P=0.084	
Primary site					
Ileum	148 (44.7)				
Jejunum	183 (55.3)	0.73 (0.55–0.97), P=0.029	0.76 (0.57–1.01), P=0.059	0.72 (0.52–1.01), P=0.054	
Tumor size (cm)					
<5	208 (62.8)				
≥5	123 (37.2)	0.88 (0.66–1.18), P=0.398		0.92 (0.65–1.29), P=0.616	
Adjuvant chemotherapy					
No	218 (65.9)				
Yes	113 (34.1)	0.84 (0.62–1.13), P=0.243		1.23 (0.88–1.72), P=0.230	

Income: median household income. CI, confidence interval; CSS, cancer-specific survival; HR, hazard ratio; OS, overall survival; SA, small intestinal adenocarcinoma.

Table S5 The clinicopathological characteristics of the patients with stages I–II SA between AC (–) and AC (+) groups before and after PSM

Variables	Before PSM			After PSM				
	AC (–) (n=396)	AC (+) (n=146)	SMD	P value	AC (–) (n=222)	AC (+) (n=128)	SMD	P value
Age (years)				<0.001				0.233
<60	106 (26.8)	82 (56.2)	0.592		95 (42.8)	64 (50.0)	0.144	
≥60	290 (73.2)	64 (43.8)	–0.592		127 (57.2)	64 (50.0)	–0.144	
Sex				0.786				0.792
Female	172 (43.4)	66 (45.2)	0.036		96 (43.2)	58 (45.3)	0.032	
Male	224 (56.6)	80 (54.8)	–0.036		126 (56.8)	70 (54.7)	–0.032	
Race				0.0581				0.598
Black	61 (15.4)	33 (22.6)	0.172		38 (17.1)	25 (19.5)	0.061	
Other	28 (7.1)	5 (3.4)	–0.200		4 (1.8)	4 (3.1)	0.076	
White	307 (77.5)	108 (74.0)	–0.081		180 (81.1)	99 (77.3)	–0.056	
Area				0.752				>0.99
Rural	52 (13.1)	17 (11.6)	–0.046		27 (12.2)	16 (12.5)	0.010	
Urban	344 (86.9)	129 (88.4)	0.046		195 (87.8)	112 (87.5)	–0.010	
Marital status				0.633				0.789
Married	236 (59.6)	91 (62.3)	0.056		164 (73.9)	97 (75.8)	0.089	
Single	160 (40.4)	55 (37.7)	–0.056		58 (26.1)	31 (24.2)	–0.089	
Income				0.97				0.427
<\$70,000	111 (28.0)	40 (27.4)	–0.014		110 (49.5)	57 (44.5)	0.024	
≥\$70,000	285 (72.0)	106 (72.6)	0.014		112 (50.5)	71 (55.5)	–0.024	
Primary site				0.29				0.5
Ileum	193 (48.7)	63 (43.2)	–0.113		131 (59.0)	81 (63.3)	0.013	
Jejunum	203 (51.3)	83 (56.8)	0.113		91 (41.0)	47 (36.7)	–0.013	
Tumor size (cm)				0.598				0.922
<5	253 (63.9)	89 (61.0)	–0.214		60 (27.0)	36 (28.1)	0.045	
≥5	143 (36.1)	57 (39.0)	0.214		162 (73.0)	92 (71.9)	–0.045	
Tumor grade				0.0224				0.998
I–II	313 (79.0)	101 (69.2)	–0.060		94 (42.3)	55 (43.0)	–0.018	
III–IV	83 (21.0)	45 (30.8)	0.060		128 (57.7)	73 (57.0)	0.018	
LN				0.475				0.959
<8	169 (42.7)	68 (46.6)	0.078		139 (62.6)	79 (61.7)	–0.101	
≥8	227 (57.3)	78 (53.4)	–0.078		83 (37.4)	49 (38.3)	0.101	
T				<0.001				0.392
T1–3	304 (76.8)	74 (50.7)	–0.522		140 (63.1)	74 (57.8)	–0.106	
T4	92 (23.2)	72 (49.3)	0.522		82 (36.9)	54 (42.2)	0.106	

Data are presented as n (%). Income: median household income; LN: number of lymph nodes examined. AC, adjuvant chemotherapy; PSM, propensity score matching; SA, small intestinal adenocarcinoma; SMD, standardized mean difference; T, tumor.

Table S6 The results of univariable and multivariate analyses affecting OS and CSS for patients with stages I–II SA after PSM

Variables	All, n (%)	OS		CSS	
		Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P	Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P
Age (years)					
<60	159 (45.4)				
≥60	191 (54.6)	2.93 (2.13–4.05), P<0.001	2.71 (1.96–3.75), P<0.001	2.11 (1.47–3.04), P<0.001	2.00 (1.39–2.89), P<0.001
Sex					
Female	154 (44.0)				
Male	196 (56.0)	1.26 (0.93–1.69), P=0.130		1.24 (0.87–1.77), P=0.234	
Race					
Black	63 (18.0)				
Other	8 (2.3)	0.83 (0.29–2.35), P=0.723		0.80 (0.24–2.67), P=0.719	
White	279 (79.7)	1.15 (0.78–1.71), P=0.473		0.99 (0.63–1.55), P=0.968	
Area					
Rural	43 (12.3)				
Urban	307 (87.7)	1.15 (0.73–1.81), P=0.544		1.44 (0.80–2.61), P=0.227	
Marital status					
Married	212 (60.6)				
Single	138 (39.4)	1.27 (0.95–1.70), P=0.113	1.31 (1.06–1.62), P=0.014	1.13 (0.79–1.61), P=0.497	
Income					
<\$70,000	96 (27.4)				
≥\$70,000	254 (72.6)	1.07 (0.77–1.48), P=0.703		0.97 (0.66–1.43), P=0.888	
Primary site					
Ileum	149 (42.6)				
Jejunum	201 (57.4)	0.66 (0.49–0.88), P=0.005	0.58 (0.43–0.78), P<0.001	0.62 (0.44–0.88), P=0.007	0.59 (0.41–0.83), P=0.003
Tumor size (cm)					
<5	218 (62.3)				
≥5	132 (37.7)	0.81 (0.60–1.10), P=0.180		0.81 (0.56–1.17), P=0.260	
Tumor grade					
I–II	261 (74.6)				
III–IV	89 (25.4)	1.27 (0.92–1.75), P=0.151		1.21 (0.82–1.79), P=0.333	
LN					
<8	167 (47.7)				
≥8	183 (52.3)	0.71 (0.53–0.95), P=0.021	0.68 (0.51–0.92), P=0.013	0.73 (0.52–1.04), P=0.081	
T					
T1–3	214 (61.1)				
T4	136 (38.9)	1.93 (1.44–2.58), P<0.001	1.92 (1.43–2.58), P<0.001	2.38 (1.68–3.37), P<0.001	2.31 (1.62–3.28), P<0.001
Adjuvant chemotherapy					
No	222 (63.4)				
Yes	128 (36.6)	0.79 (0.58–1.07), P=0.126		1.13 (0.80–1.61), P=0.482	

Income: median household income; LN: number of lymph nodes examined. CI, confidence interval; CSS, cancer-specific survival; HR, hazard ratio; OS, overall survival; PSM, propensity score matching; SA, small intestinal adenocarcinoma; T, tumor.

Table S7 The results of univariable and multivariate analyses affecting OS and CSS for patients with stage III SA after PSM

Variables	All, n (%)	OS		CSS	
		Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P	Univariable, HR (95% CI), P	Multivariable, HR (95% CI), P
Age (years)					
<60	46 (24.2)				
≥60	144 (75.8)	1.20 (0.81–1.77), P=0.360		1.01 (0.67–1.52), P=0.958	
Sex					
Female	88 (46.3)				
Male	102 (53.7)	0.80 (0.57–1.11), P=0.174		0.77 (0.54–1.10), P=0.155	
Race					
Black	28 (14.7)				
Other	5 (2.6)	0.21 (0.03–1.58), P=0.130		0.26 (0.03–1.95), P=0.190	
White	157 (82.6)	1.08 (0.69–1.70), P=0.737		1.05 (0.64–1.71), P=0.852	
Area					
Rural	26 (13.7)				
Urban	164 (86.3)	0.73 (0.46–1.16), P=0.180		0.83 (0.49–1.40), P=0.484	
Marital status					
Married	111 (58.4)				
Single	79 (41.6)	1.36 (0.97–1.89), P=0.072		1.16 (0.81–1.68), P=0.420	
Income					
<\$70,000	71 (37.4)				
≥\$70,000	119 (62.6)	0.71 (0.51–0.99), P=0.046	0.68 (0.48–0.96), P=0.029	0.74 (0.51–1.07), P=0.107	
Primary site					
Ileum	85 (44.7)				
Jejunum	105 (55.3)	0.58 (0.42–0.81), P=0.001	0.53 (0.38–0.74), P<0.001	0.56 (0.39–0.81), P=0.002	0.53 (0.37–0.77), P=0.001
Tumor size (cm)					
<5	107 (56.3)				
≥5	83 (43.7)	0.79 (0.57–1.10), P=0.167		0.80 (0.56–1.16), P=0.236	
Tumor grade					
I–II	107 (56.3)				
III–IV	83 (43.7)	1.55 (1.12–2.16), P=0.009	1.36 (0.96–1.94), P=0.083	1.65 (1.15–2.37), P=0.006	1.45 (0.99–2.11), P=0.058
LN					
<8	44 (23.2)				
≥8	146 (76.8)	0.59 (0.40–0.85), P=0.005	0.54 (0.37–0.78), P=0.001	0.60 (0.40–0.91), P=0.016	0.58 (0.38–0.88), P=0.011
T					
T1–3	116 (61.1)				
T4	74 (38.9)	1.84 (1.31–2.57), P<0.001	1.53 (1.08–2.18), P=0.018	2.18 (1.51–3.13), P<0.001	1.80 (1.23–2.63), P=0.003
Adjuvant chemotherapy					
No	95 (50.0)				
Yes	95 (50.0)	0.48 (0.35–0.67), P<0.001	0.46 (0.33–0.64), P<0.001	0.55 (0.38–0.79), P<0.001	0.54 (0.37–0.78), P<0.001

Income: median household income; LN: number of lymph nodes examined. CI, confidence interval; CSS, cancer-specific survival; HR, hazard ratio; OS, overall survival; PSM, propensity score matching; SA, small intestinal adenocarcinoma; T, tumor.