

**Supplementary Table 3 Baseline Characteristics of surgery type before and after Propensity-Score Matching**

Parameter	Before Matching			After Matching		
	LS	ES	P value	LS	ES	P value
Age,years						
<78	198	112	0.000	72	86	0.005
≥78	84	11		22	8	
Sex						
Male	122	37	0.012	58	60	0.763
Female	160	86		36	34	
Race						
White	243	102	0.586	80	81	0.584
Black	12	8		7	4	
Asian	27	13		7	9	
Marital status						
Married	158	77	0.672	59	59	0.901
Never Married	32	12		14	11	
Previously Married	83	31		19	22	
Unknown	9	3		2	2	
Location						
Rectal	114	67	0.009	42	43	0.883
Anal	168	56		52	51	
Stage						
Localized	171	34	0.000	39	34	0.124
Regional	56	60		30	43	
Distant	55	29		25	17	
Chemotherapy						
Yes	47	24	0.000	19	16	0.574
No or unknown	236	99		75	78	