Parameter	<b>Before Matching</b>			After Matching		
	Surgery	No surgery	P value	Surgery	No surgery	P value
Age,years						
<78	333	78	0.024	75	68	0.284
≥78	100	39		27	34	
Sex						
Male	172	48	0.799	39	40	0.885
Female	261	69		63	62	
Race						
White	367	99	0.337	91	85	0.464
Black	24	10		6	10	
Asian	42	8		5	7	
Marital status						
Married	252	60	0.076	39	55	0.012
Never Married	48	15		7	11	
Previously Married	121	33		52	29	
Unknown	12	9		4	7	
Location						
Rectal	189	85	0.000	68	70	0.765
Anal	244	32		34	32	
Stage						
Localized	215	30	0.000	24	30	0.244
Regional	125	15		24	15	
Distant	93	72		54	57	
Chemotherapy						
Yes	76	36	0.000	25	25	1.000
No or unknown	357	81		77	77	

## Supplementary Table 2 Baseline Characteristics of surgery treatment before and after Propensity-Score Matching