Article

Survival Comparisons between Breast Conservation Surgery and Mastectomy Followed by Postoperative Radiotherapy in Stage I-III Breast Cancer Patients: Analysis of the Surveillance, Epidemiology, and End Results (Seer) Program Database

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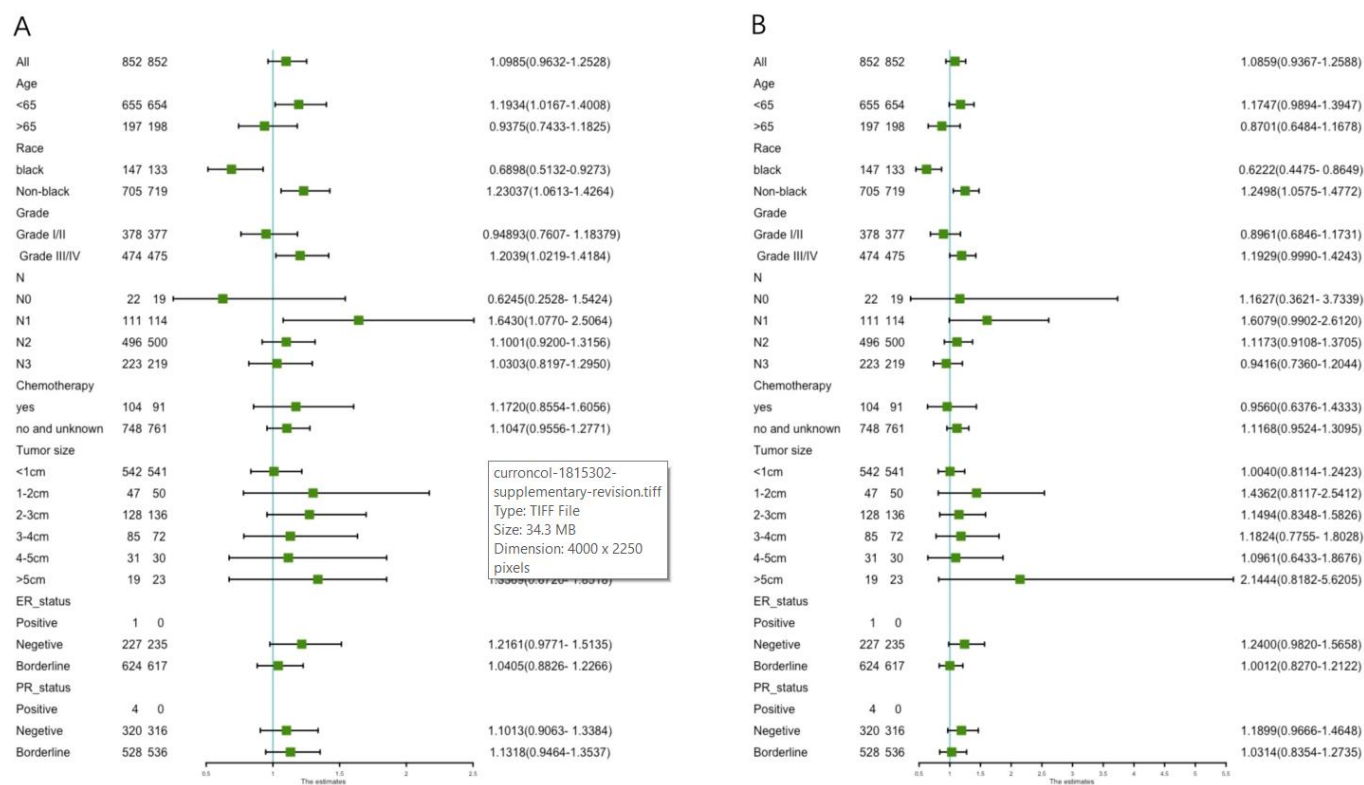**Supplementary Table S1.** Univariate and multivariate analysis of OS for I-III patients.

Variables	Univariable Cox		Multivariable Cox	
	HR	P	HR	P
age				
<65	control group		control group	
>65	2.317(2.194-2.447)	<0.001	2.6248(2.4718-2.7872)	<0.001
race				
black	control group		control group	
white	0.6082(0.5640-0.6559)	<0.001	0.6841(0.6336-0.7387)	<0.001
other	0.5498(0.4833-0.6254)	<0.001	0.6160(0.5412- 0.7012)	<0.001
Histologic_Type				
duct carcinoma	control group		control group	
Lobular carcinoma	1.1647(1.0569- 1.2840)	0.002	1.0470(0.9449-1.1601)	0.38
other	0.9674(0.9007-1.0390)	0.362	0.9500(0.8837-1.0212)	0.164
Grade				
I	control group		control group	
II	1.484 (1.352-1.629)	<0.001	1.2037(1.0943-1.3241)	<0.001
III	2.568(2.346 -2.811)	<0.001	1.6317(1.4759- 1.8041)	<0.001
IV	2.458(2.002-3.018)	<0.001	1.5926(1.2915-1.9640)	<0.001
Laterality				
left	control group		control group	
right	0.9607(0.9105-1.014)	0.144	0.9923(0.9403-1.0472)	0.779
others	1.8425(0.4606-7.371)	0.388	3.1303(0.7652-12.8055)	0.112
Stage				
I	control group		control group	
II	1.743 (1.617-1.878)	<0.001	1.1380(0.9991-1.2962)	0.052
III	4.046(3.777 -4.334)	<0.001	1.2690(1.0446-1.5417)	0.016
T				
T0	control group		control group	
T1	0.6077(0.2526-1.462)	0.266	1.2525(0.5120-3.0641)	0.622
T2	1.2425(0.5165-2.989)	0.628	1.9178(0.7851-4.6848)	0.153
T3	1.7341(0.7197-4.178)	0.22	2.3919(0.9762-5.8604)	0.056
T4	3.2003(1.3272-7.717)	0.01	3.1676(1.2932-7.7591)	0.012
N				
N0	control group		control group	
N1	1.787(1.667 -1.915)	<0.001	1.5820(1.4227-1.7591)	<0.001
N2	3.010(2.794 -3.243)	<0.001	2.2036(1.8782-2.5855)	<0.001

N3	4.851(4.477-5.257)	<0.001	3.2458(2.7680-3.8060)	<0.001
intervention				
RT after mastectomy	control group		control group	
RT after BCS	0.4335(0.4105-0.4578)	<0.001	0.8473(0.7841-0.9155)	<0.001
chemotherapy				
YES	control group		control group	
NO	0.8305(0.7858-0.8777)	<0.001	1.6588(1.5423-1.7840)	<0.001
Tumor_size				
<1cm	control group		control group	
1-2cm	1.142(1.060- 1.231)	<0.001	1.4129(1.3024 - 1.5328)	<0.001
2-3cm	1.647(1.505-1.802)	<0.001	0.9435(0.9597-1.1798)	0.239
3-4cm	2.278(2.015-2.575)	<0.001	1.3007(1.1409-1.4830)	<0.001
4-5cm	2.156(1.852-2.510)	<0.001	1.2767(1.0889-1.4968)	0.003
>5cm	2.710(2.443-3.006)	<0.001	1.0653(0.9410-1.2059)	0.318
ER_status				
positive	control group		control group	
Negetive	1.794(1.691- 1.904)	<0.001	1.3726(1.2620-1.4930)	<0.001
Borderline	1.259(0.745-2.129)	0.389	0.7407(0.4355-1.2597)	0.268
PR_status				
positive	control group		control group	
Negetive	1.712(1.621-1.809)	<0.001	1.2145(1.1265-1.3094)	<0.001
Borderline	1.908(1.402-2.596)	<0.001	1.5524(1.1374 -2.1187)	0.006

Supplementary Table S2. Univariate and multivariate analysis of BCSS for I-III patients.

Variables	Univariable Cox		Multivariable Cox	
	HR	P	HR	P
age				
<65	control group		control group	
>65	1.137(1.055-1.225)	0.001	1.532(1.412-1.662)	<0.001
race				
black	control group		control group	
white	0.547(0.500-0.598)	<0.001	0.695(0.634-0.761)	<0.001
other	0.563(0.484-0.655)	<0.001	0.635(0.545-0.739)	<0.001
Histologic_Type				
duct carcinoma	control group		control group	
Lobular carcinoma	1.058(0.935-1.197)	0.374	1.104(0.968-1.258)	0.141
other	0.921(0.841-1.007)	0.072	0.948(0.865-1.039)	0.251
Grade				
I	control group		control group	
II	2.607(2.229-3.048)	<0.001	1.633(1.394-1.915)	<0.001
III	6.007(5.164-6.988)	<0.001	2.383(2.028-2.801)	<0.001
IV	6.042(4.639-7.868)	<0.001	2.498(1.907-3.271)	<0.001
Laterality				
left	control group		control group	
right	0.939(0.878-1.004)	0.064	0.974(0.911-1.042)	0.443
others	2.875(0.719-11.506)	0.136	5.342(1.282-22.261)	0.021
Stage				
I	control group		control group	
II	3.897(3.444-4.409)	<0.001	1.780(1.482-2.136)	<0.001
III	11.289(10.056-12.672)	<0.001	2.108(1.649-2.696)	<0.001

T				
T0	control group		control group	
T1	0.496(0.160-1.542)	0.226	2.057(0.640-6.614)	0.226
T2	1.670(0.538-5.184)	0.375	3.119(0.972-10.013)	0.056
T3	2.514(0.809-7.814)	0.111	3.908(1.214-12.583)	0.022
T4	4.221(1.356-13.135)	0.013	4.784(1.486-15.397)	0.009
N				
N0	control group		control group	
N1	3.193(2.895-3.522)	<0.001	1.694(1.481-1.937)	<0.001
N2	6.124(5.538-6.772)	<0.001	2.429(2.008-2.939)	<0.001
N3	10.726(9.672-11.896)	<0.001	3.842(3.182-4.640)	<0.001
intervention				
RT after mastectomy	control group		control group	
RT after BCS	0.263(0.244-0.283)	<0.001	0.820(0.746-0.901)	<0.001
chemotherapy				
YES	control group		control group	
NO	0.372(0.343-0.404)	<0.001	1.267(1.146-1.401)	<0.001
Tumor_size				
<1cm	control group		control group	
1-2cm	1.187(1.076-1.311)	<0.001	1.560(1.398-1.741)	<0.001
2-3cm	2.152(1.932-2.399)	<0.001	1.243(1.102-1.403)	<0.001
3-4cm	3.346(2.912-3.844)	<0.001	1.619(1.397-1.875)	<0.001
4-5cm	2.937(2.463-3.502)	<0.001	1.492(1.243-1.791)	<0.001
>5cm	3.828(3.397-4.314)	<0.001	1.240(1.078-1.426)	0.003
ER_status				
positive	control group		control group	
Negetive	2.442(2.276-2.619)	<0.001	1.448(1.309-1.602)	<0.001
Borderline	1.716(0.922-3.194)	0.089	0.997(0.532-1.869)	0.992
PR_status				
positive	control group		control group	
Negetive	2.227(2.081-2.382)	<0.001	1.312(1.194-1.442)	<0.001
Borderline	2.331(1.605-3.386)	<0.001	1.865(1.279-2.719)	0.001

Supplementary Figure S1. Subgroup analysis for OS and BCSS for stage III patients. (A) Forest map for OS. (B) Forest map for BCSS.