

Supplementary Online Content

Mittendorf EA, Vila J, Tucker SL, et al. The Neo-Bioscore Update for Staging Breast Cancer Treated With Neoadjuvant Chemotherapy: Incorporation of Prognostic Biologic Factors Into Staging After Treatment. *JAMA Oncol*.

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eTable 1. Clinicopathologic factors and treatment regimens

eFigure 1. Disease-specific survival by CPS+EG stage using a cutoff of 10% to define ER positivity

eFigure 2. CPS+EG score DSS by HER2 status

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Clinicopathologic factors and treatment regimens

Variable	No. of Patients (%)
<i>Age at diagnosis, year</i>	
Mean	50
Median (range)	50 (21-87)
<i>Clinical tumor size, cm</i>	
Median	4
Range	0-20
<i>Clinical T stage</i>	
T0	16 (0.7%)
T1	201 (8.4%)
T2	1369 (57.6%)
T3	579 (24.4%)
T4	212 (8.9%)
<i>Clinical N stage</i>	
N0	890 (37.4%)
N1	1121 (47.2%)
N2	63 (2.7%)
N3	303 (12.7%)
<i>Clinical Stage</i>	
I	52 (2.2%)
IIA	732 (30.8%)
IIB	784 (33.0%)
IIIA	349 (14.7%)
IIIB	157 (6.6%)
IIIC	303 (12.7%)
<i>Pathologic tumor size, cm</i>	
Median	1.6
Range	0-25
<i>Pathologic T stage</i>	
T0/is	685 (28.8%)
T1	692 (29.1%)
T2	646 (27.2%)
T3	312 (13.1%)
T4	41 (1.7%)
Unknown	1
<i>Pathologic Nodal Status</i>	
Nx	0
N0/N0 (i+)	1317 (55.4%)
N1	602 (25.3%)
N2	295 (12.4%)
N3	163 (6.9%)
<i>Pathologic Stage</i>	
0	619 (26.0%)

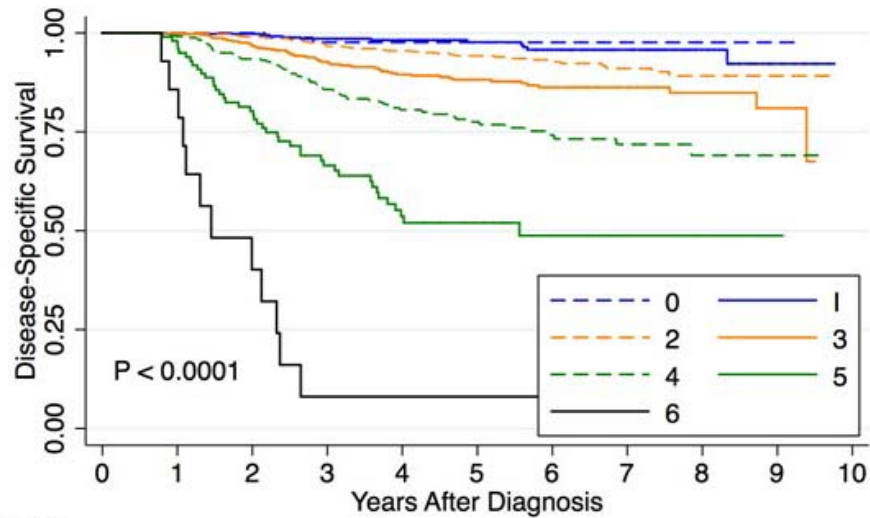
I	436 (18.4%)
IIA	458 (19.3%)
IIB	302 (12.7%)
IIIA	372 (15.6%)
IIIB	27 (1.1%)
IIIC	163 (6.9%)
<i>ER status</i>	
<1%	688 (28.9%)
1-9%	196 (8.3%)
≥10%	1493 (62.8%)
<i>HER2 status</i>	
Positive	591 (24.9%)
Negative	1786 (75.1%)
<i>Nuclear Grade</i>	
1	110 (4.6%)
2	842 (35.4%)
3	1425 (60.0%)
<i>pCR</i>	
Yes	619 (26.0%)
No	1758 (74.0%)
<i>Neoadjuvant therapy</i>	
Anthracycline-based	51 (2.1%)
Taxane-based	158 (6.6%)
Combination	2168 (91.2%)
<i>Neoadjuvant trastuzumab therapy in HER2+ patients (n=591)</i>	
Yes	591 (100%)
No	0
<i>Surgical therapy</i>	
Mastectomy	1580 (66.5%)
Lumpectomy	785 (33.0%)
Nodal surgery only	12 (0.5%)
<i>Adjuvant endocrine therapy</i>	
Yes	1473 (62.0%)
No	877 (36.9%)
Unknown	27 (1.1%)
<i>Adjuvant endocrine therapy in ER+ patients (n=1654)*</i>	
Yes	1429 (86.4%)
No	205 (12.4%)
Unknown	20 (1.2%)
<i>PMRT in patients undergoing mastectomy</i>	
Yes	1190 (75.3%)
No	377 (23.9%)

Unknown	13 (0.8%)
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* To determine use of adjuvant hormonal therapy in ER+ patients, a cutoff of ER $\geq 10\%$ was used for patients treated prior to 2010 to define ER+ tumors and $\geq 1\%$ for patients treated from 2010-2012.

Abbreviations: ER, estrogen receptor; pCR, pathologic complete response; ER, estrogen receptor; PMRT, post-mastectomy radiation therapy.

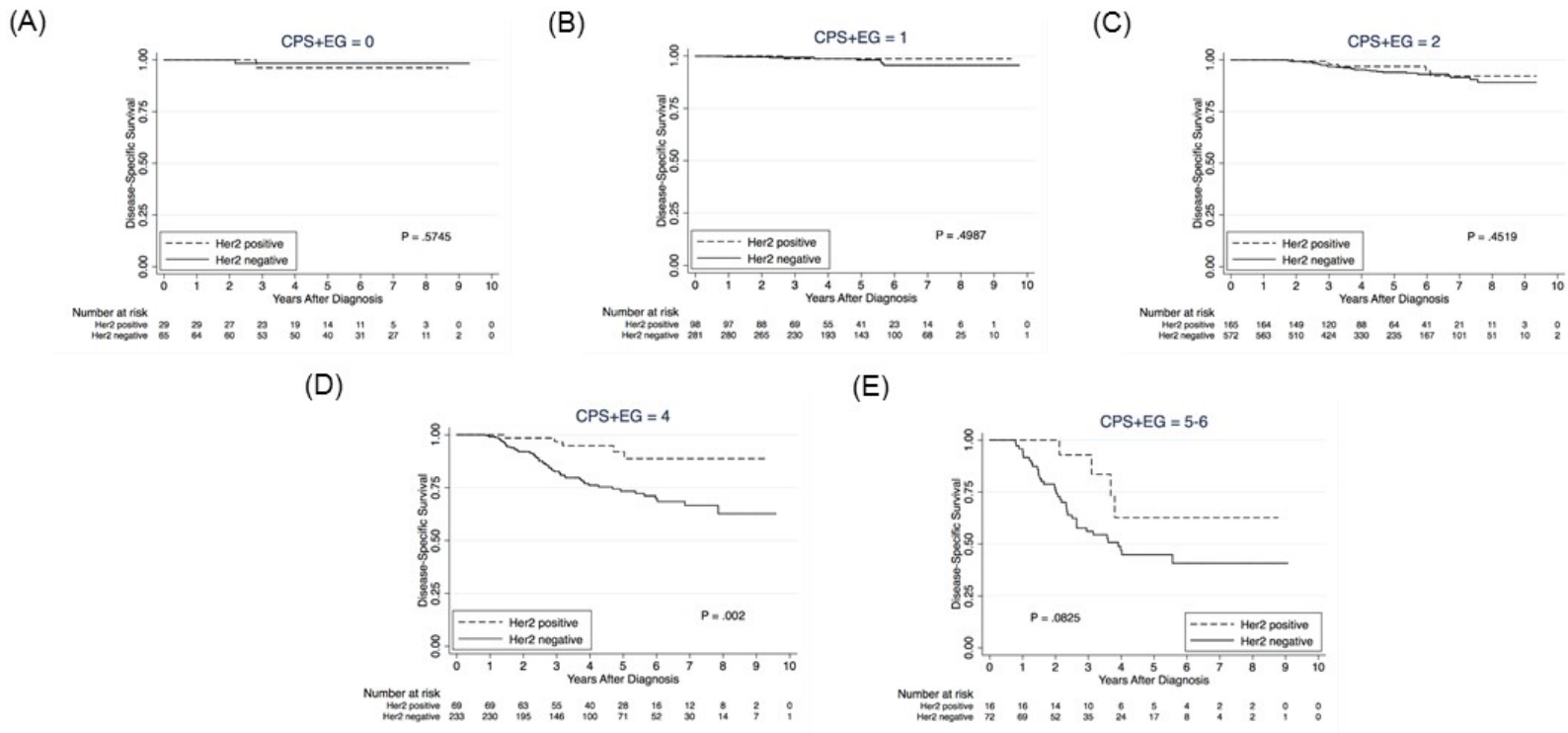
eFigure 1



Number at risk		0	1	2	3	4	5	6	7	8	9	10
Score = 0	95	94	88	76	67	52	40	31	14	2	0	0
Score = 1	387	385	361	301	247	185	130	86	32	10	1	1
Score = 2	809	796	718	587	452	316	213	126	65	14	3	3
Score = 3	629	625	553	426	311	228	155	92	46	14	2	2
Score = 4	344	339	293	226	160	111	74	44	23	9	1	1
Score = 5	99	97	75	53	34	23	12	6	4	1	0	0
Score = 6	14	12	5	1	1	1	1	0	0	0	0	0

Disease-specific survival in breast cancer patients receiving neoadjuvant chemotherapy determined based on the CPS+EG staging system using a 10% cutoff for ER-positivity.

eFigure 2



Disease-specific survival in breast cancer patients receiving neoadjuvant chemotherapy determined based on the CPS+EG staging system stratified by HER2 status within each score.