

Figure S1 Distribution of propensity scores. Unmatched Treated Units, matching failed patients receiving CPM; CPM, contralateral prophylactic mastectomy; Matched Treated Units, matching successful patients receiving CPM; Matched Control Units, matching successful patients receiving UM; UM, unilateral mastectomy; Unmatched Control Units, matching failed patients receiving UM.

Table S1 The baseline characteristics of the patients in CPM group and UM group after PSM

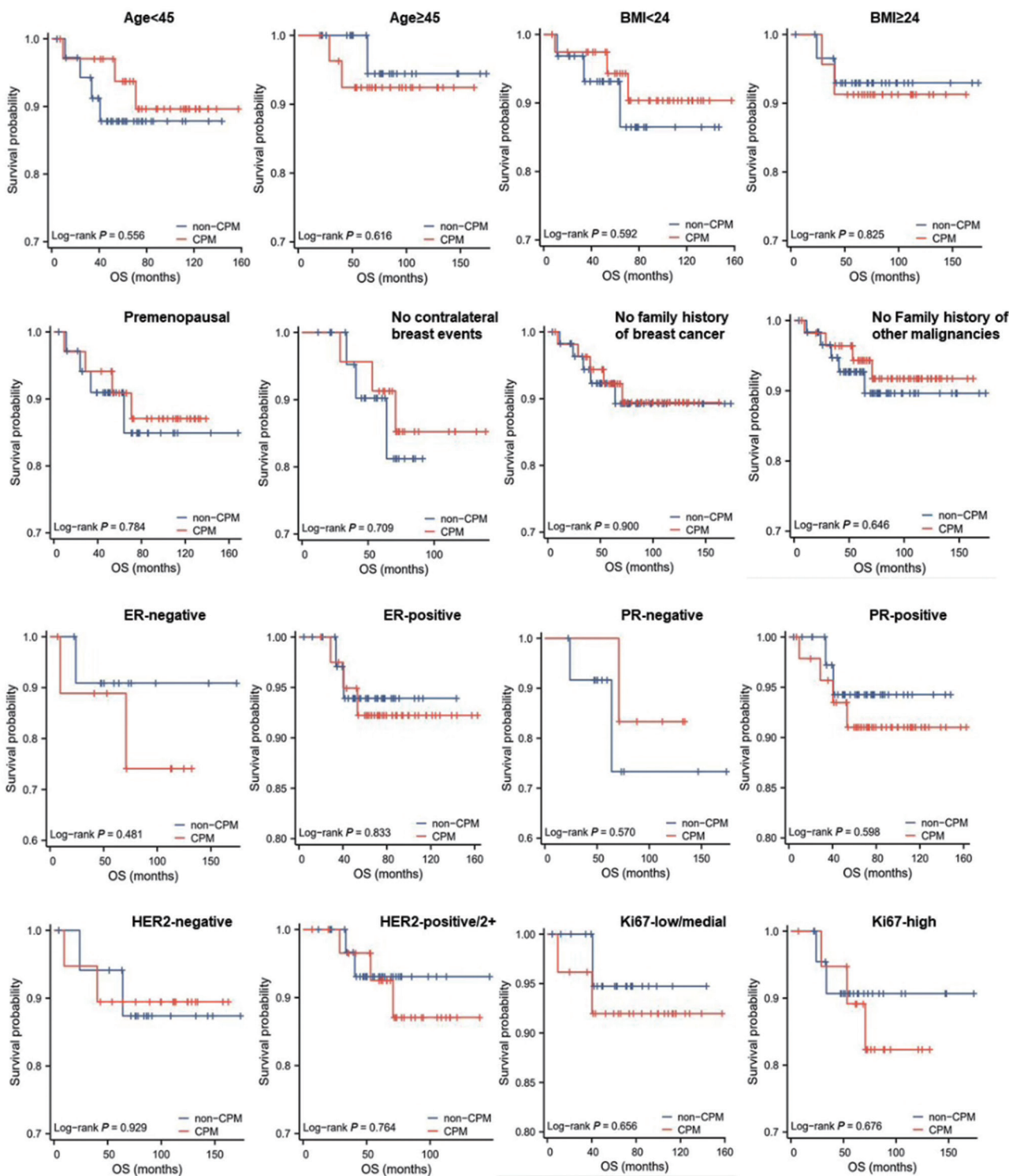
Patient characteristics	CPM (n=64)	UM (n=64)	P value
Age (years)			0.859
<45	36 (56.3%)	37 (57.8%)	
≥45–<60	22 (34.4%)	23 (35.9%)	
≥60	6 (9.4%)	4 (6.3%)	
BMI (kg/m ²)			0.568
<18.5	4 (6.3%)	2 (3.1%)	
≥18.5–<24	36 (56.3%)	30 (46.9%)	
≥24–<28	19 (29.7%)	24 (37.5%)	
≥28	5 (7.8%)	7 (10.9%)	
Unknown	0 (0.0%)	1 (1.6%)	
Menopausal state			0.638
Premenopausal	7 (10.9%)	10 (15.6%)	
Postmenopausal	35 (54.7%)	36 (56.3%)	
Unknown	22 (34.4%)	18 (28.1%)	
Family history of breast cancer			0.778
Yes	8 (12.5%)	6 (9.4%)	
No	56 (87.5%)	58 (90.6%)	
Family history of other malignancies			0.492
Yes	6 (9.4%)	3 (4.7%)	
No	61 (95.3%)	61 (95.3%)	
Contralateral breast events			0.639
0	23 (35.9%)	26 (40.6%)	
2	1 (1.6%)	0 (0.0%)	
3	12 (18.8%)	10 (15.6%)	
4	5 (7.8%)	2 (3.1%)	
Unknown	23 (35.9%)	26 (40.6%)	
ER			0.907
Positive	41 (64.1%)	39 (60.9%)	
Negative	10 (15.6%)	12 (18.8%)	
Unknown	13 (20.3%)	13 (20.3%)	
PR			0.215
Positive	48 (75.0%)	41 (64.1%)	
Negative	6 (9.4%)	13 (20.3%)	
Unknown	10 (15.6%)	10 (15.6%)	

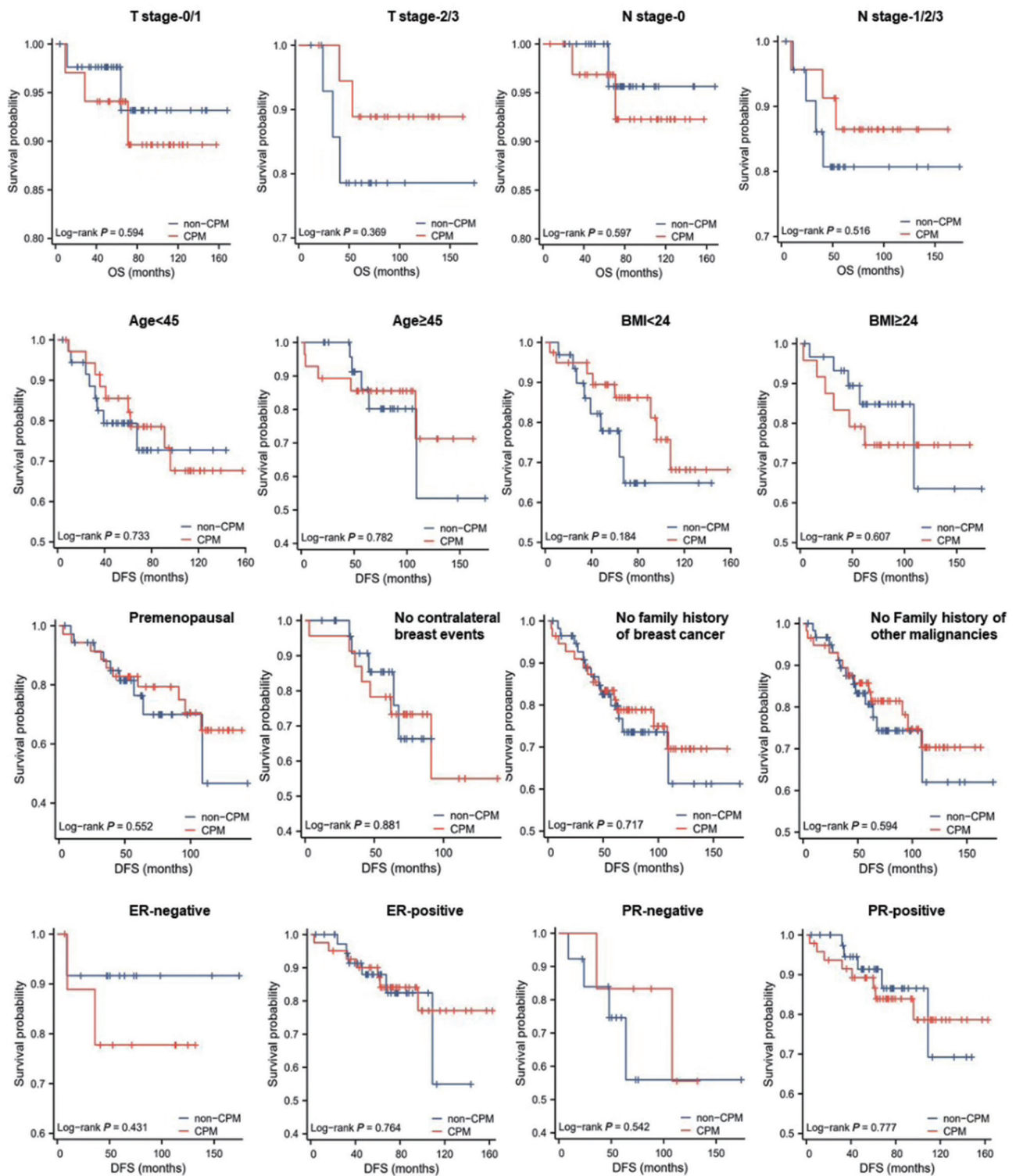
Table S1 (continued)

Table S1 (continued)

Patient characteristics	CPM (n=64)	UM (n=64)	P value
HER2			0.598
Positive	12 (18.8%)	9 (14.1%)	
Negative	19 (29.7%)	18 (28.1%)	
2+	19 (29.7%)	26 (40.6%)	
Unknown	14 (21.9%)	11 (17.2%)	
Ki67			0.179
Low	10 (15.6%)	3 (4.7%)	
Medial	16 (25.0%)	21 (32.8%)	
High	20 (31.3%)	24 (37.5%)	
Unknown	18 (28.1%)	16 (25.0%)	
Grade			0.298
1	4 (6.3%)	0 (0.0%)	
2	28 (43.8%)	31 (48.4%)	
3	7 (10.9%)	7 (10.9%)	
Unknown	25 (39.1%)	26 (40.6%)	
T stage			0.371
0	10 (15.6%)	11 (17.2%)	
1	25 (39.1%)	32 (50.0%)	
2	17 (26.6%)	16 (25.0%)	
3/4	2 (3.1%)	0 (0.0%)	
Unknown	10 (15.6%)	5 (7.8%)	
N stage			>0.999
0	35 (54.7%)	35 (54.7%)	
1	13 (20.3%)	14 (21.9%)	
2	6 (9.4%)	7 (10.9%)	
3	4 (6.3%)	3 (4.7%)	
Unknown	6 (9.4%)	5 (7.8%)	
TNM stage			0.902
0	10 (15.6%)	9 (14.1%)	
1	17 (26.6%)	18 (28.1%)	
2	15 (23.4%)	17 (26.6%)	
3	8 (12.5%)	10 (15.6%)	
Unknown	14 (21.9%)	10 (15.6%)	
Status			>0.999
Alive	58 (90.6%)	59 (92.2%)	
Death	6 (9.4%)	5 (7.8%)	

2+: immunohistochemistry indicated a staining strength of 2+, but no fluorescence *in situ* hybridization test results were available. CPM, contralateral prophylactic mastectomy; UM, unilateral mastectomy; PSM, propensity score matching; BMI, body mass index; ER, estrogen receptor; PR, progesterone receptor; HER2, human epidermal growth factor receptor 2; TNM, tumor-node-metastasis.





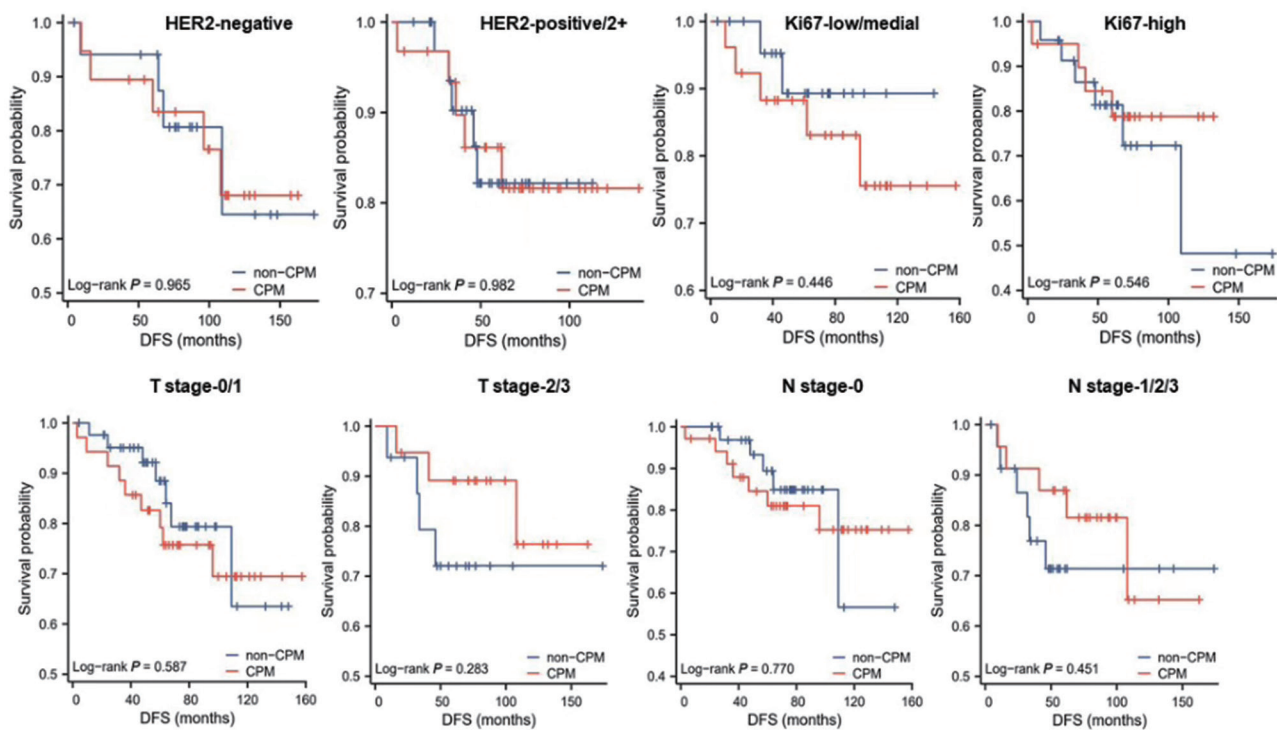


Figure S2 OS and DFS of subgroup of CPM and non-CPM procedures after PSM. CPM, contralateral prophylactic mastectomy; non-CPM, including SM and NSM; SM, simple mastectomy; NSM, nipple-sparing mastectomy; OS, overall survival; BMI, body mass index; ER, estrogen receptor; PR, progesterone receptor; HER2, human epidermal growth factor receptor 2; DFS, disease-free survival; PSM, propensity score matching.

Table S2 Satisfaction of patients receiving CPM and the impact of CPM on quality of life

Factors	Number	Proportion
The identity of the proposer		
Doctors	31	42.5%
Patients themselves or their families	28	38.4%
Unknown	14	19.2%
Overall satisfaction		
Very satisfied	52	71.2%
Basic satisfaction	10	13.7%
Dissatisfaction	0	0.0%
Regret to receive CPM	2	2.7%
Unknown	9	12.3%
Appearance satisfaction		
Very satisfied	24	32.9%
Basic satisfaction	27	37.0%
Dissatisfaction	10	13.7%
Regret to receive CPM	2	2.7%
Unknown	10	13.7%
Upper limb edema		
Yes	6	8.2%
No	56	76.7%
Unknown	11	15.1%
Impact on family emotional life		
Unaffected	56	76.7%
Mildly affected	4	5.5%
Moderately affected	0	0.0%
Severe impact	2	2.7%
Unknown	11	15.1%
Impact on sexual life		
Unaffected	29	39.7%
Mildly affected	3	4.1%
Moderately affected	2	2.7%
Severe impact	0	0.0%
Unknown	39	53.4%

Table S2 (continued)

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Factors	Number	Proportion
Impact on work situation		
Unaffected	54	74.0%
Mildly affected	5	6.8%
Moderately affected	3	4.1%
Severe impact	1	1.4%
Unknown	10	13.7%
Impact on social activities		
Unaffected	56	76.7%
Mildly affected	2	2.7%
Moderately affected	3	4.1%
Severe impact	0	0.0%
Unknown	12	16.4%
Impact on physical labor		
Unaffected	42	57.5%
Mildly affected	13	17.8%
Moderately affected	7	9.6%
Severe impact	0	0.0%
Unknown	11	15.1%
Impact on daily exercise		
Unaffected	52	71.2%
Mildly affected	5	6.8%
Moderately affected	4	5.5%
Severe impact	0	0.0%
Unknown	12	16.4%

CPM, contralateral prophylactic mastectomy.