

Supplementary Information

Real-World Tumor Response of Palbociclib in Combination With an Aromatase Inhibitor as First-Line Therapy in Pre/Perimenopausal Women With Metastatic Breast Cancer

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Online Resource 1. Baseline characteristics used for propensity scoring among patients with ≥ 1 tumor assessment before and after PSM

Characteristic, n (%)	Before PSM			After PSM		
	Palbociclib + AI (n=103)	AI Monotherapy (n=71)	Standardized Mean Difference ^a	Palbociclib + AI (n=51)	AI Monotherapy (n=51)	Standardized Mean Difference ^a
Age, years						
<30	0	0		0	0	
30–44	41 (39.8)	29 (40.8)	0.0212	17 (33.3)	23 (45.1)	0.2427
≥ 45	62 (60.2)	42 (59.2)	-0.0212	34 (66.7)	28 (54.9)	-0.2427
Mean (SD)	45.8 (6.4)	46.1 (7.2)	0.0428	46.4 (6.6)	45.7 (6.9)	-0.1013
Median (min, max)	46.0 (31.0, 58.0)	46.0 (30.0, 60.0)		48.0 (31.0, 58.0)	45.0 (30.0, 60.0)	
Race						
Black	12 (11.7)	9 (12.7)	0.0314	8 (15.7)	8 (15.7)	0.0000
White	68 (66.0)	48 (67.6)	0.0337	32 (62.7)	33 (64.7)	0.0408
Not reported/unknown	23 (22.3)	14 (19.7)	-0.0641	11 (21.6)	10 (19.6)	-0.0485
BMI ≥ 25 kg/m ²						
Yes	68 (66.0)	37 (52.1)	-0.2857	28 (54.9)	31 (60.8)	0.1193
No	28 (27.2)	24 (33.8)	0.1441	17 (33.3)	15 (29.4)	-0.0846
Unknown	7 (6.8)	10 (14.1)	0.2401	6 (11.8)	5 (9.8)	-0.0632
Disease site						
Visceral ^b	33 (32.0)	23 (32.4)	0.0076	17 (33.3)	16 (31.4)	-0.0419
Non-visceral	40 (38.8)	17 (23.9)	-0.3251	16 (31.4)	16 (31.4)	0.0000
Bone only ^c	30 (29.1)	31 (43.7)	0.3056	18 (35.3)	19 (37.3)	0.0408
Number of metastatic sites						
1	28 (27.2)	28 (39.4)	0.2622	16 (31.4)	18 (35.3)	0.0833
2	39 (37.9)	18 (25.4)	-0.2716	14 (27.5)	16 (31.4)	0.0861
≥ 3	36 (35.0)	25 (35.2)	0.0054	21 (41.2)	17 (33.3)	-0.1628
Stage at diagnosis						
Stage I	21 (20.4)	9 (12.7)	-0.2087	8 (15.7)	7 (13.7)	-0.0554
Stage II	36 (35.0)	25 (35.2)	0.0054	21 (41.2)	19 (37.3)	-0.0804
Stage III	17 (16.5)	16 (22.5)	0.1526	7 (13.7)	8 (15.7)	0.0554
Stage IV	26 (25.2)	18 (25.4)	0.0025	13 (25.5)	14 (27.5)	0.0445

Unknown	3 (2.9)	3 (4.2)	0.0708	2 (3.9)	3 (5.9)	0.0909
ECOG PS						
0	33 (32.0)	24 (33.8)	0.0375	21 (41.2)	17 (33.3)	-0.1628
1	36 (35.0)	22 (31.0)	-0.0844	15 (29.4)	16 (31.4)	0.0426
≥2	7 (6.8)	7 (9.9)	0.1110	4 (7.8)	6 (11.8)	0.1322
Unknown	27 (26.2)	18 (25.4)	-0.0197	11 (21.6)	12 (23.5)	0.0469
Prior neo/adjuvant chemotherapy						
Yes	43 (41.7)	32 (45.1)	0.0671	18 (35.3)	22 (43.1)	0.1612
No	60 (58.3)	39 (54.9)	-0.0671	33 (64.7)	29 (56.9)	-0.1612
Disease-free interval						
<12 months	48 (46.6)	29 (40.8)	-0.1163	22 (43.1)	20 (39.2)	-0.0797
≥12 months	13 (12.6)	16 (22.5)	0.2627	7 (13.7)	11 (21.6)	0.2068
De novo metastatic	30 (29.1)	19 (26.8)	-0.0527	15 (29.4)	15 (29.4)	0.0000
Unknown	12 (11.7)	7 (9.9)	-0.0578	7 (13.7)	5 (9.8)	-0.1219

AI=aromatase inhibitor; BMI=body mass index; ECOG PS=Eastern Cooperative Oncology Group performance status; PSM=propensity score matching.

^aStandardized mean differences <0.1 were considered indicative of acceptable balance.

^bVisceral includes liver, lung, and pleura.

^cBone only includes, bone, bone marrow, pelvis, ribs, skull, and spine.

Online Resource 2. Baseline characteristics used for propensity scoring in the overall analysis set before and after PSM

Characteristic, n (%)	Before PSM			After PSM		
	Palbociclib + AI (n=116)	AI Monotherapy (n=80)	Standardized Mean Difference ^a	Palbociclib + AI (n=62)	AI Monotherapy (n=62)	Standardized Mean Difference ^a
Age, years						
<30	2 (1.7)	0	-0.1873	2 (3.2)	0	-0.2582
30–44	45 (38.8)	29 (36.3)	-0.0525	25 (40.3)	23 (37.1)	-0.0663
≥45	69 (59.5)	51 (63.8)	0.0878	35 (56.5)	39 (62.9)	0.1318
Mean (SD)	45.5 (7.0)	46.8 (7.2)	0.1876	45.6 (7.4)	46.5 (7.1)	0.1264
Median (min, max)	46.0 (26.0, 58.0)	47.5 (30.0, 60.0)		46.0 (26.0, 58.0)	47.5 (33.0, 60.0)	
Race						
Black	14 (12.1)	9 (11.3)	-0.0255	9 (14.5)	9 (14.5)	0.0000
White	76 (65.5)	55 (68.8)	0.0689	38 (61.3)	39 (62.9)	0.0333
Not reported/unknown	26 (22.4)	16 (20.0)	-0.0591	15 (24.2)	14 (22.6)	-0.0381
BMI ≥25 kg/m ²						
Yes	75 (64.7)	41 (51.3)	-0.2741	33 (53.2)	35 (56.5)	0.0649
No	33 (28.4)	26 (32.5)	0.0881	21 (33.9)	19 (30.6)	-0.0690
Unknown	8 (6.9)	13 (16.3)	0.2956	8 (12.9)	8 (12.9)	0.0000
Disease site						
Visceral ^b	43 (37.1)	29 (36.3)	-0.0170	24 (38.7)	26 (41.9)	0.0658
Non-visceral	42 (36.2)	17 (21.3)	-0.3352	16 (25.8)	16 (25.8)	0.0000
Bone only ^c	31 (26.7)	34 (42.5)	0.3363	22 (35.5)	20 (32.3)	-0.0682
Number of metastatic sites						
1	31 (26.7)	30 (37.5)	0.2323	21 (33.9)	20 (32.3)	-0.0343
2	42 (36.2)	20 (25.0)	-0.2450	17 (27.4)	14 (22.6)	-0.1119
≥3	43 (37.1)	30 (37.5)	0.0089	24 (38.7)	28 (45.2)	0.1310
Stage at diagnosis						
Stage I	22 (19.0)	9 (11.3)	-0.2167	8 (12.9)	9 (14.5)	0.0469
Stage II	38 (32.8)	26 (32.5)	-0.0055	21 (33.9)	23 (37.1)	0.0675
Stage III	21 (18.1)	21 (26.3)	0.1970	14 (22.6)	13 (21.0)	-0.0391
Stage IV	30 (25.9)	20 (25.0)	-0.0198	16 (25.8)	15 (24.2)	-0.0373

Unknown	5 (4.3)	4 (5.0)	0.0327	3 (4.8)	2 (3.2)	-0.0821
ECOG PS						
0	34 (29.3)	27 (33.8)	0.0957	21 (33.9)	21 (33.9)	0.0000
1	42 (36.2)	24 (30.0)	-0.1322	19 (30.6)	19 (30.6)	0.0000
≥2	8 (6.9)	9 (11.3)	0.1520	7 (11.3)	6 (9.7)	-0.0527
Unknown	32 (27.6)	20 (25.0)	-0.0588	15 (24.2)	16 (25.8)	0.0373
Prior neo/adjuvant chemotherapy						
Yes	50 (43.1)	36 (45.0)	0.0382	27 (43.5)	26 (41.9)	-0.0326
No	66 (56.9)	44 (55.0)	-0.0382	35 (56.5)	36 (58.1)	0.0326
Disease-free interval						
<12 months	54 (46.6)	32 (40.0)	-0.1325	26 (41.9)	24 (38.7)	-0.0658
≥12 months	14 (12.1)	18 (22.5)	0.2785	11 (17.7)	14 (22.6)	0.1208
De novo metastatic	35 (30.2)	22 (27.5)	-0.0590	16 (25.8)	16 (25.8)	0.0000
Unknown	13 (11.2)	8 (10.0)	-0.0392	9 (14.5)	8 (12.9)	-0.0469

AI=aromatase inhibitor; BMI=body mass index; ECOG PS=Eastern Cooperative Oncology Group performance status; PSM=propensity score matching.

^aStandardized mean differences <0.1 were considered indicative of acceptable balance.

^bVisceral includes liver, lung and pleura.

^cBone only includes, bone, bone marrow, pelvis, ribs, skull and spine.

Online Resource 3. Real-world PSM-adjusted response rates

	PS-Matched Patients With ≥ 1 Tumor Assessment		All PS-Matched Patients	
	Palbociclib + AI	AI Monotherapy	Palbociclib + AI	AI Monotherapy
Tumor response adjusted by PSM				
n	51	51	62	62
rwRR, CR + PR, n (%)	29 (56.9)	23 (45.1)	30 (48.4)	27 (43.5)
95% CI ^a	43.3, 69.5	32.3, 58.6	36.4, 60.6	31.9, 55.9
Comparison vs AI monotherapy				
Odds ratio ^b	1.605	-	1.215	-
95% CI ^b	0.684, 3.776	-	0.564, 2.618	-
2-sided <i>P</i> value ^b	0.3220	-	0.7187	-

AI=aromatase inhibitor; CMH=Cochran-Mantel-Haenszel; CR=complete response; PR=partial response; PS=propensity score; PSM=propensity score matching; rwRR=real-world response rate.

^aBased on the Wilson score method.

^bBased on the CMH method.

Online Resource 4. Real-world tumor responses adjusted by propensity score matching. Percentage of patients with real-world best tumor response for PS-matched patients with ≥ 1 tumor assessment (**A**) and all PS-matched patients (**B**). AI=aromatase inhibitor; PS=propensity score.

