

Primary results of the randomised phase IV trial comparing first-line ET plus palbociclib vs standard mono-chemotherapy in women with high risk HER2-/HR+ metastatic breast cancer and indication for chemotherapy - PADMA study

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on behalf of the PADMA investigators



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Disclosure Information

Sibylle Loibl

I have the following relevant financial relationships to disclose:

Employee of: GBG Forschungs GmbH (German Breast Group)

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Background

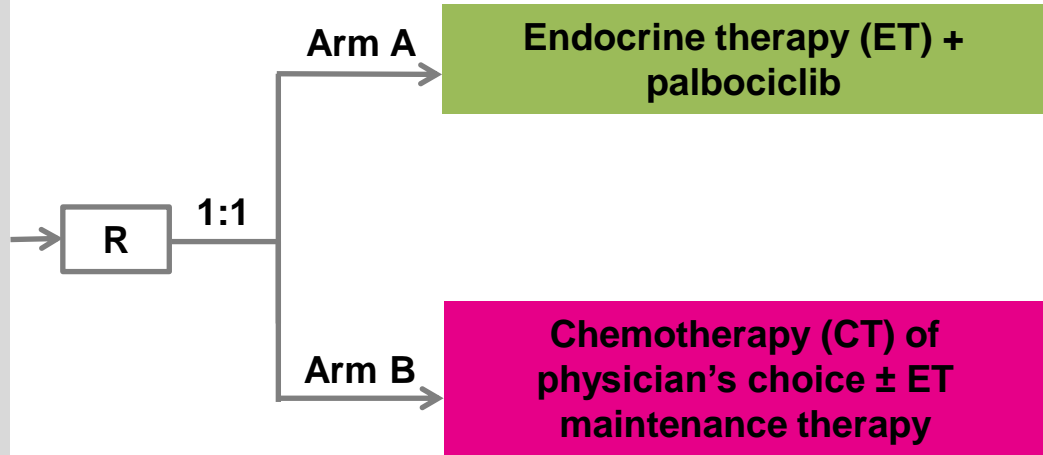
- International guidelines have recommended endocrine treatment (ET) with CDK4/6i as 1st line treatment in HR+/HER2- metastatic breast cancer (mBC) for several years.
- Due to the lack of prospective data comparing ET with standard-of-care chemotherapy in this setting, many patients still received chemotherapy as 1st line treatment for HR+/HER2- mBC when the PADMA trial was initiated.
- The PADMA study (NCT03355157; GBG 93) is the first prospective, randomized, open-label, multi-center, phase IV trial to compare CDK4/6 inhibitor + ET with standard mono-chemotherapy +/- maintenance ET as first-line therapy in patients with high-risk mBC and a chemotherapy indication.

PADMA Study Design

Patient Population

N=150

- HR-positive/HER2-negative
- Female or male
- Indication for mono-chemotherapy
- No prior treatment for metastatic/relapsed disease
- No asymptomatic bone-only, oligo-metastatic disease
- No uncontrolled/untreated CNS metastases
- Live-expectancy >6 months



Stratification:

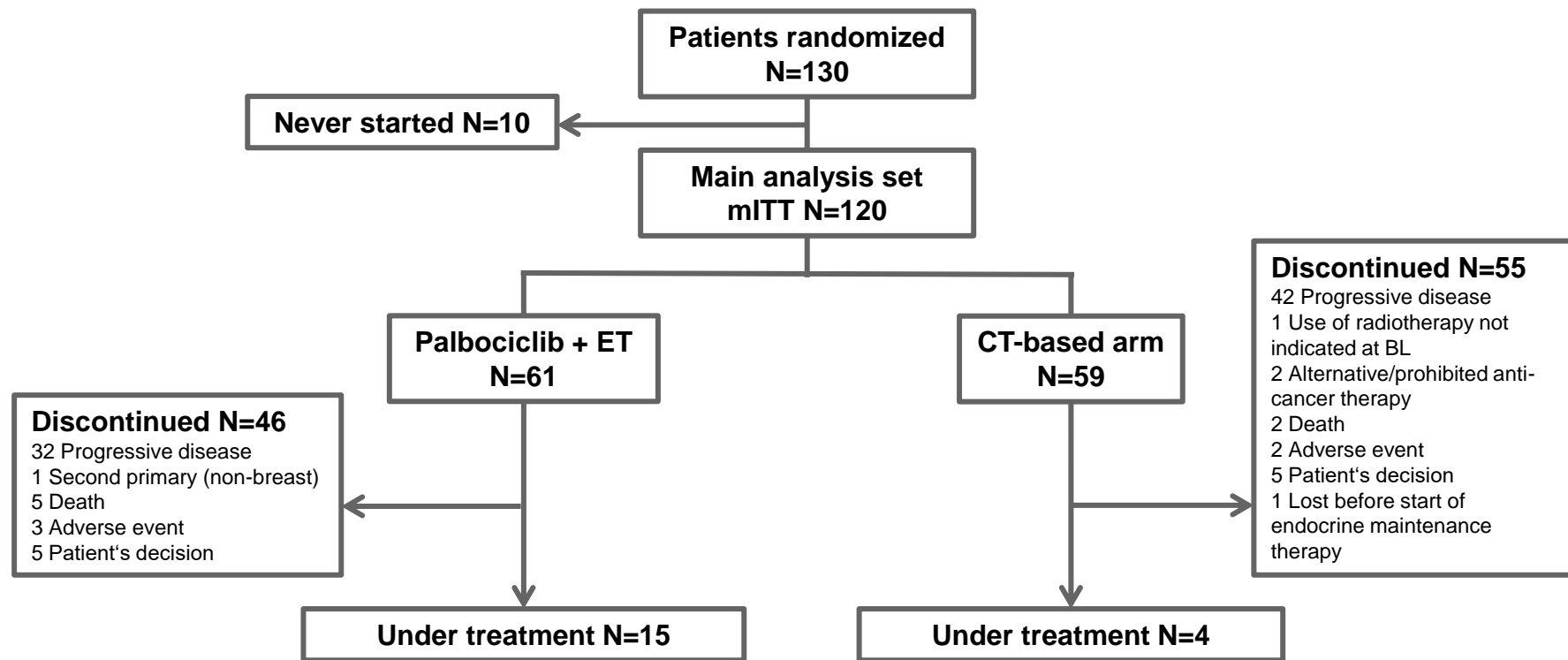
- Endocrine resistant vs endocrine sensitive
- Symptomatic vs asymptomatic metastatic disease

ET with palbociclib: AI or fulvestrant ± GnRHa
ET maintenance: tamoxifen, AI or fulvestrant ± GnRHa
CT: paclitaxel, capecitabine, epirubicin, or vinorelbine

Study Endpoints

- **Primary endpoint:**
 - Time-to-treatment failure (TTF) defined as time from randomization to discontinuation of treatment due to disease progression, treatment toxicity, patient's preference, or death.
- **Secondary endpoints:**
 - Progression-free survival (PFS)
 - Overall survival (OS)
 - Safety, tolerability, treatment compliance
 - Time-to-first subsequent treatment (TFST) and further time-to-event endpoints
 - Patient-reported QoL
 - Daily Monitoring of Treatment Impact (DMTI): call tracking/geofencing with passive collection of information about frequency and duration of phone calls/visits to study site, respectively

Study Treatment and Analysis Populations



Baseline Characteristics

	Palbociclib+ET N=61	CT-based N=59	Overall N=120
Median age in years (range)	63 (42.0-85.0)	62 (31.0-80.0)	62 (31.0-85.0)
Postmenopausal status	54 (88.5%)	52 (88.1%)	106 (88.3%)
Liver metastases	28 (45.9%)	22 (37.3%)	50 (41.7%)
Endocrine resistant*	17 (27.9%)	21 (35.6%)	38 (31.7%)
Metastasis at initial diagnosis	20 (33.3%)	24 (40.7%)	44 (37.0%)
Prior (neo)adjuvant CT	29 (47.5%)	25 (42.4%)	54 (45.0%)
HER2-low (IHC 1-2)**	41 (73.2%)	30 (58.8%)	71 (66.4%)
Pathogenic variants (tissue)***			
- <i>PIK3CA</i>	11 (18.0%)	16 (27.1%)	27 (22.5%)
- <i>BRCA1/2</i>	3 (4.9%)	4 (6.8%)	7 (5.8%)
- <i>ESR1</i>	1 (1.6%)	1 (1.7%)	2 (1.7%)

* According to clean data; endocrine resistant = relapse on or within 12 months of end of adjuvant ET

** From metastasis (N=47), otherwise if available from initial diagnosis (N=24)

*** Tested in 81 patients.

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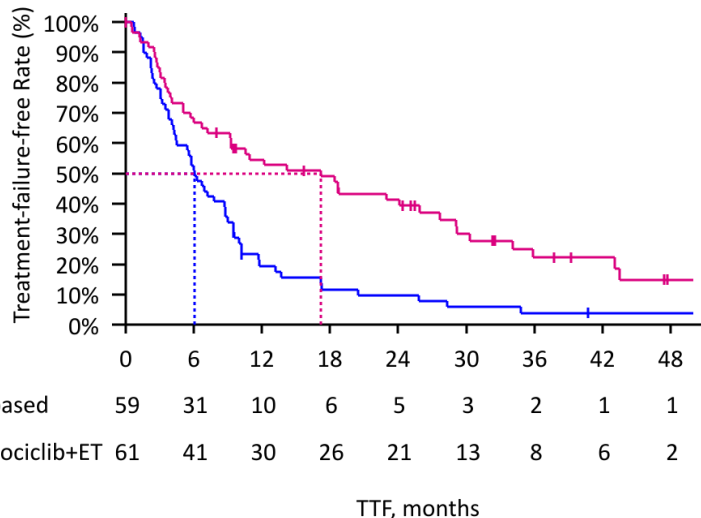
Study Treatment as Treated

	Palbociclib+ET N=62*	CT-based N=58
Type of treatment of physician's choice CT		
- Capecitabine	-	40 (69.0%)
- Paclitaxel	-	17 (29.3%)
- Vinorelbine	-	1 (1.7%)
Received ET maintenance post CT	-	13 (22.4%)
Type of ET**		
- Aromatase inhibitor	48 (77.4%)	9 (15.5%)
- Tamoxifen	-	3 (5.2%)
- Fulvestrant	14 (22.6%)	1 (1.7%)
Median duration palbociclib or CT, weeks (range)	51.0 (1.0-322.0)	19.5 (2.0-122.0)

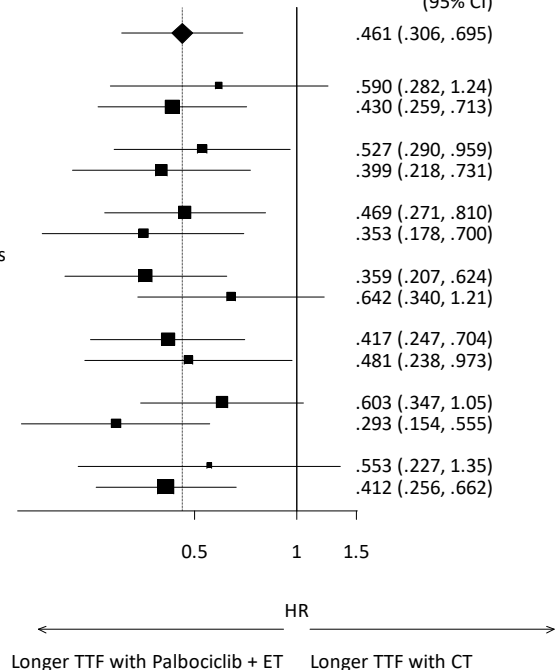
*one patient randomized to CT-based arm received palbociclib + ET.

**pre- or perimenopausal women receiving AI or fulvestrant required GnRH analogue or ovarian ablation.

Primary Endpoint



Subgroup	N patients	Hazard Ratio (95% CI)	p-Value	Test for Interaction
Overall	120	.461 (.306, .695)	<.001	
Response to ET				0.430
Hormone resistant	38	.590 (.282, 1.24)	0.162	
Hormone sensitive	82	.430 (.259, .713)	0.001	
Symptoms				0.572
symptomatic	54	.527 (.290, .959)	0.036	
asymptomatic	66	.399 (.218, .731)	0.003	
Liver metastases				0.144
no	70	.469 (.271, .810)	0.007	
yes	50	.353 (.178, .700)	0.003	
Number of systems with metastases				0.230
1/2	75	.359 (.207, .624)	<.001	
>2	45	.642 (.340, 1.21)	0.170	
Metastasis at primary diagnosis				0.799
M0	76	.417 (.247, .704)	0.001	
M1	44	.481 (.238, .973)	0.042	
Prior chemotherapy in early BC				0.334
no	66	.603 (.347, 1.05)	0.073	
yes	54	.293 (.154, .555)	<.001	
HR-status in ER positive				0.544
ER+ PgR-	25	.553 (.227, 1.35)	0.192	
ER+ PgR+	94	.412 (.256, .662)	<.001	

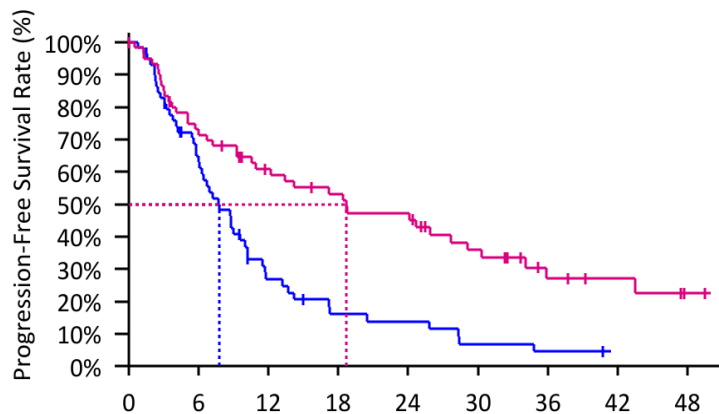


	Palbociclib + ET	CT
TTF events, N (%)	45 (73.8)	55 (93.2)
Median TTF months	17.2	6.1
HR 0.46: 95% CI (0.31-0.69), p<0.001 (log-rank)		

Median follow-up of 36.8 (range 0-74.4) months

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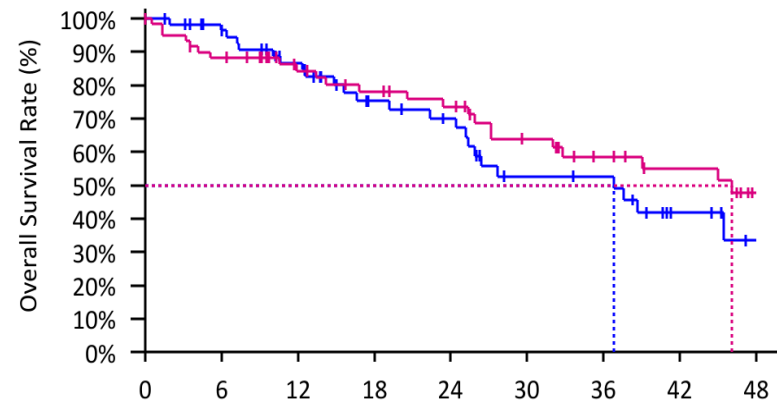
Secondary Endpoints



	0	6	12	18	24	30	36	42	48
CT based	59	35	13	7	6	3	2	1	1
Palbociclib+ET	61	43	32	27	23	15	8	6	3

PFS, months

	Palbociclib + ET	CT
PFS events, N (%)	40 (65.6)	50 (84.7)
Median PFS months	18.7	7.8
HR 0.45 95% CI (0.29-0.70), p<0.001 (log-rank)		



	0	6	12	18	24	30	36	42	48
CT based	59	52	42	29	25	16	15	7	3
Palbociclib+ET	61	52	42	37	33	25	19	15	9

Overall Survival, months

	Palbociclib + ET	CT
OS events, N (%)	25 (41.0)	24 (40.7)
Median OS months	46.1	36.8
Proportional hazard cannot be assumed		

Safety

Patients with treatment-related adverse events (TRAE)

	Palbociclib+ET N=62		CT based N=58	
	Any grade	Grades 3-4	Any grade	Grades 3-4
Any TRAE	60 (96.8%)	37 (59.7%)	55 (94.8%)	16 (27.6%)
Any hematological TRAE	60 (96.8%)	34 (54.8%)	34 (58.6%)	4 (6.9%)
Any non-hematological TRAE	51 (82.3%)	12 (19.4%)	54 (93.1%)	13 (22.4%)
Treatment-related SAE	7 (11.3%)	5 (8.1%)	6 (10.3%)	6 (10.3%)
Treatment-related death	1 (1.6%)	-	0 (0.0%)	-

- Hematological toxicity significantly higher in the palbociclib + ET arm compared to CT-based arm (96.8% vs. 58.6%; $p < 0.001$). Comparable non-hematological toxicity.
- One treatment-related death (septic shock; palbociclib + ET arm).

Conclusions

- The PADMA trial in high-risk HR+/HER2- mBC met its primary endpoint and shows a statistically significant and clinically meaningful improvement in Time To Treatment Failure and PFS for palbociclib + ET over mono-CT (± ET maintenance) as first-line therapy
 - Median TTF 17.2 vs 6.1 months ; HR 0.46, 95% CI (0.31-0.69), p<0.001
 - Median PFS 18.7 vs 7.8 months; HR 0.45, 95% CI (0.29-0.70), p<0.001
- After a median follow-up of 36.8 months there was a numerical trend for an improved OS for palbociclib + ET 46.1 vs 36.8 months
- No new safety signals were observed
- These results support existing international guidelines advocating the use of ET + CDK4/6i as standard first-line treatment of patients with HR+/HER2- mBC.

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