

Neues zum Mammakarzinom und zur gynäkologischen Onkologie

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Abteilung für Molekulare Onkologie

Klinik für Geburtshilfe und Frauengesundheit

Universitäres Centrum für Tumorerkrankungen

Universitätsmedizin Mainz

Conflict of Interest (COI)

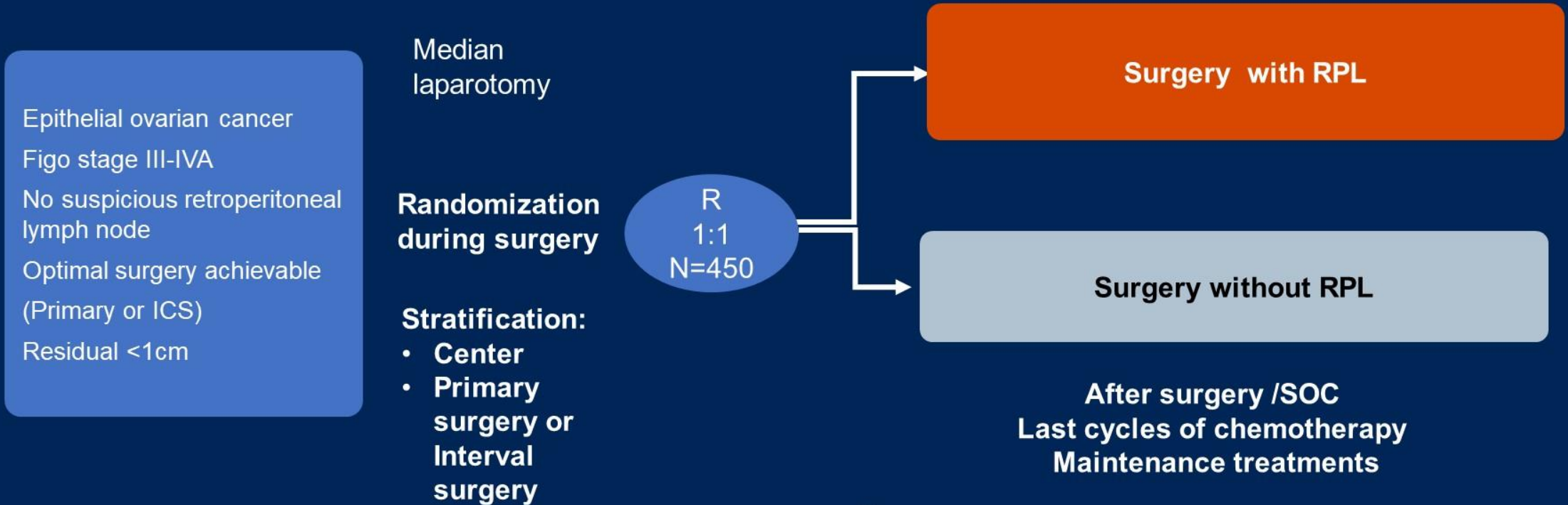
- Forschungsunterstützung:
 - AstraZeneca, BioNTech, Eisai, Genentech, Novartis, Pantarhei Bioscience, Pfizer, Pierre-Fabre, Roche, SeaGen
- Vortragsstätigkeit:
 - AstraZeneca, Daiichi Sankyo, Eisai, Gilead, Lilly, MSD, Novartis, Pfizer, Pierre Fabre, Roche, SeaGen
- Beratertätigkeit:
 - AstraZeneca, BioNTech, Daiichi Sankyo, Eisai, Gilead, Lilly, Menarini Stemline, MSD, Novartis, Pantarhei Bioscience, Pfizer, Pierre-Fabre, Roche, SeaGen

Ovarialkarzinom

Omission of lymphadenectomy in advanced epithelial ovarian cancer patients treated with primary or interval cytoreductive surgery after neoadjuvant chemotherapy: **the CARACO phase III Randomized Trial**

Jean-Marc Classe, Champion L, Lecuru F, Vergote I, Jankowski C, Werner R, Pomel C, Houvenaeghel G, Dupré PF, Mathevet P, Villet R, Joly F, Berton D, Debeaupuis E, Frenel JS, Loaec C

CARACO trial (NCT01218490): Multicenter randomized phase III trial



Keys: R: randomization, RPL: Retroperitoneal Lymphadenectomy, ICS: Interval Cytoreductive Surgery, SOC: Standard Of Care

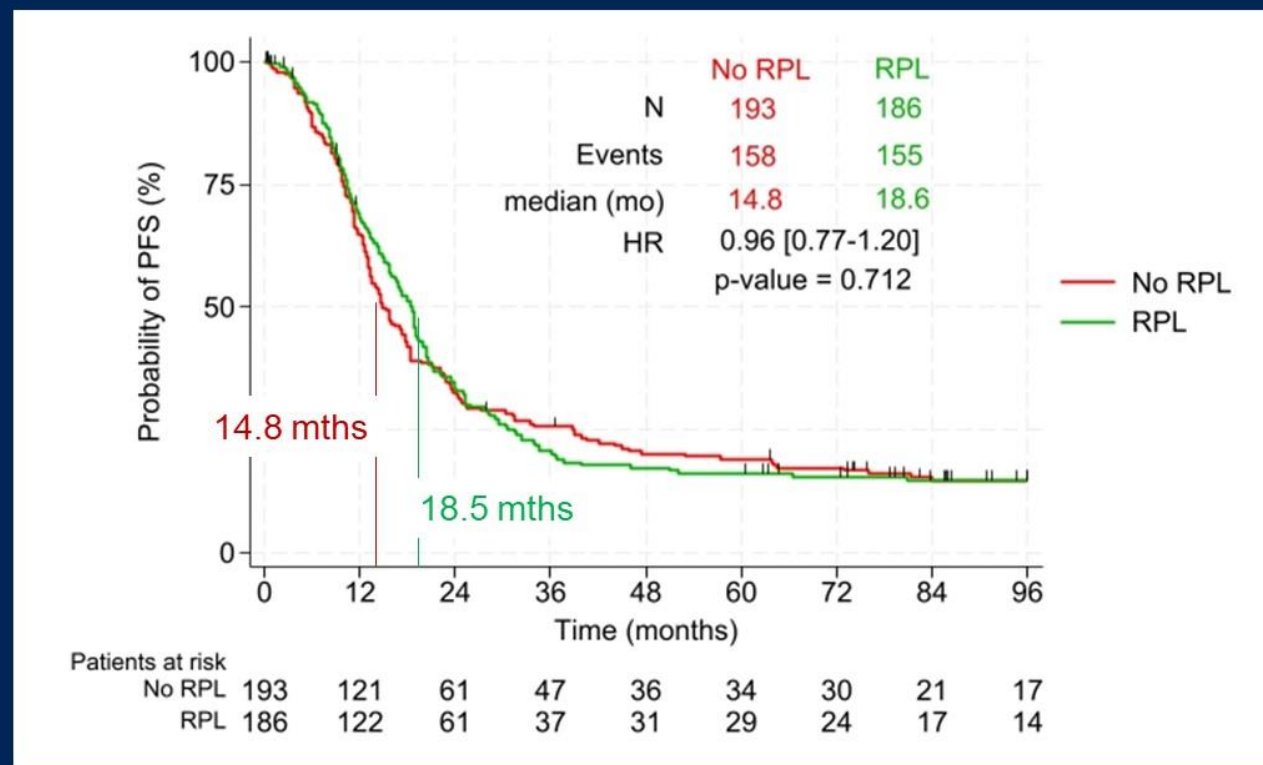
CARACO: Severe morbidity and mortality (within 30 days after surgery)*

No. of patients (%)	No RPL (n=193)	RPL (n=186)	p
Transfusion or blood loss	57 (29.7)	72 (39.3)	P=0.049
Re intervention	6 (3.1)	15 (8.3)	P=0.031
Urinary injury	0 (0.0)	7 (3.8)	P=0.006
Digestive fistula	2 (1.1)	4 (2.2)	NS
Phlebitis – Pulmonary embolism	7 (3.7)	3 (1.6)	NS
Mortality	1 (0.5)	2 (1.1)	NS

Key: RPL: Retroperitoneal Lymphadenectomy

* *CTC-NCI version 3.0*

CARACO trial: Primary endpoint (PFS, ITT population)



Key: RPL: Retroperitoneal Lymphadenectomy

CARACO trial: Conclusions

- CARACO trial is the only prospectively randomized trial asking the question of impact of systematic lymphadenectomy at the time of interval surgery after neoadjuvant chemotherapy.
- Adding retroperitoneal lymphadenectomy to complete cytoreductive surgery, in primary surgery or in interval surgery after neoadjuvant chemotherapy in patients treated for an advanced ovarian cancer, with no suspicious nodes, does not improve progression free survival nor overall survival

Atezolizumab versus placebo in combination with bevacizumab and non-platinum-based chemotherapy in recurrent ovarian cancer: final overall and progression-free survival results from the AGO-OVAR 2.29/ENGOT-ov34 study (NCT03353831)

Frederik Marmé¹, Philipp Harter², Andres Redondo³, Alexander Reuss⁴, Isabelle Ray-Coquard⁵, Kristina Lindemann⁶, Christian Kurzeder⁷, Els Van Nieuwenhuysen⁸, Charlotte Béllier⁹, Klaus Pietzner¹⁰, Ahmed El-Balat¹¹, Carmen Garcia-Duran¹², Pauline Wimberger¹³, Alejandro Pérez-Fidalgo¹⁴, Frédéric Selle¹⁵, Nikolaus de Gregorio¹⁶, Alexander Burges¹⁷, Ignacio Romero¹⁸, Annette Hasenburger¹⁹, Patricia Pautier²⁰

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AGO-OVAR 2.29/ENGOT-ov34: Trial Design

Main Inclusion Criteria:

- Epithelial ovarian, fallopian tube or peritoneal cancer
 - 1st or 2nd relapse: TFIp < 6 months
 - OR 3rd relapse
- Recent & archival biopsy mandatory
- ECOG PS ≤ 1
- life expectancy > 3 months
- Prior Bevacizumab allowed

Stratification factors:

- Number of prior lines (1-2 vs 3)
 - Planned chemotherapy (PLD vs paclitaxel)
 - Prior bevacizumab (yes vs no)
 - PD-L1 status (SP142 IC 1/2/3 vs 0 vs non-informative)*
- PD-L1 status was prospectively tested, but introduced as a stratification factor as part of an amendment.
- Tumors with non-informative test results were to be capped at 10%

1:1



n=550

PLD or Paclitaxel + Bevacizumab
+
Placebo

Treatment until disease progression, intolerable toxicity or a maximum duration of 24 months, whatever occurred first

PLD or Paclitaxel + Bevacizumab
+
Atezolizumab

PLD: 40 mg/m² d1, q28d;
Paclitaxel: 80 mg/m² d1, 8, 15, 22, q28d;
Bevacizumab: 10 mg/kg d1, q14d;
Atezolizumab OR Placebo: 840 mg d1, q14d

Primary endpoints:

- Overall survival
- Progression-free survival

Secondary endpoints:

- ORR & DOR
- Safety & tolerability
- OS, PFS, ORR & DOR by PD-L1 status
- HrQoL/PROs

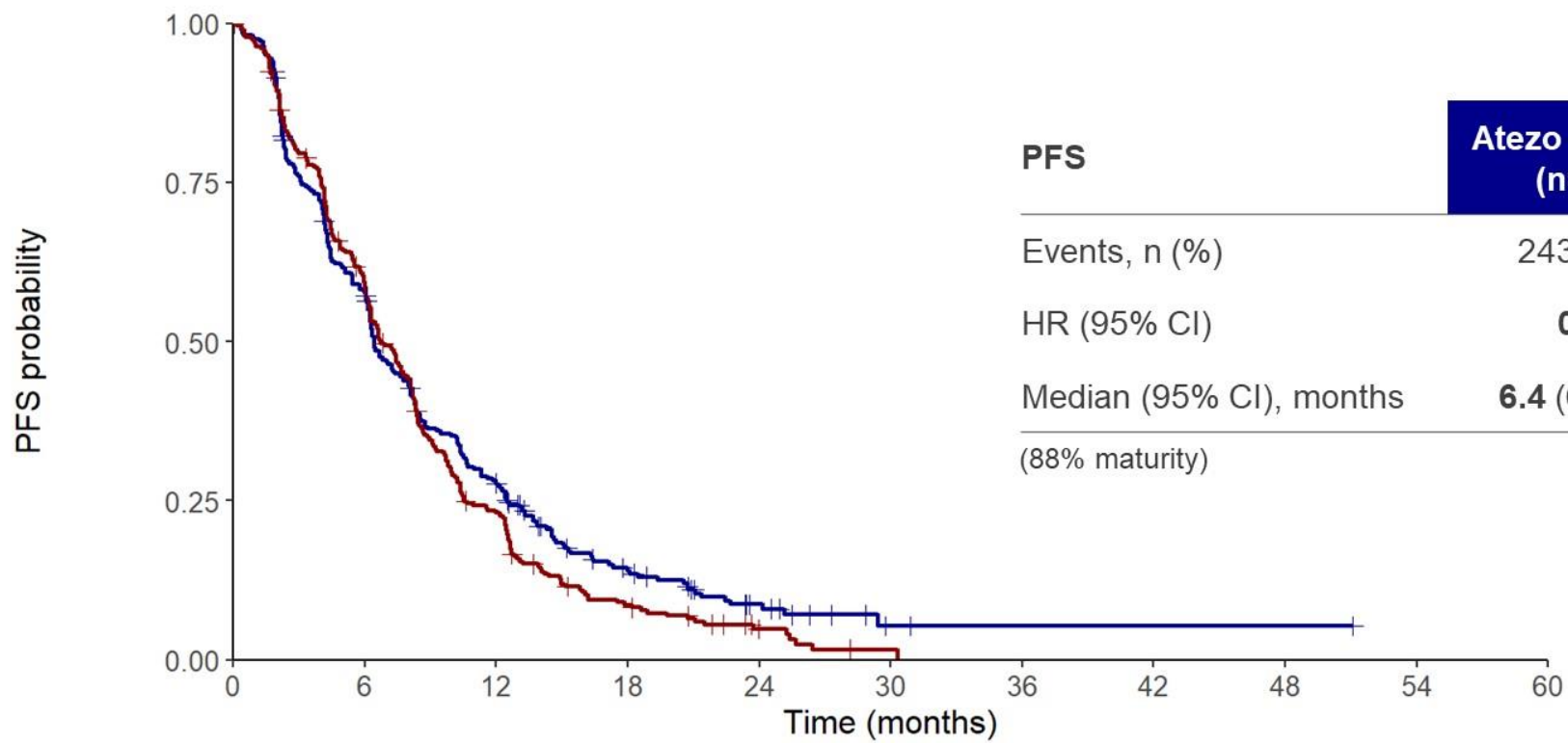
Exploratory & translational endpoints

PLD, pegylated liposomal doxorubicin; PS, performance status; TFIp, treatment-free interval for platinum

Baseline Characteristics (1)

	Atezolizumab (n=285)	Placebo (n=289)	Total (n=574)
Median patient age, years (IQR)	62 (56-70)	61 (53-70)	62 (54-70)
ECOG, n (%)			
0	163 (57.2)	152 (52.6)	315 (54.9)
1	120 (42.1)	136 (47.1)	256 (44.6)
Histology, n (%)			
High-grade serous	203 (71.2)	214 (74)	417 (72.6)
other	82 (28.8)	75 (26)	157 (27.4)
Prior lines, n (%)			
1-2	183 (64.2)	182 (63)	365 (63.6)
3	102 (35.8)	107 (37)	209 (36.4)
Planned chemotherapy, n (%)			
PLD	129 (45.3)	135 (46.7)	264 (46.0)
Paclitaxel	156 (54.7)	154 (53.3)	310 (54.0)
Prior PARPi, n (%)	114 (40.0)	120 (41.5)	234 (40.8)
Prior bevacizumab, n (%)	210 (73.7)	206 (71.3)	416 (72.5)

Primary Endpoint: Progression-free Survival (ITT)



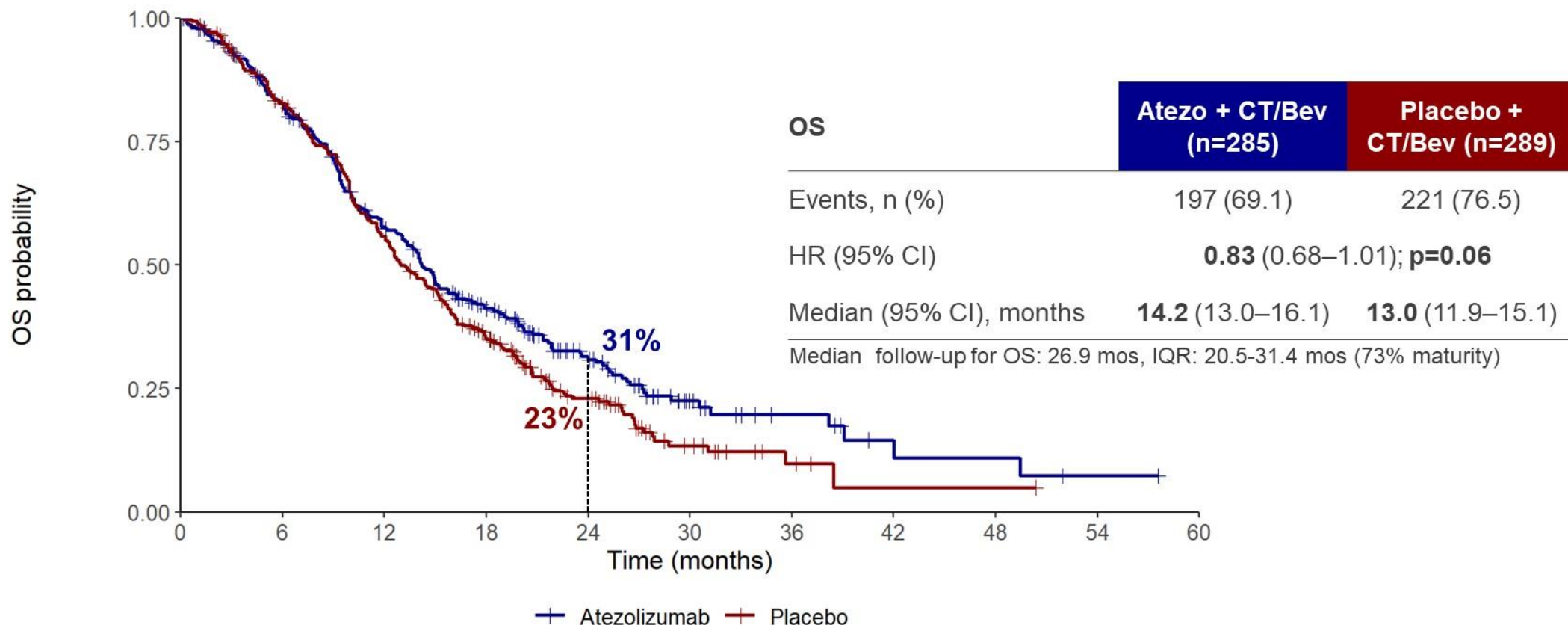
PFS	Atezo + CT/Bev (n=285)	Placebo + CT/Bev (n=289)
Events, n (%)	243 (85.3)	262 (90.7)
HR (95% CI)	0.87 (0.73–1.04); p=0.12	
Median (95% CI), months	6.4 (6.1–7.5)	6.7 (6.2–8.1)

(88% maturity)

Number at Risk

	0	6	12	18	24	30	36	42	48	54	60
Atezolizumab	285	158	73	31	12	2	1	1	1	0	0
Placebo	289	162	61	21	6	1	0	0	0	0	0

Primary Endpoint: Overall Survival (ITT)

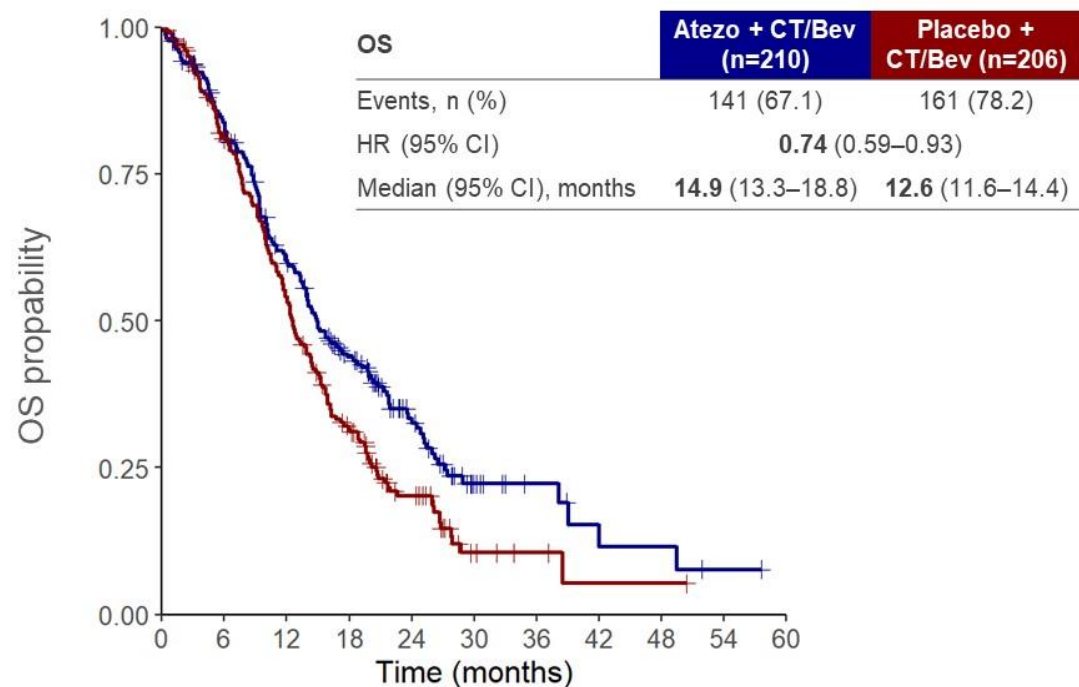


Number at Risk

	0	6	12	18	24	30	36	42	48	54	60
Atezolizumab	285	226	153	99	53	18	9	4	3	1	
Placebo	289	228	153	89	42	13	4	1	1	0	

Exploratory Post-hoc Analyses

Patients with prior Bevacizumab

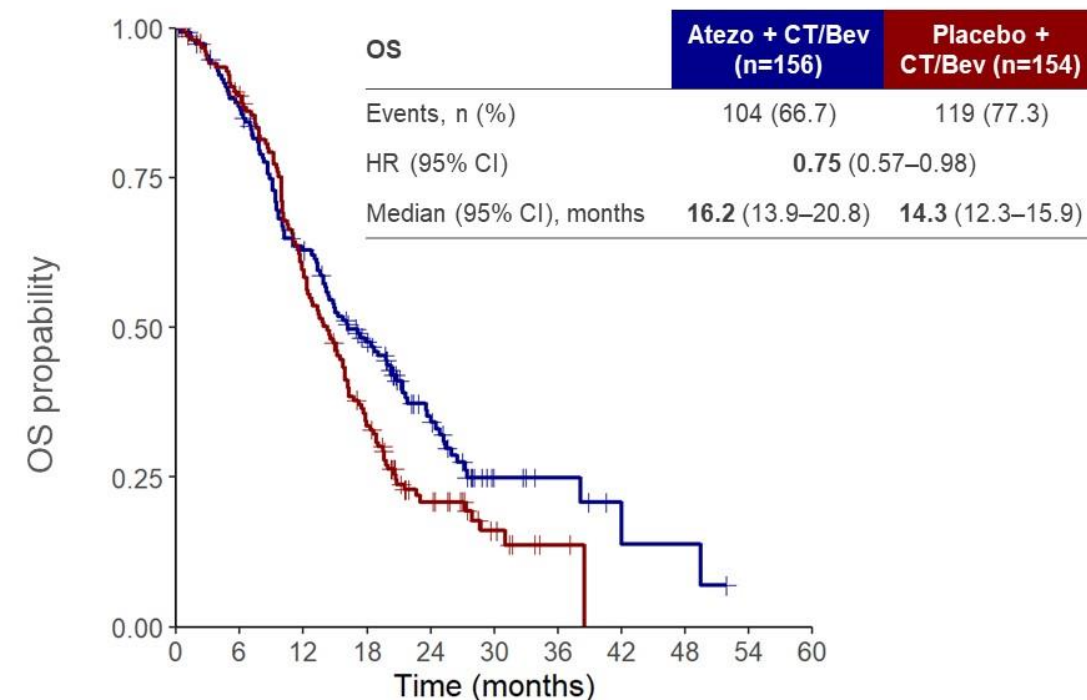


—+ Atezolizumab —+ Placebo

Number at Risk

Atezolizumab	210	168	116	75	40	13	7	4	3	1
Placebo	206	158	105	57	27	6	3	1	1	0

Patients receiving Paclitaxel



—+ Atezolizumab —+ Placebo

Number at Risk

Atezolizumab	156	132	93	64	34	9	6	3	2	0
Placebo	154	132	88	48	21	8	2	0	0	0

Safety Summary (Safety Population)

AE, n* (%)	Atezolizumab (n=281)	Placebo (n=286)
Any treatment emergent AE	280 (99.6)	285 (99.7)
Grade ≥3	201 (71.5)	197 (68.9)
Serious AE	179 (63.7)	147 (51.4)
AEs with reported relation to Atezo/Placebo	191 (68.0)	164 (57.3)
Grade ≥3	66 (23.5)	34 (11.9)
AEs with reported relation to Bevacizumab	189 (67.3)	195 (68.2)
Grade ≥3	66 (23.5)	59 (20.6)
AESIs	67 (23.8)	38 (13.3)
for Atezolizumab/Placebo	52 (18.5)	23 (8)
for Bevacizumab	19 (6.8)	15 (5.2)
AEs leading to treatment discontinuation		
Atezolizumab/Placebo	46 (16.4)	41 (14.3)
Beverizumab	61 (21.7)	53 (18.5)

*. Number of patients with at least one event

AE = adverse event; AESI = adverse event of special interest

Safety Summary (Safety Population): Immune-mediated AEs

AE, n* (%)	Atezolizumab (n=281)		Placebo (n=286)	
	All grades	≥ grade 3	All grades	≥ grade 3
Any	111 (39.5)	35 (12.5)	78 (27.3)	17 (5.9)
Thyroiditis, Hyper-, Hypothyroidism	57 (20.3)	4 (1.4)	16 (5.6)	1 (0.3)
Hepatitis, elevated liver enzymes	33 (11.7)	8 (2.8)	28 (9.7)	7 (2.4)
Diarrhea _{attributed to Atezo/Placebo}	30 (10.7)	5 (1.8)	25 (8.7)	3 (1)
Pancreatitis	21 (7.5)	11 (3.9)	11 (3.8)	4 (1.4)
Colitis	7 (2.5)	3 (1.1)	2 (0.7)	1 (0.3)
Dermatitis, skin	7 (2.5)	3 (1.1)	2 (0.7)	-
Adrenal Insufficiency	6 (2.1)	3 (1.1)	1 (0.3)	-
Hypophysitis	3 (1.1)	2 (0.7)	-	-
Nephritis	1 (0.4)	1 (0.4)	2 (0.7)	1 (0.3)
Ocular	1 (0.4)	-	2 (0.7)	-
Diabetes Mellitus	2 (0.7)	1 (0.4)	-	-
Arthritis	1 (0.4)	-	-	-
Pneumonitis/ILD	1 (0.4)	1 (0.4)	-	-
Vasculitis	-	-	1 (0.3)	-
Other	1 (0.4)	-	3 (1)	-

*Number of patients with at least one event.

AE = adverse event

AGO-OVAR 2.29/ENGOT-ov34: Conclusions

- The addition of atezolizumab to single-agent non-platinum based chemotherapy in combination with bevacizumab did not significantly improve OS or PFS
- Response rates were similar between treatment arms with a numerically longer duration of response in patients receiving atezolizumab
- Results were independent of PD-L1 status in a recent biopsy (SP142)
- Safety findings were consistent with the known toxicity profiles of the investigated agents
- Exploratory analyses including stool microbiome, tumor microenvironment, ctDNA and alternative PD-L1 analyses (SP263) are ongoing

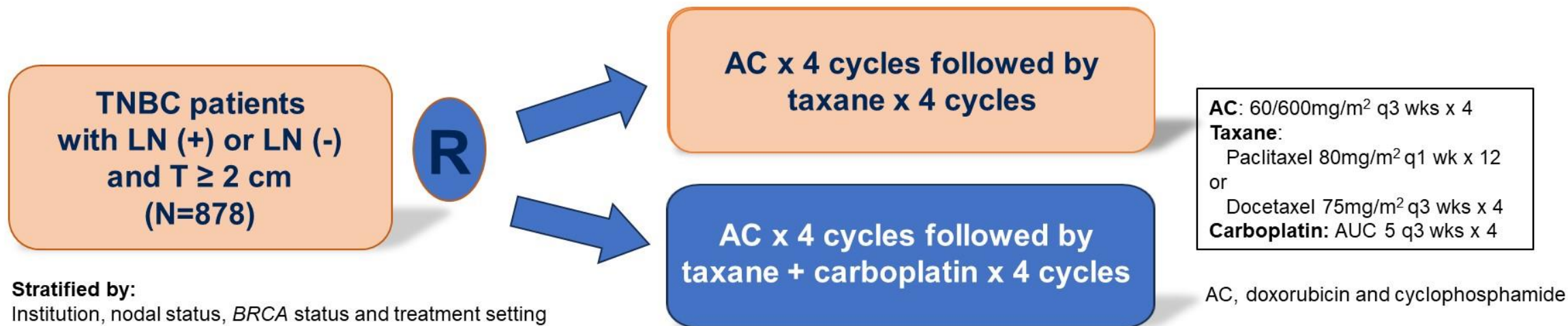
Frühes Mammakarzinom

A Randomized, Multicenter, Open-label, Phase III Trial Comparing Anthracyclines Followed by Taxane Versus Anthracyclines Followed by Taxane Plus Carboplatin as (Neo) Adjuvant Therapy in Patients with Early Triple-Negative Breast Cancer

Joohyuk Sohn, Gun Min Kim, Kyung Hae Jung, Hei-Cheul Jeung, Jieun Lee, Keun Seok Lee, Seock-Ah Im, Seok Yun Kang, Se Hyun Kim, Han Jo Kim, Kyong Hwa Park, Yee Soo Chae, Su-Jin Koh, Eun Kyung Cho, Keon Uk Park, Sung Sook Lee, Ji-Yeon Kim, In Sil Choi, Sun Kyung Baek, Yong Wha Moon

on behalf of the PEARLY trial (KCSG BR 15-1) investigators,
Korean Cancer Study Group, Republic of Korea

PEARLY Study Design (NCT02441933)



Primary Endpoint

– 5-year EFS (Event-Free Survival) rate

Disease progression or inoperable status for neoadjuvant group
Local or distant recurrence, second primary cancer, or death from any cause

Secondary Efficacy Endpoints

Overall survival, OS
Distant recurrence-free survival, DRFS
Invasive disease-free survival, IDFS

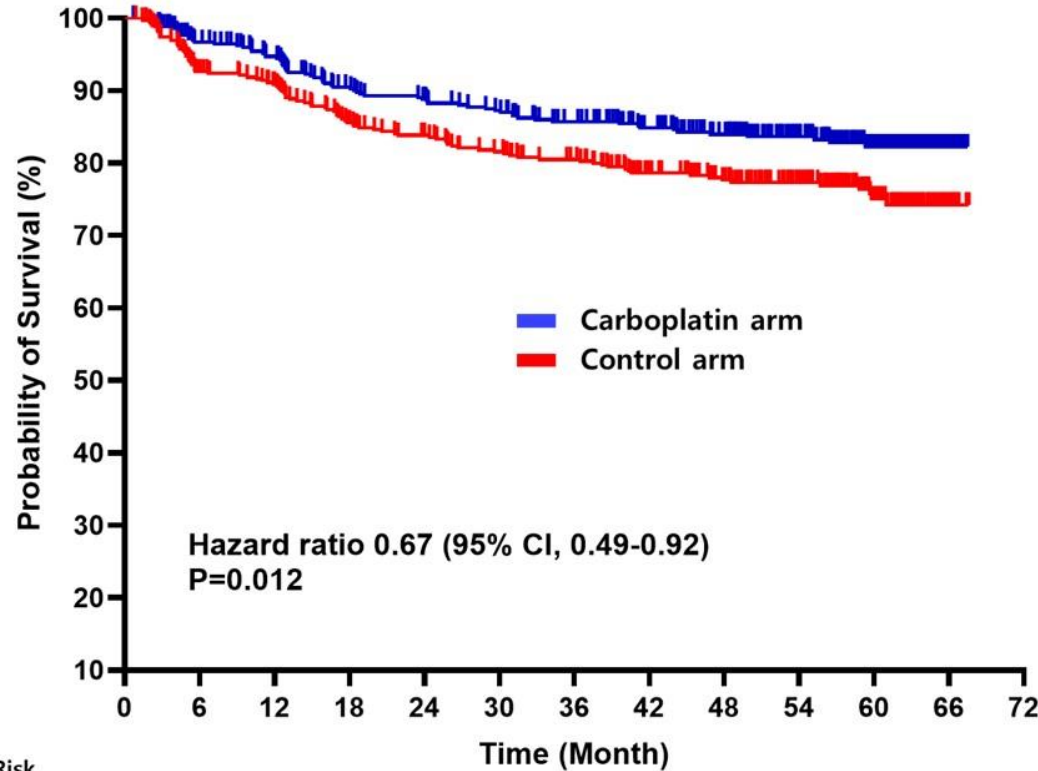
Safety Endpoints

Safety and tolerability
QoL : EORTC-QLQ-CIPN20, EQ-5D

Baseline Characteristics

Characteristic	Carboplatin Arm (N=434)	Control Arm (N=434)
Age		
Median, yrs (range)	48 (21-77)	49 (23-76)
≥65, n (%)	33 (7.6)	22 (5.1)
ECOG PS, n (%)		
0	371 (85.5)	383 (88.2)
1	63 (14.5)	51 (11.8)
Germline BRCA status, n (%)		
Deleterious mutation	46 (10.6)	49 (11.3)
No deleterious mutation	388 (89.4)	385 (88.7)
Treatment setting, n (%)		
Neoadjuvant	309 (71.2)	304 (70.0)
Adjuvant	125 (28.8)	130 (30.0)
Tumor stage, n (%)		
T1 or T2	365 (84.1)	373 (85.9)
T3 or T4	69 (15.9)	61 (14.1)
Lymph node involvement, n (%)		
Negative	224 (51.6)	218 (50.2)
positive	210 (48.4)	216 (49.8)
TNM, n (%)		
Stage II	343 (79.0)	341 (78.6)
Stage III	93 (21.0)	91 (21.4)
Taxane, n (%)		
Docetaxel	180 (43.2)	201 (49.3)
Paclitaxel	237 (56.8)	207 (50.7)
Surgery, n (%)		
BCS	278 (67.1)	256 (62.9)
Mastectomy	136 (32.9)	151 (37.1)

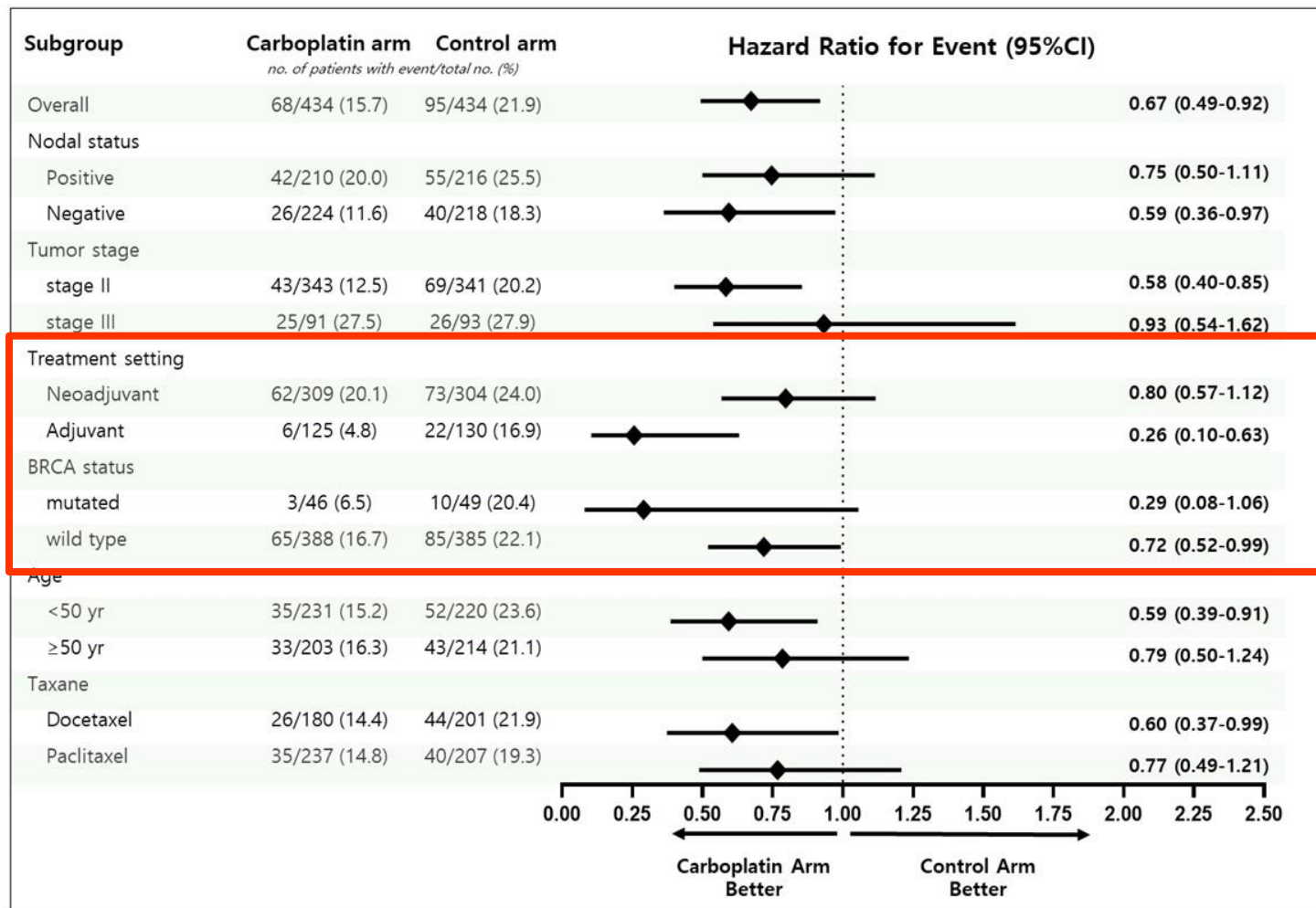
Primary Efficacy Endpoint: EFS



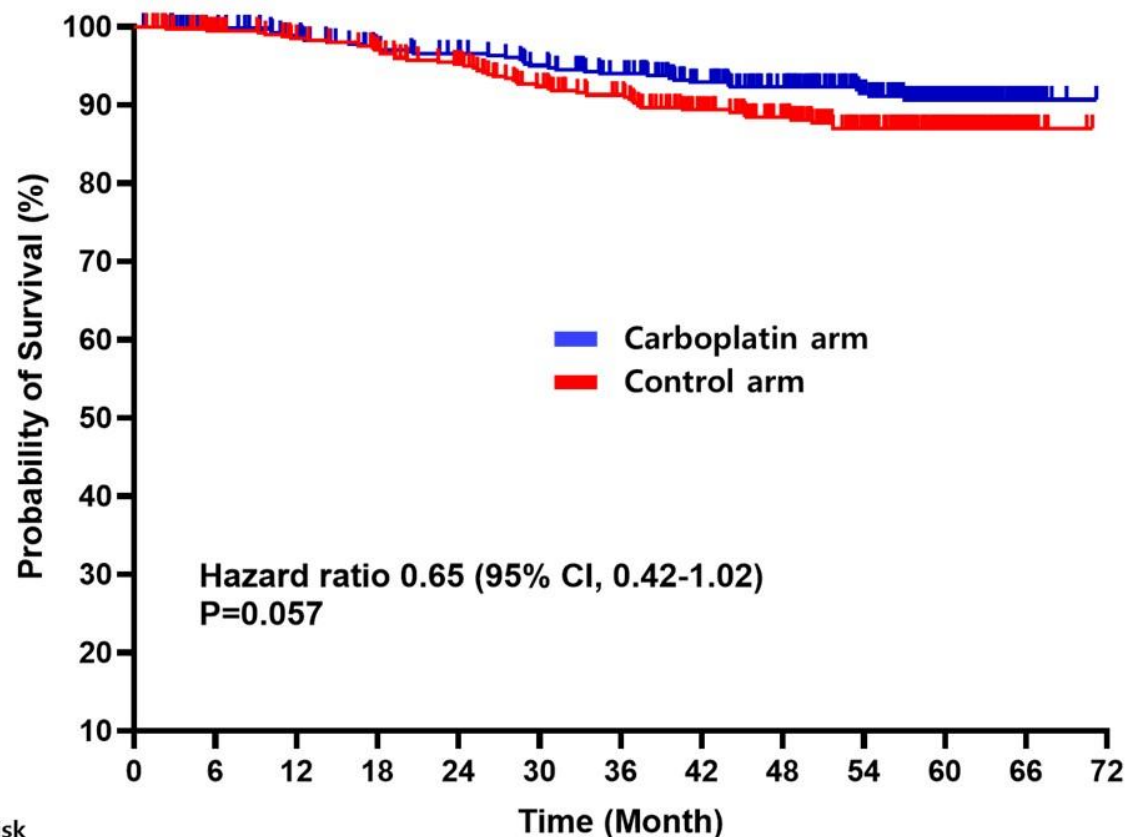
No. at Risk	0	6	12	18	24	30	36	42	48	54	60	66	72
Control arm	434	382	364	342	331	317	304	274	246	195	111	21	1
Carboplatin arm	434	402	386	362	355	346	329	299	269	222	135	29	2

ITT analysis	Carbo arm (n=434)	Control arm (n=434)
5-year EFS rate	82.3%	75.1%
Stratified HR (95% CI)	0.67 (0.49-0.92)	
Stratified Log Rank <i>P</i> value	0.012	

EFS Subgroup Analysis (ITT Population)



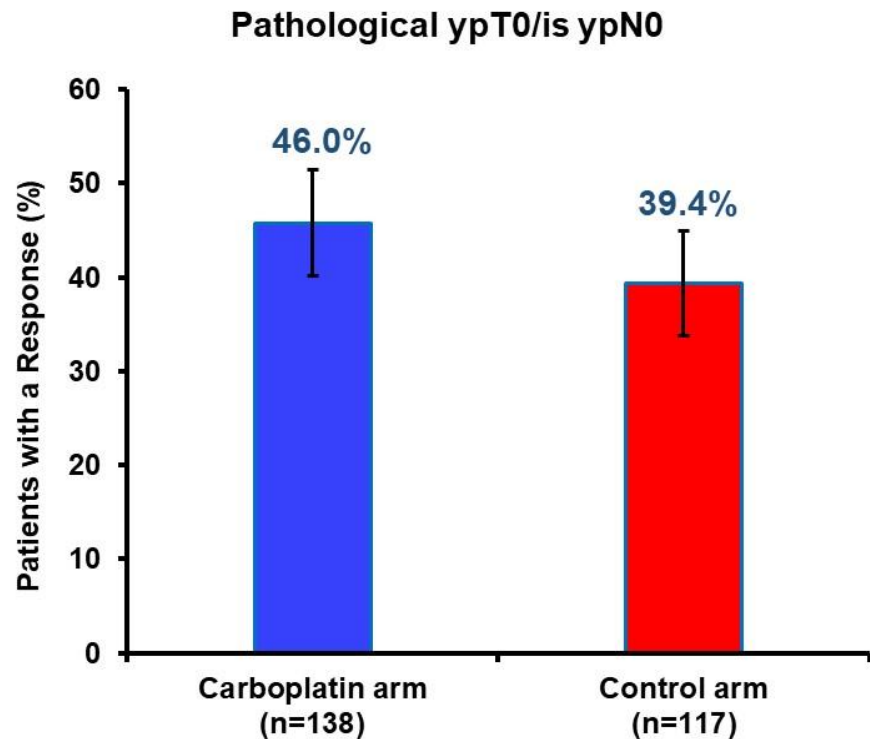
Secondary Efficacy Endpoint: OS (ITT population)



No. at Risk	0	6	12	18	24	30	36	42	48	54	60	66	72
Control arm	434	409	393	385	371	352	337	305	275	213	127	28	2
Carboplatin arm	434	415	404	390	385	375	358	326	293	239	149	34	1

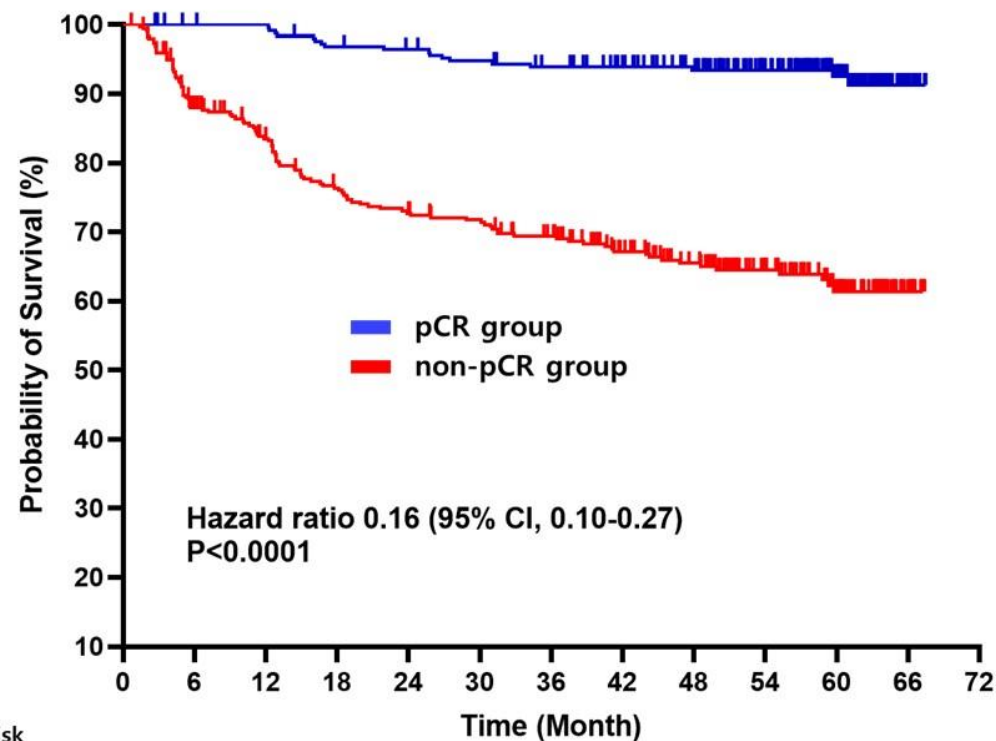
ITT analysis	Carbo arm (n=434)	Control arm (n=434)
5-year OS rate	90.7%	87.0%
Stratified HR (95% CI)	0.65 (0.42-1.02)	
Stratified Log Rank <i>P</i> value	0.057	

Secondary Efficacy Endpoint: pCR



Error bars = 95% CI; $P=0.121$

EFS Subgroup analysis (pCR vs non-pCR)



	No. at Risk												
	0	6	12	18	24	30	36	42	48	54	60	66	72
Non-pCR group	342	286	258	233	221	214	201	171	146	108	66	15	1
pCR group	255	250	249	240	237	232	226	213	191	154	93	18	2

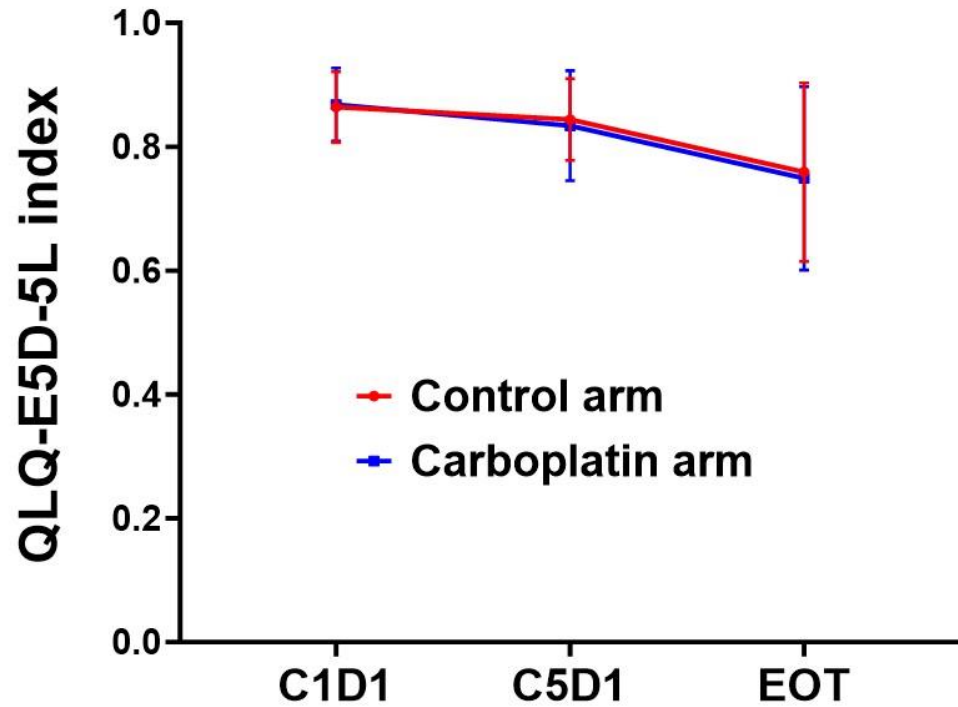
Adverse Events Summary

Adverse event, n (%)	Carboplatin arm N=434	Control arm N=434
Any adverse event	429 (98.8)	423 (97.5)
Any grade \geq 3 event	324 (74.7)	246 (56.7)
Serious Adverse Events (SAE)	71 (16.4)	61 (14.1)
Patients experiencing dose reduction		
during AC phase	36 (8.3)	32 (7.4)
during taxane phase*	144 (33.2)	61 (14.1)
Event leading to permanent discontinuation		
during AC phase	0 (0.0)	1 (0.2)
during taxane phase*	12 (2.8)	4 (0.9)
Event leading to death**	1 (0.2)	2 (0.5)

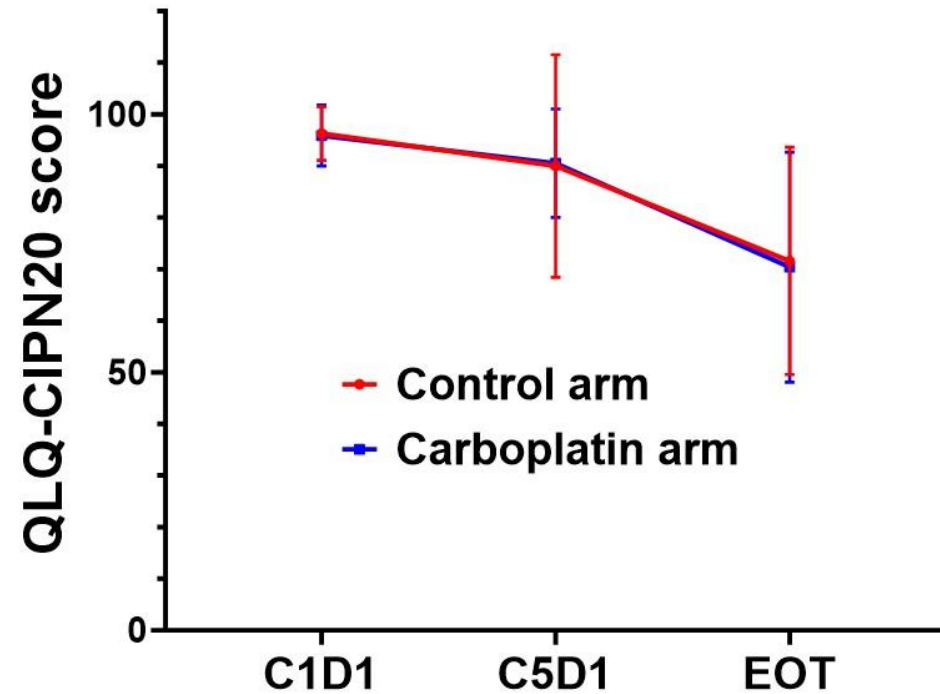
*Taxane phase includes taxane (docetaxel or paclitaxel) \pm carboplatin

**One in carboplatin arm due to pneumonia and two in control arm due to septic shock and suicide

QoL Analysis



Control arm	431	390	406
Carboplatin arm	434	415	415



Control arm	431	390	406
Carboplatin arm	434	415	415

Conclusions

- The addition of carboplatin to standard anthracycline followed by taxane therapy significantly improved EFS in patients with early-stage TNBC
 - Statistically significant 5-year EFS benefit (**Hazard ratio, 0.67; 95%CI 0.49-0.92; P=0.012**)
 - Improved 5-year OS rate without statistical significance (Hazard ratio, 0.65; 95%CI 0.42-1.02; P=0.057)
- The safety profile was consistent with the known expectations for each regimen, and there was no difference in QoL between the two groups
- The PEARLY trial provides compelling evidence for including carboplatin in the treatment of early-stage TNBC, underscoring its value in the KN522 trial-based neoadjuvant setting and suggesting potential applicability in the adjuvant setting post-surgery

The Impact of Adjuvant Endocrine Therapy Omission in ER-low (1-10%) Early-stage Breast Cancer

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James N. Ingle M.D.¹, Matthew P. Goetz M.D.¹

Mayo Clinic Comprehensive Cancer Center, Rochester, MN

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³Division of Breast and Melanoma Surgical Oncology



Methods

- National Cancer Database (NCDB) 2018-2020
 - 2018 was the first year that ER % was provided as a continuous variable
 - ER-low defined as ER 1-10%
- **Inclusion criteria:**
 - Female patients
 - Stage I-III ER-low BC who had surgical resection and were treated with chemotherapy [NAC +/- adjuvant chemotherapy (adj chemo)]
- **Exclusion criteria:**
 - Missing data in ER, PR, HER2, overall survival (OS)
- **Statistical analysis:**
 - Multivariable logistic regression to assess factors associated with AET omission in ER-low BC
 - AET modeled as a time-dependent covariate with Cox proportional hazards regression to assess its association with OS in ER-low BC

Baseline Characteristics

- 354,378 patients with stage I-III ER+ BC

- 10,362 (3%) were ER-low
- 7,018 patients treated with chemotherapy
 - NAC (62%)
 - Adj chemo (38%)

	N = 7,018 patients ER-low BC treated with chemo
Age , median (IQR)	55 years (46-64 years)
Race , n (%)	
White	5066 (72%)
Black	1312 (19%)
Asian	412 (6%)
Other/Unknown	228 (3%)
PR-negative , n (%)	5123 (73%)
HER2-negative , n (%)	4581 (65%)
Ki67* , median (IQR)	58% (30-80%)
IDC histology , n (%)	6483 (92%)
Grade 3 , n (%)	5147 (73%)
cT2-4 , n (%)	4236 (60%)
cN0 , n (%)	4566 (65%)

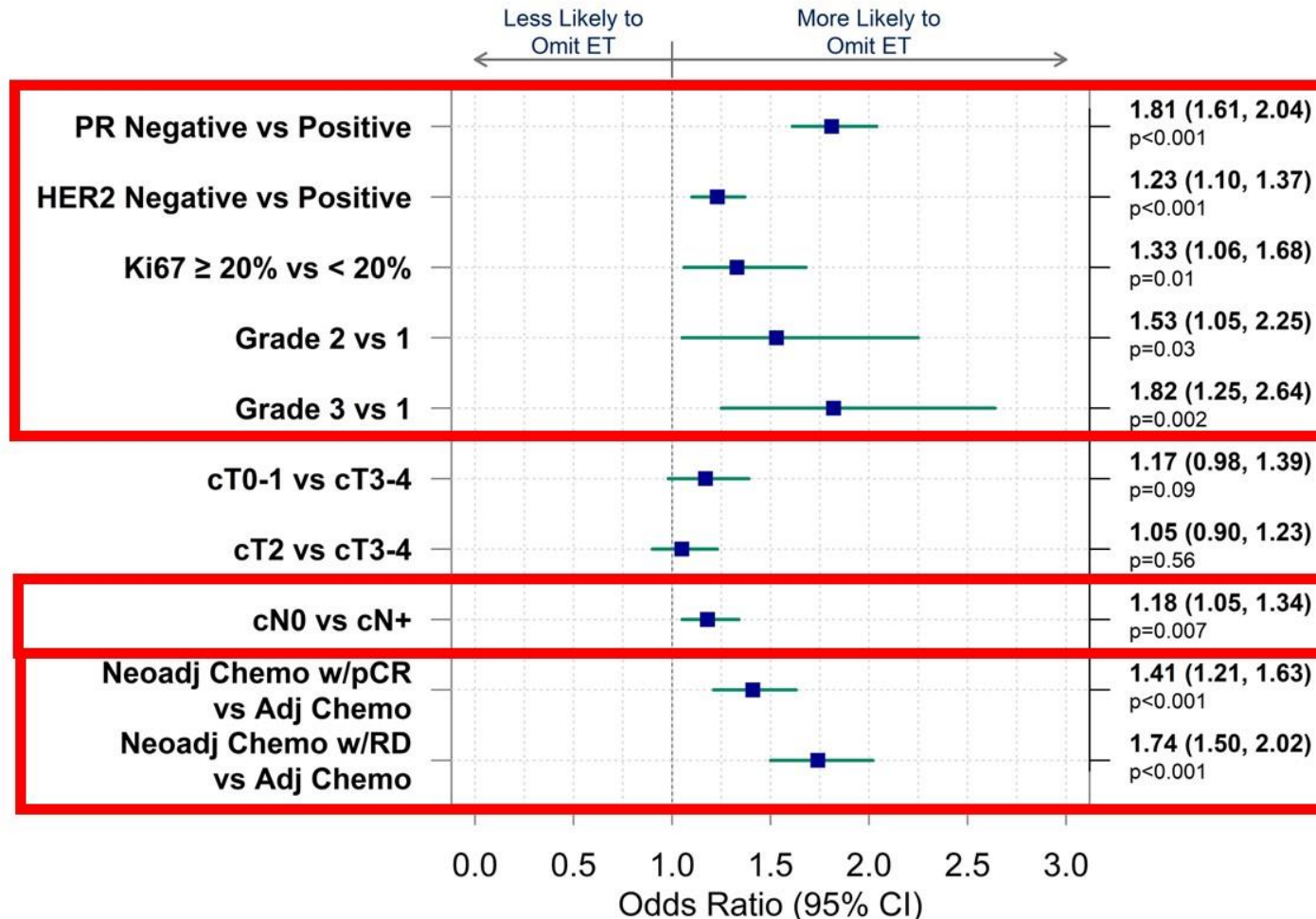
*For Ki67, N available = 3452 (49%), N missing = 3566 (51%)

Factors Associated with AET Omission in ER-low BC

- 2,948 (42%) patients omitted AET

Factors associated with AET omission:

- PR-, HER2-, Ki67 \geq 20%, higher grade, cN0 status, receipt of NAC



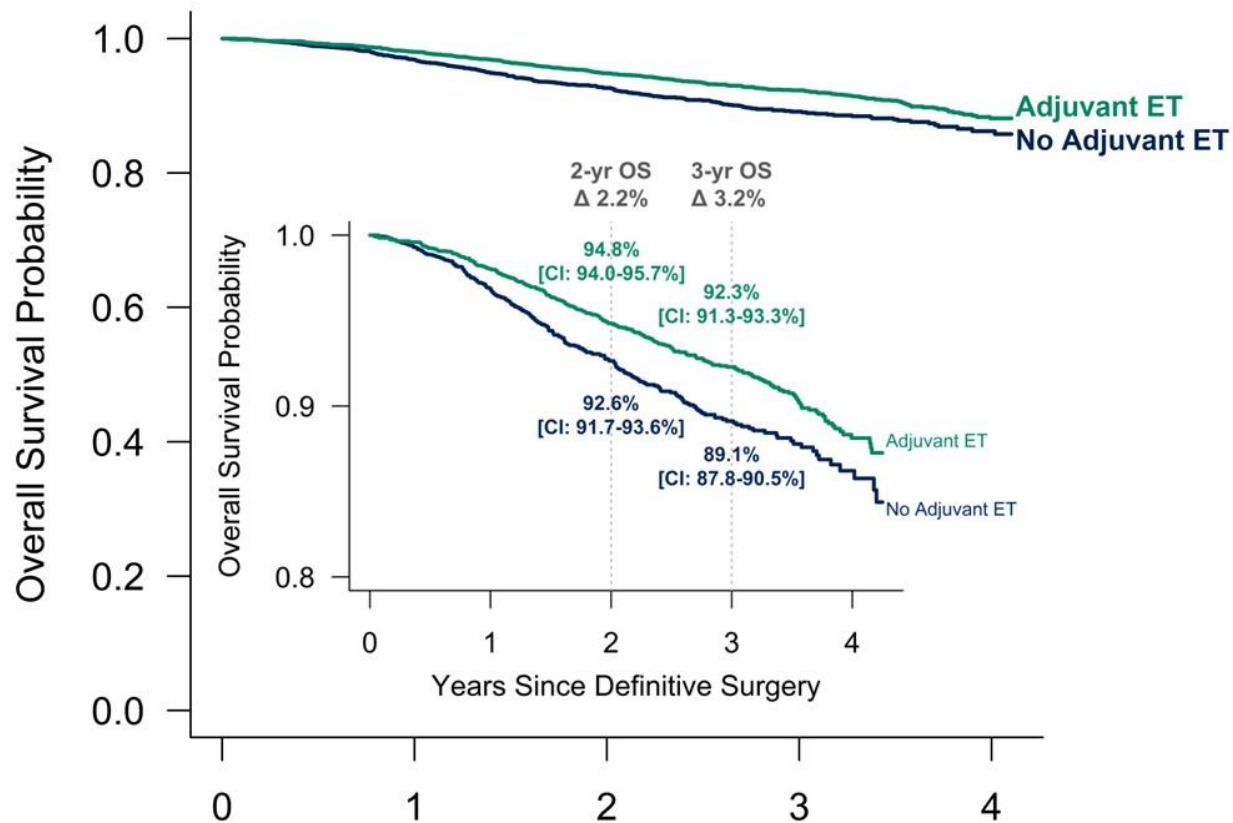
*Also adjusted for age, comorbidity score, race, ethnicity, year of diagnosis, histology, and year of diagnosis

Impact of AET Omission on OS in ER-low BC

- With median follow-up of 3 years, 586 deaths observed

- Omission of AET was associated with significantly worse OS compared to patients who started AET (HR 1.25, 95% CI 1.05-1.48, $p=0.01$) when adjusting for various factors*

*Adjusted for age, comorbidity score, race, ethnicity, year of diagnosis, PR, HER2, clinical and pathologic staging



	Years Since Definitive Surgery			
Number at risk	0	1	2	3
Adjuvant ET	3768	2924	1634	418
No Adjuvant ET	2729	1776	871	204

Conclusions

- AET omission in ER-low BC cancer patients is common (42%)
 - Tumoral factors such as PR, HER2, Ki-67, grade as well as receipt of NAC associated with AET omission
- AET omission associated with 25% increased risk of death (HR 1.25, 95% CI 1.05-1.48), when controlling for other patient and tumor-related factors
 - In patients treated with NAC, AET omission in patients with residual disease was significantly associated with decreased OS
- **In the absence of prospective clinical trial data, AET should be recommended in patients with ER-low BC**

Fortgeschrittenes Mammakarzinom

Trastuzumab deruxtecan vs physician's choice of chemotherapy in patients with hormone receptor–positive, human epidermal growth factor receptor 2 (HER2)–low or HER2-ultralow metastatic breast cancer with prior endocrine therapy: primary results from DESTINY-Breast06

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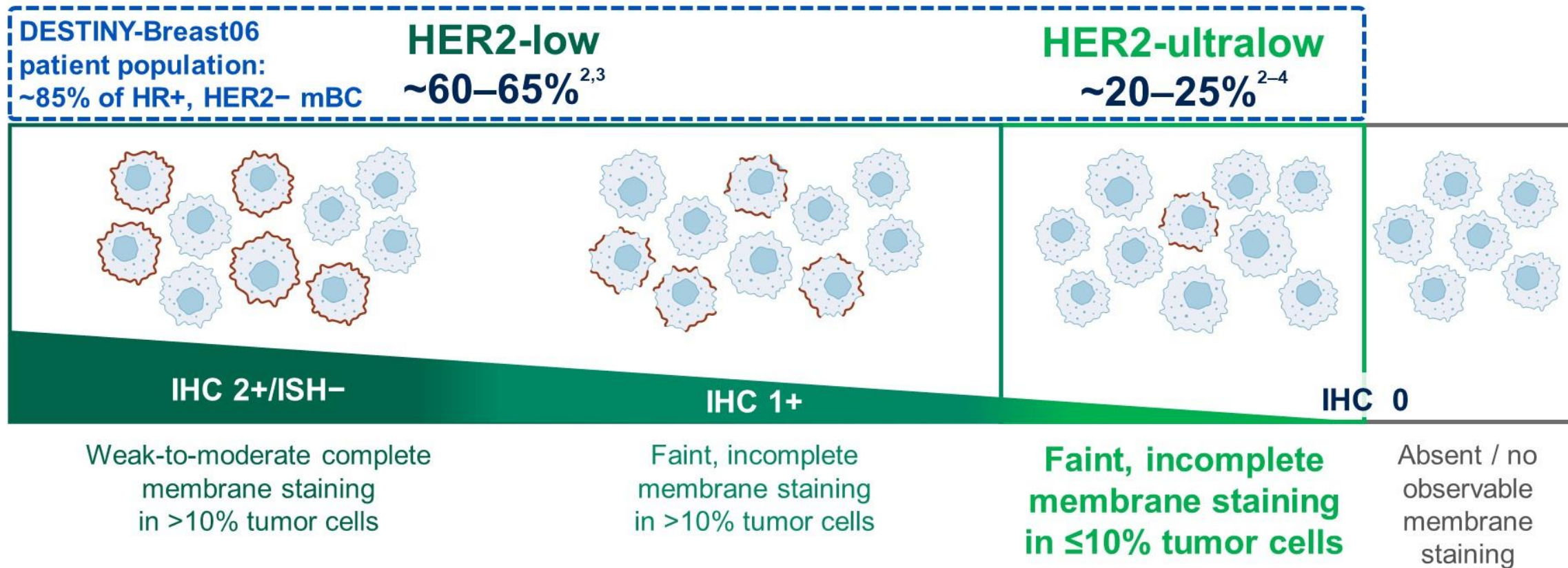
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On behalf of the DESTINY-Breast06 investigators

Targeting 'low' and 'ultralow' HER2-expressing tumors in mBC

HER2 IHC categories within HR+, HER2-negative (HER2-) mBC (per ASCO/CAP¹)



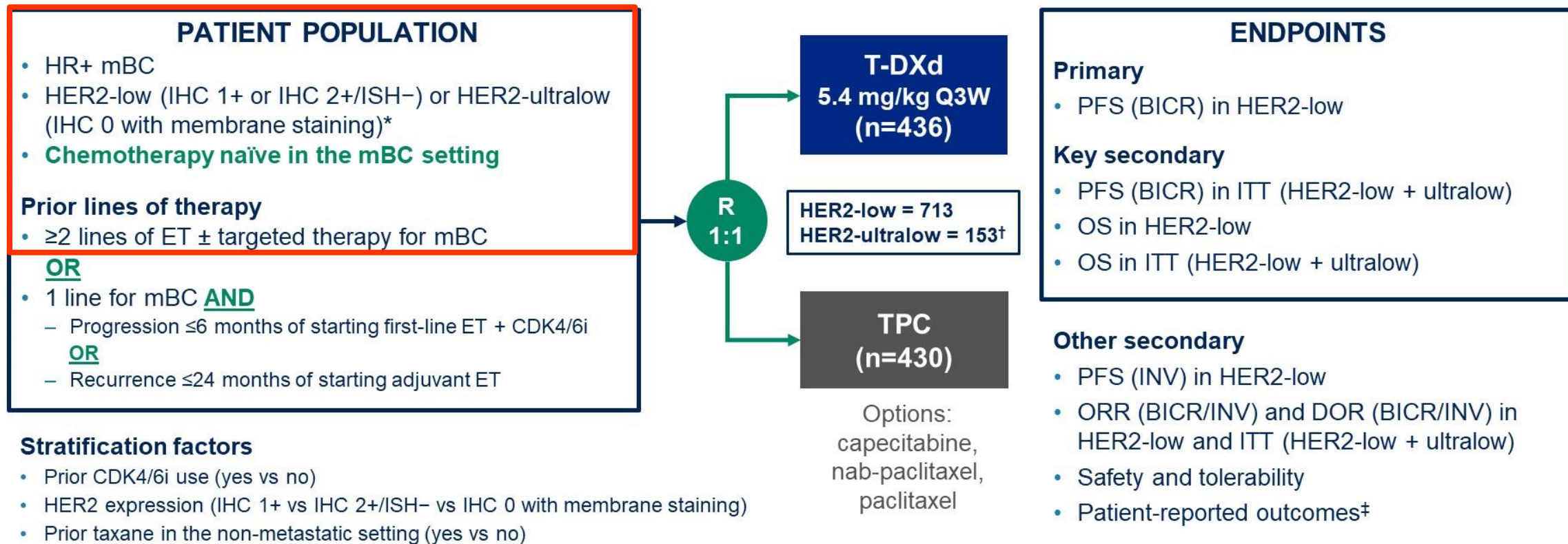
ASCO/CAP, American Society of Clinical Oncology / College of American Pathologists; HER2, human epidermal growth factor receptor 2; HR+, hormone receptor-positive; IHC, immunohistochemistry; ISH, in situ hybridization; mBC, metastatic breast cancer; T-DXd, trastuzumab deruxtecan

Images adapted from Venetis K, et al. *Front Mol Biosci.* 2022;9:834651. CC BY 4.0 license available from: <https://creativecommons.org/licenses/by/4.0/>

1. Wolff AC, et al. *J Clin Oncol.* 2023;41:3867–3872; 2. Denkert C, et al. *Lancet Oncol.* 2021;22:1151–1161; 3. Chen Z, et al. *Breast Cancer Res Treat.* 2023;202:313–323; 4. Mehta S, et al. *J Clin Oncol.* 2024;42(Suppl. 16):Abstract e13156

Study design

DESTINY-Breast06: a Phase 3, randomized, multicenter, open-label study (NCT04494425)



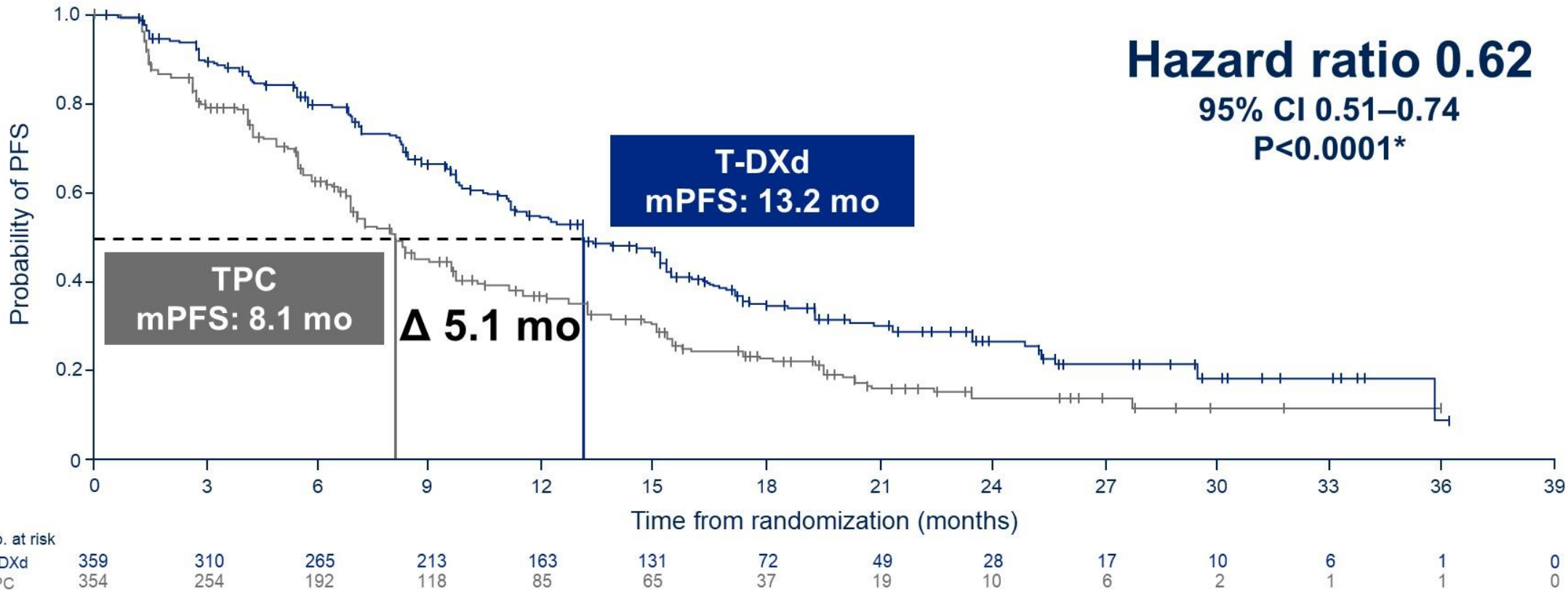
*Study enrollment was based on central HER2 testing. HER2 status was determined based on the most recent evaluable HER2 IHC sample prior to randomization. HER2-ultralow was defined as faint, partial membrane staining in ≤10% of tumor cells (also known as IHC >0<1+); †HER2-ultralow status as determined per IRT data (note: efficacy analyses in the HER2-ultralow subgroup were based on n=152 as determined per central laboratory testing data); ‡to be presented separately BICR, blinded independent central review; CDK4/6i, cyclin-dependent kinase 4/6 inhibitor; DOR, duration of response; ET, endocrine therapy; HER2, human epidermal growth factor receptor 2; HR+, hormone receptor-positive; IHC, immunohistochemistry; INV, investigator assessed; IRT, interactive response technology; ISH, in situ hybridization; ITT, intent-to-treat; mBC, metastatic breast cancer; ORR, objective response rate; OS, overall survival; PD, progressive disease; PFS, progression-free survival; Q3W, every 3 weeks; R, randomization; T-DXd, trastuzumab deruxtecan; TPC, chemotherapy treatment of physician's choice NCT04494425. Updated. April 12, 2024. Available from: <https://clinicaltrials.gov/study/NCT04494425> (Accessed May 13, 2024)

Patient demographics and key baseline characteristics

	HER2-low*		ITT (HER2-low and HER2-ultralow)		HER2-ultralow*	
	T-DXd (n=359)	TPC (n=354)	T-DXd (n=436)	TPC (n=430)	T-DXd (n=76)	TPC (n=76)
Age, median (range), years	58.0 (28–87)	57.0 (32–83)	58.0 (28–87)	57.0 (32–83)	58.0 (33–85)	57.5 (34–82)
Female, n (%)	359 (100)	353 (99.7)	436 (100)	429 (99.8)	76 (100)	76 (100)
ECOG PS at screening, n (%) [†]						
0	207 (57.7)	218 (61.6)	252 (57.8)	257 (59.8)	44 (57.9)	39 (51.3)
1	148 (41.2)	128 (36.2)	178 (40.8)	163 (37.9)	30 (39.5)	35 (46.1)
HER2 status, n (%) [‡]						
IHC 0 with membrane staining (HER2-ultralow)	–	–	76 (17.4)	76 (17.7)	76 (100)	76 (100)
IHC 1+ (HER2-low)	238 (66.3)	234 (66.1)	239 (54.8)	234 (54.4)	–	–
IHC 2+/ISH– (HER2-low)	117 (32.6)	118 (33.3)	117 (26.8)	118 (27.4)	–	–
ER/PR status, n (%) [§]						
ER+/PR+	206 (57.4)	193 (54.5)	253 (58.0)	237 (55.1)	46 (60.5)	44 (57.9)
ER+/PR–	141 (39.3)	152 (42.9)	167 (38.3)	181 (42.1)	26 (34.2)	29 (38.2)
ER–/PR+	3 (0.8)	2 (0.6)	3 (0.7)	2 (0.5)	–	–
Primary endocrine resistance [¶]	105 (29.2)	116 (32.8)	128 (29.4)	140 (32.6)	23 (30.3)	24 (31.6)
De-novo disease at diagnosis, n (%)	111 (30.9)	104 (29.4)	133 (30.5)	132 (30.7)	22 (28.9)	28 (36.8)
Bone-only disease at baseline, n (%)	11 (3.1)	10 (2.8)	13 (3.0)	13 (3.0)	2 (2.6)	3 (3.9)
Visceral disease at baseline, n (%)	309 (86.1)	299 (84.5)	376 (86.2)	364 (84.7)	66 (86.8)	65 (85.5)
Liver metastases at baseline, n (%)	243 (67.7)	232 (65.5)	296 (67.9)	283 (65.8)	52 (68.4)	51 (67.1)

*HER2-low status defined at randomization per IRT data, and HER2-ultralow status defined per central laboratory testing data. With mis-stratification, the combined sample size of these two populations may not match the ITT total; †n=14 patients had missing ECOG PS status at baseline; ‡n=2 patients in the ITT (1 per treatment group) were found to have HER2 IHC 0 with absent membrane staining per central laboratory testing; §patients with ER–/PR– status were excluded from the study; however, n=1 patient with ER–/PR– status was randomized in error; ¶defined as relapse while on the first 2 years of adjuvant endocrine therapy, or progressive disease within the first 6 months of first-line endocrine therapy for metastatic breast cancer; ECOG PS, Eastern Cooperative Oncology Group performance status; ER, estrogen receptor; HER2, human epidermal growth factor receptor 2; IHC, immunohistochemistry; IRT, interactive response technology; ISH, in situ hybridization; ITT, intent-to-treat; PR, progesterone receptor; T-DXd, trastuzumab deruxtecan; TPC, chemotherapy treatment of physician's choice

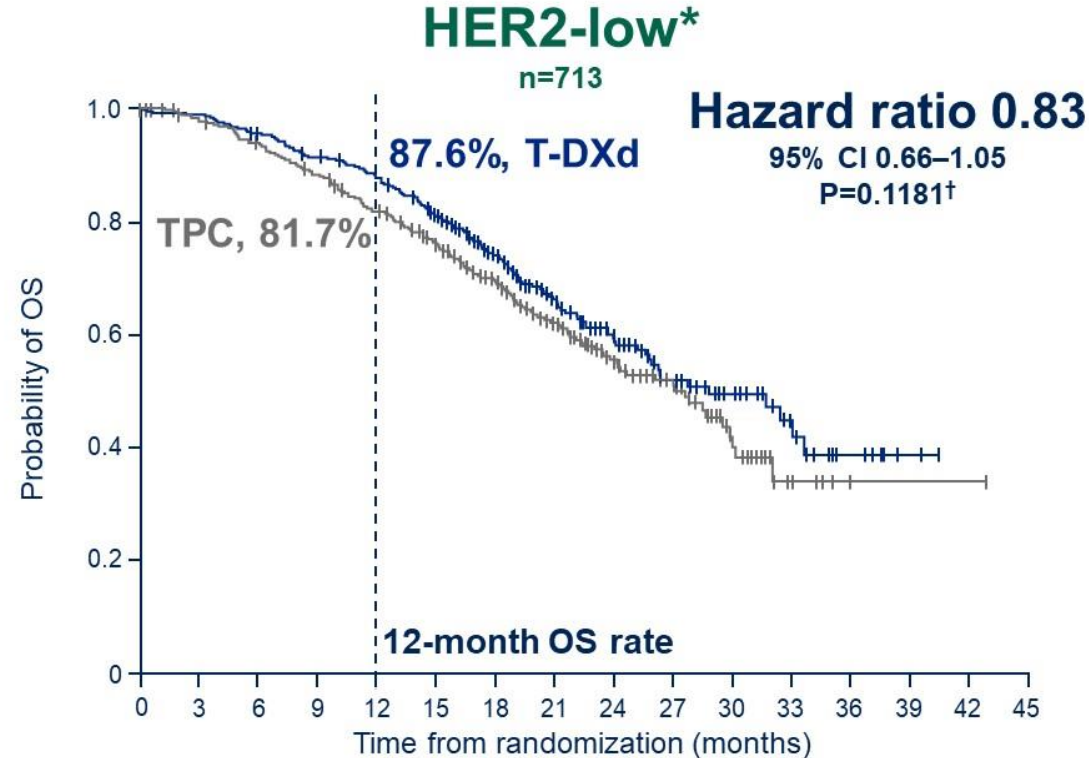
PFS (BICR) in HER2-low: primary endpoint



T-DXd demonstrated a statistically significant and clinically meaningful improvement in PFS compared with standard-of-care chemotherapy in HER2-low

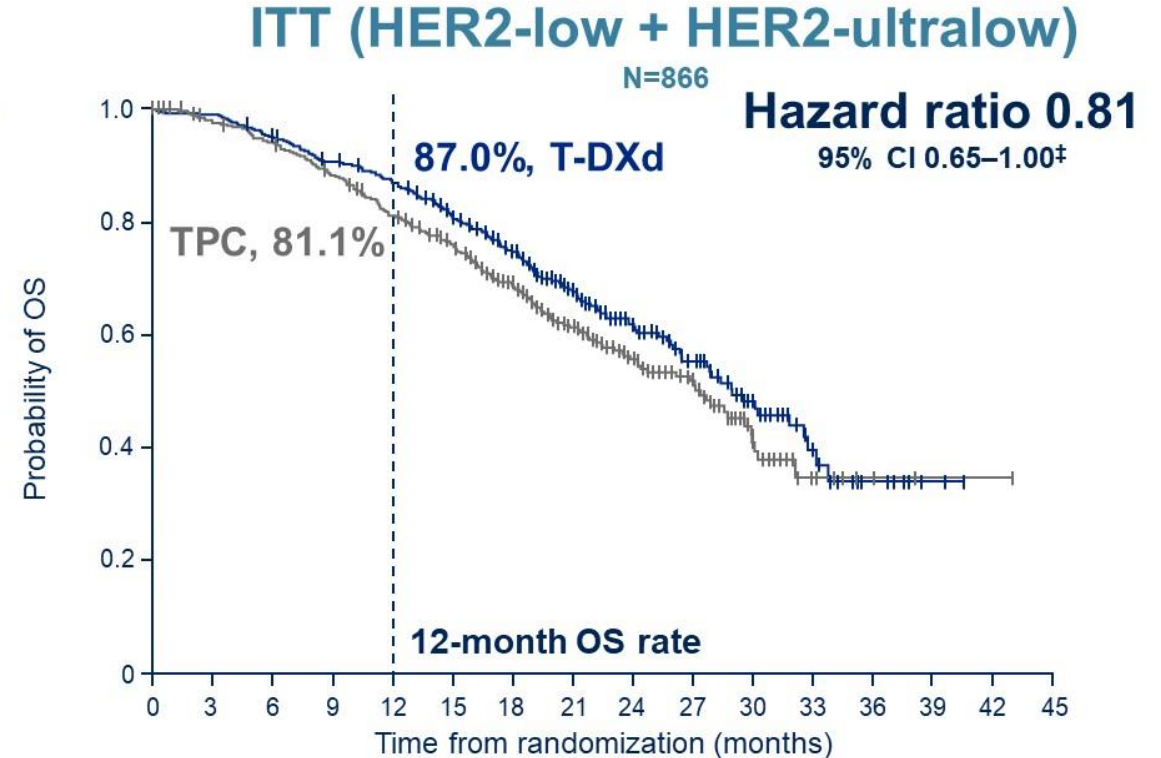
*P-value of <0.05 required for statistical significance
 BICR, blinded independent central review; CI, confidence interval; HER2, human epidermal growth factor receptor 2; mo, months; (m)PFS, (median) progression-free survival; T-DXd, trastuzumab deruxtecan; TPC, chemotherapy treatment of physician's choice

OS in HER2-low and ITT: key secondary endpoints (~40% maturity)



No. at risk	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
T-DXd	359	354	341	324	309	279	198	140	96	53	32	16	7	2	0	0
TPC	354	333	319	298	273	247	185	126	86	53	23	6	2	1	1	0

20.1% of patients in the TPC group received T-DXd post treatment discontinuation (HER2-low)



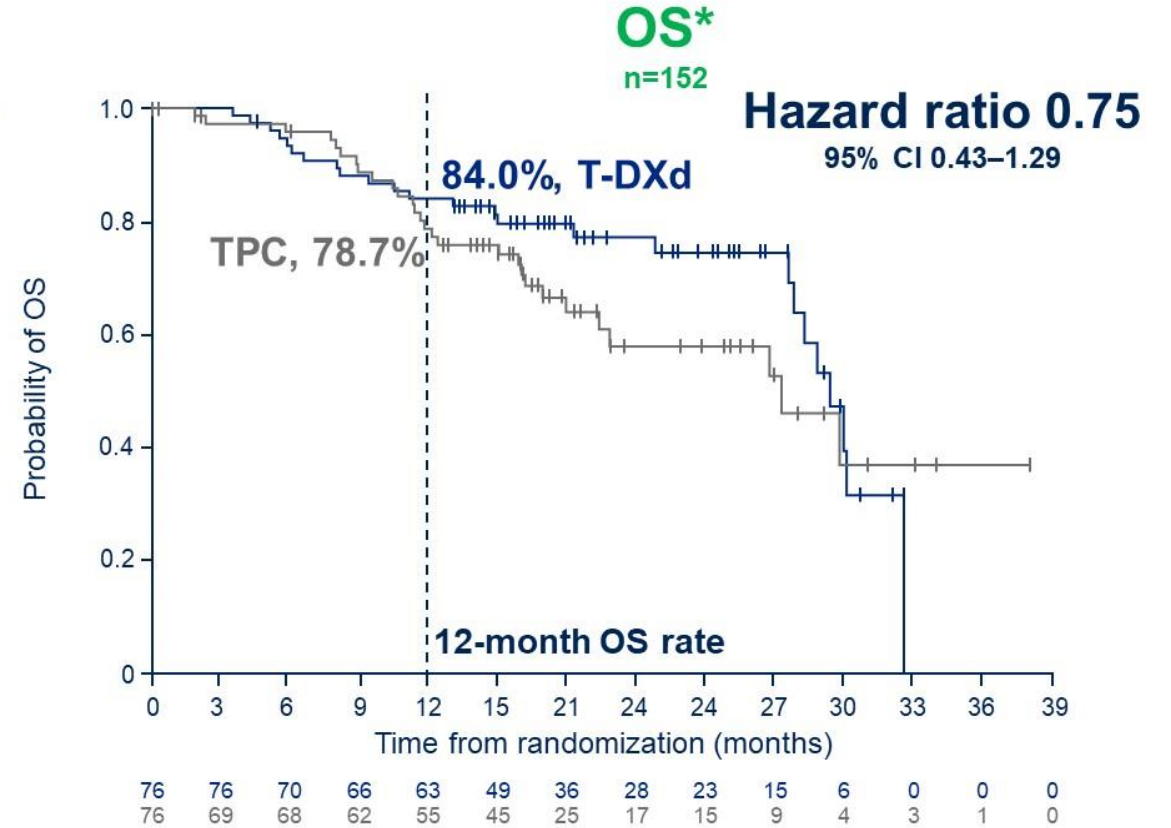
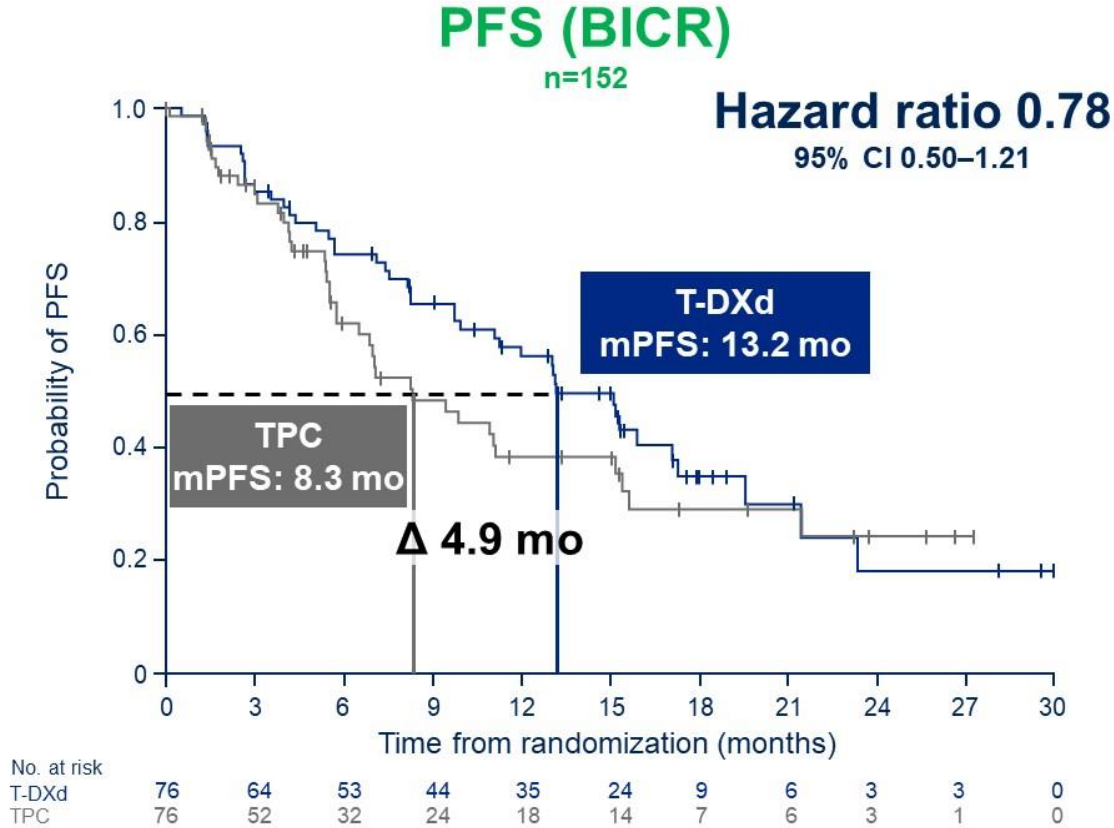
T-DXd	436	431	412	391	373	329	235	169	120	69	39	16	7	2	0	0
TPC	430	402	387	360	328	292	210	143	101	62	27	9	3	1	1	0

17.9% of patients in the TPC group received T-DXd post treatment discontinuation (ITT)

*39.6% maturity (of total N for population) at this first interim analysis; median duration of follow up was 18.6 months (HER2-low); [†]P-value of <0.0046 required for statistical significance; [‡]no test of significance was performed in line with the multiple testing procedure; median duration of follow up was 18.2 months (ITT)

CI, confidence interval; HER2, human epidermal growth factor receptor 2; ITT, intent-to-treat; OS, overall survival; T-DXd, trastuzumab deruxtecan; TPC, chemotherapy treatment of physician's choice

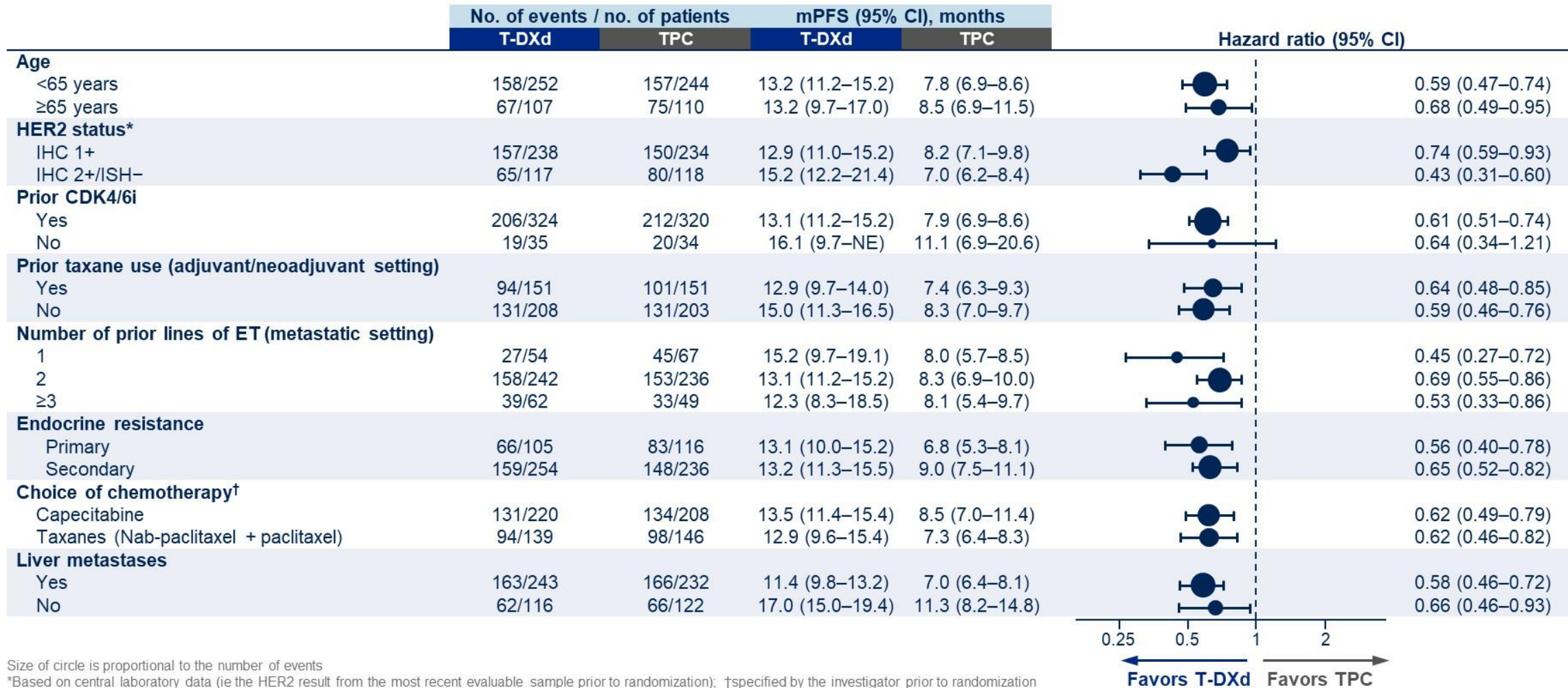
PFS and OS in HER2-ultralow: prespecified exploratory analyses



PFS improvement with T-DXd vs TPC in HER2-ultralow was consistent with results in HER2-low

*34.9% maturity (of total N for population) at this first interim analysis; median duration of follow up was 16.8 months
 BICR, blinded independent central review; CI, confidence interval; HER2, human epidermal growth factor receptor 2; OS, overall survival; mo, months; (m)PFS, (median) progression-free survival; T-DXd, trastuzumab deruxtecan; TPC, chemotherapy treatment of physician's choice

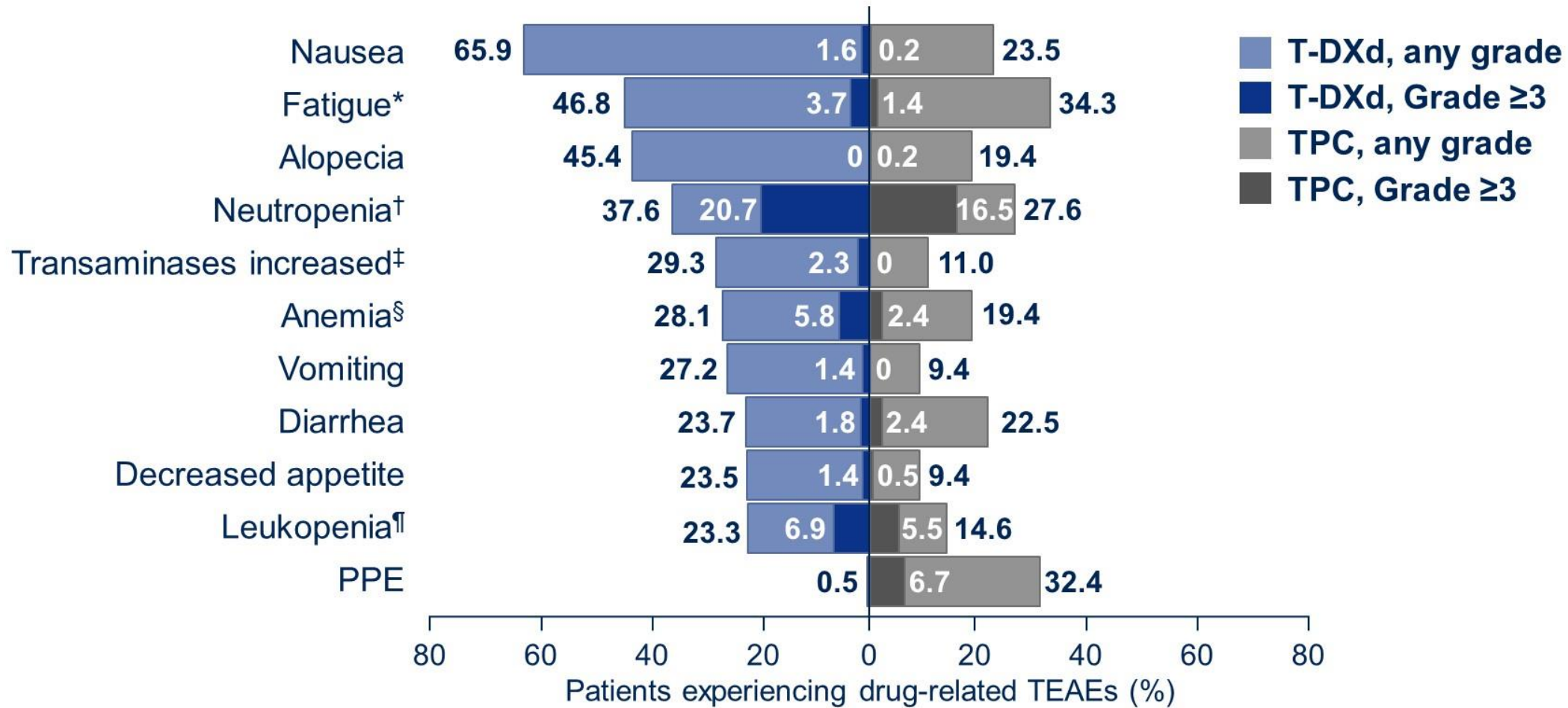
PFS (BICR) in HER2-low: subgroup analysis



Size of circle is proportional to the number of events

*Based on central laboratory data (ie the HER2 result from the most recent evaluable sample prior to randomization); †specified by the investigator prior to randomization
 BICR, blinded independent central review; CDK4/6i, cyclin-dependent kinase 4/6 inhibitor; CI, confidence interval; ET, endocrine therapy;
 HER2, human epidermal growth factor receptor 2; IHC, immunohistochemistry; *ISH*, in situ hybridization; (m)PFS, (median) progression-free survival;
 NE, not evaluable; T-DXd, trastuzumab deruxtecan; TPC, chemotherapy treatment of physician's choice

Drug-related TEAEs in ≥20% of patients (either treatment group)

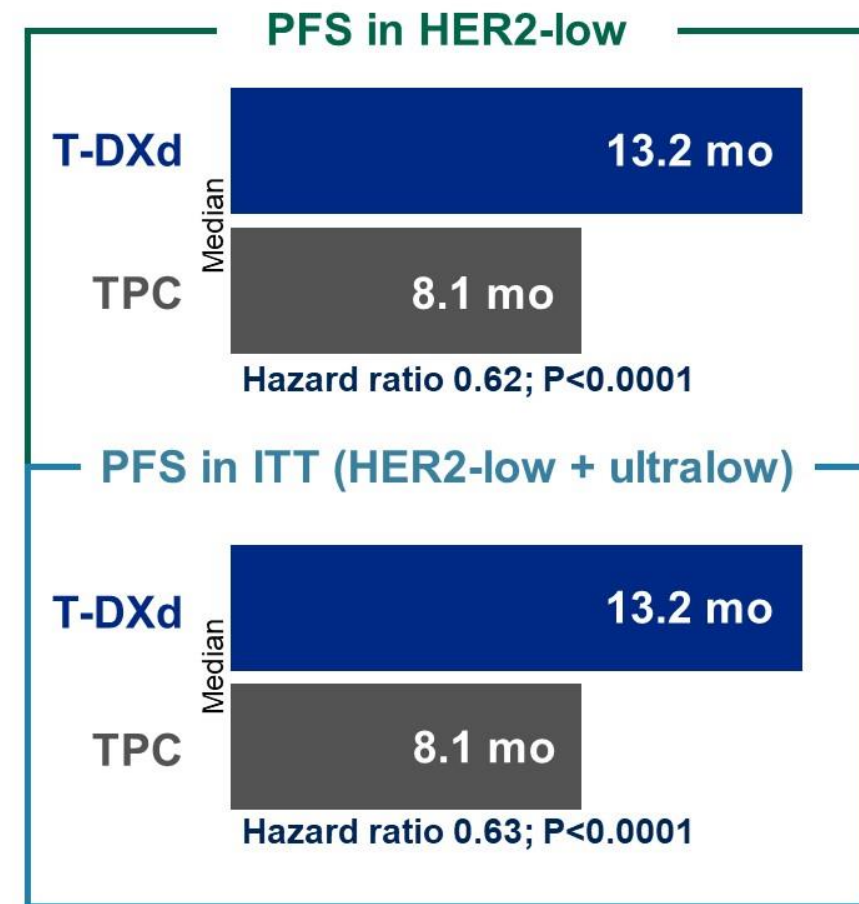


*Includes the preferred terms fatigue, asthenia, malaise, and lethargy; †includes the preferred terms neutrophil count decreased and neutropenia; ‡includes the preferred terms transaminases increased, aspartate aminotransferase increased, alanine aminotransferase increased, gamma-glutamyltransferase increased, liver function test abnormal, hepatic function abnormal, and liver function test increased; §includes the preferred terms hemoglobin decreased, red blood cell count decreased, anemia, and hematocrit decreased; ¶includes the preferred terms white blood cell count decreased and leukopenia
 PPE, palmar-plantar erythrodysesthesia; T-DXd, trastuzumab deruxtecan; TEAE, treatment-emergent adverse event; TPC, chemotherapy treatment of physician's choice

Conclusions

- T-DXd demonstrated a statistically significant and clinically meaningful PFS benefit vs TPC (chemotherapy) in HR+, HER2-low mBC in an earlier line of treatment than DESTINY-Breast04
- Results in HER2-ultralow were consistent with HER2-low
- Confirmed ORR was 57.3% (T-DXd) vs 31.2% (TPC) in ITT
- No new safety signals were identified; interstitial lung disease remains an important safety risk of T-DXd

DESTINY-Breast06 establishes T-DXd as an effective new treatment option for patients with HR+, HER2-low and HER2-ultralow mBC following ≥ 1 endocrine-based therapy



HER2, human epidermal growth factor receptor 2; HR+, hormone receptor-positive; ITT, intent-to-treat; mBC, metastatic breast cancer; mo, months; ORR, objective response rate; OS, overall survival; PFS, progression-free survival; T-DXd, trastuzumab deruxtecan; TPC, chemotherapy treatment of physician's choice

Abemaciclib plus fulvestrant vs fulvestrant alone for HR+, HER2- advanced breast cancer following progression on prior CDK4/6 inhibitor plus endocrine therapy: Primary outcome of the Phase 3 postMONARCH trial

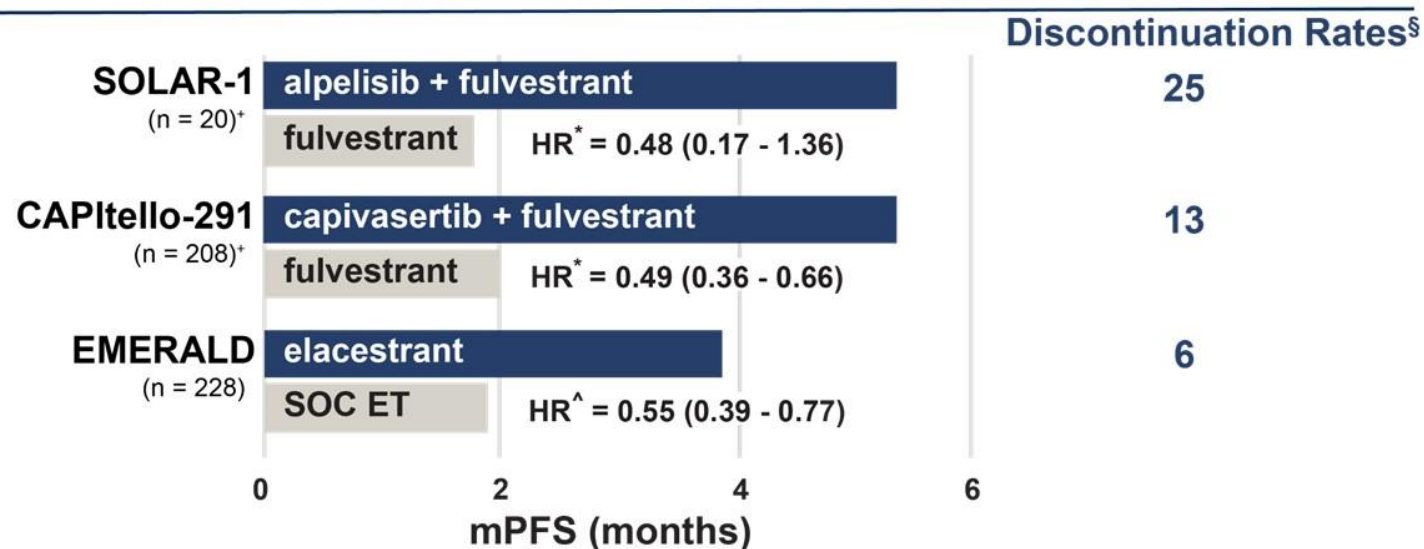
Kevin Kalinsky¹, Giampaolo Bianchini², Erika P. Hamilton³, Stephanie L. Graff⁴, Kyong Hwa Park⁵, Rinath Jeselsohn⁶, Umut Demirci⁷, Miguel Martin⁸, Rachel M. Layman⁹, Sara Hurvitz¹⁰, Sarah Sammons¹¹, Peter A. Kaufman¹², Montserrat Munoz¹³, Ling-Ming Tseng¹⁴, Holly Knoderer¹⁵, Bastien Nguyen¹⁵, Yanhong Zhou¹⁵, Elizabeth Ravenberg¹⁵, Lacey M. Litchfield¹⁵, Seth A. Wander¹⁶

¹Winship Cancer Institute at Emory University, Atlanta, GA, USA, ²IRCCS Ospedale, San Raffaele, Milan, Italy, ³Sarah Cannon Research Institute, Nashville, TN, USA, ⁴Lifespan Cancer Institute, Warren Albert School of Medicine, Brown University, Providence, RI, USA, ⁵Korea University Anam Hospital, Korea University, Seoul, South Korea, ⁶Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA, USA, ⁷Memorial Ankara Hospital, Ankara, Turkey, ⁸Hospital General Universitario Gregorio Marañon, Universidad Complutense, Madrid, Spain, ⁹MD Anderson Cancer Center, University of Texas, Houston, TX, USA, ¹⁰Fred Hutchinson Cancer Center, University of Washington School of Medicine, Seattle, WA, USA, ¹¹Dana Farber Cancer Institute, Harvard Medical School, Boston, MA, USA, ¹²University of Vermont Medical Center, Burlington, VT, USA, ¹³Hospital Clinic i Provincial, Barcelona, Spain, ¹⁴Taipei Veterans General Hospital, Taipei, Taiwan, ¹⁵Eli Lilly and Company, Indianapolis, IN, USA, ¹⁶Massachusetts General Hospital, Harvard University, Boston, MA, USA

Background: Targeted Therapy Options Post 1L CDK4/6i

- Targeted therapy options are primarily confined to biomarker-positive (+) ABC (PI3K pathway altered, *ESR1* mutant)
- Despite this important progress, median PFS with these agents remains <6 months, absolute improvement generally limited to ~1-2 scan intervals, and toxicities vary

Phase 3 Results Post-CDK4/6i in Biomarker+ ABC



*Post CDK4/6i Subgroup, †Investigator PFS, ^BICR PFS, §ITT population

postMONARCH Study Design

Eligibility

HR+, HER2- ABC

Men & Pre/post menopausal women

Prior Therapy:

- **ABC:** Disease progression on CDK4/6i + AI as initial therapy
- **Adjuvant:** Disease recurrence on/after CDK4/6i + ET
- No other therapy for ABC

Randomization 1:1

N = 368

Abemaciclib + Fulvestrant

Placebo + Fulvestrant

Primary Endpoint:

Investigator-Assessed PFS

Secondary Endpoints:

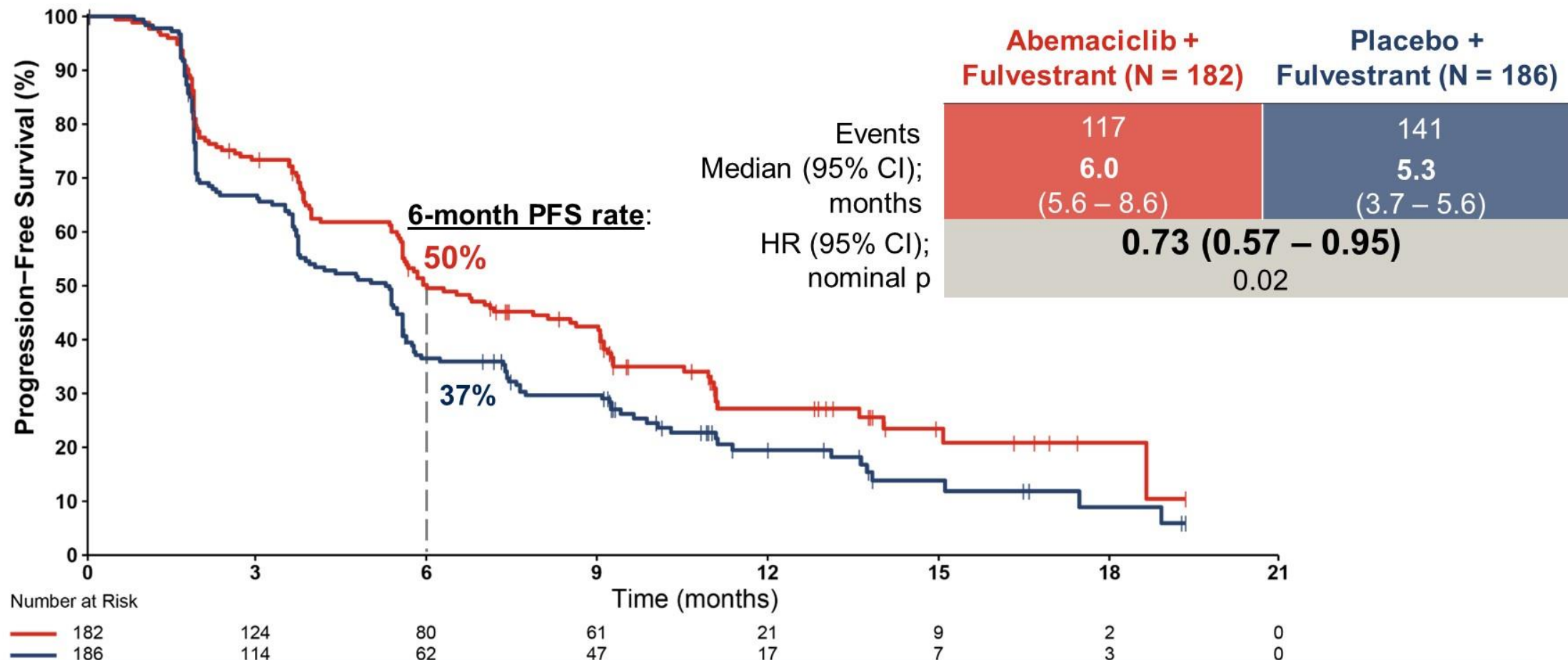
OS, PFS by BICR, ORR, CBR, DCR, DoR, Safety, PK & PRO

Stratification Factors:

- Duration of prior CDK4/6i
- Visceral metastases
- Geographic region

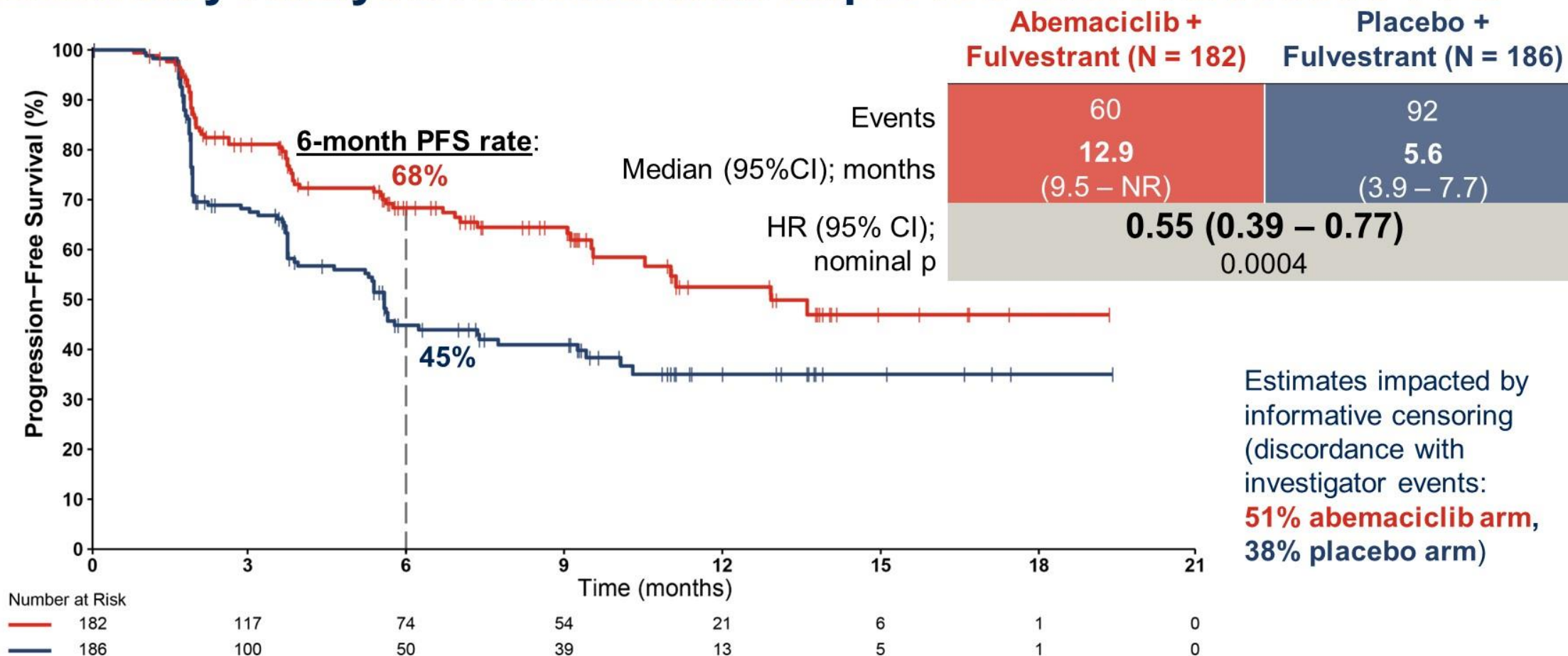
- Enrolled March 2022 to June 2023 across 96 centers in 16 countries
- Scans every 8 weeks for the first 12 months, then every 12 weeks
- Primary outcome targeted 251 events; interim analysis planned at ~70% of events
- Assuming a hazard ratio (HR) of 0.70, ~80% power to detect abemaciclib superiority, with a cumulative 2-sided type I error of 0.05
- Biomarker ctDNA analyzed by GuardantINFINITY assay

Primary Analysis: Abemaciclib Improved Investigator-Assessed PFS



Abemaciclib led to 27% reduction in the risk of developing PFS event

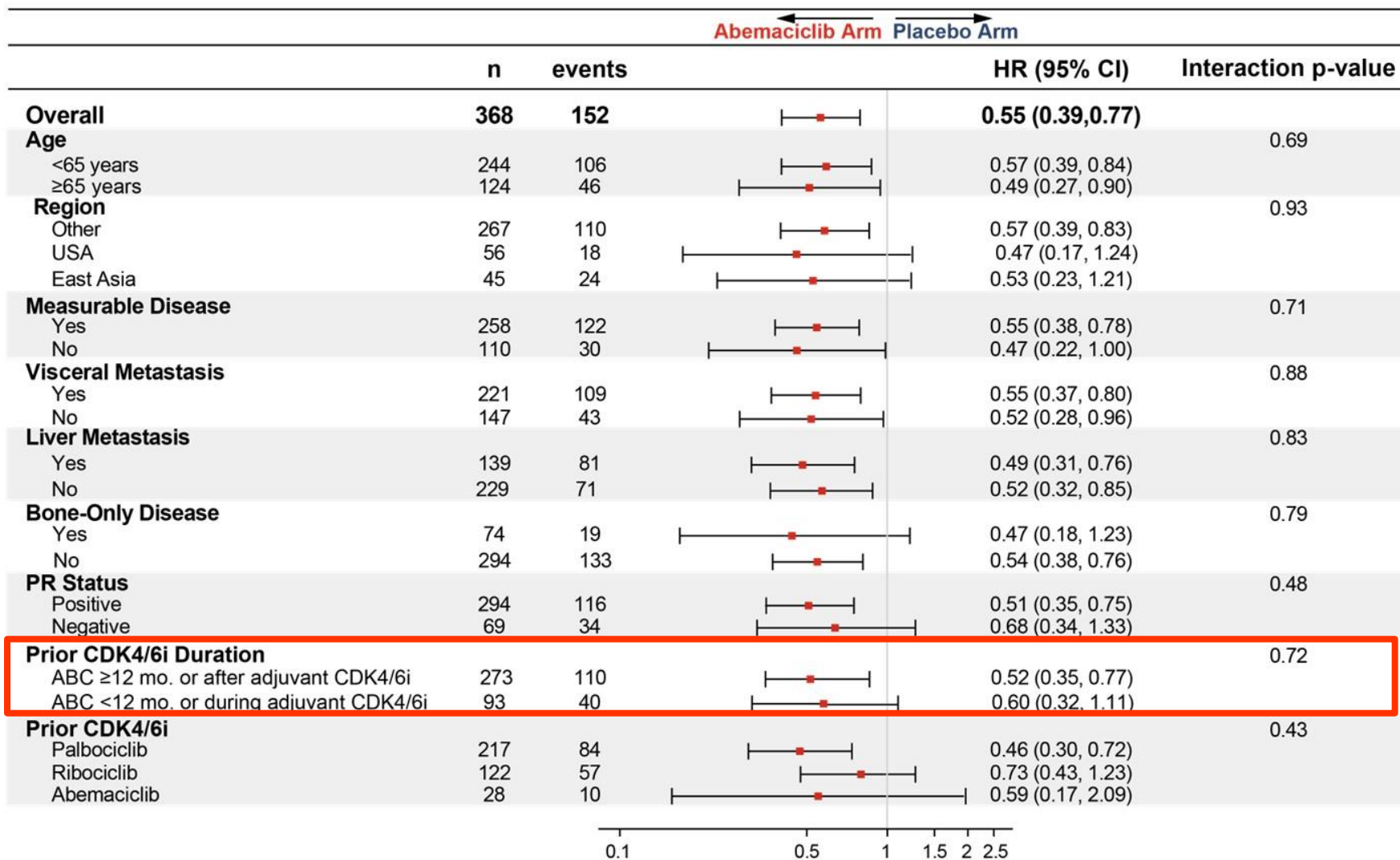
Secondary Analysis: Abemaciclib Improved BICR-Assessed PFS



Estimates impacted by informative censoring (discordance with investigator events: **51% abemaciclib arm, 38% placebo arm**)

Abemaciclib led to 45% reduction in the risk of developing PFS event per BICR

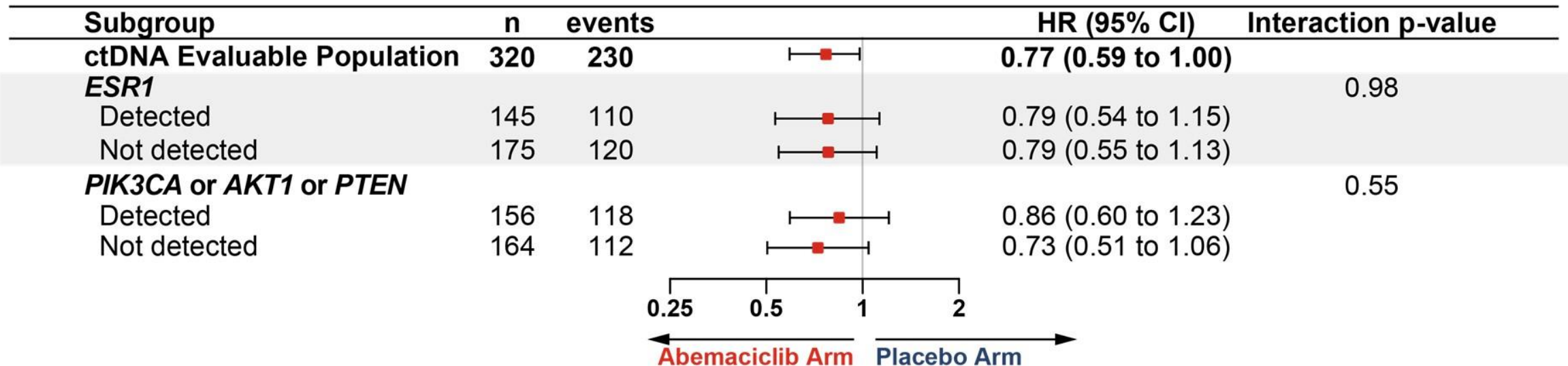
BICR-Assessed PFS by Subgroup: Consistent Abemaciclib Effect Across Subgroups



Estimates impacted by informative censoring (discordance with investigator events: **51% abemaciclib arm, 38% placebo arm**)

Exploratory: Consistent Effect Across Biomarker Subgroups

		Abemaciclib + Fulvestrant N=182	Placebo + Fulvestrant N=186
ctDNA Evaluable Population		161 (88%)	159 (85%)
Biomarker Status	<i>ESR1</i> mutation	40%	51%
	<i>PIK3CA</i> or <i>PTEN</i> or <i>AKT1</i> alteration	46%	52%



Biomarker ctDNA by GuardantINFINITY assay

Safety Consistent with Known Abemaciclib Profile

	Abemaciclib + Fulvestrant N = 181	Placebo + Fulvestrant N = 185
Grade 5 TRAE ⁺ , n (%)	1 (0.6)	0
Dose reductions due to AE, n (%)	55 (30)	6 (3)
Discontinuations due to AE, n (%)	11 (6)	0

TEAEs	Abemaciclib + Fulvestrant, N=181, %		Placebo + Fulvestrant, N=185, %	
	Any Grade	Grade ≥3	Any Grade	Grade ≥3
Any	97	55	82	20
Diarrhea	75	4	17	2
Neutropenia*	41	25 [^]	3	0
Anemia*	35	11	15	4
Fatigue*	33	3	23	1
Nausea	33	3	18	0
Abdominal Pain*	24	2	16	0
Vomiting	20	2	6	0
Thrombocytopenia*	18	4	6	2
Decreased Appetite	18	1	7	0
Leukopenia*	18	8	3	0
AST Increased	15	6	11	2
ALT Increased	13	4	10	2
Arthralgia	12	1	12	1
Creatinine Increased	11	0	2	0
Cough	11	0	7	0
VTE*	5	2 [#]	3	1
ILD*	3	1 [§]	1	0

Conclusions

- postMONARCH is the first randomized, placebo-controlled Phase 3 study to demonstrate benefit of continued CDK4/6 inhibition beyond progression on a CDK4/6i
- Abemaciclib improved PFS in pts with HR+, HER2- ABC with disease progression on prior CDK4/6i + ET, despite the control arm performing better than expected
 - 27% risk reduction for developing a PFS event (HR: 0.73 [0.57- 0.95])
 - Consistent benefit across multiple prespecified and clinically relevant subgroups, including key biomarker subgroups
 - Consistent improvement across key secondary efficacy endpoints, including PFS by BICR and ORR
- Safety was consistent with the known abemaciclib profile and discontinuation rate was low

Abemaciclib + fulvestrant offers a targeted therapy option after disease progression on a CDK4/6i for patients with HR+, HER2- ABC, not selected for biomarker status

Zusammenfassung

- **CARACO:** Lymphonodektomie nach neoajuvanter Chemotherapie bei Ovarialkarzinom FIGO III/IV ohne Überlebensvorteil (**HR 0,96**)
- **AGO-Ovar 2.29:** Atezolizumab beim nicht-platingeeigneten Rezidiv ohne Überlebensvorteil (**HR 0,87**), *post hoc* Vorteil bei BEV oder Paclitaxel
- **PEARLY:** +Carboplatin verbessert **EFS (+7,2 %; HR 0,67)** bei TNBC neoadjuvant **und adjuvant**
- **Mayo:** Verzicht auf ET verschlechtert OS bei ER-low (**-3,2%; HR 1,25**)
- **DESTINY-Breast06:** T-DXd verlängert PFS bei HER2-low (**HR 0,62; +5,1 Monate**), HER2-ultralow vergleichbar (**HR 0,78; +4,9 Monate n.s.**)
- **postMONARCH:** Abemaciclib bei Progress nach CDK4/6i verlängert PFS nach verblinderter zentraler Einschätzung (**HR 0,55; +7,3 Monate**)

Wo stehen wir in der Routine?

Analysis of Breast Cancer Mortality in the US— 1975 to 2019

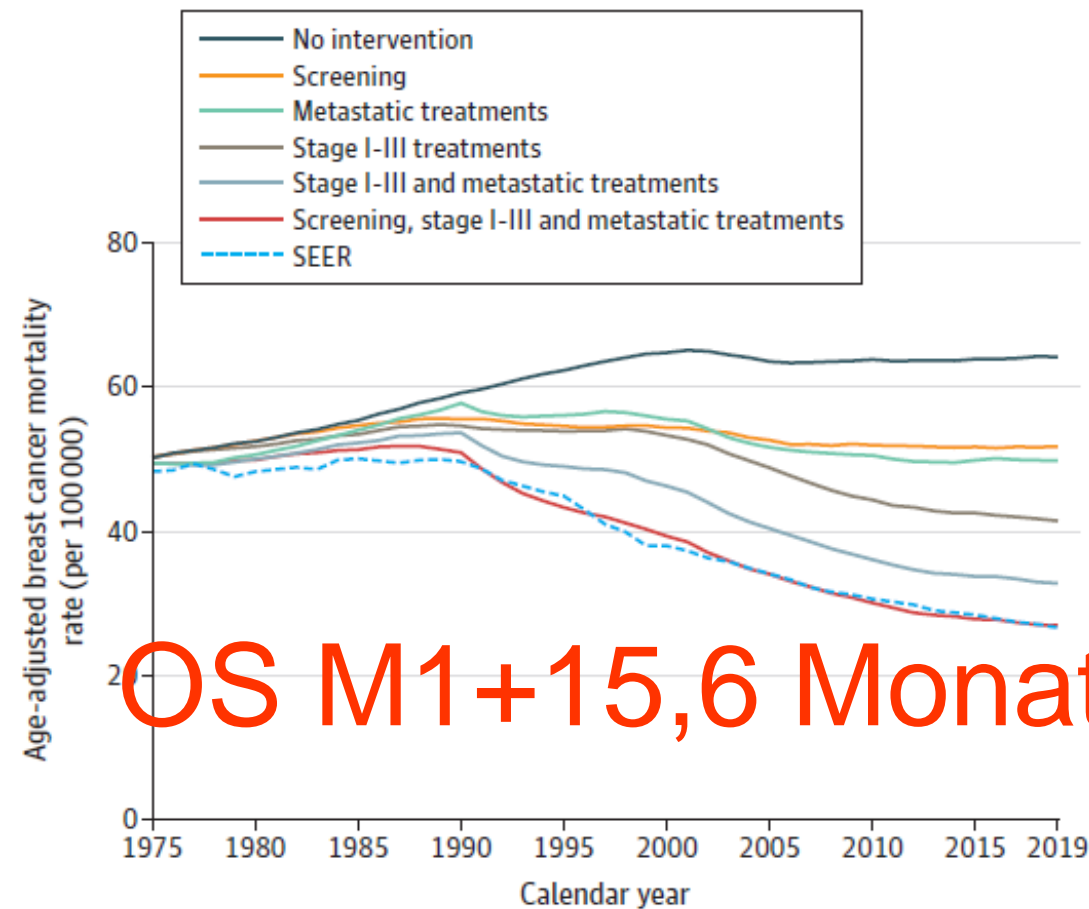
- 4 Simulationsmodelle

- Brustkrebsmortalität um 58% reduziert, davon:

- 29% Therapie metastasiert
- 47% Therapie (neo)adjuvant
- 25% Mammographiescreening

- OS-Verlängerung metastasiert 2000-2019: **+15,6 Monate**

A Model-estimated mean age-adjusted breast cancer mortality



OS M1+15,6 Monate

Metastatic Breast Cancer: Prolonging Life in Routine Oncology Care

- Metastasiertes Mammakarzinom 1995-2022 (n=1610)

OS kontinuierlich verlängert von 31,6 auf 48,4 Monate

- Medianes OS nach Subtypen:

- HR+ HER2+ 52,3 Monate
- HR+ HER2- 41,1 Monate
- HR- HER2+ 36,6 Monate
- HR- HER2- 19,9 Monate

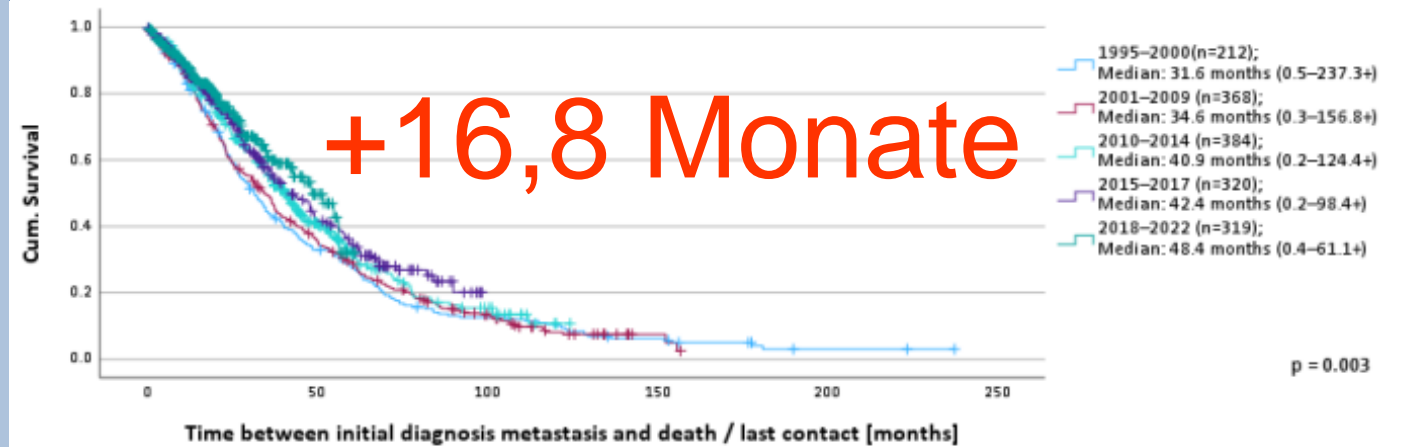


Figure 1. OS according to time of MBC diagnosis.

