

ASCO 2025 updates: HER2+ breast cancer and TNBC

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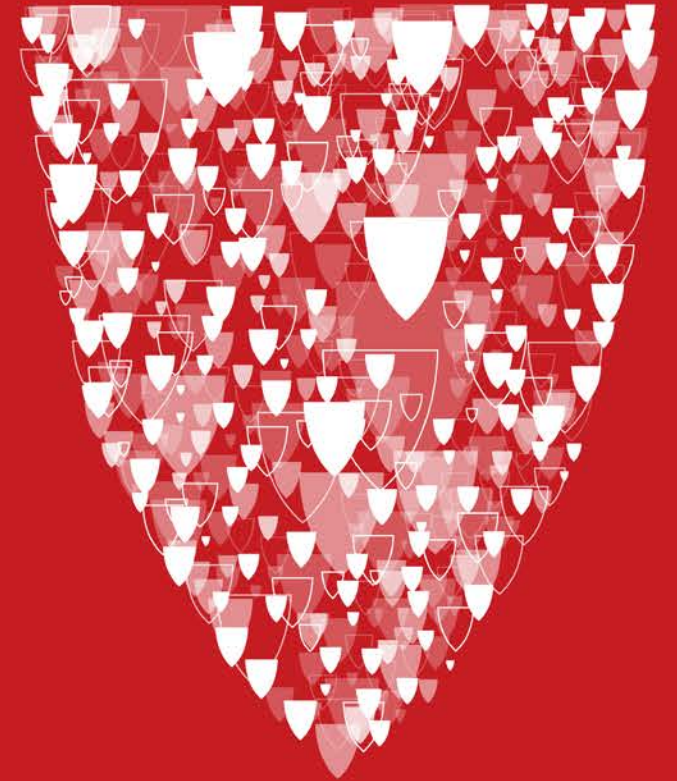
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HER2+ breast cancer ASCO 2025: Three Abstracts Discussed

- #1: Destiny Breast-09
- #2: neoCARHP
- #3: CompassHER2 pCR trial
- #4: Mini Trial

Trastuzumab deruxtecan (T-DXd) + pertuzumab vs taxane + trastuzumab + pertuzumab (THP) for first-line treatment of patients with human epidermal growth factor receptor 2–positive (HER2+) advanced/metastatic breast cancer: interim results from DESTINY-Breast09

Sara M Tolaney, MD, MPH

Dana-Farber Cancer Institute, Boston, MA, US

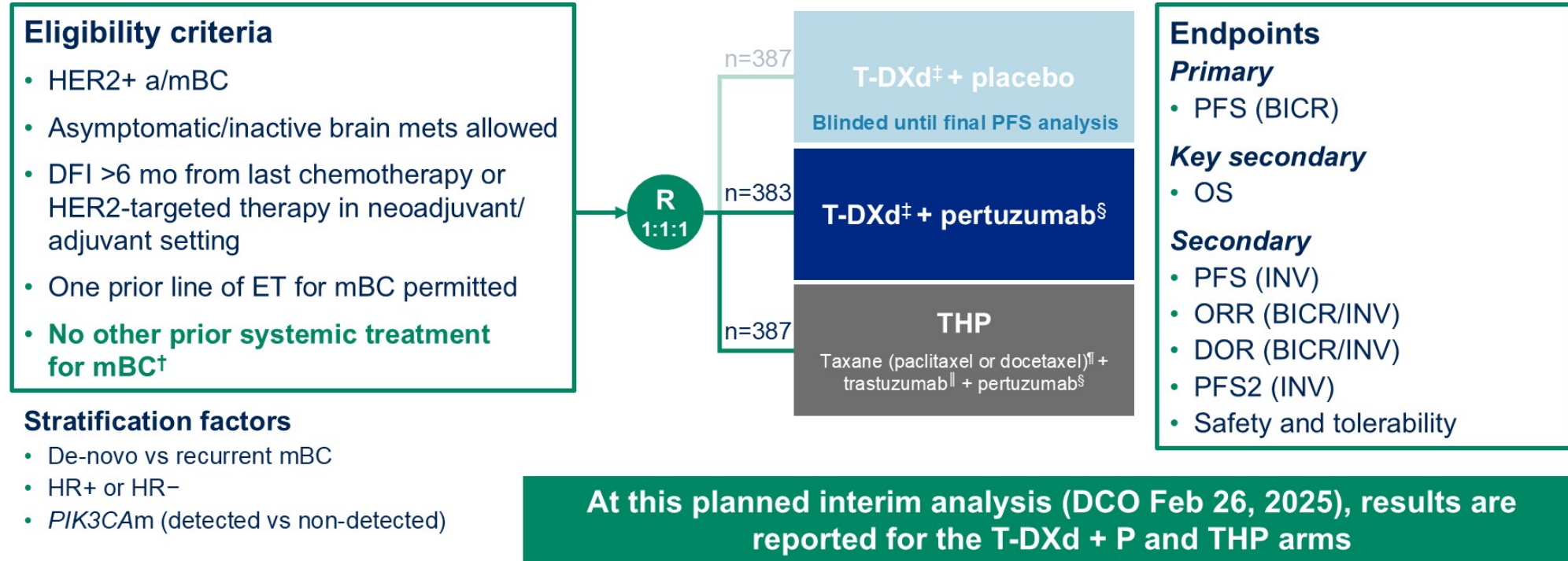
Monday, June 2, 2025

Additional authors: Zefei Jiang, Qingyuan Zhang, Romualdo Barroso-Sousa, Yeon Hee Park, Mothaffar F Rimawi, Cristina Saura, Andreas Schneeweiss, Masakazu Toi, Yee Soo Chae, Yasemin Kemal, Mukesh Chaudhari, Toshinari Yamashita, Monica Casalnuovo, Michael A Danso, Jie Liu, Jagdish Shetty, Pia Herbolzheimer, Sibylle Loibl

On behalf of the DESTINY-Breast09 investigators

DESTINY-Breast09 study design

A randomized, multicenter, open-label,* Phase 3 study (NCT04784715)



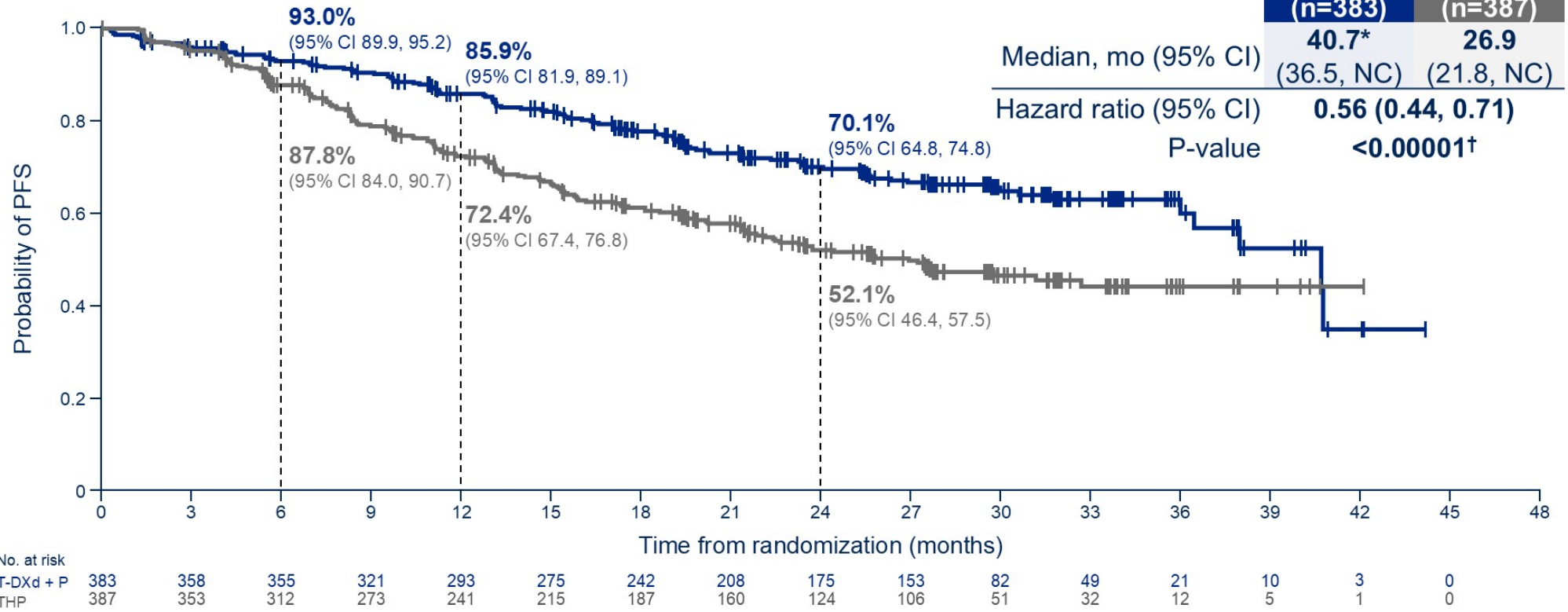
*Open label for THP arm. Double blinded for pertuzumab in experimental arms; [†]HER2-targeted therapy or chemotherapy; [‡]5.4 mg/kg Q3W; [§]840 mg loading dose, then 420 mg Q3W; ^{||}paclitaxel 80 mg/m² QW or 175 mg/m² Q3W, or docetaxel 75 mg/m² Q3W for a minimum of six cycles or until intolerable toxicity; ^{||}8 mg/kg loading dose, then 6 mg/kg Q3W
a/mBC, advanced/metastatic breast cancer; BICR, blinded independent central review; DCO, data cutoff; DFI, disease-free interval; DOR, duration of response; HER2, human epidermal growth factor receptor 2; HER2+, HER2-positive; HR+/-, hormone receptor-positive/-negative; INV, investigator; mBC, metastatic breast cancer; mets, metastases; mo, months; ORR, objective response rate; OS, overall survival; P, pertuzumab; PFS, progression-free survival; PFS2, second progression-free survival; *PIK3CA*m, phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha mutation; Q3W, every 3 weeks; QW, once every week; R, randomization; T-DXd, trastuzumab deruxtecan
NCT04784715. Updated. May 6, 2025. Available from: <https://clinicaltrials.gov/study/NCT04784715> (Accessed May 29, 2025)

Patient demographics and key baseline characteristics

	T-DXd + P (n=383)	THP (n=387)
Age, median (range), years	54 (27–85)	54 (20–81)
Female, n (%)	383 (100)	387 (100)
Geographical region, n (%)		
Asia	188 (49.1)	191 (49.4)
Western Europe and North America	87 (22.7)	78 (20.2)
Rest of World	108 (28.2)	118 (30.5)
ECOG performance status, n (%)		
0 (normal activity)	256 (66.8)	246 (63.6)
1 (restricted activity)	127 (33.2)	141 (36.4)
HER2 score by central test, n (%)		
IHC 3+	318 (83.0)	315 (81.4)
IHC <3 / ISH+	62 (16.2)	71 (18.3)
IHC NR / ISH+	3 (0.8)	1 (0.3)
HR status, n (%)		
Positive*	207 (54.0)	209 (54.0)
Negative	176 (46.0)	178 (46.0)
De-novo disease at diagnosis, n (%)	200 (52.2)	200 (51.7)
PIK3CA mutations detected, n (%)	116 (30.3)	121 (31.3)
Brain metastases, n (%)[†]	25 (6.5)	22 (5.7)
Visceral metastases, n (%)	281 (73.4)	268 (69.3)

*Defined as estrogen receptor–positive and/or progesterone receptor–positive (≥1%); †participants were eligible if they had brain metastases that were clinically inactive or treated/asymptomatic
 ECOG, Eastern Cooperative Oncology Group; HER2, human epidermal growth factor receptor 2; HR, hormone receptor; IHC, immunohistochemistry; ISH, in situ hybridization; NR, not recorded; P, pertuzumab; T-DXd, trastuzumab deruxtecan; THP, taxane + trastuzumab + pertuzumab

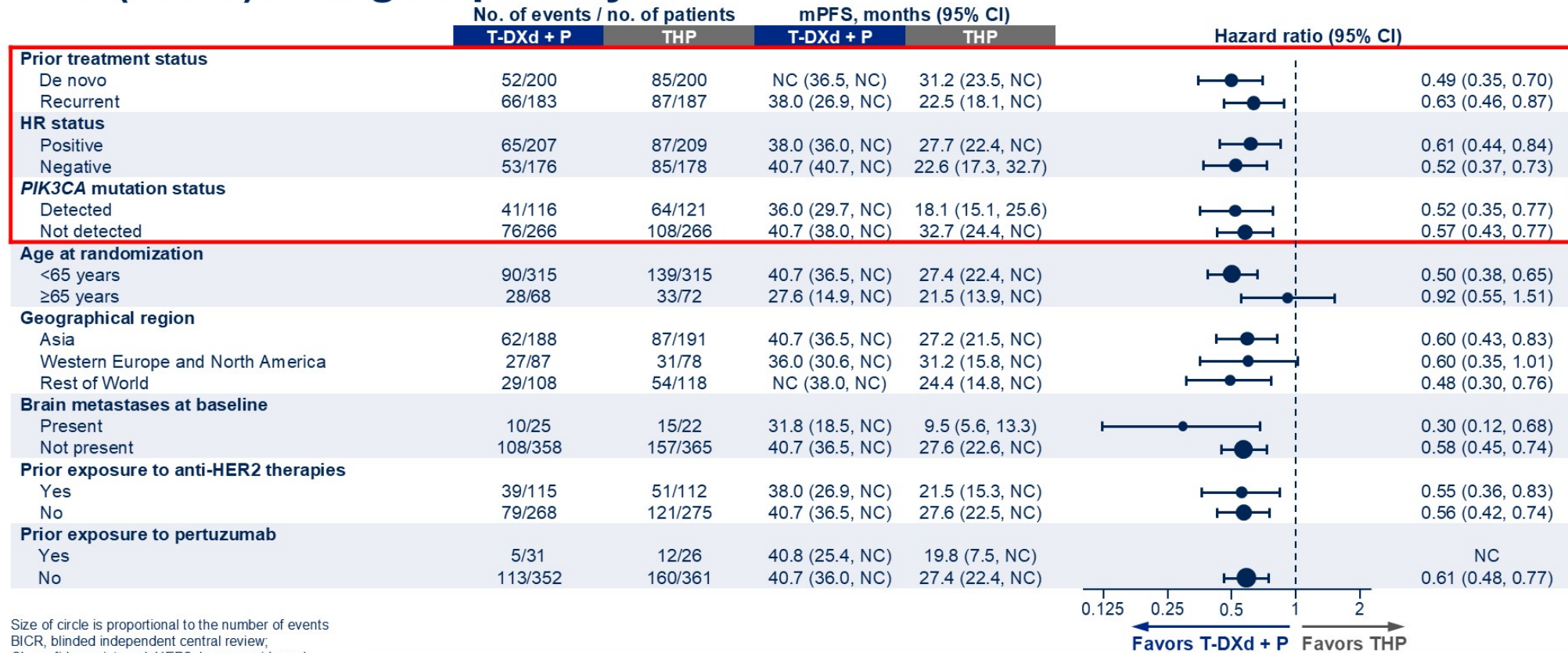
PFS (BICR): primary endpoint



Statistically significant and clinically meaningful PFS benefit with T-DXd + P (median Δ 13.8 mo)

*Median PFS estimate for T-DXd + P is likely to change at updated analysis; †stratified log-rank test. A P-value of <0.00043 was required for interim analysis superiority
 BICR, blinded independent central review; CI, confidence interval; mo, months; (m)PFS, (median) progression-free survival; NC, not calculable; P, pertuzumab; T-DXd, trastuzumab deruxtecan; THP, taxane + trastuzumab + pertuzumab

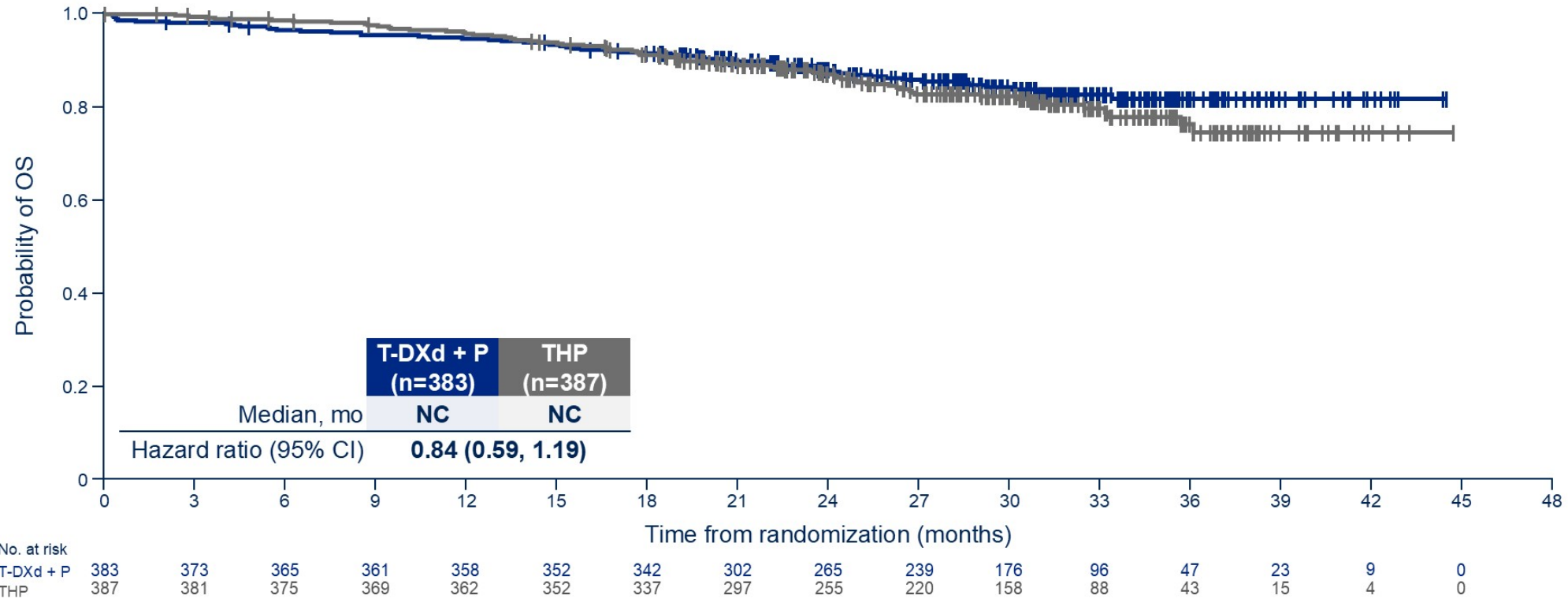
PFS (BICR): subgroup analyses



Size of circle is proportional to the number of events
 BICR, blinded independent central review;
 CI, confidence interval; HER2, human epidermal growth factor receptor 2; HR, hormone receptor;
 NC, not calculable; P, pertuzumab;
 (m)PFS, (median) progression-free survival;
 T-DXd, trastuzumab deruxtecan;
 THP, taxane + trastuzumab + pertuzumab

PFS benefit with T-DXd + P vs THP was consistently observed across prespecified subgroups, including stratification factors

Overall survival (~16% maturity)



Early OS data suggest a positive trend favoring T-DXd + P over THP

CI, confidence interval; OS, overall survival; NC, not calculable; P, pertuzumab; T-DXd, trastuzumab deruxtecan; THP, taxane + trastuzumab + pertuzumab

Adverse events of special interest

Adjudicated drug-related ILD/pneumonitis*

n (%)	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Any grade
T-DXd + P (n=381)	17 (4.5)	27 (7.1)	0	0	2 (0.5)	46 (12.1)
THP (n=382)	2 (0.5)	2 (0.5)	0	0	0	4 (1.0)

Left ventricular dysfunction†

n (%)	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Any grade
T-DXd + P (n=381)	4 (1.0)	30 (7.9)	7 (1.8)	1 (0.3)	0	42 (11.0)
THP (n=382)	1 (0.3)	19 (5.0)	7 (1.8)	0	0	27 (7.1)

Safety analysis set

*Adjudicated drug-related ILD/pneumonitis (grouped term) includes: chronic obstructive pulmonary disease, interstitial lung disease, organizing pneumonia, pneumonia, and pneumonitis, †left ventricular dysfunction (grouped term) includes: potential heart failure, cardiac failure, cardiac failure chronic, ejection fraction decreased, left ventricular dysfunction, and right ventricular failure
ILD, interstitial lung disease; P, pertuzumab; T-DXd, trastuzumab deruxtecan; THP, taxane + trastuzumab + pertuzumab

Key Points

- T-DxD+P represents a new 1L SOC in HER2+ MBC w/ significant improvement in mPFS which exceeds that seen in Cleopatra
- Trend favoring OS improvement w/T-DxD+P but data premature
- But.... Optimal sequencing? And therapy duration are unanswered questions.

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De-escalated neoadjuvant taxane plus trastuzumab and pertuzumab with or without carboplatin in HER2-positive early breast cancer (neoCARHP): A multicentre, open-label, randomised, phase 3 trial

Hong-Fei Gao, Wei Li, Zhiyong Wu, Jie Dong, Yin Cao, Yanxia Zhao, Qian-Jun Chen, Shihui Ma, Jie Ouyang, Jin-Hui Ye, Huawei Yang, Yuanqi Zhang, Yongcheng Zhang, Gangling Zhang, Yingyi Lin, Teng Zhu, Ci-Qiu Yang, Liulu Zhang, Mei Yang, Hao Peng, Bo Chen, Yitian Chen, Min-Yi Cheng, Jieqing Li, Ying Lin, Guo-Lin Ye, Zefei Jiang, Kun Wang

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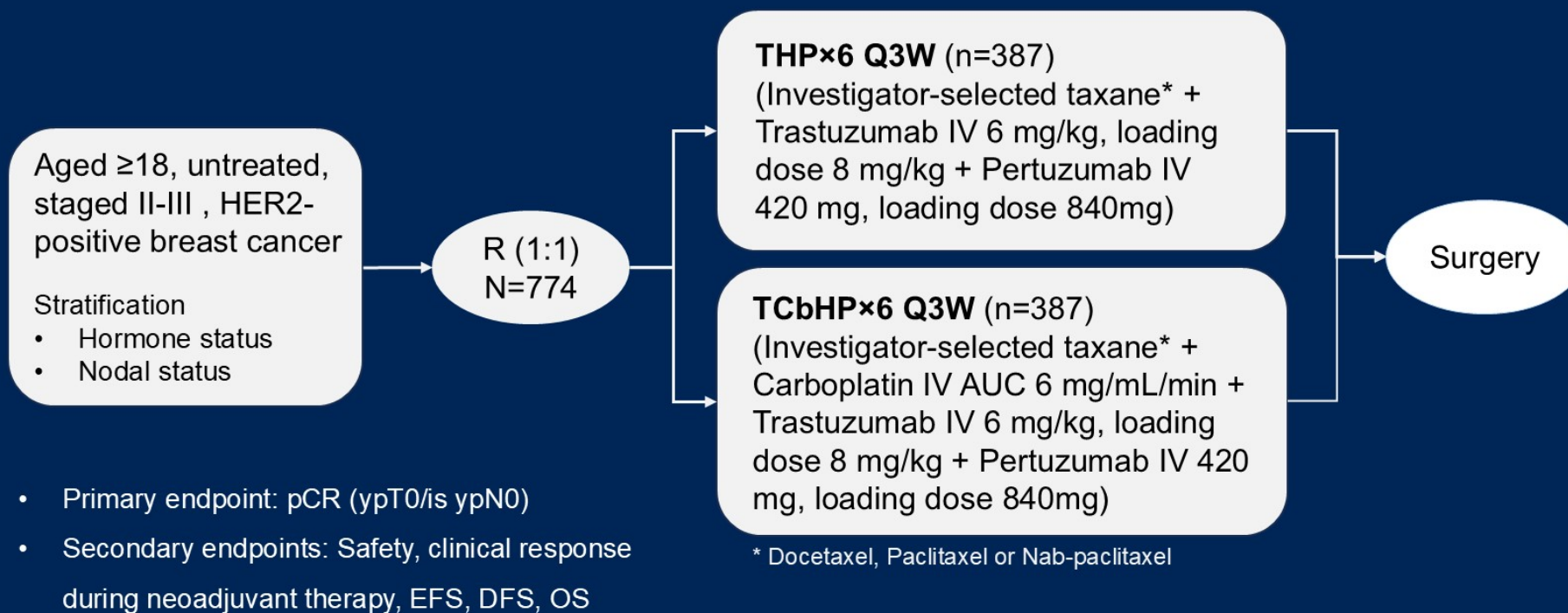
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neoCARHP Study Design (NCT04858529)



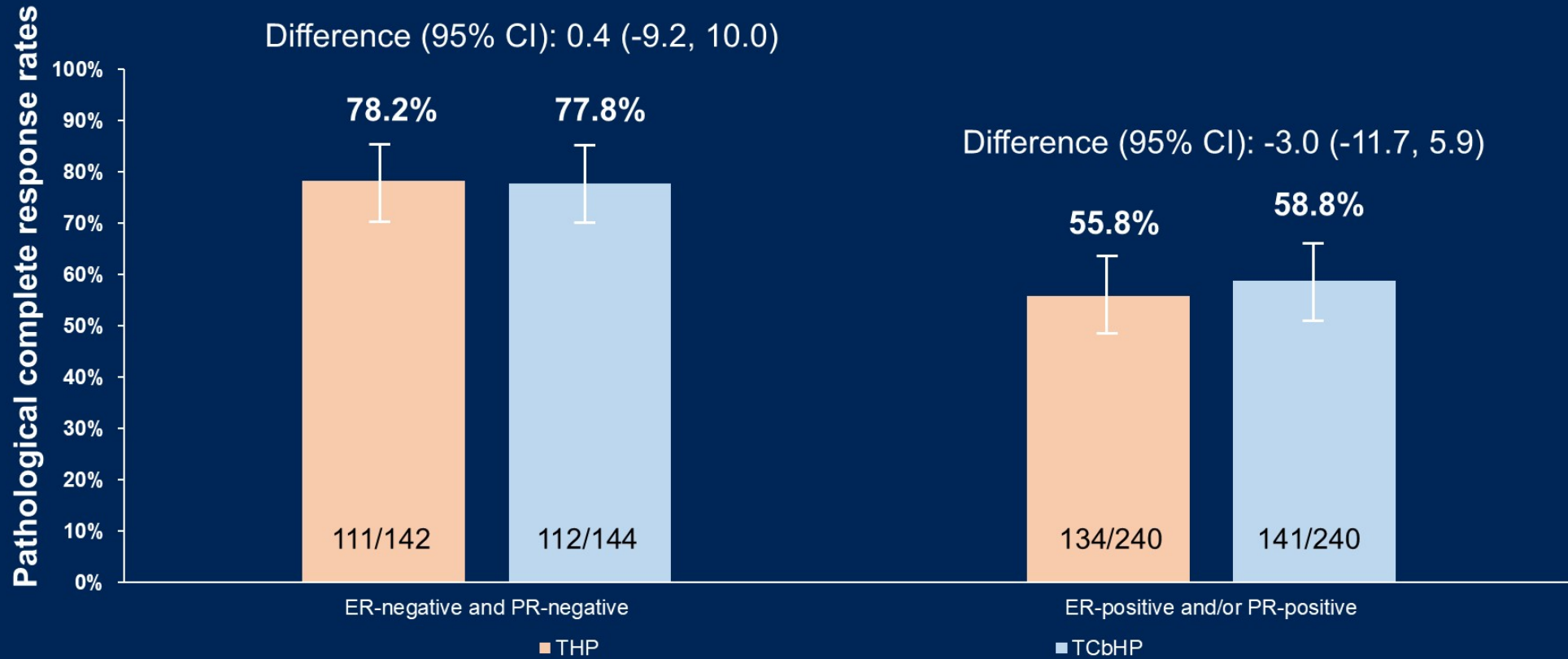
Baseline Patients Characteristics

	THP (n=382)	TCbHP (n=384)
Age (median [IQR], years)	52 (45-58)	51 (44-56)
Menopausal status, n (%)		
Premenopausal	191 (50.0%)	200 (52.1%)
Postmenopausal	191 (50.0%)	184 (47.9%)
T stage, n (%)		
T1-2	311 (81.4%)	302 (78.6%)
T3-4	71 (18.6%)	82 (21.4%)
Nodal status, n (%)		
Negative	137 (35.9%)	138 (35.9%)
Positive	245 (64.1%)	246 (64.1%)
Disease stage, n (%)		
Stage II	294 (77.0%)	275 (71.6%)
Stage III	88 (23.0%)	109 (28.4%)
Histological type, n (%)		
Ductal	375 (98.2%)	376 (97.9%)
Lobular	1 (0.3%)	2 (0.5%)
Others	6 (1.6%)	6 (1.6%)

	THP (n=382)	TCbHP (n=384)
Hormone receptor status, n (%)		
ER-negative and PR-negative	142 (37.2%)	144 (37.5%)
ER-positive and/or PR-positive	240 (62.8%)	240 (62.5%)
HER2 status, n (%)		
Immunohistochemistry 3+	338 (88.5%)	348 (90.6%)
Immunohistochemistry 2+ and ISH-positive	44 (11.5%)	36 (9.4%)
Ki67, n (%)		
≤30%	163 (42.7%)	172 (44.8%)
>30%	219 (57.3%)	212 (55.2%)
Taxane therapy, n (%)		
Nab-paclitaxel* Q3 wk	170 (44.5%)	171 (44.5%)
Docetaxel	137 (35.9%)	141 (36.7%)
Paclitaxel Q3 wk	75 (19.6%)	72 (18.8%)

*nab-paclitaxel not FDA approved for this indication

Efficacy Analysis: pCR by hormone receptor status



Key Points

- Q3 wk Taxane/H+P non inferior pCR rates and better tolerated than standard TCH-P
- We probably can omit carboplatin from neoadjuvant chemo
- But, these data don't support use of q3 wk nab-paclitaxel or q3 wk paclitaxel
 - Weekly paclitaxel may be optimal neoadjuvant taxane strategy for her2+ chemo (see presentation #3)

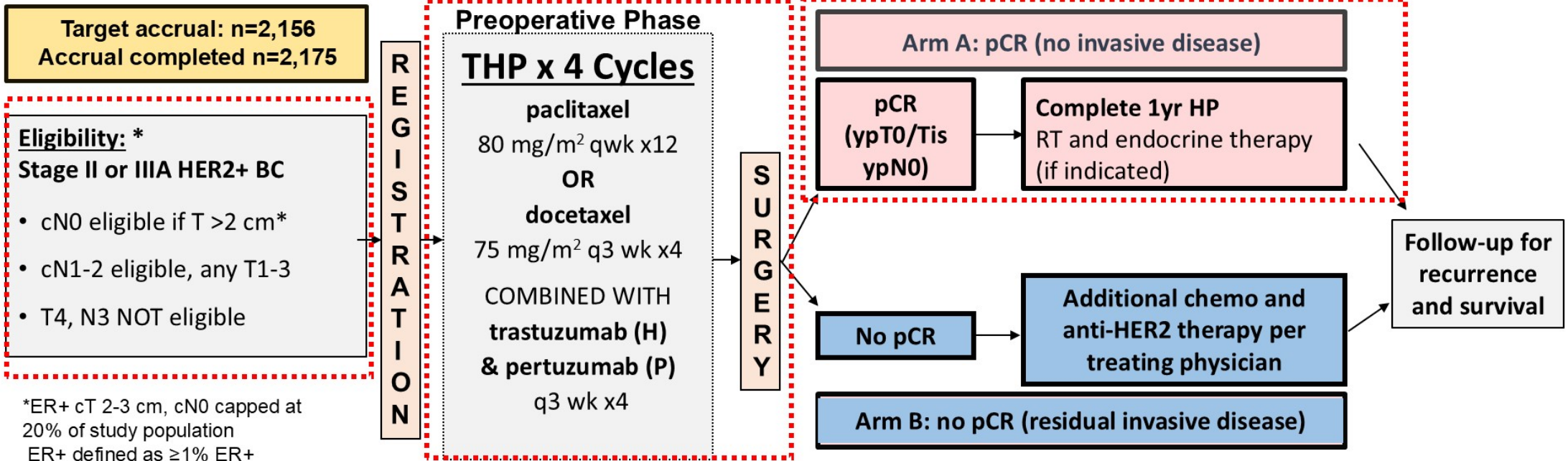
Predicting pathologic complete response (pCR) from clinicopathologic variables and HER2DX genomic test in stage II & III HER2+ breast cancer treated with taxane, trastuzumab, and pertuzumab (THP): secondary results from EA1181 (CompassHER2 pCR) trial

Nadine Tung, Fengmin Zhao, Angela DeMichele, Aleix Prat, Eric P. Winer, Jean L. Wright, Abram Recht, Anna C. Weiss, Judy A. Tjoe, Sheldon M Feldman, Gabrielle B Rocque, Mary Lou Smith, Ciara C. O'Sullivan, Sagar D. Sardesai, Shou-Ching Tang, Shanu Modi, William J. Irvin, Nisha Unni, Chiara Battelli, Nusayba Bagegni, Amy K. Krie, Mridula A. George, Melinda L. Telli, Virginia F Borges, Nina D'Abreo, Payal Shah, Patricia Villagrasa, Sunil Badve, Ann H. Partridge, Kathy D. Miller, Lisa A. Carey, Antonio C. Wolff

EA1181 CompassHER2 pCR: Study design



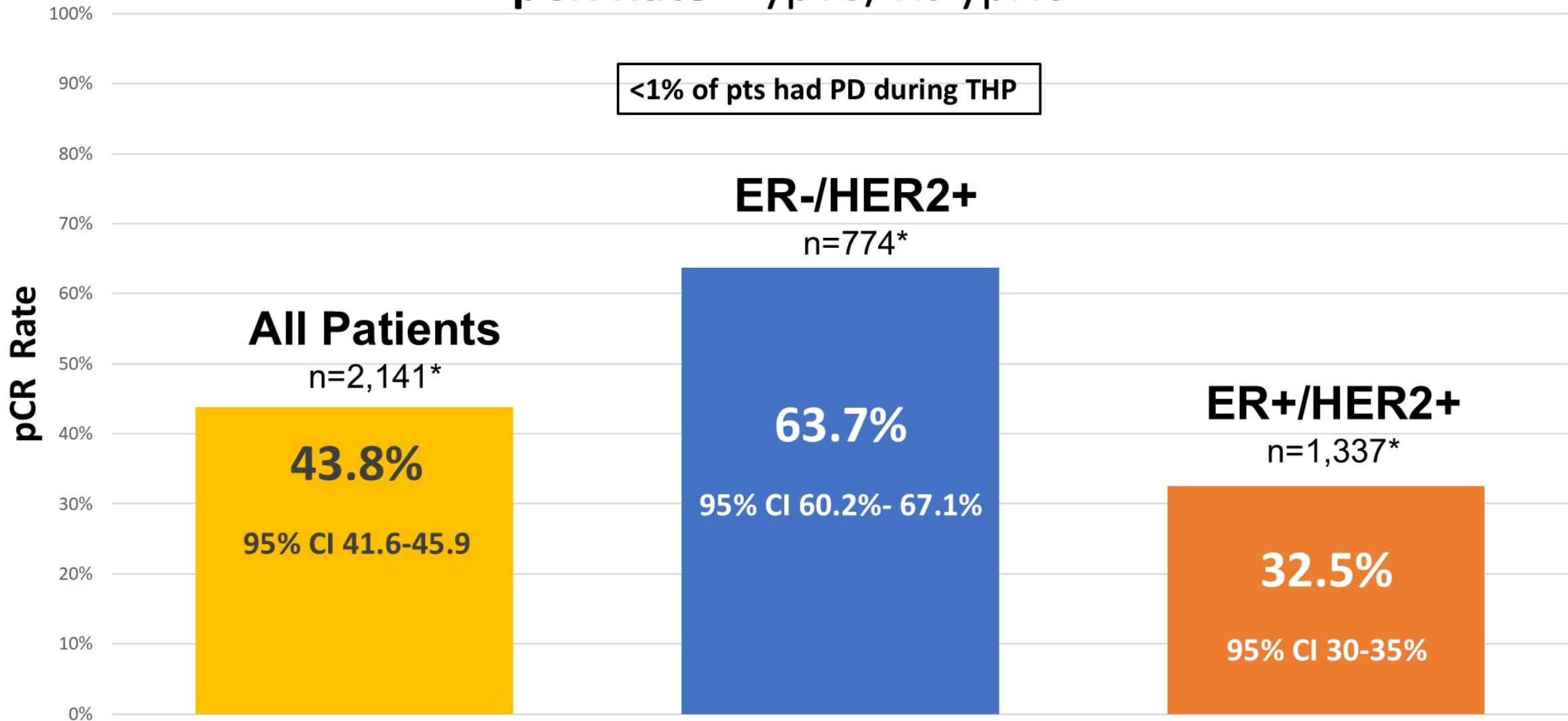
Activation Feb 2020
Accrued thru Oct 2023



Primary objective: determine if 3y RFS >92% in Arm A, separately for ER+/HER2+ and ER-/HER2+ cohorts

pCR Rate* ypT0/Tis ypN0

<1% of pts had PD during THP



* Pts receiving ≥ 1 THP dose

Putting Shorter THP Regimens All Together

Regimen/ Study	N	pCR all	pCR HR-	pCR HR+
Docetaxel + (trastuzumab/pertuzumab (HP) x <u>6 cycles</u> PREDIX¹	99	46%	67%	36%
Docetaxel + HP x 4 cycles NeoSphere²	107	39%	63%	26%
Docetaxel q3 weeks x 4 + HP EA1181 CompassHER2³	774	39%	56%	30%
Paclitaxel x 12 weeks + HP WSG-ADAPT-HR-/HER2+⁴	42	91%	91%	-
Paclitaxel x 12 weeks + HP WSG-Triple Positive II⁵	101	56%	-	56%
Paclitaxel x 12 weeks + HP DAPHNE⁶	98	57%	42%	85%
Paclitaxel x 12 weeks + HP EA1181 CompassHER2³	1367	47%	69%	34%

1. Hatschek T, et al. *JAMA Oncol.* 2021;7:1360-1367. 2. NeoSphere: Gianni L, et al. *Lancet Oncol.* 2012;13:25-32; Gianni L, et al. *Lancet Oncol.* 2016;17:791–800. 3. Tung N et al ASCO 2025 4. Nitz UA et al. *Ann Oncol* 2017; 5. Gluz O et al. *JAMA Oncol* 2023.6. DAPHNE: Waks AG, et al. *npj Breast Cancer* 2022.

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3 Clinicopathologic factors significant for predicting pCR (multivariable analysis)

All patients n=2141*		
Clinical factor	OR for pCR (95% CI)	# of patients
ER status		
ER+ >70%	1.0	950
ER+ 11-70%	3.35 (2.5-4.49)	281
ER+ 1-10%	4.75 (3.2-7.06)	136
ER- 0%	5.44 (2.5-4.49)	774
HER2 IHC		
2+/ISH+	1.0	353
3+	6.25 (4.39-8.89)	1691
Taxane		
docetaxel	1.0	735
paclitaxel	1.48 (1.2-1.81)	1355

T stage, N stage, clinical stage, age, ECOG PS, race and histologic grade did not contribute to the prediction of pCR in the multivariable model

* n=patients who received ≥ 1 dose THP

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Clinicopathologic factors significantly associated with pCR : univariable analysis

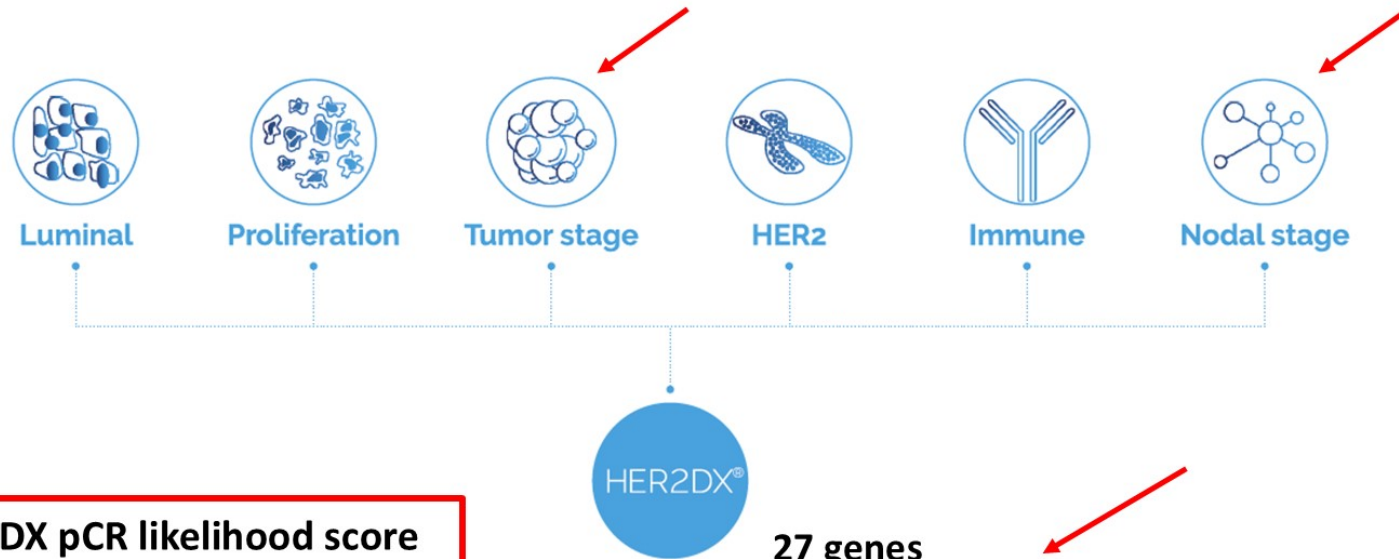
Negatively associated with pCR: age above 70 and PS > 0

Positively associated with pCR: high grade, lower ER expression, HER2 IHC 3+, and use of paclitaxel

Not associated: clinical stage (T and N)

Variable	pCR rate		
	All pts (n=2141)	ER- HER2+ (n= 774)	ER+ HER2+ (n= 1367)
Age (median, range)	55 yrs (22-88)		
< 50 years	43.6%	63.5%	34%
50-70 years	47%	67.9%	34.2%
>70 years	31.9%	48.7%	21.1%
ECOG PS			
0	44.7%	65.4%	32.9%
1	37.4%	51.6%	29.7%
Grade			
1	26.9%	60%	21.1%
2	37.2%	63%	27.9%
3	49.5%	64%	37.9%
ER (% cells staining)			
0%	63.7%	63.7%	
1-10%	62.5%	---	62.5%
11-70%	51.6%	---	51.6%
> 70%	22.5%	---	22.5%
HER2 IHC			
3+	50.3%	67.6%	39.3%
2+	11.9%	26%	8.0%
Taxane ^			
paclitaxel	46.5%	68.5%	34.2%
docetaxel	39.3%	55.9%	29.7%

HER2Dx: combines gene expression and clinical data



1. HER2DX pCR likelihood score

27 genes

- Immune activation (14 genes)
- Luminal differentiation (5 genes)
- Tumor cell proliferation (4 genes)
- HER2 amplicon (4 genes, including ERBB2)

¹Prat, Ebiomedicine 2022; Marín-Aguilera, ESMO Open 2023; Villacampa, Ann Oncol 2023; Waks, JAMA Oncol 2023; Bueno-Muñoz, JAMA Oncol 2023; Tolaney, Lancet Oncol 2023; Guarneri, Ebiomedicine 2023; Tolaney, ESMO Open 2024; Llombart-Cussac, Clin Cancer Res 2024; Tarantino, JCO 2024; Villacampa, ESMO Open 2024

Pre-specified secondary objective

Is the pCR rate significantly higher with a high vs a low HER2Dx pCR score?

Based on prior data with HER2DX pCR score:

- ER-: **270** tumors needed to detect 30% Δ pCR with 80% power, 1-sided Type I error 0.025
- ER+: **260** tumors needed to detect 30% Δ pCR with 80% power, 1-sided Type I error 0.025

¹Prat, Ebiomedicine 2022; Marín-Aguilera, ESMO Open 2023; Villacampa, Ann Oncol 2023; Waks, JAMA Oncol 2023; Bueno-Muiño, JAMA Oncol 2023; Tolaney, Lancet Oncol 2023; Guarneri, EBiomedicine 2023; Tolaney, ESMO Open 2024; Llombart-Cussac, Clin Cancer Res 2024; Tarantino, JCO 2024; Villacampa, ESMO Open 2024

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Observed pCR rates by HER2Dx pCR scores

	ER- (n=230)		ER+ (n=339)	
HER2Dx score	n (%) of pts	pCR rate	n (%) of pts	pCR rate
High	147 (64%)	70%	36 (11%)	58%
Low	13 (6%)	31%	214 (63%)	18%
<i>p value</i>		<i>p <0.01</i>		<i>p <0.01</i>

High HER2DX pCR score was associated with a ~40% higher absolute pCR rate than with a low HER2Dx pCR score

Key points

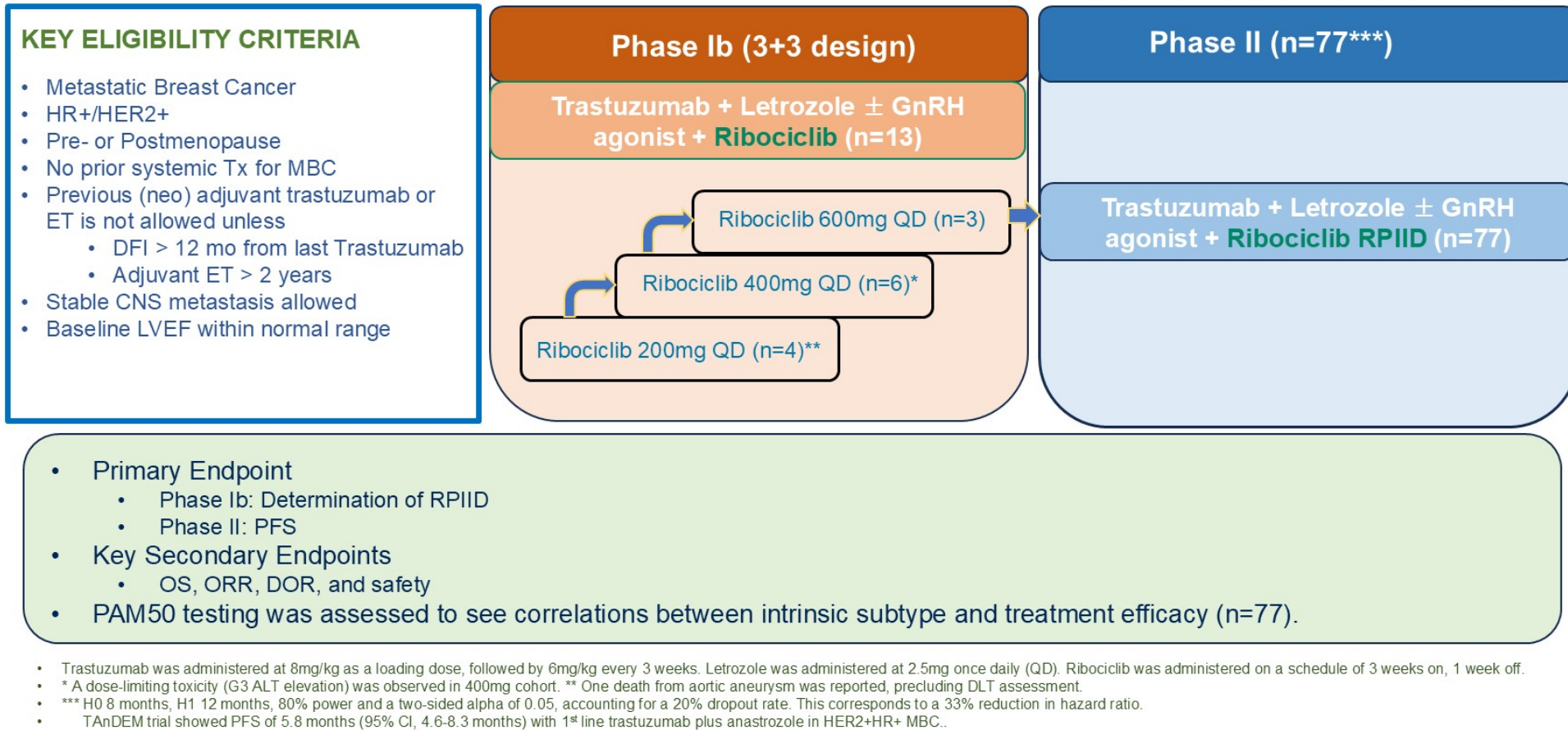
- pCR rate 44% with 4 cycles of neo THP, data suggesting weekly paclitaxel superior to q3 wk docetaxel
- Higher pCR rates associated with:
 - ER<70%
 - HER2 3+ IHC (vs 2+/ISH+)
 - Weekly paclitaxel
 - High HER2Dx pCR score

Phase Ib/II Study of Ribociclib, Trastuzumab, and Letrozole ± GnRH Agonist as First-line Therapy in HER2+/HR+ Pre- and Postmenopausal Metastatic Breast Cancer (KCSG BR 18-10, MINI Trial)

Joohyuk Sohn¹, Seungtaek Lim², Jae Ho Jeong³, Kyung-Hun Lee⁴, Keun Seok Lee⁵, Ji-Yeon Kim⁶, Jieun Lee⁷, Hee-Jun Kim⁸, Yee Soo Chae⁹, Jee Hung Kim¹⁰, Suee Lee¹¹, In Hae Park¹², Seok Yun Kang¹³, Kyong Hwa Park¹⁴, Eun Kyung Cho¹⁵, Han Jo Kim¹⁶, Gun Min Kim¹, Min Hwan Kim¹, Kyoo Hyun Kim¹

¹Division of Medical Oncology, Yonsei Cancer Center, Yonsei University College of Medicine, Korea; ²Wonju Severance Christian Hospital, Korea; ³Department of Oncology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea; ⁴Seoul National University Hospital, Cancer Research Institute, Korea; ⁵Center for Breast Cancer, National Cancer Center, Korea; ⁶Hematology-Oncology, Samsung Medical Center Sungkyunkwan University School of Medicine, Korea; ⁷Division of Medical Oncology, Department of Internal Medicine, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Korea; ⁸Department of Internal Medicine, Chung-Ang University College of Medicine, Korea; ⁹Kyungpook National University Hospital, Korea; ¹⁰Division of Medical Oncology, Department of Internal Medicine, Gangnam Severance Hospital, Yonsei University College of Medicine, Korea; ¹¹Dong-A University Medical Center, Busan, Korea; ¹²Division of Hemato-Oncology, Department of Internal Medicine, Korea University College of Medicine, Guro Hospital, Korea; ¹³Department of Hematology-Oncology, Ajou University School of Medicine, Korea; ¹⁴Division of Medical Oncology, Department of Internal Medicine, Korea University Anam Hospital, Korea University College of Medicine, Korea; ¹⁵Division of Medical Oncology, Department of Internal Medicine, Gachon University Gil Medical Center, Korea; ¹⁶Soonchunhyang University Hospital, Korea

Study Design



Key points

- Ribo/trastuzumab/letrozole +/- GNRH showed promising activity (median PFS of 30 months) and may be a chemotherapy free option for HER2+/ER+ MBC

TNBC ASCO 2025: 4 Abstracts Discussed

Metastatic TNBC

- ASCENT04: 1L SG+Pembro vs Chemo/Pembro mTNBC

Early-Stage TNBC

- NeoSTAR: Neoadjuvant Sacituzumab Govitecan/Pembrolizumab in eTNBC
- NRG-BR003: Adjuvant ddAC-T vs Adjuvant ddAC-T/carbo in TNBC

Sacituzumab Govitecan Plus Pembrolizumab vs Chemotherapy Plus Pembrolizumab in Patients With Previously Untreated, PD-L1 Positive, Advanced or Metastatic Triple-Negative Breast Cancer: Primary Results From the Randomized, Phase 3 ASCENT-04/KEYNOTE-D19 Study

Sara M Tolaney¹, Evandro de Azambuja², Kevin Kalinsky³, Sherene Loi⁴, Sung-Bae Kim⁵, Clinton Yam⁶, Bernardo Rapoport^{7,8}, Seock-Ah Im⁹, Barbara Pistilli¹⁰, Wassim McHayleh¹¹, David W Cescon¹², Junichiro Watanabe¹³, Manuel Alejandro Lara Banuelas¹⁴, Ruffo Freitas-Junior¹⁵, Javier Salvador Bofill¹⁶, Maryam Afshari¹⁷, Dianna Gary¹⁷, Lu Wang¹⁷, Catherine Lai¹⁷, Peter Schmid¹⁸

¹Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA, USA; ²Institut Jules Bordet, Hôpital Universitaire de Bruxelles (H.U.B) and Université Libre de Bruxelles (ULB), Brussels, Belgium; ³Winship Cancer Institute, Emory University, Atlanta, GA, USA; ⁴Peter MacCallum Cancer Centre, Melbourne, Australia; ⁵Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea; ⁶The University of Texas MD Anderson Cancer Center, Houston, TX, USA; ⁷The Medical Oncology Centre of Rosebank, Clinical and Translational Research Unit (CTRU), Saxonwold, South Africa; ⁸Department of Immunology, Faculty of Health Sciences, University of Pretoria, Pretoria, South Africa; ⁹Seoul National University Hospital, Cancer Research Institute, Seoul National University College of Medicine, Seoul National University, Seoul, Republic of Korea; ¹⁰Department of Cancer Medicine, Gustave Roussy, Villejuif, France; ¹¹AdventHealth Cancer Institute, Orlando, FL, USA; ¹²Princess Margaret Cancer Centre, UHN, Toronto, Canada; ¹³Juntendo University Graduate School of Medicine, Tokyo, Japan; ¹⁴Oncology Center of Chihuahua, Chihuahua, Mexico; ¹⁵CORA – Advanced Center for Diagnosis of Breast Diseases, Federal University of Goiás, Goiânia, Brazil; ¹⁶Medical Oncology Department, Hospital Universitario Virgen del Rocío, Seville, Spain; ¹⁷Gilead Sciences, Inc., Foster City, CA, USA; ¹⁸Centre for Experimental Cancer Medicine, Barts Cancer Institute, Queen Mary University of London, London, UK

ASCENT-04/KEYNOTE-D19 Study Design

Previously untreated, locally advanced unresectable, or metastatic TNBC^a:

- PD-L1-positive (CPS \geq 10 by the 22C3 assay^b)
- \geq 6 months since treatment in curative setting (prior anti-PD-[L]1 use allowed)

N = 443

R
1:1

SG + pembro^d
(SG 10 mg/kg IV, days 1 and 8 of 21-day cycles; pembro 200 mg, day 1 of 21-day cycles)
n = 221

Chemo* + pembro^d
(paclitaxel 90 mg/m² OR nab-paclitaxel 100 mg/m² on days 1, 8, & 15 of 28-day cycles, OR gemcitabine 1000 mg/m² + carboplatin AUC 2 on days 1 & 8 of 21-day cycles; pembro 200 mg on day 1 of 21-day cycles)
n = 222

All treatment, including SG or chemo, was continued until BICR-verified disease progression or unacceptable toxicity

End points

Primary

- PFS by BICR^e

Secondary

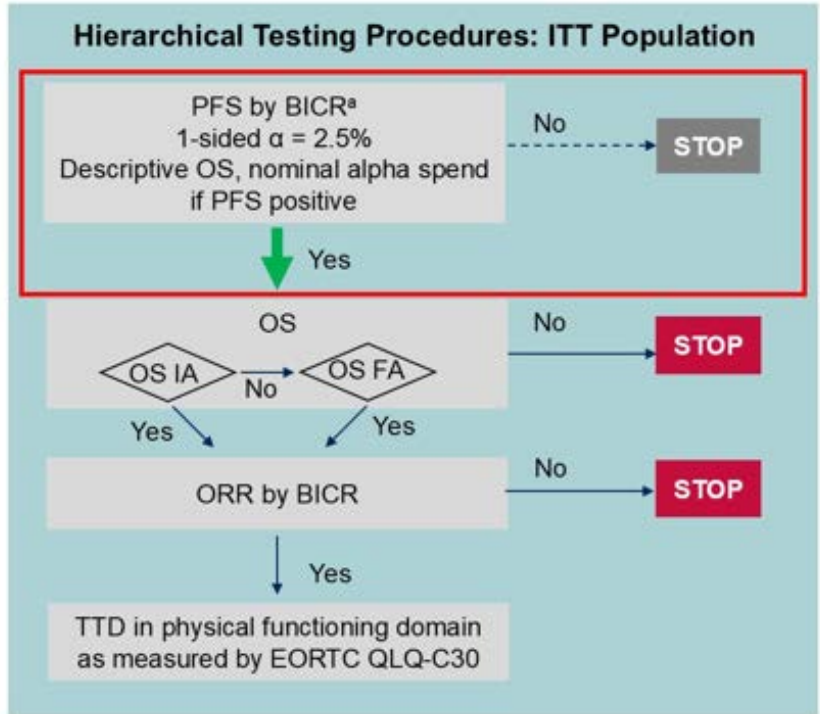
- OS
- ORR, DOR by BICR^e
- Safety
- QoL

**Eligible patients who experienced BICR-verified disease progression were offered to cross-over to receive 2L SG monotherapy*

Stratification factors:

- De novo mTNBC^c vs recurrent within 6 to 12 months from completion of treatment in curative setting vs recurrent > 12 months from completion of treatment in curative setting
- US/Canada/Western Europe vs the rest of the world
- Prior exposure to anti-PD-(L)1 (yes vs no)

ClinicalTrials.gov Identifier: NCT05382286.
^aTNBC status determined according to standard American Society of Clinical Oncology-College of American Pathologists criteria. ^bDako, Agilent Technologies. ^cUp to 35% de novo mTNBC. ^dPembro was administered for a maximum of 35 cycles. ^ePer RECIST v1.1.
AUC, area under the curve; BICR, blinded independent central review; chemo, chemotherapy; CPS, combined positive score; DOR, duration of response; IV, intravenously; ORR, objective response rate; OS, overall survival; PD-L1, programmed cell death ligand 1; pembro, pembrolizumab; PFS, progression-free survival; QoL, quality of life; R, randomized; RECIST v1.1; Response Evaluation Criteria in Solid Tumors, version 1.1; SG, sacituzumab govitecan; TNBC, triple-negative breast cancer; TTR, time-to-response.



- **Data cutoff date for Primary PFS: March 3, 2025**
 - There were 249 observed PFS events by BICR
 - Median follow-up was 14.0 months (range, 0.1-28.6)
 - At the data cutoff date, 95 patients (43%) in the SG + pembro group and 52 patients (23%) in the chemo + pembro group continued to receive study treatment

ASCENT-04/KEYNOTE-019: SG/Pembro vs Chemo/Pembro for 1L PD-L1+ mTNBC

Demographics and Baseline Characteristics

ITT Population	SG + Pembro (n = 221)	Chemo + Pembro (n = 222)
Female sex, n (%)	221 (100)	222 (100)
Median age, (range) yr	54 (23-88)	55 (27-82)
≥ 65 yr, n (%)	58 (26)	57 (26)
Race or ethnic group,^a n (%)		
White	139 (63)	118 (53)
Asian	43 (19)	63 (28)
Black	13 (6)	11 (5)
Other/not specified	26 (12)	30 (14)
Geographic region, n (%)		
US/Canada/Western Europe	85 (38)	85 (38)
Rest of the world ^b	136 (62)	137 (62)
ECOG PS at baseline,^c n (%)		
0	156 (71)	154 (69)
1	65 (29)	67 (30)
Curative treatment-free interval, n (%)		
De novo	75 (34)	75 (34)
Recurrent within 6-12 mo	40 (18)	40 (18)
Recurrent > 12 mo	106 (48)	107 (48)

ITT Population	SG + Pembro (n = 221)	Chemo + Pembro (n = 222)
PD-L1 CPS ≥ 10, ^d n (%)	221 (100)	222 (100)
Metastatic sites, n (%)		
Lymph node	159 (72)	154 (69)
Lung	111 (50)	95 (43)
Bone	61 (28)	45 (20)
Liver	55 (25)	57 (26)
Brain	8 (4)	6 (3)
Other ^e	81 (37)	71 (32)
Chemo selected prior to randomization,^f n (%)		
Taxane	116 (52)	114 (51)
Gemcitabine/carboplatin	105 (48)	108 (49)
Prior anti-PD-(L)1 therapy,^g n (%)	9 (4)	11 (5)

Data cutoff date: March 3, 2020.

^aAs reported by the patients; "other" includes American Indian or Alaska Native, other, and not permitted. ^bRest of the world includes Argentina, Australia, Brazil, Chile, Czech Republic, Hong Kong, Hungary, Israel, Japan, Malaysia, Mexico, Poland, Singapore, South Africa, South Korea, Taiwan, and Turkey. ^cOne patient in the chemo + pembro group had an ECOG PS ≥ 2. ^dPD-L1 status assessed using the PD-L1 IHC 22C3 assay (Dako, Agilent Technologies) at the time of enrollment. ^eOther metastatic sites includes pleura, pleural effusion, skin, soft tissue, chest wall, and muscle. ^fActual chemo received was consistent with what was selected prior to randomization; however, two patients were randomized but did not receive treatment. ^gWhile 20 patients were included in the stratified subgroup of prior exposure to anti-PD-(L)1 therapy (yes) per the IRT system, only 6 patients received prior treatment with anti-PD-(L)1 agents per the clinical database. Chemo, chemotherapy; CPS, combined positive score; ECOG PS, Eastern Cooperative Oncology Group performance status; IHC, immunohistochemistry; IRT, interactive response technology; ITT, intent-to-treat; PARPI, poly ADP-ribose polymerase inhibitor; PD-L1, programmed cell death ligand 1; pembro, pembrolizumab; SG, sacituzumab govitecan.

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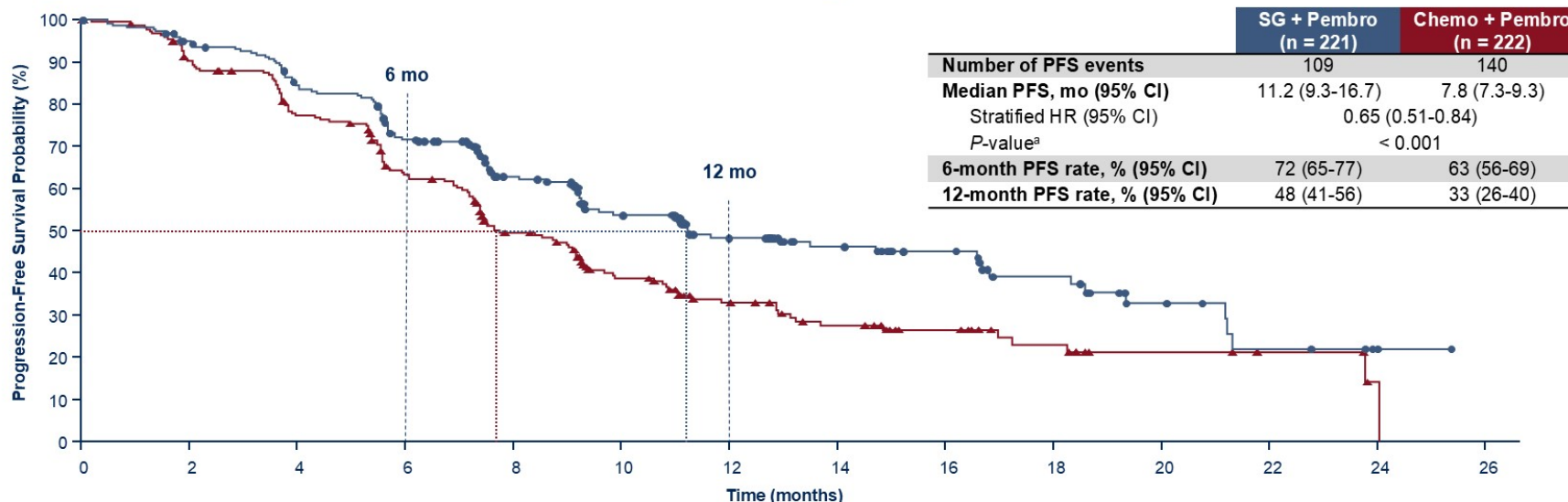
PRESENTED BY: Sara M Tolaney, MD, MPH

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ASCENT-04/KEYNOTE-019: SG/Pembro vs Chemo/Pembro for 1L PD-L1+ mTNBC

Progression-Free Survival by BICR



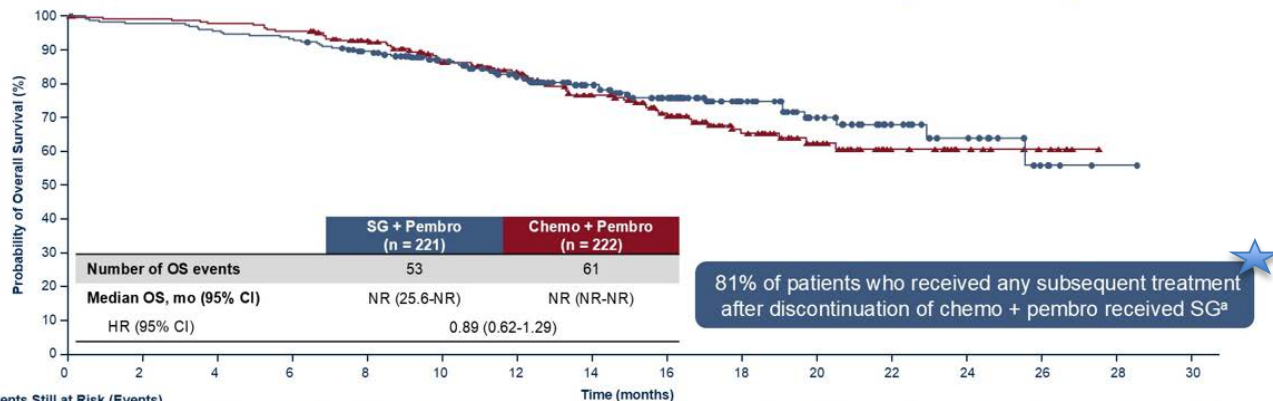
No. of Patients Still at Risk (Events)	0	2	4	6	8	10	12	14	16	18	20	22	24	26
SG + Pembro	221 (0)	202 (11)	174 (33)	142 (59)	105 (75)	78 (89)	58 (96)	42 (98)	34 (99)	22 (103)	11 (106)	6 (109)	2 (109)	0 (109)
Chemo + Pembro	222 (0)	191 (21)	159 (48)	123 (76)	88 (102)	59 (120)	40 (128)	29 (134)	21 (135)	13 (137)	7 (138)	4 (138)	1 (139)	0 (140)

SG + pembro demonstrated statistically significant and clinically meaningful improvement in PFS vs chemo + pembro by BICR analysis, with a 35% reduction in risk of disease progression or death

Data cutoff date: March 3, 2025.
^aTwo-sided P-value from stratified log-rank test.
 BICR, blinded independent central review; chemo, chemotherapy; HR, hazard ratio; PFS, progression-free survival; pembro, pembrolizumab; SG, sacituzumab govitecan.

ASCENT-04/KEYNOTE-019: SG/Pembro vs Chemo/Pembro for 1L PD-L1+ mTNBC

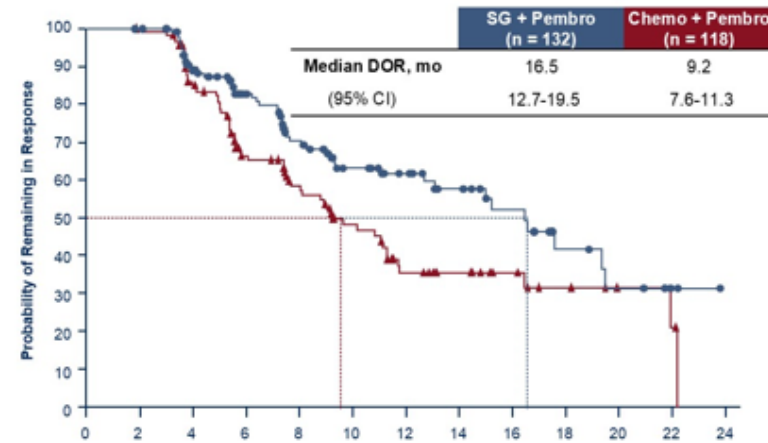
Descriptive Overall Survival at Primary Analysis



No. of Patients Still at Risk (Events)	Time (months)															
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
SG + Pembro	221 (0)	216 (5)	211 (10)	206 (15)	190 (23)	162 (28)	138 (37)	111 (41)	88 (46)	55 (47)	36 (50)	21 (51)	14 (52)	5 (53)	1 (53)	0 (53)
Chemo + Pembro	222 (0)	218 (2)	215 (5)	210 (10)	193 (16)	166 (29)	142 (34)	111 (45)	87 (53)	56 (58)	38 (60)	19 (61)	11 (61)	6 (61)	0 (61)	

OS data were immature (maturity rate, 26%), however, a positive trend in improvement was observed for SG + pembro vs chemo + pembro

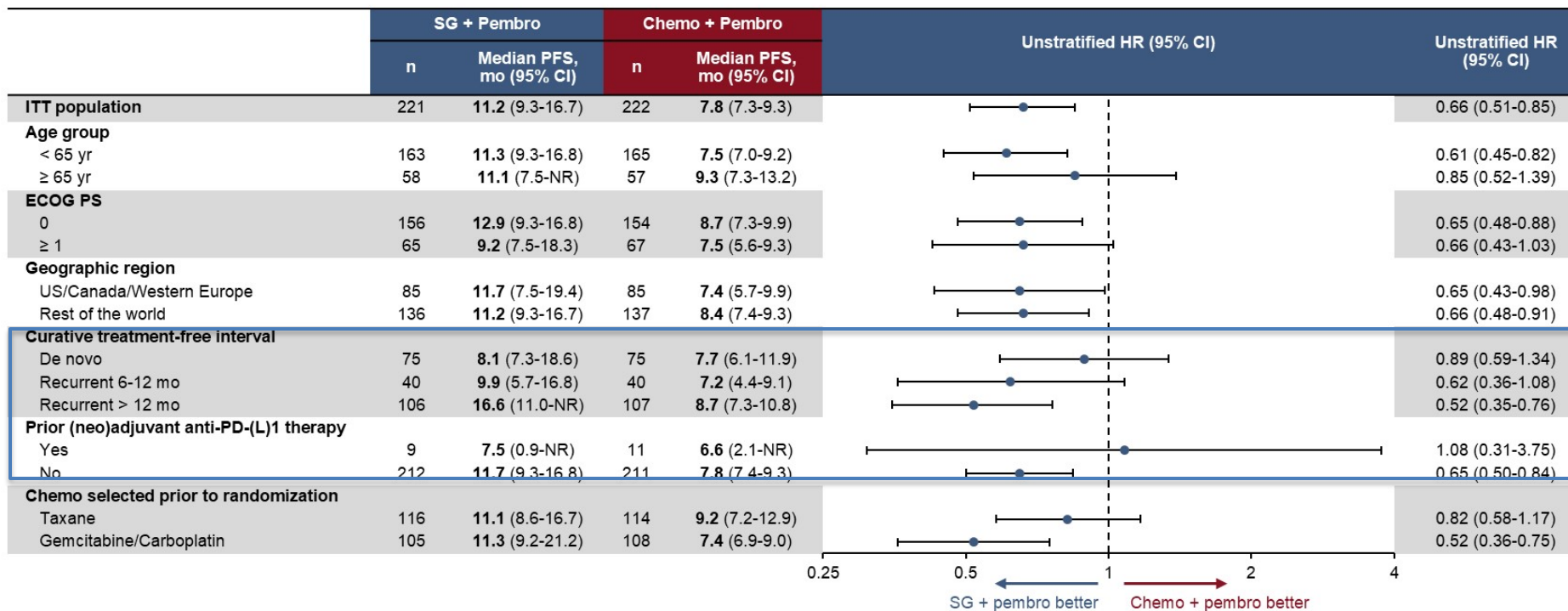
Variable	SG + Pembro (n = 221)	Chemo + Pembro (n = 222)
Objective response rate^a (95% CI), %	60 (52.9-66.3)	53 (46.4-59.9)
Stratified odds ratio (95% CI)	1.3 (0.9-1.9)	
Best overall response, n (%)		
Complete response	28 (13)	18 (8)
Partial response	104 (47)	100 (45)
Stable disease	70 (32)	70 (32)
Stable disease ≥ 6 months	23 (10)	29 (13)
Progressive disease	9 (4)	26 (12)
Not evaluable	10 (5)	8 (4)
Time to response,^b median (range), months	1.9 (1.0-9.3)	1.9 (1.1-11.4)



No. of Patients Still at Risk (Events)	Time (months)															
	0	2	4	6	8	10	12	14	16	18	20	22	24			
SG + Pembro	132 (0)	131 (0)	108 (14)	84 (21)	64 (33)	46 (39)	34 (40)	26 (42)	18 (44)	9 (47)	6 (49)	2 (49)	0 (49)			
Chemo + Pembro	118 (0)	117 (0)	95 (17)	64 (37)	48 (44)	32 (52)	20 (60)	15 (60)	10 (60)	6 (61)	3 (61)	2 (62)	0 (63)			

ASCENT-04/KEYNOTE-019: SG/Pembro vs Chemo/Pembro for 1L PD-L1+ mTNBC

Subgroup Analysis of Progression-Free Survival by BICR



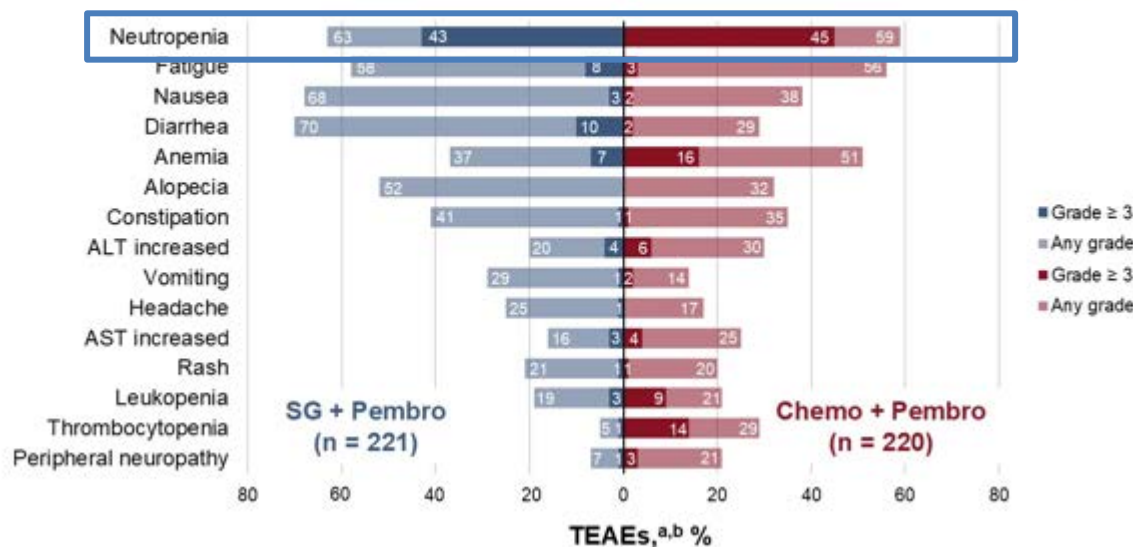
PFS benefit was observed for SG + pembro vs chemo + pembro across prespecified subgroups

Data cutoff date: March 3, 2025.

BICR, blinded independent central review; chemo, chemotherapy; ECOG PS, Eastern Cooperative Oncology Group performance status; HR, hazard ratio; mo, months; NR, not reached; PARPI, poly ADP-ribose polymerase inhibitor; PD-(L)1, programmed death (ligand) 1; pembro, pembrolizumab; PFS, progression-free survival; SG, sacituzumab govitecan.

ASCENT-04/KEYNOTE-019: SG/Pembro vs Chemo/Pembro for 1L PD-L1+ mTNBC

Most Common Adverse Events (≥20% in any group)



Relevant Product Labeling¹

SG can cause severe, life-threatening, or fatal neutropenia as early as the first cycle of treatment. Neutropenia occurred in 64% of patients treated with SG. Grade 3-4 neutropenia occurred in 49% of patients. Febrile neutropenia occurred in 6% of patients. The median time to first onset of neutropenia (including febrile neutropenia) was 16 days (range: 1–435 days). Neutropenia occurred earlier in patients with reduced UGT1A1 activity. Neutropenic colitis occurred in 1.4% of patients.

Primary prophylaxis with G-CSF is recommended starting in the first cycle of treatment in all patients at increased risk of febrile neutropenia, including older patients, patients with previous neutropenia, poor performance status, organ dysfunction, or multiple comorbidities.

		SG + Pembro (n = 221)		Chemo + Pembro (n = 220)	
		Any Grade	Grade ≥ 3	Any Grade	Grade ≥ 3
AESIs, a n (%)					
SG AESIs	Neutropenia ^b	143 (65)	104 (47)	132 (60)	100 (45)
	Hypersensitivity ^b	43 (19)	4 (2)	51 (23)	5 (2)
	Serious infections secondary to neutropenia ^b	6 (3)	5 (2)	3 (1)	3 (1)
	Diarrhea (Grade 3 or higher)	N/A	22 (10)	N/A	5 (2)
	Overall	30 (14)	9 (4)	56 (26)	16 (7)
Pembro AESIs	Infusion reactions (not immune-mediated) ^a	11 (5)	3 (1)	19 (9)	5 (2)
	Pneumonitis ^b	5 (2)	3 (1)	10 (5)	2 (1)
	Colitis ^b	4 (2)	1 (< 1)	1 (< 1)	1 (< 1)
	Hypothyroidism ^b	4 (2)	0	19 (9)	0
	Hypophysitis ^b	2 (1)	0	2 (1)	0
	Hyperthyroidism ^b	2 (1)	0	5 (2)	0
	Severe skin reactions, ^b including Stevens-Johnson syndrome and toxic epidermal necrolysis	2 (1)	2 (1)	2 (1)	2 (1)
	Hepatitis ^b	1 (< 1)	0	2 (1)	2 (1)
	Adrenal insufficiency ^b	1 (< 1)	0	2 (1)	1 (< 1)
	Pancreatitis ^b	0	0	2 (1)	2 (1)

ASCENT-04/KEYNOTE-019: SG/Pembro vs Chemo/Pembro for 1L PD-L1+ mTNBC

Conclusions

- ASCENT-04/KEYNOTE-D19 is the first randomized, phase 3 study to evaluate the efficacy and safety of an ADC/checkpoint inhibitor combination for first-line treatment of patients with PD-L1^a mTNBC
- SG + pembro led to a statistically significant and clinically meaningful improvement in PFS vs chemo + pembro (median 11.2 vs 7.8 months; HR, 0.65; 95% CI, 0.51-0.84; $P < 0.001$)
 - PFS benefit was observed across prespecified subgroups
- OS data are immature, but an early trend in improvement was observed
- ORR was higher (including an increased complete response rate), and responses were more durable with SG + pembro vs chemo + pembro
- The safety profile of SG + pembro was consistent with the established profiles of either agent; no additive toxicity was observed

Results from ASCENT-04/KEYNOTE-D19 support the use of SG + pembro as a potential new standard of care for patients with previously untreated, PD-L1+, locally advanced unresectable or metastatic TNBC

Data cutoff date: March 3, 2025

^aCPS ≥ 10 per IHC 22C3 assay (Dako, Agilent Technologies)

ADC, antibody drug conjugate; chemo, chemotherapy; CPS, combined positive score; DOR, duration of response; HR, hazard ratio; IHC, immunohistochemistry; mTNBC, metastatic triple-negative breast cancer; ORR, objective response rate; OS, overall survival; PD-L1, programmed cell death ligand 1; pembro, pembrolizumab; PFS, progression-free survival; SG, sacituzumab govitecan; TNBC, triple-negative breast cancer.

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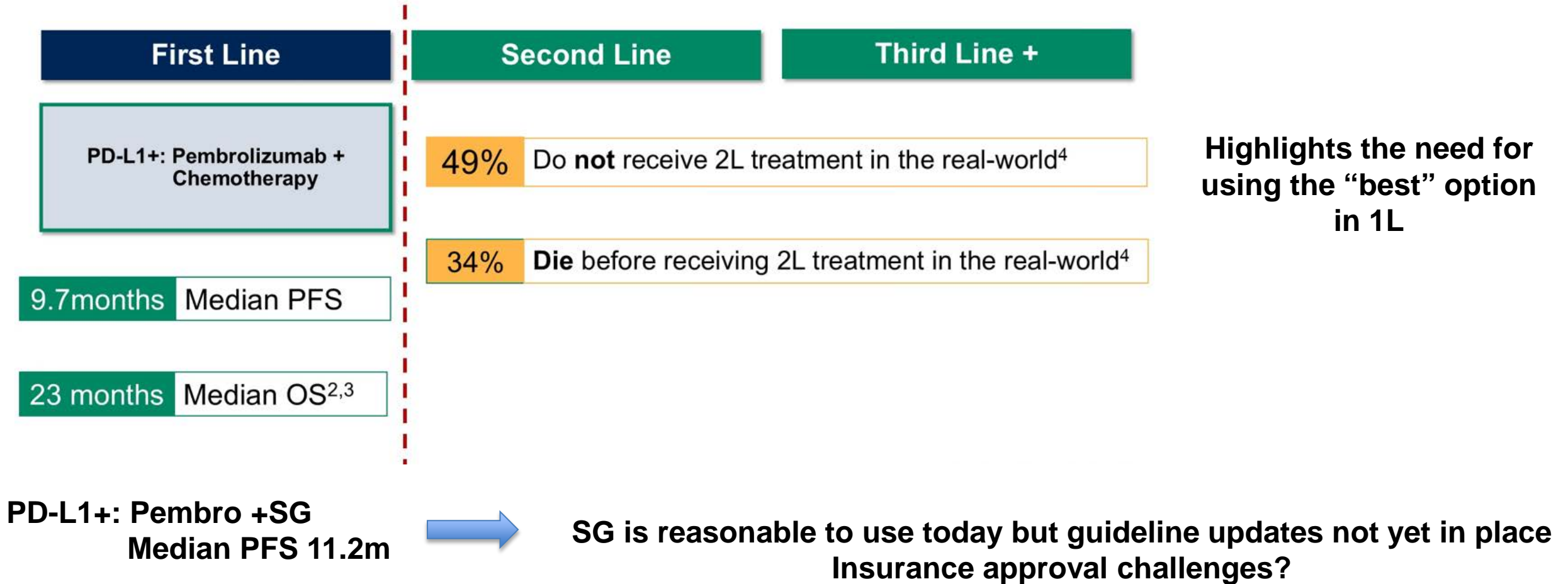
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How Does ASCENT-04 Alter SG sequencing?

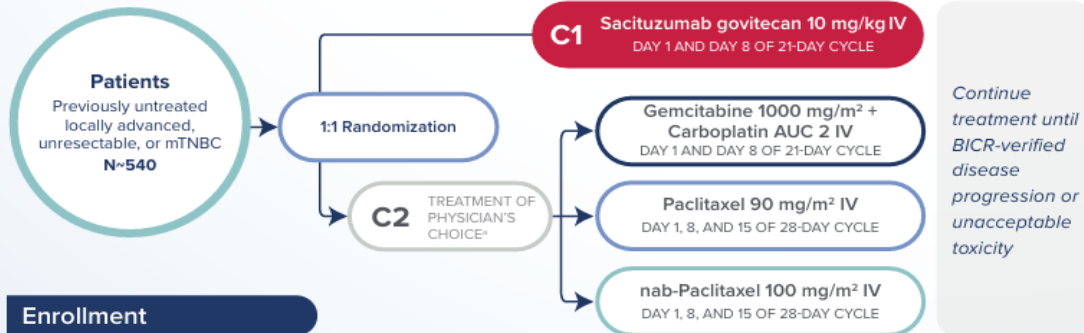


What about PD-L1 negative mTNBC?

ClinicalTrials.gov Identifier: NCT05382299

ASCENT-03: A Randomized, Open-Label, Phase 3 Study of Sacituzumab Govitecan (SG) Versus Treatment of Physician's Choice (TPC) in Patients With Previously Untreated Locally Advanced, Inoperable, or Metastatic TNBC Whose Tumors Do Not Express PD-L1 or in Patients Previously Treated With Anti-PD-(L)1 Agents in the Early Setting Whose Tumors Do Express PD-L1

Study Design^{1,2}

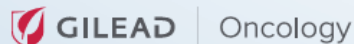


Enrollment

Study Population 1L mTNBC

- Previously untreated locally advanced, unresectable, or metastatic TNBC
- PD-L1- by 22C3 CPS <10 or PD-L1+ by 22C3 CPS ≥10 in patients previously treated with an aPD-(L)1 agent in the curative setting
- ≥6 months since treatment in the curative setting
- Prior aPD-(L)1 use allowed in the curative setting
- PD-L1 and TNBC status centrally confirmed

*Crossover to SG in eligible patients allowed after BICR-verified disease progression.



May 23, 2025

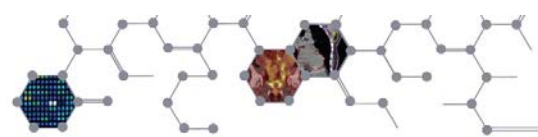
ASCENT-03: Trodelvy® Demonstrates Highly Statistically Significant & Clinically Meaningful Improvement in Progression Free Survival in Patients With First-line Metastatic Triple-Negative Breast Cancer Who Are Not Candidates for Checkpoint Inhibitors

← Back

– Second Positive Phase 3 Trial in First-line Metastatic TNBC Where Trodelvy Has Demonstrated a Clinically Meaningful Benefit Versus Standard of Care Chemotherapy –

– Trodelvy Has the Potential to Be the Backbone of Treatment and the First Antibody-Drug Conjugate for All Patients Across First-line Metastatic TNBC –

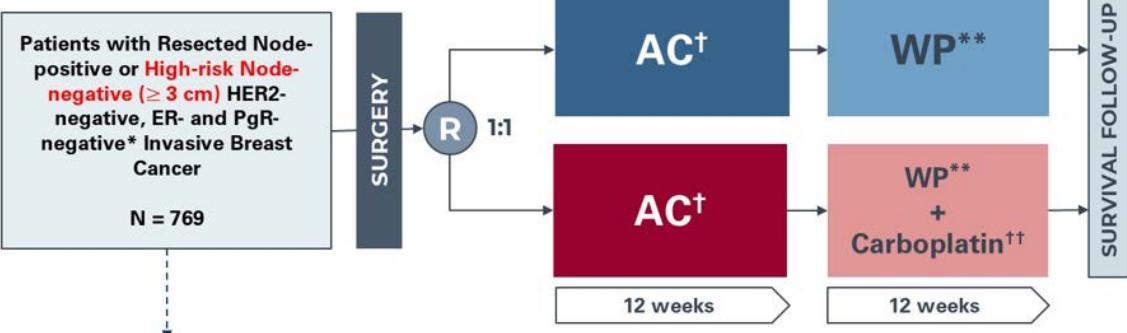
Will see results later this year (ESMO)



NRG-BR003

A Randomized Phase III Trial Comparing Doxorubicin plus Cyclophosphamide Followed by Weekly Paclitaxel With or Without Carboplatin for Node-positive or High-risk Node-negative TNBC

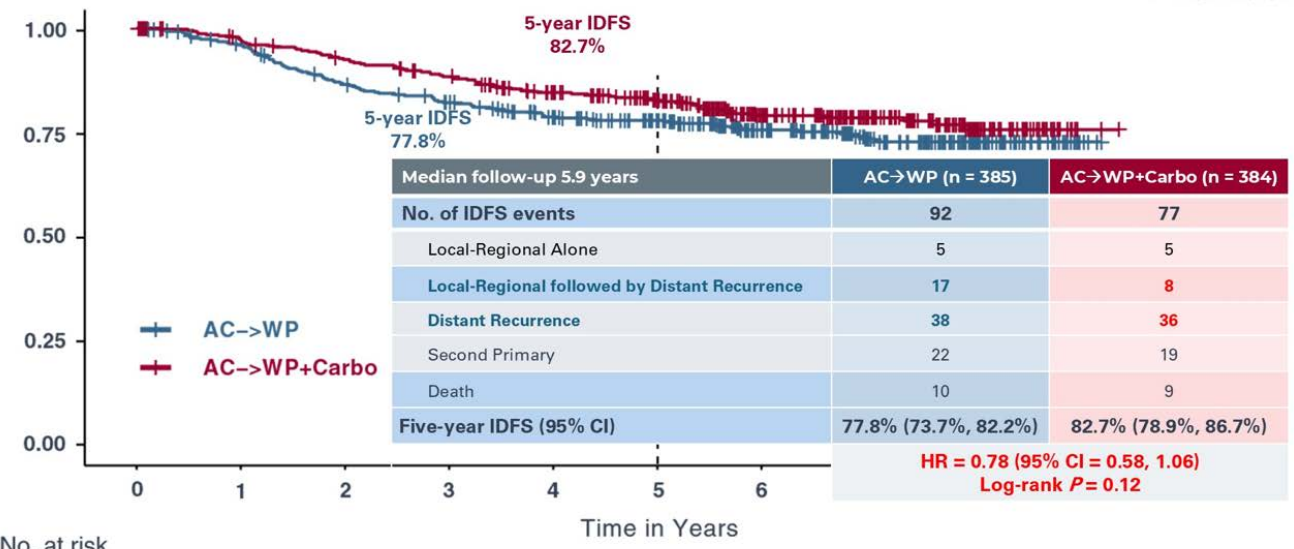
Vicente Valero, Gong Tang, Priya Rastogi, Charles E. Geyer, Jr., Linda H. Colangelo, Alice Tam Kengla, William J. Irvin, Jr., Matei P. Socoteanu, Jame Abraham, Benjamin T. Esparaz, Kathryn B. Alguire, Lawrence E. Flaherty, Ismail Jatoui, Melinda L. Telli, Issam Makhoul, Tanner Freeman, Greg Yothers, Sandra M. Swain, Eleftherios P. Mamounas, and Norman Wolmark



- STRATIFICATION FACTORS**
- Number of positive nodes (0, 1-3, 4-9, 10+)
 - BRCA mutation status (positive; negative or unknown)

- * Patients are eligible if the tumor staining meets one of the following criteria:
- ER-negative and PgR-negative by ASCO/CAP guidelines, OR
 - ER or PgR stains are positive in 1-9% of cells and neither is positive in ≥10% of cells
- † Doxorubicin (A) 60 mg/m² IV + cyclophosphamide (C) 600 mg/m² IV every 2 weeks for 4 cycles (dose-dense schedule)
- ** Paclitaxel 80 mg/m² IV weekly for 12 doses
- †† Carboplatin AUC of 5 IV every 3 weeks for 4 cycles

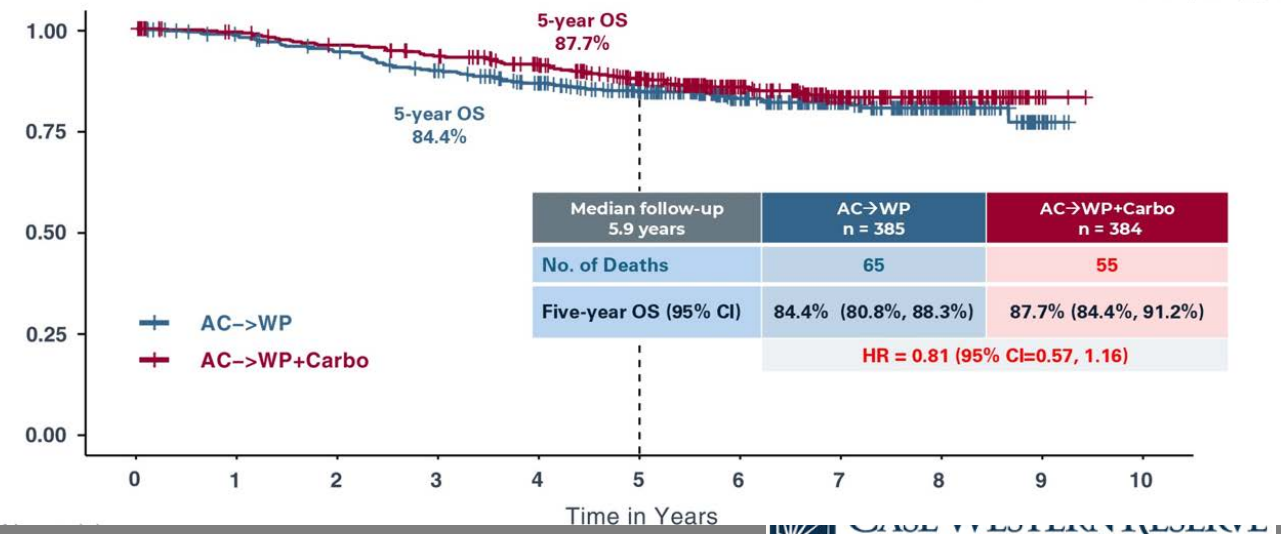
Invasive Disease-Free Survival



No. at risk

Time in Years	0	1	2	3	4	5	6	7	8	9	10
AC->WP (n=385)	385	356	318	296	267	238	168	117	58	7	0
AC->WP+Carbo (n=384)	384	362	342	323	292	256	174	121	57	4	0

Overall Survival



Complete delivery of taxane 81-85%, carbo 75%
9% BRCA carriers!

ASCO 2025 TNBC: Conclusions

- ASCENT04: 1L SG+Pembro vs Chemo/Pembro mTNBC
 - SG/Pembro provides >3 month improvement in PFS over current SOC
 - Reasonable to consider as 1L therapy but insurance coverage may be a challenge until guideline updates
- NRG-BR003: No iDFS advantage of adding carboplatin to adjuvant ddAC-weekly paclitaxel for TNBC
 - Translational studies in process to determine if there is a sub-group that benefits from adjuvant platinum



Thank You!

