

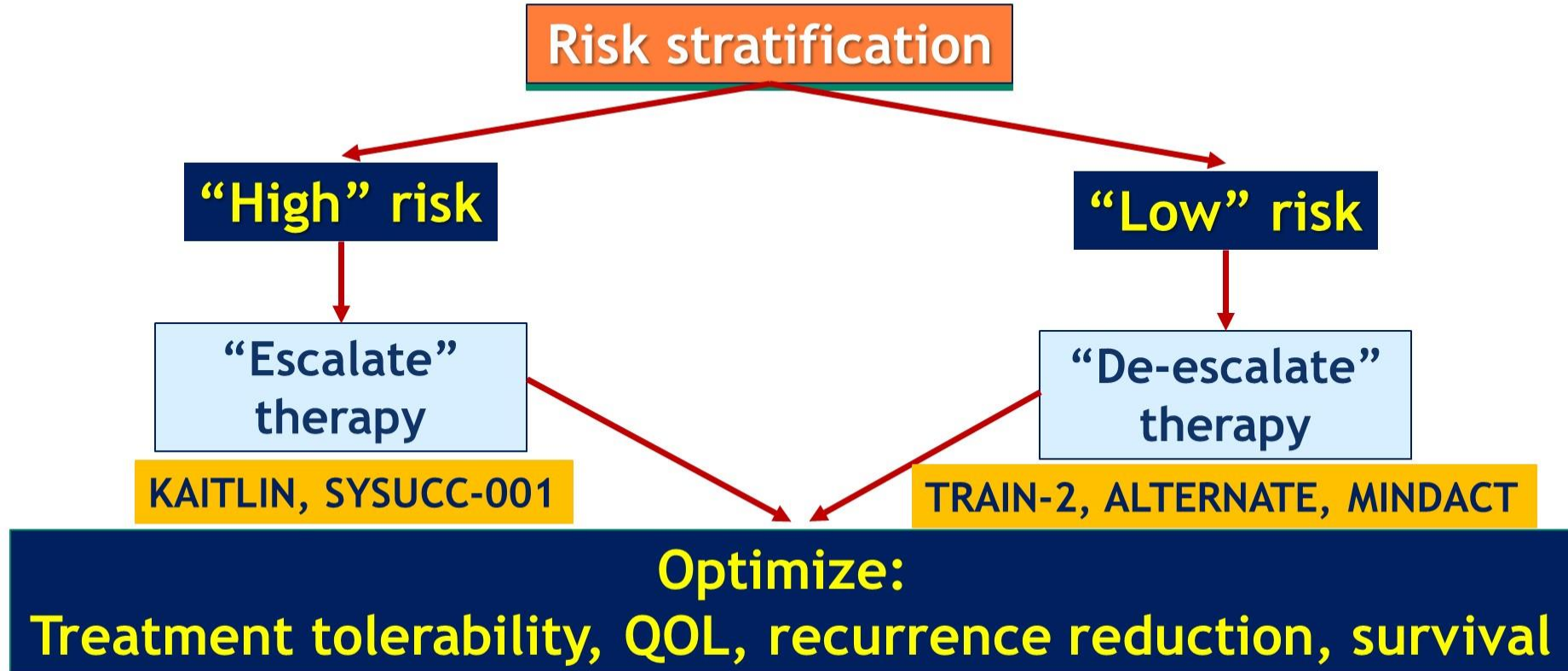
Novinky z letošního nejvýznamnějšího setkání onkologů

Shrnutí ze sekce časného karcinomu prsu

Katarína Petráková

Klinika komplexní onkologické péče MOÚ, Brno

Goal: Therapy Optimization

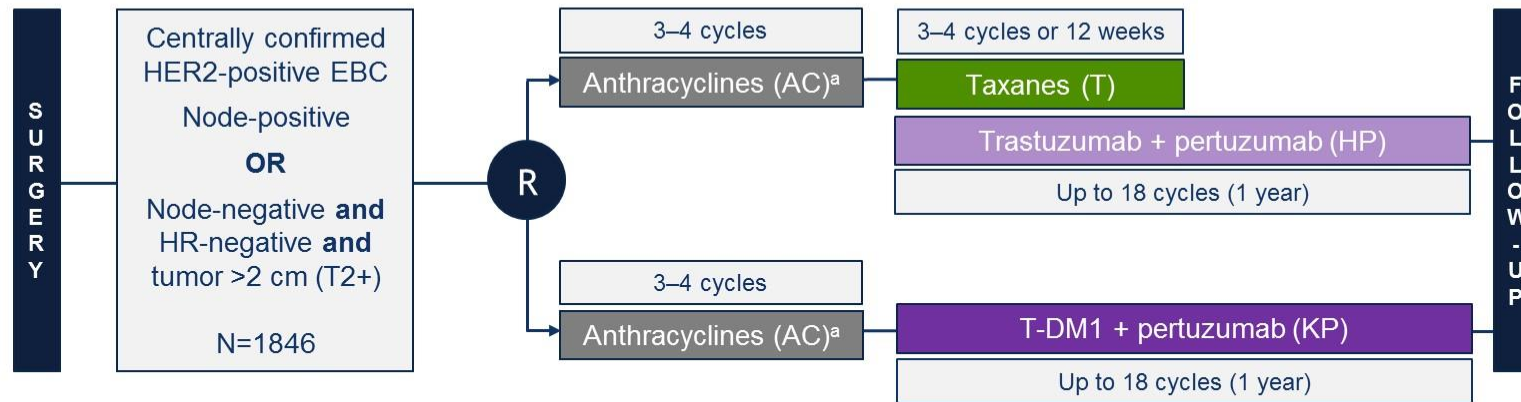


Primary Analysis of KAITLIN: A Phase 3 Study of Trastuzumab Emtansine (T-DM1) + Pertuzumab Versus Trastuzumab + Pertuzumab + Taxane, after Anthracyclines as Adjuvant Therapy for High-Risk HER2-Positive Early Breast Cancer

Nadia Harbeck¹; Seock-Ah Im²; Carlos Barrios³; Hervé Bonnefoi⁴; Julie Gralow⁵; Masakazu Toi⁶; Paul A. Ellis⁷; Luca Gianni⁸; Sandra M. Swain⁹; Young-Hyuck Im¹⁰; Michelino De Laurentiis¹¹; Zbigniew Nowecki¹²; Jigna Shah¹³; Thomas Boulet¹⁴; Haiying Liu¹³; Harrison Macharia¹⁴; Peter Trask¹³; Chunyan Song¹³; Eric P. Winer¹⁵; Ian E. Krop¹⁵

¹Breast Center, Dept. OB&GYN, University of Munich (LMU), Munich, Germany; ²Seoul National University Hospital, Cancer Research Institute, Seoul National University College of Medicine, Seoul, Korea; ³Oncology Research Unit, Oncoclínicas, HSL, PUCRS, Porto Alegre, Brazil; ⁴Institut Bergonié Unicancer and Bordeaux University, Bordeaux, France; ⁵University of Washington, Seattle, WA, USA; ⁶Graduate School of Medicine, Kyoto University, Kyoto, Japan; ⁷Guy's Hospital and Sarah Cannon Research Institute, London, UK; ⁸Michelangelo Foundation, Milan, Italy; ⁹Georgetown University Medical Center, Washington, D.C., USA; ¹⁰Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea; ¹¹IRCCS Istituto Nazionale Tumori Fondazione Pascale, Naples, Italy; ¹²Maria Skłodowska-Curie Memorial Cancer Center and Institute of Oncology, Warsaw, Poland; ¹³Genentech, Inc., South San Francisco, CA, USA; ¹⁴F. Hoffmann-La Roche, Basel, Switzerland; ¹⁵Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA, USA

KAITLIN Study Design



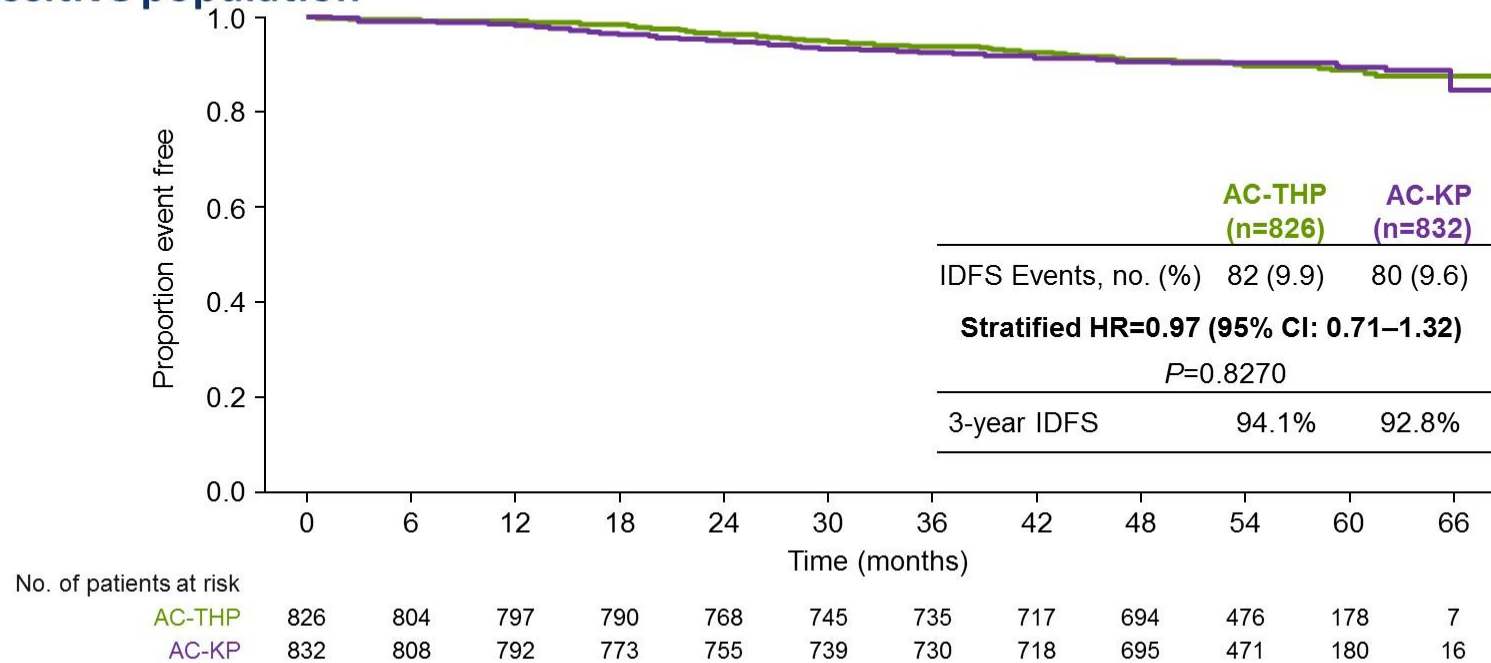
Stratification factors:

- Region: United States/Canada, Western Europe/Australia/New Zealand, Asia, or rest of the world
- Nodal status: 0, 1–3, or ≥4 positive nodes
- Centrally assessed hormone receptor status: positive (ER-positive and/or PgR-positive) or negative (ER-negative and PgR-negative)
- Type of anthracycline: doxorubicin or epirubicin

^aAnthracyclines (AC) = investigator's choice of FEC, AC, or EC [5-fluorouracil (F), epirubicin (E), cyclophosphamide (C), doxorubicin (A)].

Primary Endpoint: IDFS, Node-Positive Disease

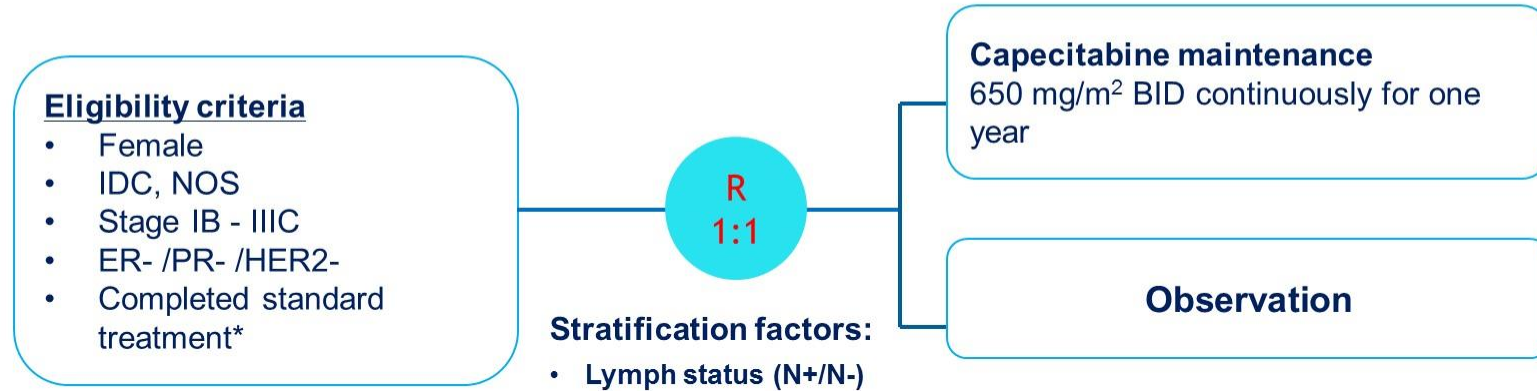
- AC-KP did not reduce the risk of an IDFS event compared with AC-THP in the node-positive population



Phase III Trial of Metronomic Capecitabine Maintenance after Standard Treatment in Early Triple-Negative Breast Cancer (SYSUCC-001)

Xi Wang, Shu-Sen Wang, Heng Huang, Rou-Jun Peng, Li Cai, Li Zhao, Yin Lin, Jian Zeng, Le-Hong Zhang, Jun Tang, Yong-Li Ke, Xian-Ming Wang, Xin-Mei Liu, Qian-Jun Chen, An-Qin Zhang, Yan-Xia Shi, Ye Cao, Dan-Mei Pang, Fei Xu, Jia-Jia Huang, Cong Xue, Xin An, Wen Xia, Ruo-Xi Hong, Zhong-Yu Yuan; on behalf of the South China Breast Cancer Group

Study Design and Patient Population



*surgery, (neo)adjuvant chemotherapy (A and/or T based), RT

89% received A+T

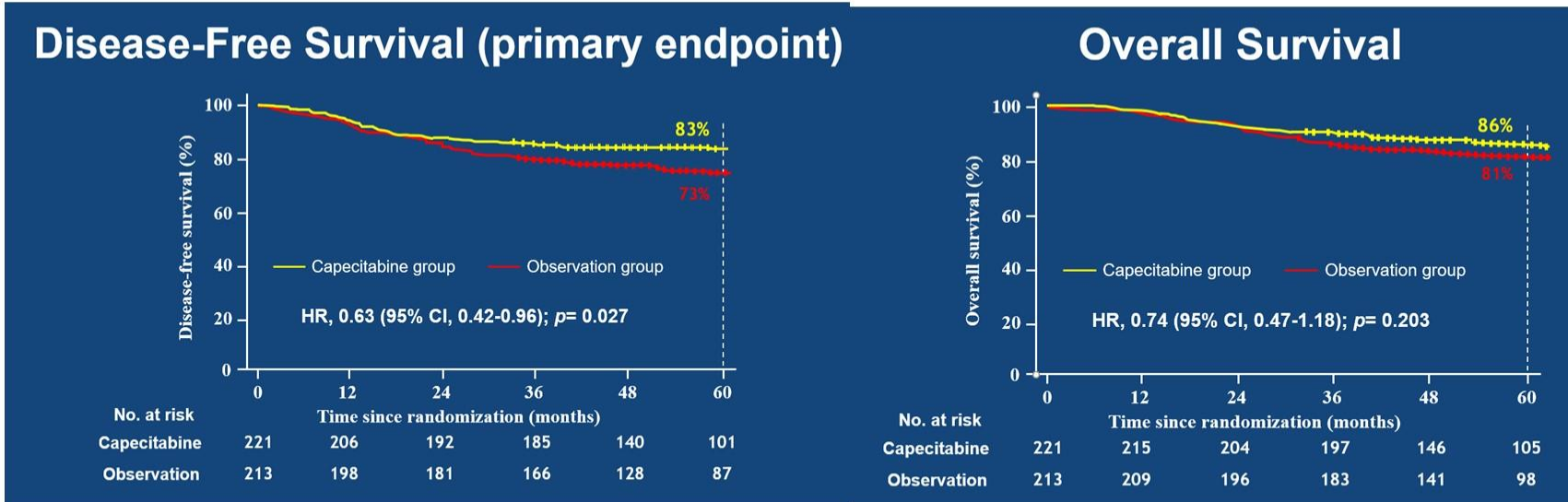
93% received adjuvant chemotherapy

Primary endpoint: DFS
Secondary Endpoint: OS, distant DFS, safety

443 patients randomized with a median follow up of 57 mos

Patient characteristics	
Age	Mean 46 years
Lymph node status	62% node negative
Tumor size	25% ≤2cm, 57% 2.1-5 cm
Pathologic stage	26% stage I; 54% stage II; 19% stage III

SYSUCC-001: Study Results



- 5y improvement in DFS with capecitabine vs observation: **83% vs 73%, HR 0.63 (95% CI, 0.42-0.96); p= 0.027**
- No significant improvement in OS
- Subgroup analysis shows lower HR in more favorable risk patients: Stage I, <2cm tumors, LN negative

Context of Capecitabine adjuvant trials

CREATE-X (positive)	SYSUCC-001 (positive)	GEICAM (negative)
ER+/TNBC (32%)	TNBC	TNBC
Residual dx after NAC	93% adjuvant chemo	80% adjuvant chemo
1250 mg/m ² d1-14 q 3 wk for 6-8 cycles	650 mg/m ² BID continuously for one year	1000mg/m ² day 1-14/q3 wks) x 8 cycles
95% anthracycline+taxane	89% anthracycline+taxane	67% anthracycline+taxane
57% pre-menopausal	67% pre-menopausal	32% pre-menopausal
NA	62% node negative	55% node negative
NA	73% grade 3	71% grade 3
unknown	unknown	26% non-basal
5 yr DFS/OS (control) 56%/70%	5 yr DFS/OS (control) 73%/81%	5 yr DFS/OS (control) 77%/86%
5 yr DFS/OS (cape) 70%/79%	5 yr DFS/OS (cape) 83%/86%	5 yr DFS/OS (cape) 80%/86%

Three-year follow-up of neoadjuvant chemotherapy with or without anthracyclines in the presence of dual HER2-blockade for HER2-positive breast cancer (TRAIN-2): a randomized phase 3 trial

A. van der Voort¹, M.S. van Ramshorst^{1,2}, E. van Werkhoven¹, I.A. Mandjes¹, I. Kemper¹, A.J. Vulink³, I.A. Oving⁴, A.H. Honkoop⁵, L.W. Tick⁶, A.J. van de Wouw⁷, C.M. Mandigers⁸, L.J. van Warmerdam⁹, J. Wesseling¹, M.J. Vrancken Peeters¹, S.C. Linn¹, G.S. Sonke¹

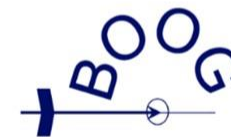
¹The Netherlands Cancer Institute, Amsterdam; ²Onze Lieve Vrouwe Gasthuis, Amsterdam; ³Reinier de Graaf Gasthuis, Delft; ⁴Ziekenhuisgroep Twente, Almelo; ⁵Isala, Zwolle; ⁶Maxima Medical Center, Eindhoven; ⁷VieCuri Medical Center, Venlo; ⁸Canisius Wilhelmina Hospital, Nijmegen; ⁹Catharina Cancer Centre, Eindhoven

on behalf of the Dutch Breast Cancer Research Group (BOOG 2013-03)



**Kathleen I. Pritchard, MD, Endowed
Merit Award**

Supported by Dr. Kathleen Pritchard Medicine Professional Corporation



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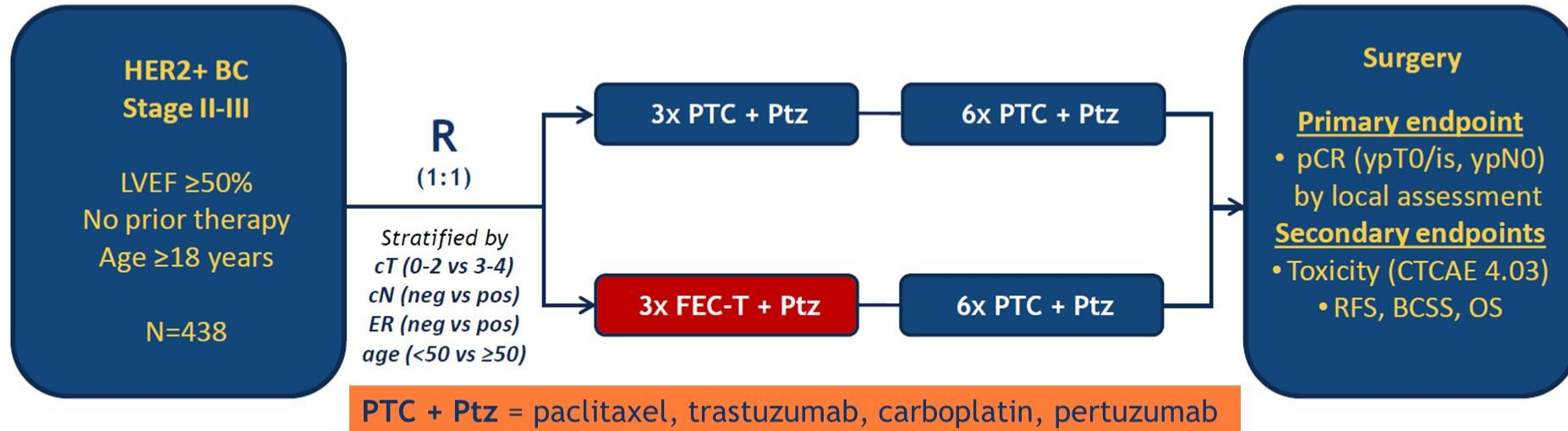
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PRESENTED BY: **Anna van der Voort**

19

TRAIN-2: study design



van Ramshorst et al, *Lancet Oncol* 2018; van Ramshorst et al, *Eur J Cancer* 2017

ClinicalTrials.gov identifier: NCT01996267

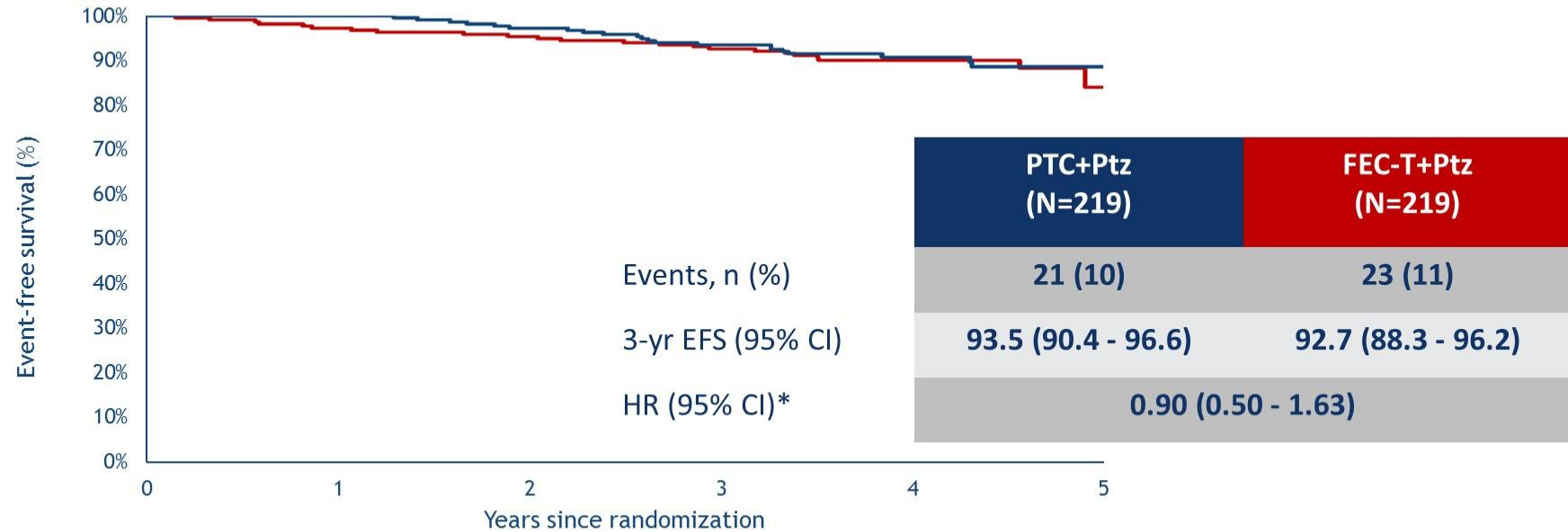
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20

Event-free survival

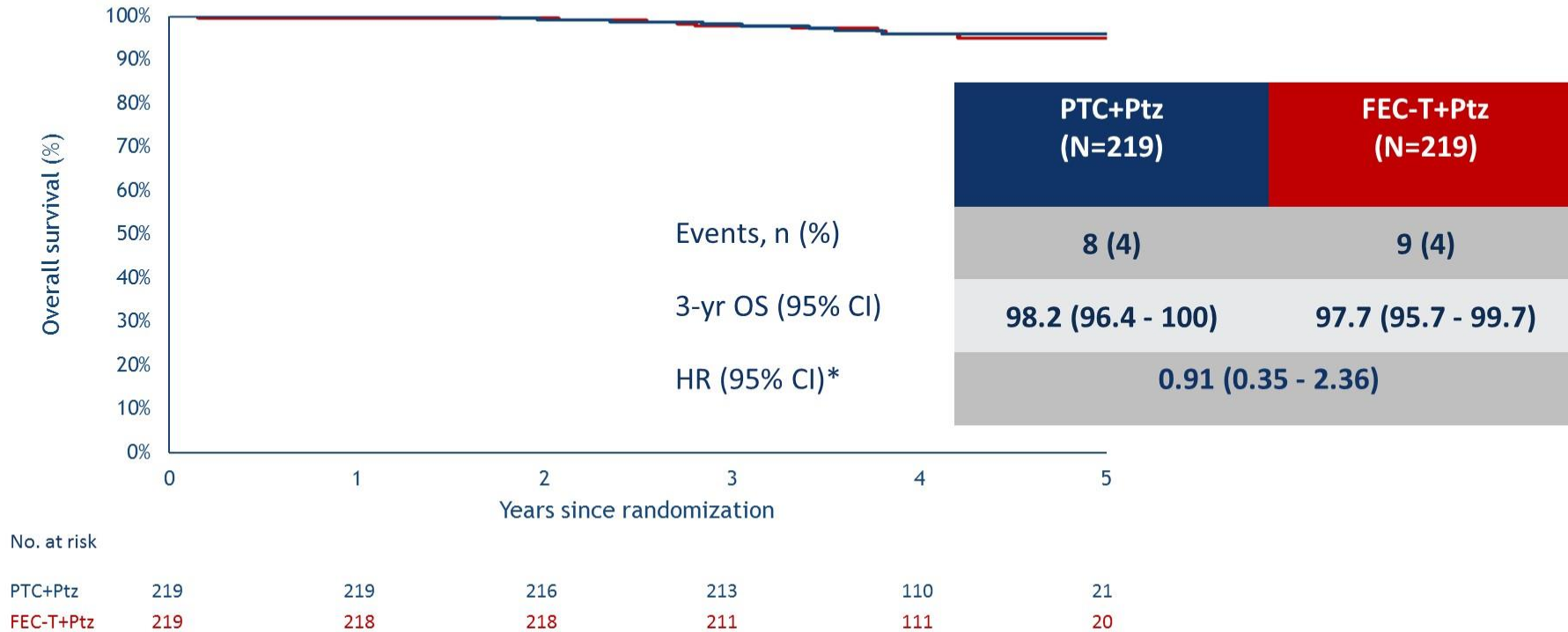


No. at risk

	0	1	2	3	4	5
PTC+Ptz	219	219	212	203	106	19
FEC-T+Ptz	219	213	209	200	103	17

*HR <1 favors PTC+Ptz

Overall survival



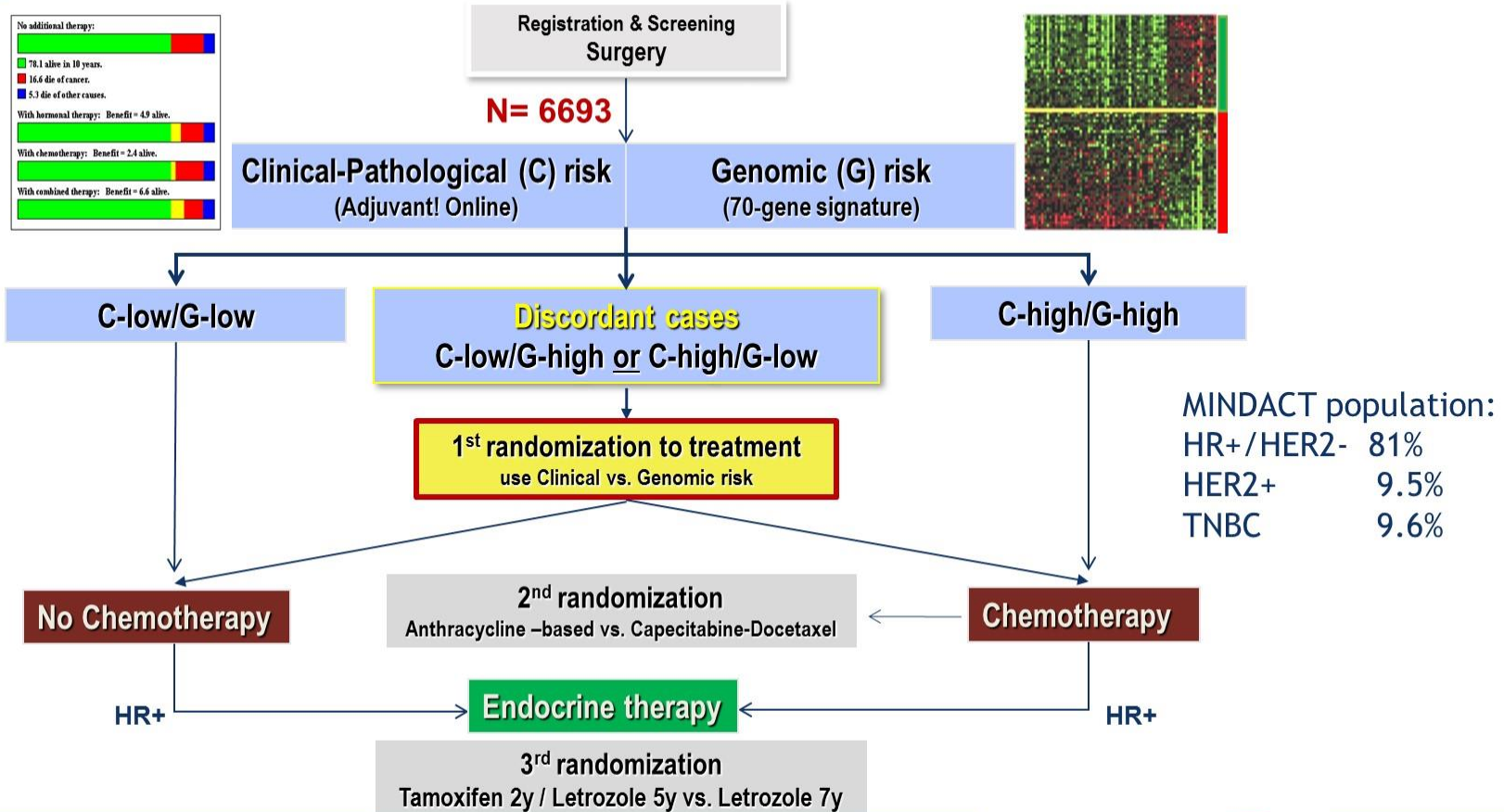
*HR <1 favors PTC+Ptz

MINDACT: Long-term results of the large prospective trial testing the 70-gene signature MammaPrint as guidance for adjuvant chemotherapy in breast cancer patients

EORTC-10041 / BIG3-04 (EudraCT Number2005-002625-31)

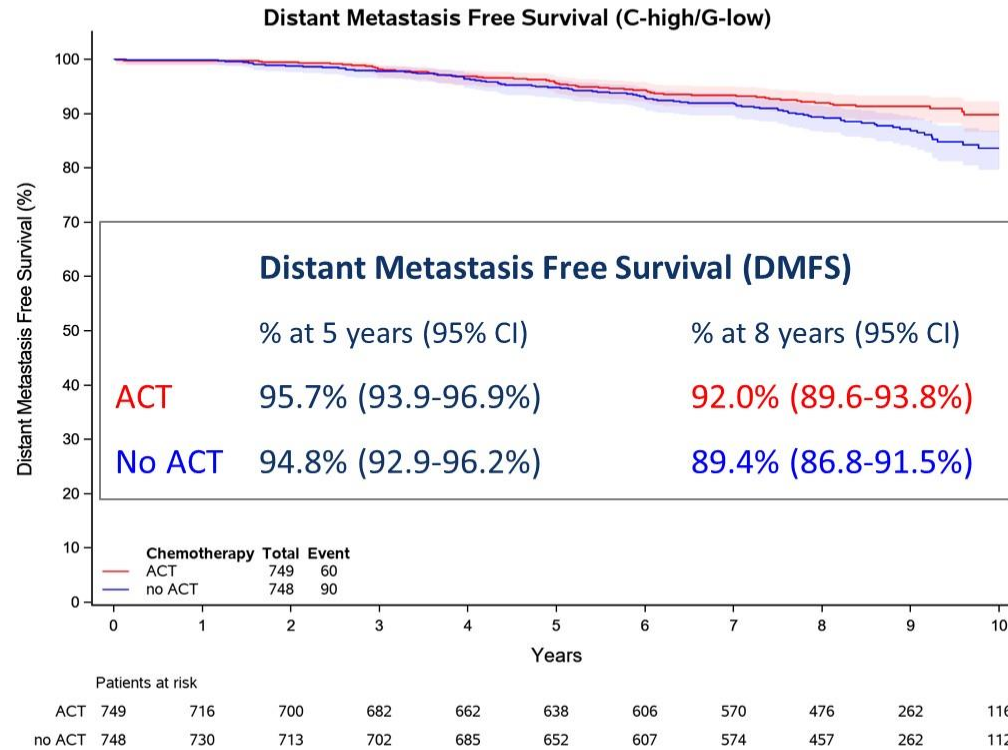
F. Cardoso, L. van 't Veer, C. Poncet, J. Lopes Cardozo, S. Delaloge, J. Pierga, P. Vuylsteke, E. Brain, G. Viale, S. Kümmel, I. Rubio, G. Zoppoli, A. Thompson, E. Matos, K. Zaman, F. Hilbers, A. Dudek-Perić, B. Meulemans, M. Piccart-Gebhart, E. Rutgers, on behalf of all MINDACT investigators

MINDACT TRIAL DESIGN



SECONDARY ENDPOINT

DMFS C-High/G-Low risk (ITT population) CT vs no CT



Absolute difference in DMFS between CT and no CT groups:

- at 5 years: **0.9 ± 1.1** % points
- at 8 years: **2.6 ± 1.6** % points

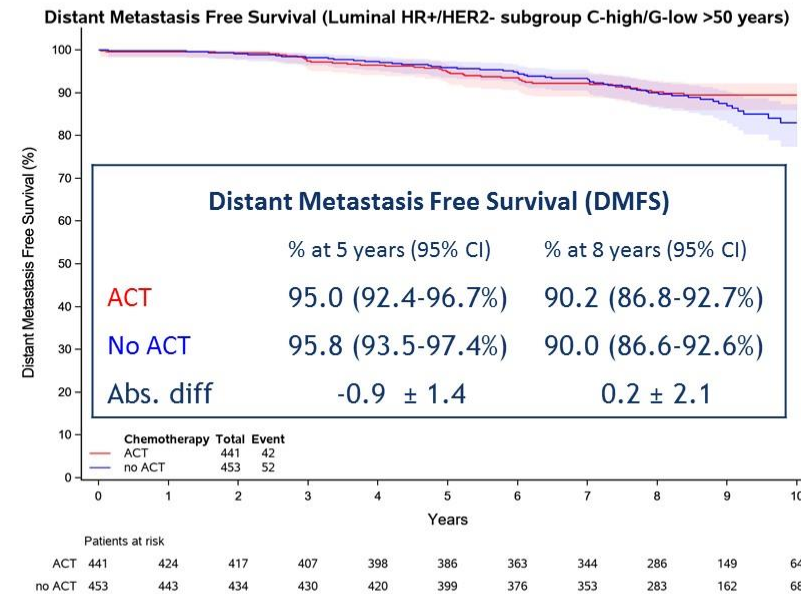
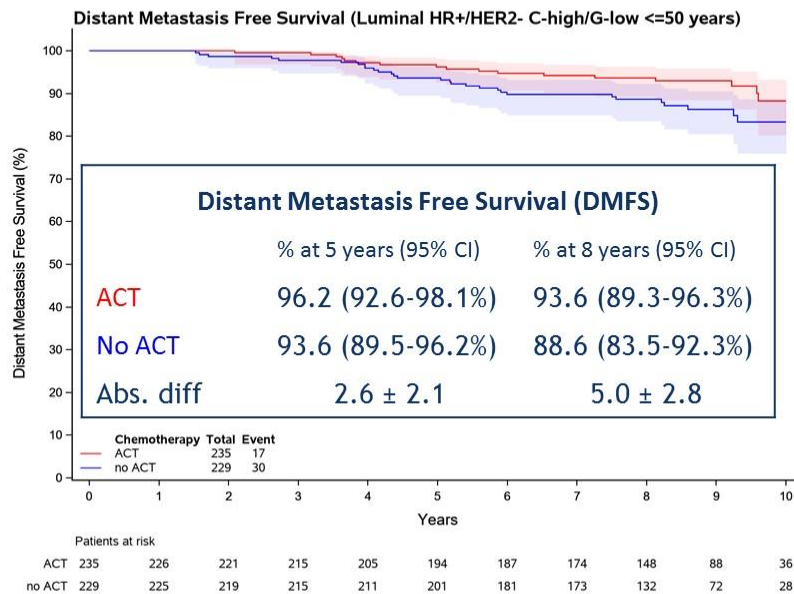
Type of first event (n = 150)

- distant recurrences: 74.7%
- death of any cause: 25.3%

DMFS in C-High / G-Low risk patients with luminal cancers (HR+/HER2-) stratified by age ITT population

Age ≤50 years

Age >50 years



5% difference

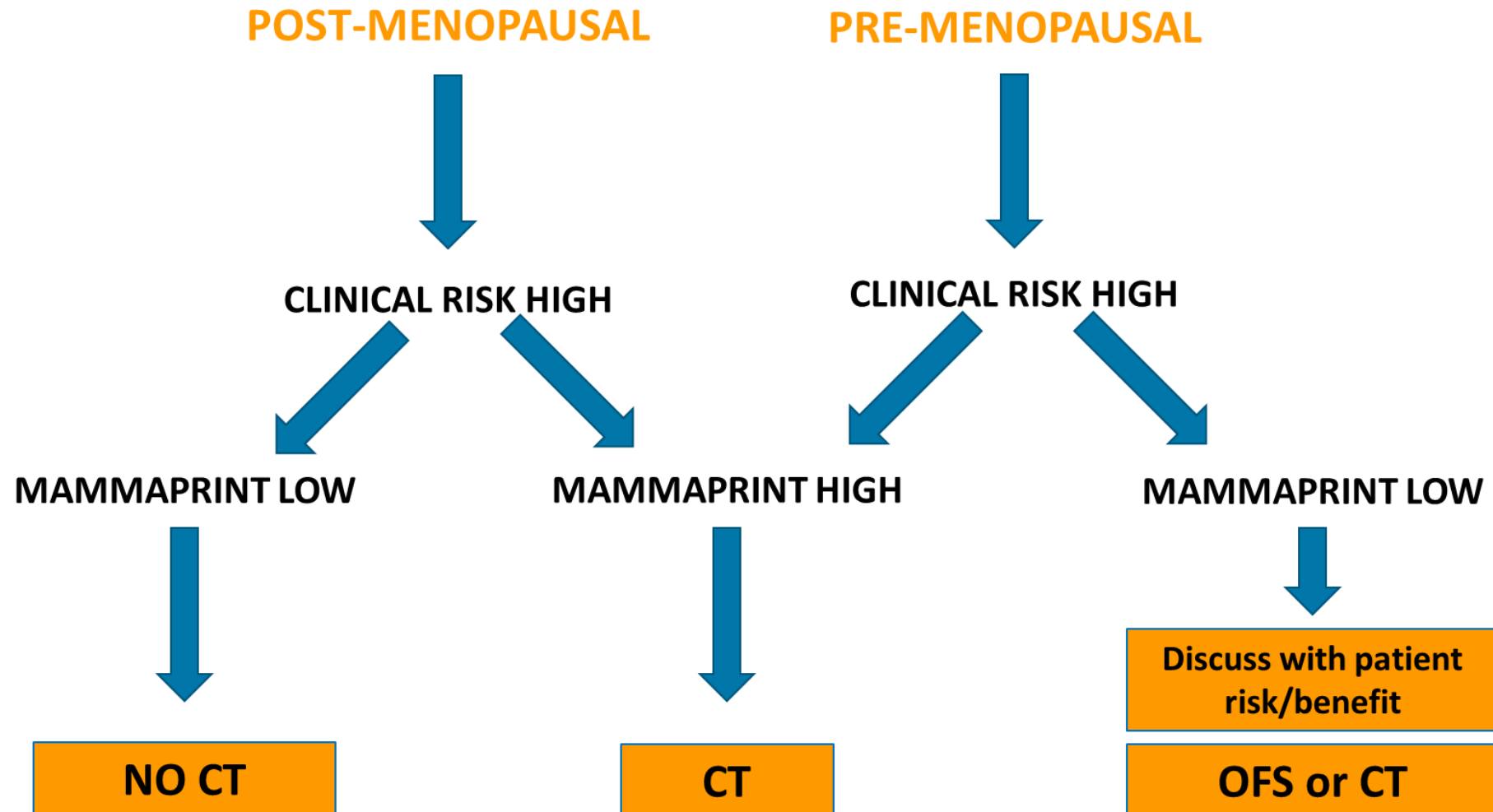
NO difference

Take Home Points: Tools for Precision Adjuvant Therapy

MINDACT: Mammaprint in ER+:

- Patients with C-High/G-Low disease continue to do well without chemotherapy at 8-yr follow up (95.1% (93.1-96.6%))
 - Small DMFS gain for CT in C-High/G-Low (2.6%)
- **Postmenopausal women:**
 - DMFS gain of 0.2% (\pm 2.3%) with CT favors omitting CT in C-High/G-Low
- **Premenopausal women:**
 - DMFS gain 5% (\pm 2.8%) with CT warrants consideration; May be due to lack of OFS in non-CT arm;
 - Must weigh this in individual decisions

Návrh na implementaci studie MINDACT do klinické praxe



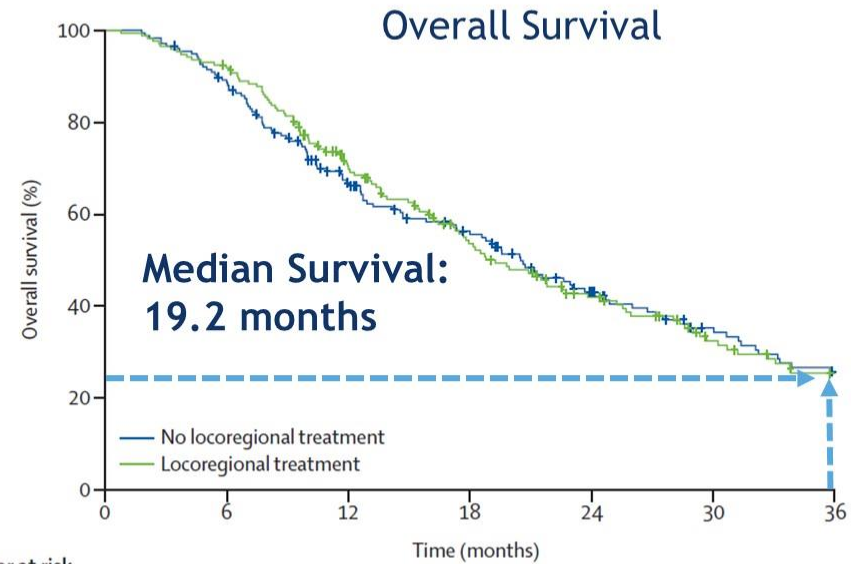
Metastatický karcinom prsu

Tata Memorial Hospital Trial: Surgical Resection After Complete or Partial Response to 6 Cycles of Anthracycline-based Combination Chemotherapy

- 716 presented 2005-2013
- 415 (60%) complete or partial response
- 350 Randomized Population:
 - Median age 48, 53% post menopausal
 - 75% had > 3 metastatic sites
 - 72 % single organ mets. ,
 - Bone only 28%, Visceral 40%
 - Solitary mets ineligible
 - 59% HR+, 30% HER2+,
- **Primary endpoint: 2 year Overall Survival**

No Improvement in Survival from Local Regional Therapy Tata Memorial Hospital Trial

- No improvement in OS
- Improved local regional progression-free survival:
 - Local therapy: ~ 85%
 - No Local therapy: ~40%
- Resource Constrained Systemic Therapy
 - 8% of HER2+ MBC received anti-HER2 therapy
 - 5% received Taxane or other CT



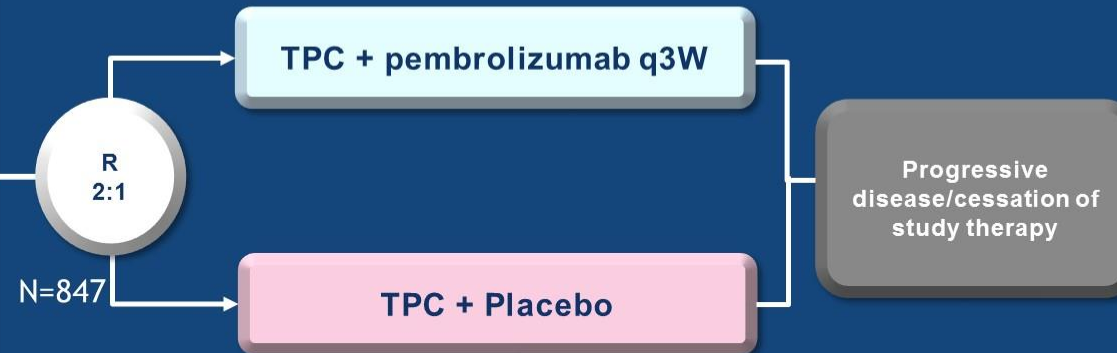
	Number at risk						
	0	6	12	18	24	30	36
No locoregional treatment	177	148	101	75	50	36	24
Locoregional treatment	173	152	105	73	49	32	21

Median follow-up 23 months

KEYNOTE 355: Pembrolizumab + chemo for 1L mTNBC

Key Eligibility Criteria

- Central determination of TNBC and PD-L1 expression
- Previously untreated inoperable or metastatic TNBC
- Completion of treatment with curative intent ≥ 6 months prior to recurrence
- No active CNS metastases



Stratification Factors:

- Chemotherapy on study (taxane vs gemcitabine/carboplatin)
- PD-L1 tumor expression (CPS ≥ 1 vs CPS < 1)
- Prior treatment with same class chemotherapy in the neoadjuvant or adjuvant setting (yes vs no)

TPC: treatment of physician's choice chemo

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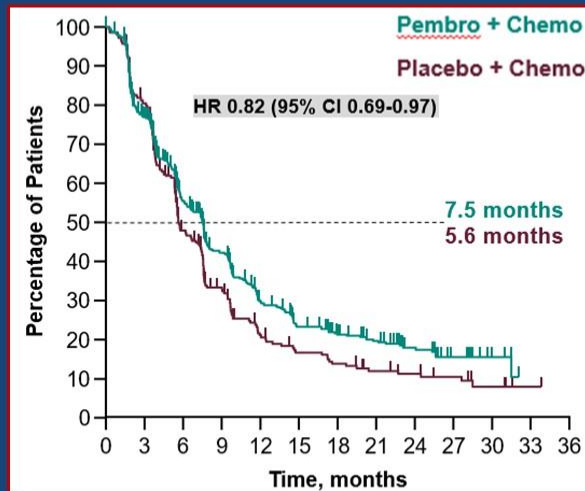
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J. Cortes et al ASCO 2020

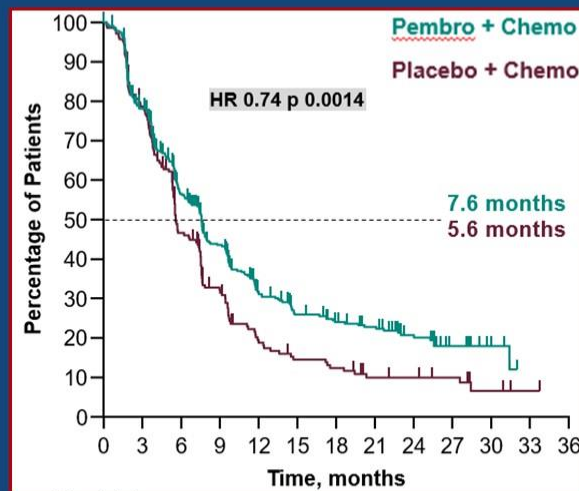
KEYNOTE 355: Progression-free survival

ITT



Statistical significance was not tested due to the prespecified hierarchical testing strategy

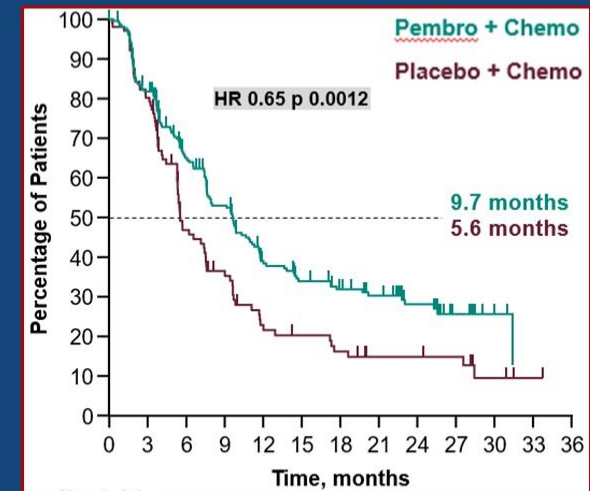
PD-L1 CPS ≥ 1



Prespecified P value boundary of 0.00111 not met

75% of pts

PD-L1 CPS ≥ 10



Prespecified P value boundary of 0.00411 met

38% of pts

KEYNOTE-355 – výsledky

IMPROVED MEDIAN PFS

In pts whose tumors express PD-L1 with CPS \geq 10

Pembro + chemo	9.7 months
Chemo alone	5.6 months

35% reduction in risk of disease progression, death

HR+ MBC and CDK4/6 Inhibitors

What's With the Backbone?

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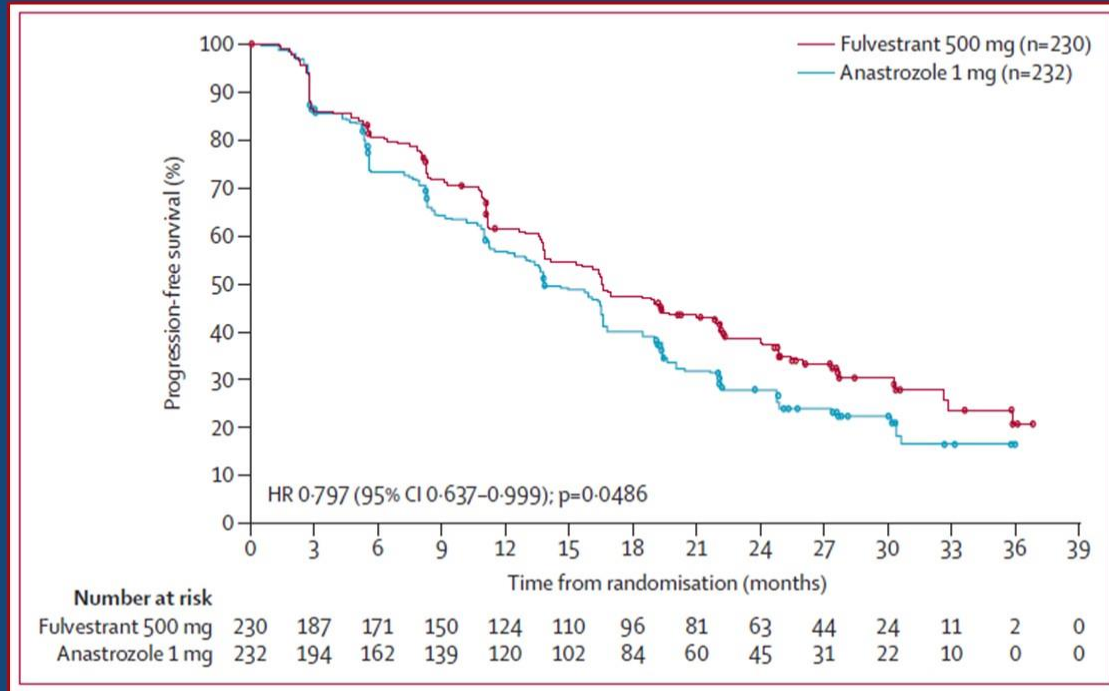
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PRESENTED BY:

Presented By Erika Hamilton at TBD

FALCON: Fulvestrant beats AI for 1st line HR+ MBC

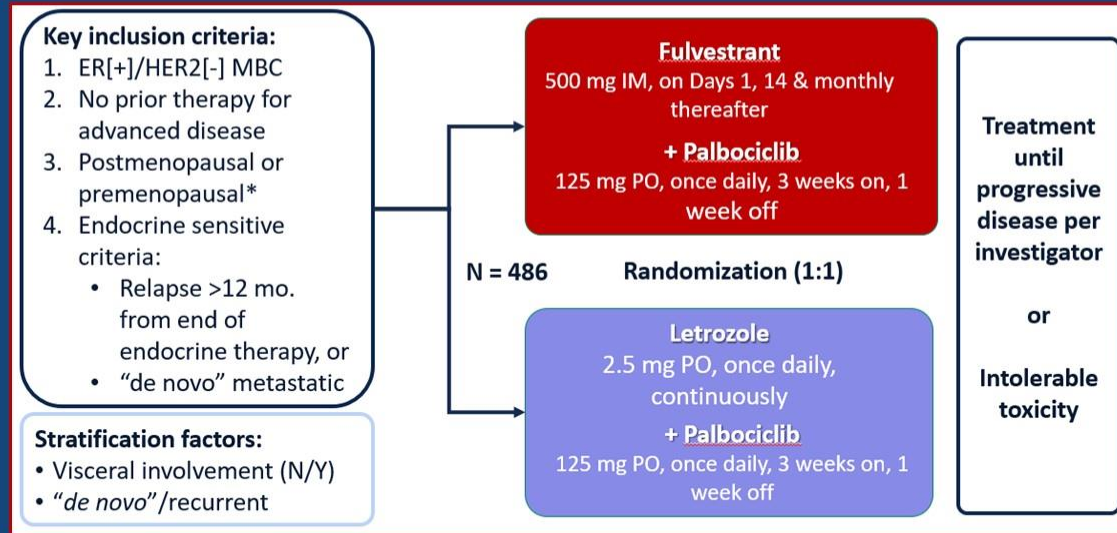
Postmenopausal women with HR+/HER2- MBC without any prior hormonal therapy



Median PFS:
16.6 mo: Fulvestrant
13.8 mo: Anastrozole

OS data not reported as yet

But what about when you combine with CDK4/6i for 1st line MBC?



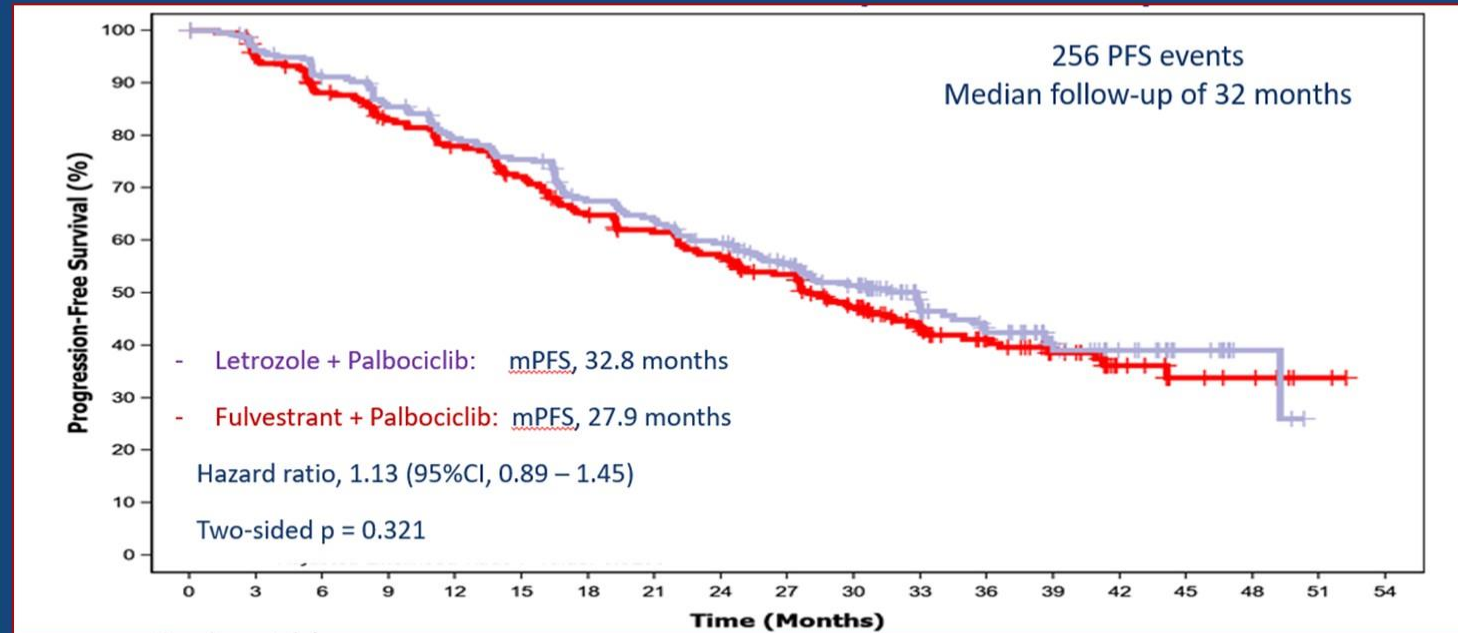
PARSIFAL: Fulvestrant or Letrozole in combination with Palbociclib

Prior therapies

Characteristics	All patients (N=486)	Fulvestrant+Palbociclib (N=243)	Letrozole+Palbociclib (N=243)
Prior therapies in EBC, n (%)			
Chemotherapy			
Neoadjuvant	46 (9.5)	25 (10.3)	21 (8.6)
Adjuvant	144 (29.6)	73 (30)	71 (29.2)
Endocrine therapy			
Tamoxifen	177 (36.4)	87 (35.8)	90 (37.0)
Aromatase inhibitors	117 (24.1)	65 (26.7)	52 (21.4)
Both	70 (14.4)	39 (16.0)	31 (12.8)

* If premenopausal, ovarian suppression was required

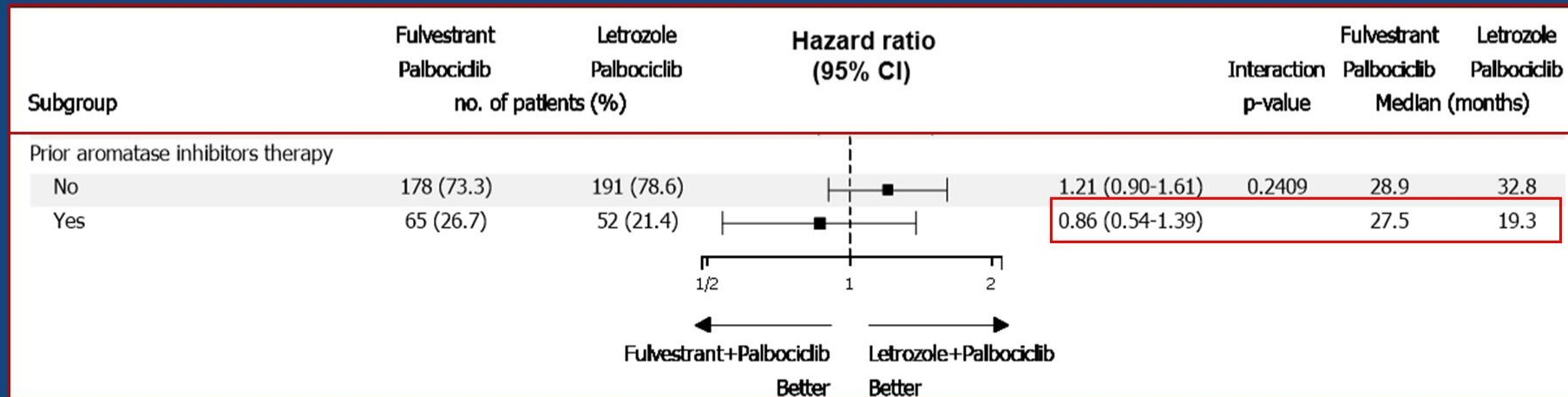
PARSIFAL: PFS ITT Analysis



Fulvestrant/palbociclib \nless Letrozole/palbociclib

PARSIFAL: Outcomes based on prior AI therapy

Pre-specified subgroup analysis



Alpelisib + Fulvestrant in Patients With *PIK3CA*-Mutated Hormone-Receptor Positive (HR+), Human Epidermal Growth Factor Receptor-2-Negative (HER2-) Advanced Breast Cancer (ABC) Previously Treated With Cyclin-Dependent Kinase 4/6 Inhibitor (CDKi) + Aromatase Inhibitor (AI): BYLieve Study Results

Hope S. Rugo,¹ Florence Lerebours,² Eva Ciruelos,³ Pamela Drullinsky,⁴ Manuel Ruiz-Borrego,⁵ Patrick Neven,⁶ Yeon Hee Park,⁷ Aleix Prat,⁸ Thomas Bachelot,⁹ Dejan Juric,¹⁰ Nicholas Turner,¹¹ Nickolas Sophos,¹² Juan Pablo Zarate,¹² Christina Arce,¹² Yu-Ming Shen,¹³ Stuart Turner,¹² Hemanth Kanakamedala,¹⁴ Wei-Chun Hsu,¹⁴ Stephen Chia¹⁵

¹University of California San Francisco Helen Diller Family Comprehensive Cancer Center, San Francisco, CA, USA; ²Institut Curie, Saint-Cloud, France; ³University Hospital 12 de Octubre, Madrid, Spain; ⁴Memorial Sloan Kettering Cancer Center, New York, NY, USA; ⁵Hospital Virgen del Rocio de Sevilla, Seville, Spain; ⁶University Hospital Leuven Breast Centre, Leuven, Belgium; ⁷Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea; ⁸University of Barcelona, Barcelona, Spain; ⁹Centre Léon Bérard, Lyon, France; ¹⁰Massachusetts General Hospital Cancer Center, Boston, MA, USA; ¹¹The Royal Marsden Hospital, London, UK; ¹²Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA; ¹³Novartis Pharmaceuticals Corporation, Munich, Germany; ¹⁴Genesis Research, Hoboken, NJ, USA; ¹⁵British Columbia Cancer Agency, Vancouver, BC, Canada

Abstract 1006

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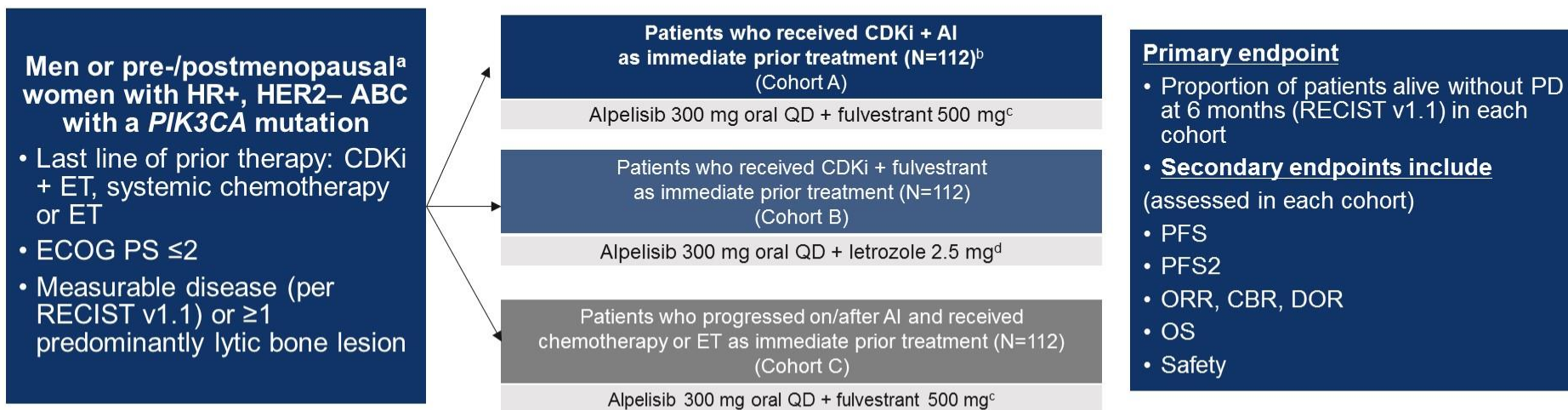
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1

BYLieve: A Phase 2, Open-Label, 3-Cohort, Noncomparative Trial (NCT03056755)

Goal: In the post-CDKi setting, assess the efficacy and safety of alpelisib + ET (fulvestrant or letrozole) in patients with *PIK3CA*-mutated HR+, HER2- ABC



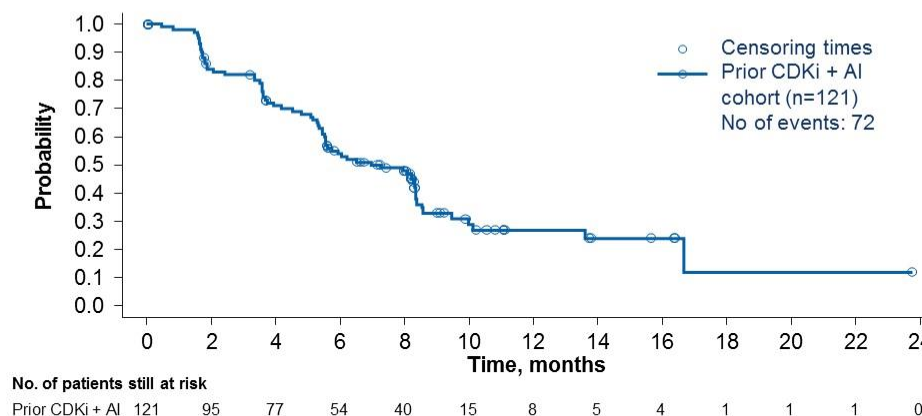
Treatment crossover between cohorts is not permitted

^aMen in the letrozole cohort and premenopausal women also received goserelin 3.6 mg SC every 28 days or leuprolide 7.5 mg IM every 28 days for adequate gonadal suppression. ^bEnrollment in each cohort continued until at least 112 patients with a centrally confirmed *PIK3CA* mutation was reached. ^cIM on D1 and D15 of Cycle 1 and D1 for all other cycles thereafter. ^dOral QD. ABC, advanced breast cancer; AI, aromatase inhibitor; CDKi, cyclin-dependent kinase inhibitor; ECOG PS, Eastern Cooperative Oncology Group performance status; ET, endocrine therapy; CBR, clinical benefit rate; D, day; DOR, duration of response; IM, intramuscularly; ORR, overall response rate; OS, overall survival; PD, progressive disease; PFS, progression-free survival; PFS2, PFS on next-line treatment; *PIK3CA*, phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha; RECIST, Response Evaluation Criteria In Solid Tumors; SC, subcutaneously; QD, once daily.

Efficacy: Primary Endpoint and PFS Results



Endpoint	Prior CDKi + AI (Cohort A) (n=121)
Primary endpoint: Patients who were alive without disease progression at 6 mo	50.4% (n=61; 95% CI, 41.2-59.6)
Secondary endpoint: Median PFS	7.3 mo [n=72 (59.5%) with event]; 95% CI, 5.6-8.3)



The primary endpoint for the prior CDKi + AI cohort was met (lower bound of 95% CI was > 30%), with 50.4% of patients alive without disease progression at 6 months

- In SOLAR-1, 44.4% of patients in the *PIK3CA*-mutant cohort with prior CDKi treated with alpelisib plus fulvestrant were alive without disease progression at 6 months

AI, aromatase inhibitor; CDKi, cyclin-dependent kinase inhibitor; CI, confidence interval; PFS, progression-free survival; *PIK3CA*, phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha.

Efficacy: Response Rates



Response rates, n (%)	Prior CDKi + AI (Cohort A) Study Treatment: Alpelisib + Fulvestrant	
	All patients with centrally confirmed <i>PIK3CA</i> mutation (n=121)	Patients with measurable disease at baseline (n=100)
Best overall response		
Complete response (CR)	0	0
Partial response (PR)	21 (17.4)	21 (21.0)
Neither CR nor PD ^a (NCR/NPD)	16 (13.2)	0
Stable disease (SD)	55 (45.5)	55 (55.5)
Progressive disease (PD) ^b	14 (11.6)	11 (11.0)
Unknown (UNK)	15 ^c (12.4)	13 (13.0)
Overall response rate (ORR: CR + PR)	21 (17.4); 95% CI (11.1-25.3)	21 (21.0); 95% CI (13.5-30.3)
Clinical benefit rate (CBR: CR + PR + [SD+NCR/NPD≥24 wk])	55 (45.5); 95% CI (36.4-54.8)	42 (42.0); 95% CI (32.2-52.3)

^aRefers to presence of lesions not fulfilling criteria for target lesions at baseline or abnormal nodal lesions (ie, ≥10 mm), unless there is unequivocal progression of the non-target lesions (PD) or it is not possible to determine progression unequivocally (UNK).

^bRefers to neither sufficient shrinkage to qualify for PR or CR nor an increase in lesions that would qualify for PD.

^c11 patients had no valid post-baseline tumor assessment; 1 patient was coded as SD by investigator too early since that occurred before 6 weeks of the start date of study treatment; 2 patients had started the new antineoplastic treatment before first post-baseline tumor assessment; 1 patient was coded as PD by investigator too late since the algorithm has shown PD.

