

Dott.ssa Silvia Beatrice

3°Edizione
I tumori femminili
Dal gene profiling
alla terapia
personalizzata

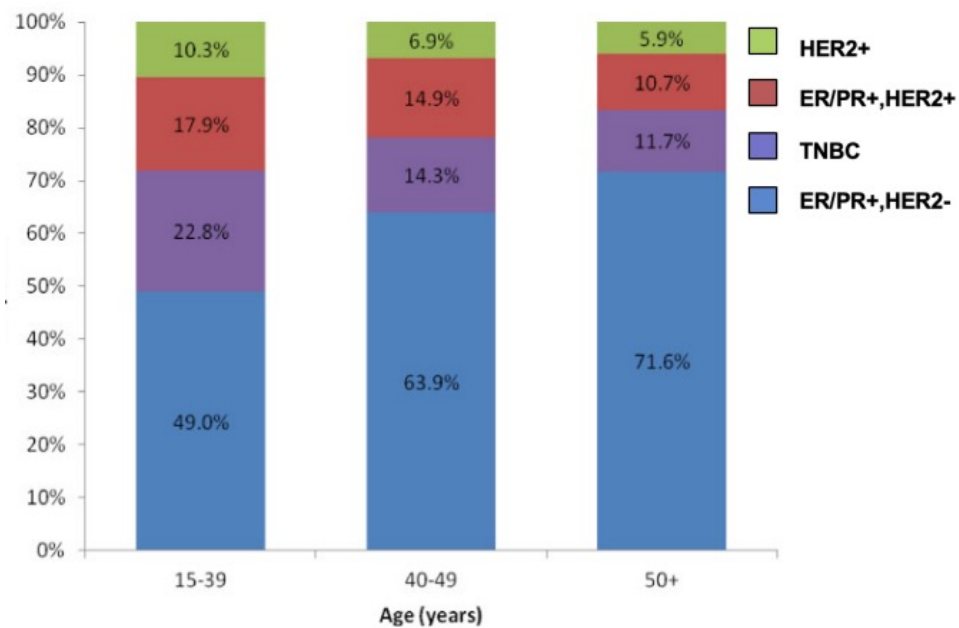
Inibitori delle cicline e non solo:
dall'adiuvante all'avanzato

22-23
Novembre
2023

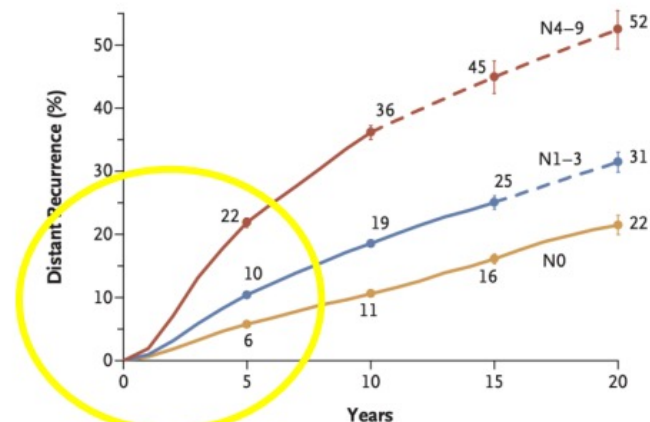
Casale Monferrato, AL
Hotel Candiani



Breast Cancer Incidence by Subtype



Risk of Distant Recurrence



No. at Risk

N4-9	12,333	8,116	2165	259	52
N1-3	31,936	23,576	7250	949	183
N0	29,925	24,081	8571	1982	414

No. of Events — annual rate (%)

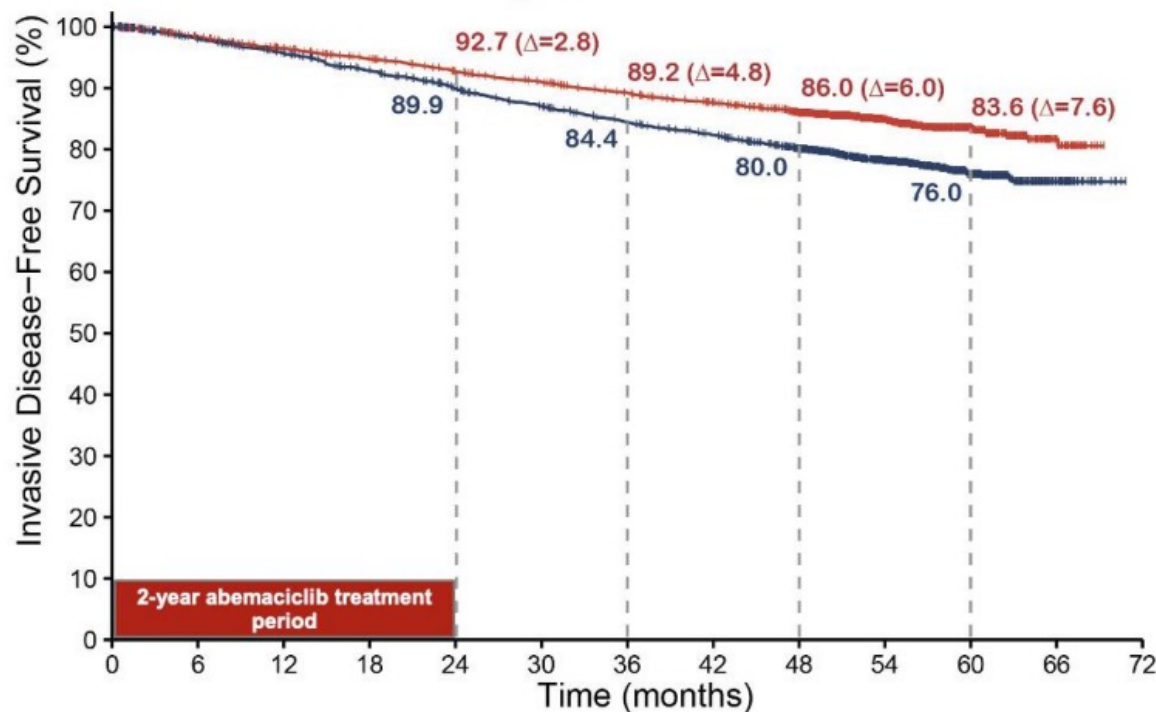
N4-9	2568 (4.8)	969 (4.0)	121 (3.1)	13 (2.2)
N1-3	3126 (2.2)	1421 (1.9)	241 (1.7)	39 (1.8)
N0	1646 (1.2)	835 (1.1)	272 (1.3)	68 (1.4)

Keegan et al, BCR 2012; Pan et al, NEJM 2017

What else can we do for patients with high risk, ER+ breast cancer?



Sustained Benefits at 5 years in monarchE IDFS & DRFS



Number of IDFS events	
Abemaciclib + ET	ET Alone
407	585
HR (95% CI): 0.680 (0.599, 0.772)	
Nominal p <0.001	

Number of DRFS events	
Abemaciclib + ET	ET Alone
345	501
HR (95% CI): 0.675 (0.588, 0.774)	
Nominal p <0.001	

Number at risk

Abemaciclib + ET	2808	2621	2549	2479	2408	2347	2284	2220	2095	1175	490	74	0
ET alone	2829	2653	2573	2474	2374	2281	2195	2125	1974	1124	473	67	0

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 Harbeck et al, LBA 17, ESMO 2023



NATALEE study design^{1,2}

- Adult patients with HR+HER2- EBC
 - Prior ET allowed up to 12 mo
 - Anatomic stage IA*
 - N0 with:
 - Grade 2 and evidence of high risk:
 - Ki67 ≥ 20%
 - Oncotype DX Breast Recurrence Score ≤ 25 or
 - High risk via genomic risk profiling
 - Grade 3
 - N1
 - Anatomic stage IB*
 - N0 or N1
 - Anatomic stage III
 - N0, N1, N2, or N3
- N = 5101¹**

R 1:1*

- Ribociclib**
400 mg/day
3 weeks on/1 week off
for 3 y
- NSAI**
Letrozole or
anastrozole[†] for ≥ 5 y
+ goserelin in men
and premenopausal
women
- NSAI**
Letrozole or
anastrozole[†] for ≥ 5 y
+ goserelin in men
and premenopausal
women

Primary End Point

- iDFS using STEEP criteria

Secondary End Points

- Recurrence-free survival
- Distant disease-free survival
- OS
- PROs
- Safety and tolerability
- PK

Exploratory End Points

- Locoregional recurrence-free survival
- Gene expression and alterations in tumor cDNA/tRNA samples



Randomization stratification

Anatomic stage: I vs II

Menopausal status: men and premenopausal women vs postmenopausal women

Receipt of prior (neoadjuvant) chemotherapy: yes vs no

Geographic location: North America/Western Europe/Oceania vs rest of world

† Treatment of patients with stage I disease who received an AI: 1,000 patients were randomized from 11/16/2013 to 03/04/2017. 1,000 patients were randomized from 11/16/2013 to 03/04/2017. 1,000 patients were randomized from 11/16/2013 to 03/04/2017.

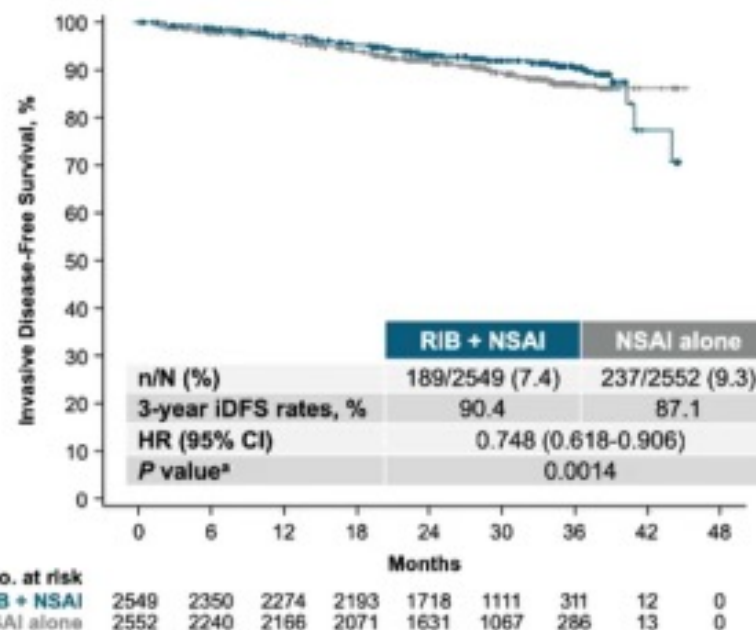
2025 ASCO

#ASCO25

Investigator: Dennis Slamon, MD, PhD

ASCO

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ET, endocrine therapy; iDFS, invasive disease-free survival; HR, hazard ratio; NSAI, nonsteroidal aromatase inhibitor; RIB, ribociclib. *One-sided P value.

The NATALEE results support ribociclib + ET as the treatment of choice in a broad population of ptz with stage II or III EBC including ptz with N0

monarchE and NATALEE: IDFS Rate

monarchE (n=5607)

5 year IDFS Rate

Δ 7.6% (HR: 0.68, 0.60-0.77, $p < 0.001$)

NATALEE (n=5101)

3 year IDFS Rate

Δ 3.3% (HR: 0.75, 0.62-0.91, $p = 0.0014$)

Adjuvant CDK4/6i tx substantially improves EFS in eBC

- All subgroups benefit including by Ki67, ER, PR
Goetz et al, ESMO 2023; Bardia et al, ESMO 2023
- Adjuvant abema approved
- Await ribo approval (NATALEE follow-up pending)
- Await OS data and many other unanswered questions
 - Replace chemotherapy?
 - Adherence in real world?

ate: Δ 2.2%

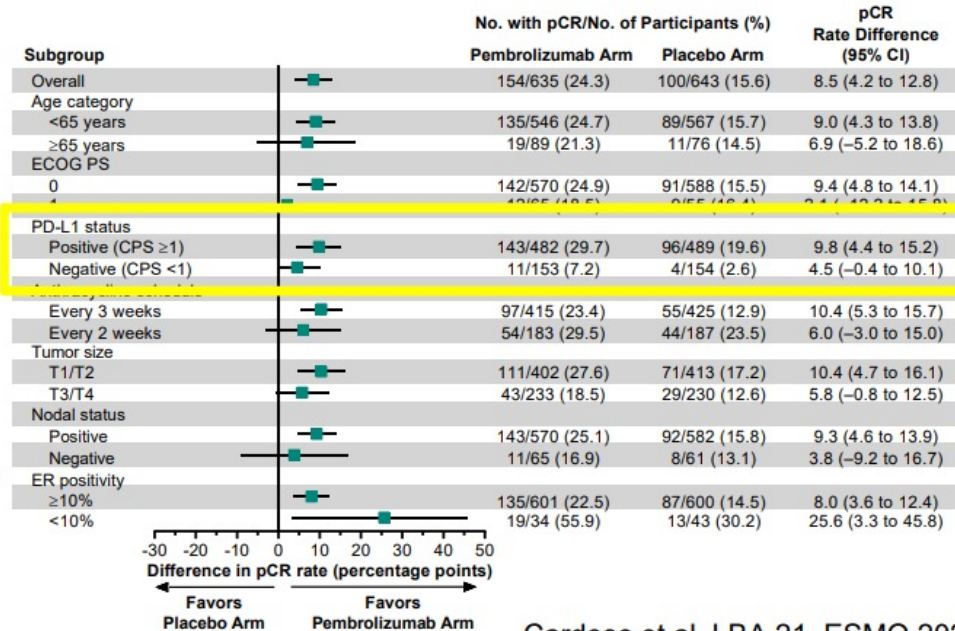
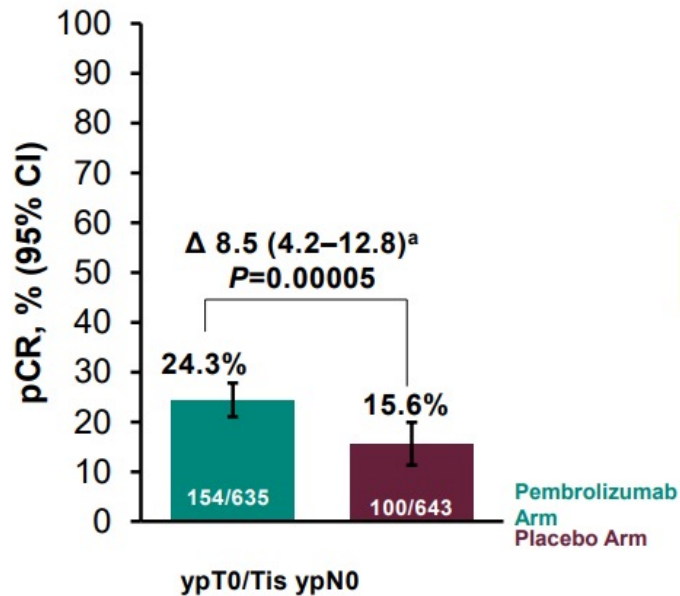


What about ICI's in ER+ Disease?

KEYNOTE-756- Pathological Complete Response (pCR) Rate

Primary Endpoint

ITT N=1278

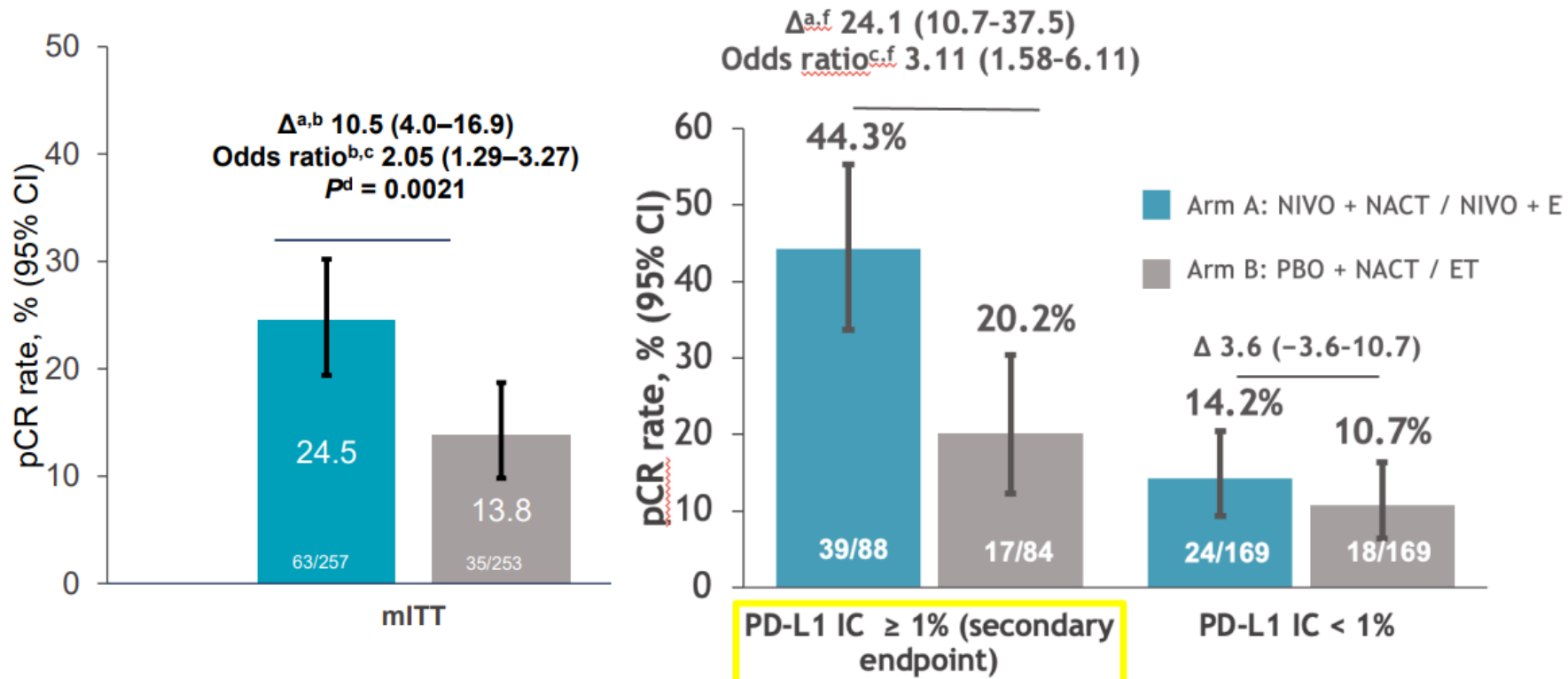


Cardoso et al, LBA 21, ESMO 2023

23



CheckMate-7FL Pathological Complete Response (pCR) Rate

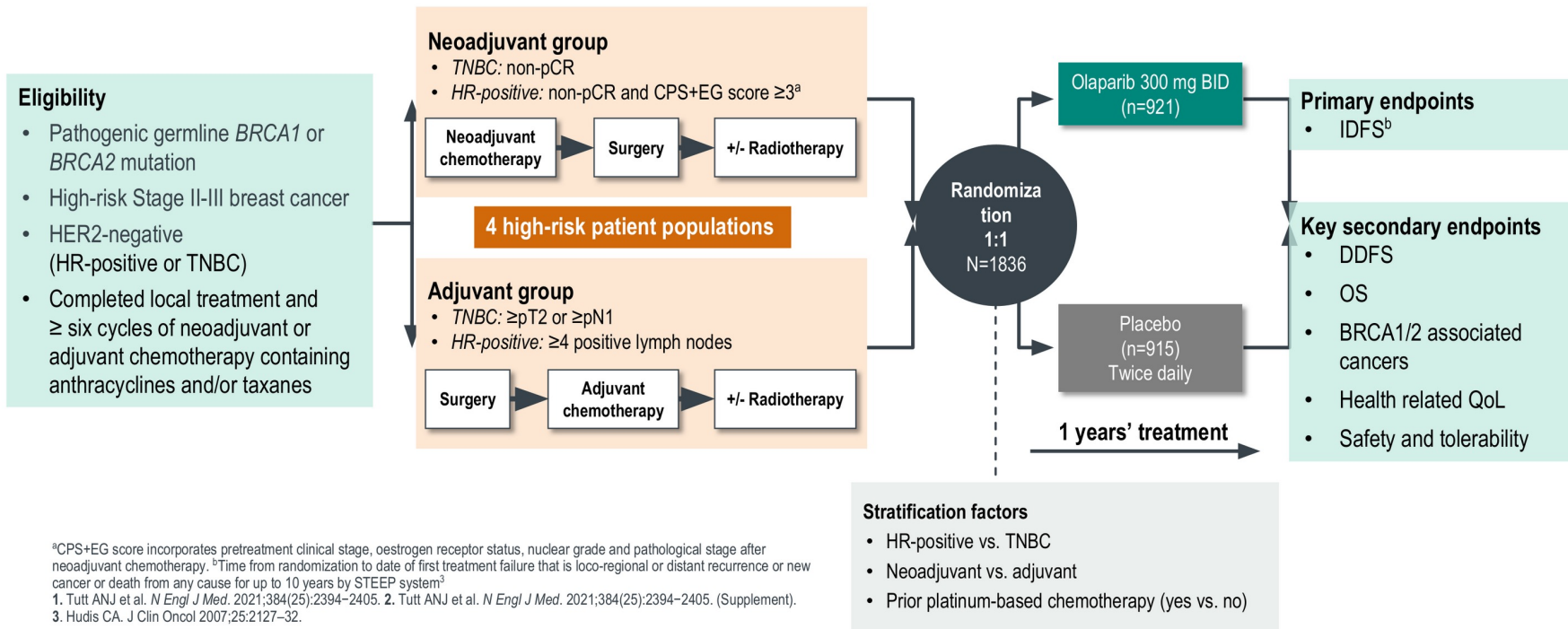


Loi et al, LBA 20, ESMO 2023

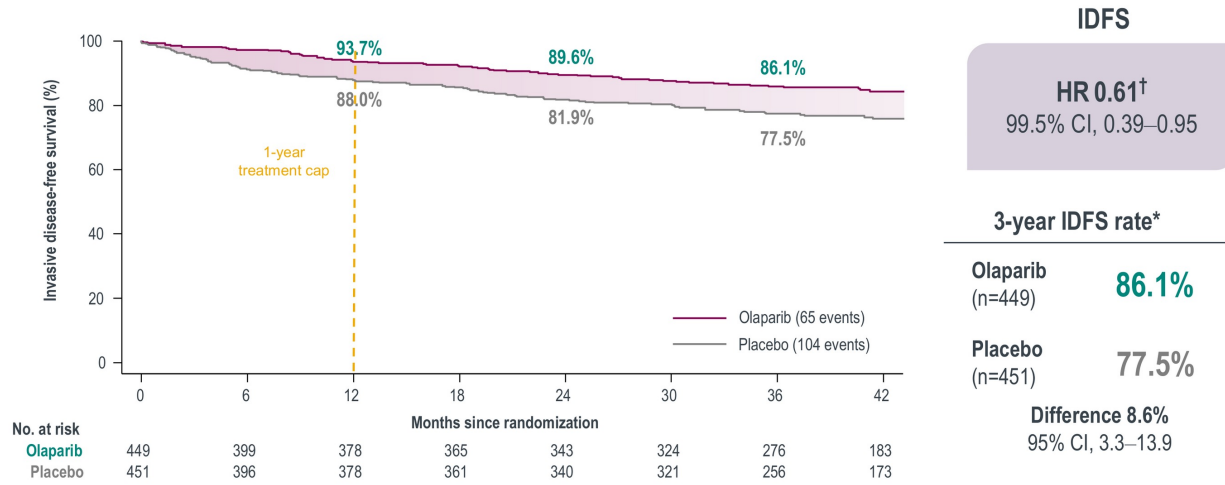


What about PARP inhibitors in ER + disease?

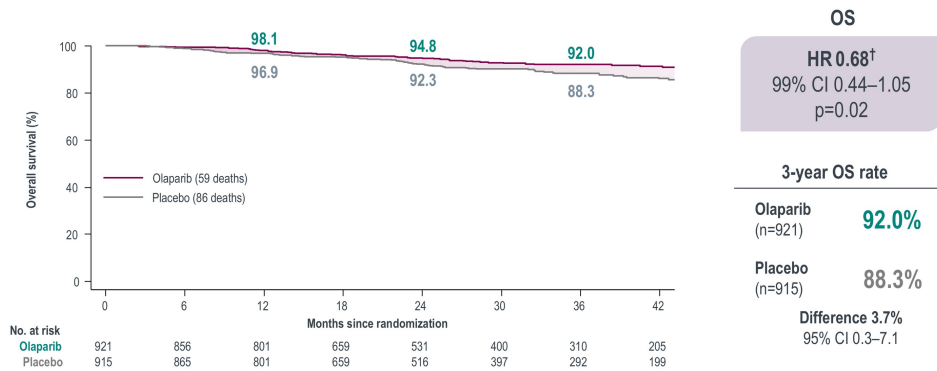
OlympiA Study Design^{1,2}



Primary Endpoint: Invasive Disease-Free Survival (Mature Cohort)

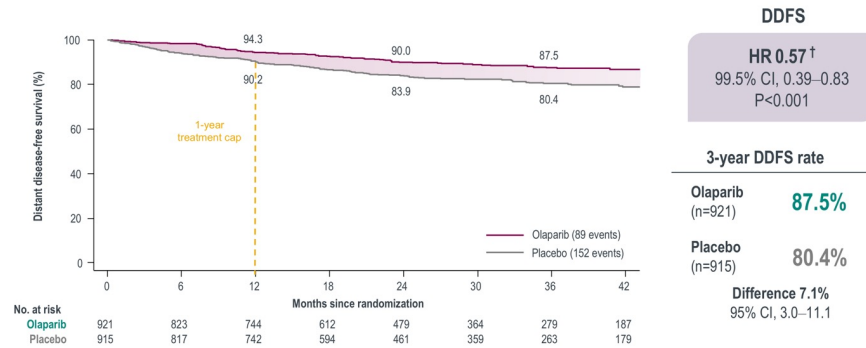


Secondary Endpoint: Overall Survival



Difference in OS did not achieve the threshold for statistical significance in the pre-specified multiple testing procedure

Secondary Endpoint: Distant Disease-Free Survival



[†]Non-proportional hazards; 99.5% CI is shown for the HR for DDFS because p<0.05 was required to indicate statistical significance for this endpoint. Reproduced with permission from Tutt ANU et al. *N Engl J Med.* 2021;384(25):2394–2405. Tutt ANU et al. *N Engl J Med.* 2021;384(25):2394–2405.



EMBRACA: Phase III Trial Design

Eligibility (N = 431)

Patients with locally advanced or metastatic HER2-negative breast cancer and a germline BRCA1 or BRCA2 mutation

Stratification factors:

- Number of prior chemo regimens (0 or ≥1)
- TNBC or hormone receptor positive (HR+)
- History of CNS mets or no CNS mets

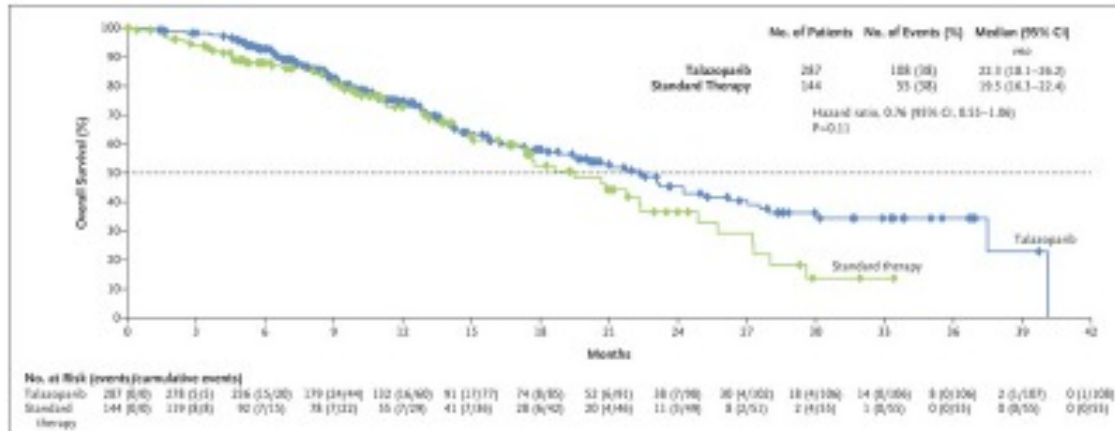
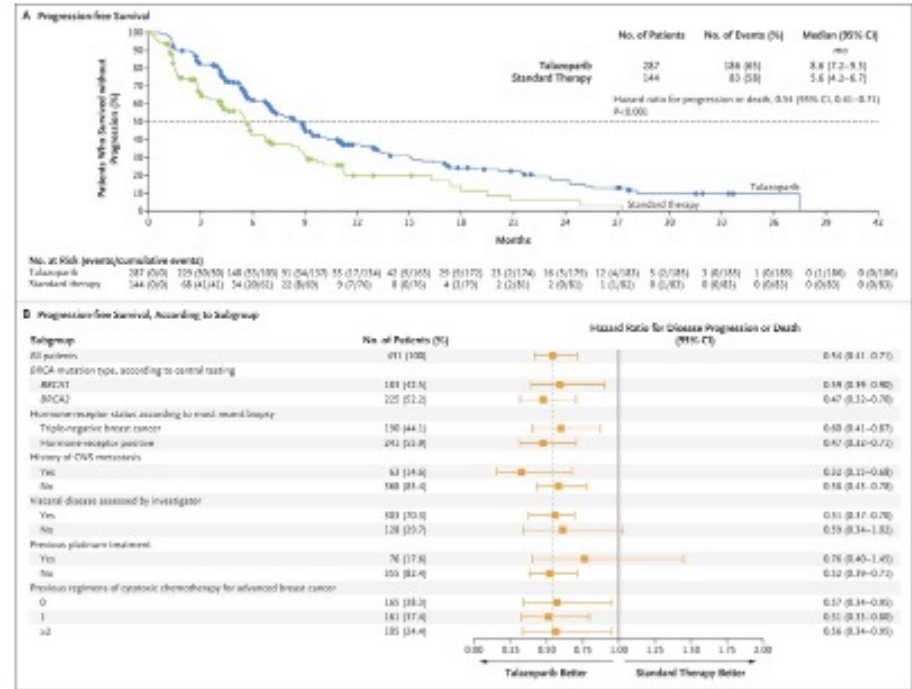


**Talazoparib
1 mg PO daily
(n = 287)**

Treatment (21-day cycles) continues until progression or unacceptable toxicity

**Physician's choice of therapy (PCT):
capecitabine, eribulin,
gemcitabine or
vinorelbine
(n = 144)**

Litton JK et al. *N Engl J Med* 2018;379(8):753-63; Litton J et al. San Antonio Breast Cancer Symposium 2017; Abstract GS6-07.

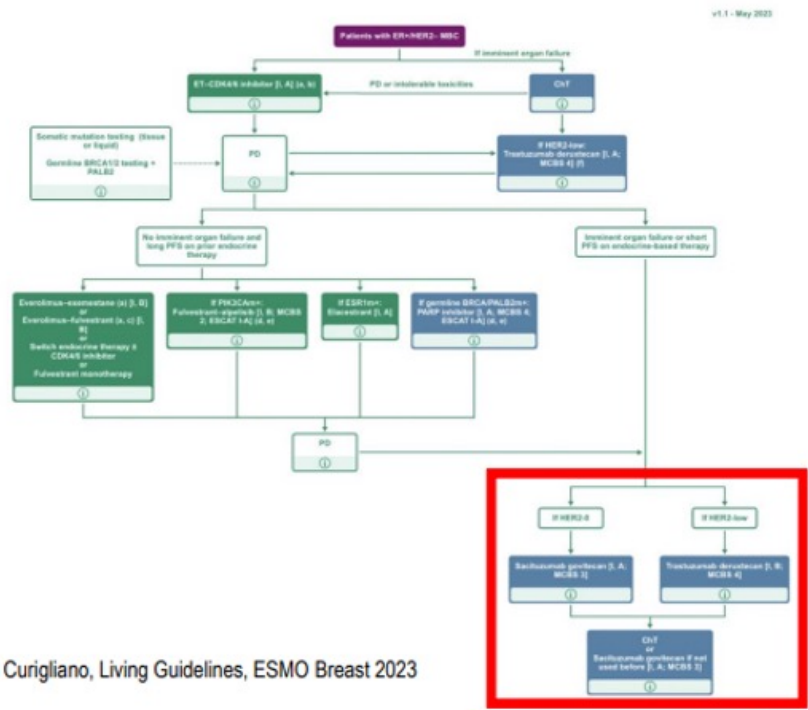


What about ADCs in ER + disease?

HR+/HER2- Metastatic Breast Cancer

Antibody drug-conjugates
in HR+/HER2- mBC

Trastuzumab deruxtecan and Sacituzumab govitecan are two ADCs, approved by FDA and EMA for patients with **endocrine-resistant HR+/HER2- mBC**



G Curigliano, Living Guidelines, ESMO Breast 2023



DESTINY-Breast04 Study Design: An open-label, multicenter study (NCT03734029)¹⁻³

Patients^a

- HER2-low (IHC 1+ or IHC 2+/ISH-), unresectable, and/or mBC treated with 1-2 prior lines of chemotherapy in the metastatic setting
- HR+ disease considered endocrine refractory

R
2:1

T-DXd
5.4 mg/kg Q3W
(n = 373)

TPC
Capecitabine, eribulin,
gemcitabine, paclitaxel,
nab-paclitaxel^c
(n = 184)

Stratification factors

- Centrally assessed HER2 status^b (IHC 1+ vs IHC 2+/ISH-)
- 1 vs 2 prior lines of chemotherapy
- HR+ (with vs without prior treatment with CDK4/6i) vs HR-

Primary endpoint

- PFS by BICR (HR+)

Key secondary endpoints^d

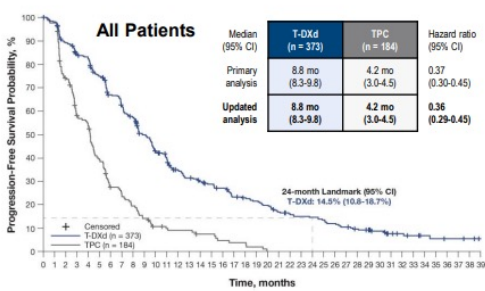
- PFS by BICR (all patients)
- **OS (HR+ and all patients)**

Secondary endpoints^d

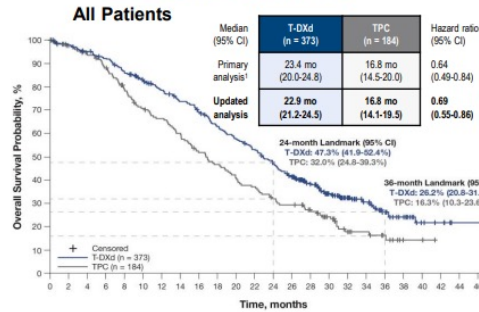
- **PFS by investigator**
- ORR by BICR and investigator
- DOR by BICR
- **Safety**
- Patient-reported outcomes (HR+)^e

At the updated data cutoff (March 1, 2023), median follow-up was 32.0 months (95% CI, 31.0-32.8 months)

Progression-Free Survival



Overall Survival



Overall Safety Summary

- Exposure-adjusted incidence rates for any-grade TEAEs were 1.2 and 2.6 per patient-year for the T-DXd and TPC arms, respectively
 - This supports that **longer T-DXd exposure does not increase toxicity**
- Overall, the safety profile is consistent with results from the primary analysis (data cutoff, January 11, 2022)
 - **Rates of ILD/pneumonitis remained unchanged with longer follow-up**, and rates of left ventricular dysfunction were consistent with previously observed rates

ILD/pneumonitis (adjudicated, drug-related), n (%)

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Any Grade
T-DXd (n = 371)	13 (3.5)	24 (6.5)	4 (1.1) ^a	0	4 (1.1) ^a	45 (12.1)
TPC (n = 172)	1 (0.6)	0	0	0	0	1 (0.6)

Left ventricular dysfunction

	Ejection fraction decreased, n (%)					
T-DXd (n = 371)	2 (0.5)	15 (4.0)	1 (0.3)	0	0	18 (4.9)
TPC (n = 172)	0	0	0	0	0	0

ILD, interstitial lung disease; T-DXd, trastuzumab deruxtecan; TEAE, treatment-emergent adverse event; TPC, treatment of physician's choice.

^aSafety analyses were performed in patients who received ≥1 dose of a study regimen. ^bOn-treatment death is defined as death that occurred any time from date of first dose through 47 days after the last dose of the study treatment.

¹ Modi S et al. *N Engl J Med*. 2022;387:9-20.

Safety analysis set^e

n (%)	T-DXd (n = 371)	TPC (n = 172)
TEAEs	369 (99.5)	169 (98.3)
Grade ≥3	202 (54.4)	116 (67.4)
Serious TEAEs	108 (29.1)	44 (25.6)
TEAEs associated with dose discontinuation	62 (16.7)	14 (8.1)
TEAEs associated with dose interruptions	155 (41.8)	73 (42.4)
TEAEs associated with dose reductions	89 (24.0)	65 (37.8)
TEAEs associated with deaths	15 (4.0)	5 (2.9)
Total on-treatment deaths ^b	14 (3.8)	8 (4.7)

Results from the 32-month median follow-up for DESTINY-Breast04 confirm the sustained clinically meaningful improvement for T-DXd vs TPC previously demonstrated in HER2-low (IHC 1+, IHC 2+/ISH-) mBC, regardless of HR status

HR, hormone receptor; mo, month; OS, overall survival; T-DXd, trastuzumab deruxtecan; TPC, treatment of physician's choice.

¹ Modi S et al. *N Engl J Med*. 2022;387:9-20.

MADRID 2023 ESMO congress

Giuseppe Curigliano, MD PhD

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TROPION-Breast01 Study Design¹

Randomised, phase 3, open-label, global study (NCT05104866)

Key inclusion criteria

Patients with HR+/HER2- breast cancer* (HER2- defined as IHC 0/1+/2+; ISH negative)

Previously treated with 1-2 lines of chemotherapy (inoperable/metastatic setting)

Experienced progression on ET and for whom ET was unsuitable
ECOG PS 0 or 1

1:1

Dato-DXd
6 mg/kg IV Day 1 Q3W
(n=365)

ICC
Q3W as per protocol directions† (eribulin mesylate, vinorelbine, capecitabine, or gemcitabine)
(n=367)

Endpoints:

- **Dual primary:** PFS by BICR per RECIST v1.1, and OS
- **Key secondary:** ORR, PFS (investigator assessed) and safety

Randomisation stratified by:

- **Lines of chemotherapy** in unresectable/metastatic setting (1 vs 2)
- **Geographic location** (US/Canada/Europe vs ROW)
- **Previous CDK4/6 inhibitor** (yes vs no)

- Treatment continued until investigator-assessed PD (RECIST v1.1), unacceptable tolerability, or other discontinuation criteria
- At this data cut-off, the criteria for performing the primary PFS analysis were met (~419 events)

*Per American Society of Clinical Oncology/College of American Pathologists (ASCO/CAP) guidelines. †ICC was administered as follows: eribulin mesylate, 1.4 mg/m² IV on Days 1 and 8, Q3W; capecitabine, 1000 or 1250 mg/m² orally twice daily on Days 1 to 14, Q3W (dose per standard institutional practice); vinorelbine, 25 mg/m² IV on Days 1 and 8, Q3W; or gemcitabine, 1000 mg/m² IV on Days 1 and 8, Q3W. BICR, blinded independent central review; CDK4/6, cyclin-dependent kinase 4/6; ECOG PS, Eastern Cooperative Oncology Group performance status; ET, endocrine therapy; HR, hazard ratio; ICC, investigator's choice of chemotherapy; IV, intravenous; ORR, objective response rate; OS, overall survival; PD, progressive disease; PFS, progression-free survival; RECIST, Response Evaluation Criteria in Solid Tumors; Q3W, every 3 weeks; ROW, rest of world.

1. Bardia A, et al. Future Oncol 2023; doi: 10.2217/fon-2023-0188.



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Demographics and Baseline Characteristics

	Dato-DXd (n=365)	ICC (n=367)
Age, median (range), years	56 (29-86)	54 (28-86)
Female, n (%)	360 (99)	363 (99)
Race, n (%) Black or African American / Asian / White / Other*	4 (1) / 146 (40) / 180 (49) / 35 (10)	7 (2) / 152 (41) / 170 (46) / 38 (10)
Ethnicity, n (%) Hispanic or Latino / Not Hispanic or Latino†	40 (11) / 322 (88)	43 (12) / 318 (87)
Prior lines of chemotherapy, n (%) 1 / 2‡	229 (63) / 135 (37)	225 (61) / 141 (38)
Prior CDK4/6 inhibitor, n (%) Yes / No	299 (82) / 66 (18)	286 (78) / 81 (22)
Prior taxane and/or anthracycline, n (%) Taxane alone	80 (22)	71 (19)
Anthracycline alone	14 (4)	21 (6)
Both	236 (65)	247 (67)
Neither	35 (10)	28 (8)

Data cut-off: 17 July 2023. *Including not reported. †Ethnicity missing: 3 patients in Dato-DXd group; 6 patients in ICC group. ‡1 patient in the Dato-DXd group had 3 prior lines of chemotherapy; 1 patient in the ICC group had 4 prior lines.



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Patient Disposition

Disposition	Dato-DXd (n=360)	ICC (n=351)
Treatment status, n (%)		
Ongoing on study treatment	93 (26)	39 (11)
Discontinued from study treatment	267 (74)	312 (89)
Treatment duration, n (%)		
0-3 months	83 (23)	133 (38)
3-9 months	187 (52)	173 (49)
>9 months	90 (25)	45 (13)
Primary reason for treatment discontinuation, n (%)		
Adverse event	11 (3)	10 (3)
Progressive disease	229 (64)	240 (68)
Patient decision	13 (4)	32 (9)
Death	2 (1)	7 (2)
Other	12 (3)	23 (7)

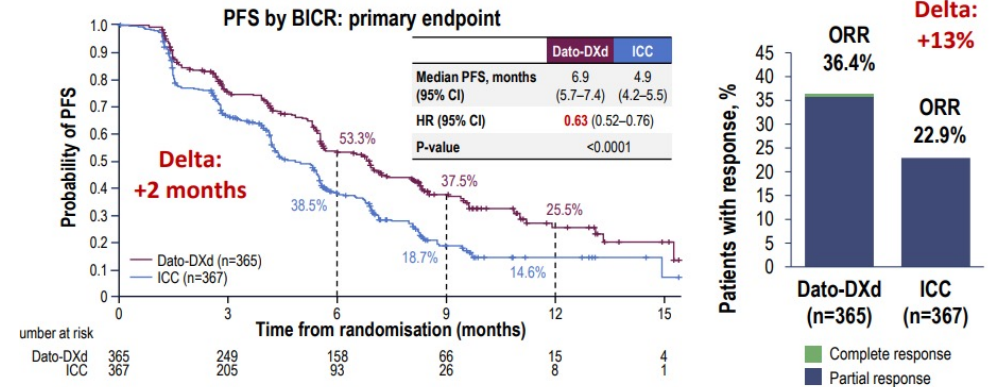
- Median study follow-up: **10.8 months**
- Investigator's choice of chemotherapy:
 - Eribulin mesylate: n=220
 - Vinorelbine: n=38
 - Capecitabine: n=76
 - Gemcitabine: n=33



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Progression-Free Survival and Response Rate



OS data were not mature: a trend favouring Dato-DXd was observed, HR 0.84 (95% CI 0.62-1.14)



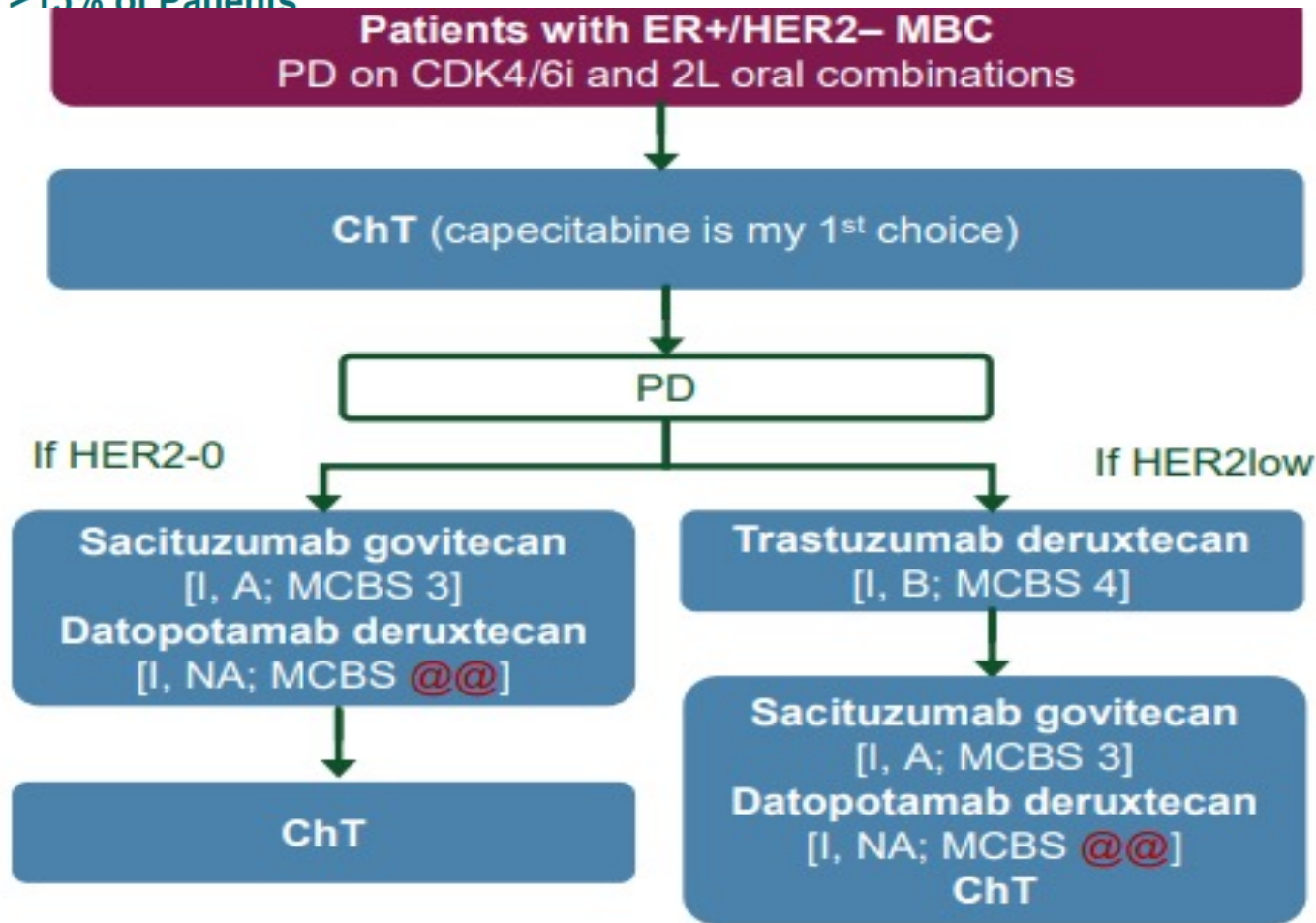
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TRAFs Occurring in >15% of Patients

- System Org Preferred
- Blood and h Anaemia Neutroper
- Eye disorde Dry eye
- Gastrointes Nausea Stomatitis Vomiting Constipati
- General dis Fatigue
- Skin and su Alopecia

*Includes the preferred treatment
 MADRID 2023 ESMO



ty

>DXd (n=360)	ICC (n=351)
94	303 (86)
21	157 (45)
21	106 (30)
12	86 (25)
3	9 (3)
0	1 (0.3)
1 (6)	32 (9)
17 (5)	31 (8)

Grade 3+ 1 (0.3) 0 Grade ≥3



What about SERD in ER + disease?

FALCON: a Phase 3, randomised, double-blind, double-dummy international trial (NCT01602380)

Patients with hormone receptor-positive/HER2-negative* locally advanced or metastatic BC

- Post-menopausal women
- Endocrine therapy-naive
- One or more measurable or non-measurable lesions
- No life-threatening, metastatic visceral disease
- No prior systemic therapy for BC, **except for one line of cytotoxic chemotherapy**

Stratification factors

- Locally advanced or metastatic BC
- Previous or no previous treatment with chemotherapy for locally advanced or metastatic BC
- Measurable or non-measurable disease

**R 1:1
(N=462)**

Fulvestrant

500 mg, once daily on days 0, 14, 28, and every 28 days thereafter

Anastrozole

1 mg once daily

The primary endpoint of PFS with fulvestrant vs anastrozole was met[†]

Sub-groups reported:

- Improved PFS in patients with non-visceral disease
- No improvement in patients with visceral disease

1. Robertson JFR et al. *Lancet* 2016;388:2997-3005.

Secondary endpoints (this presentation)

- **OS with fulvestrant vs anastrozole[†]**

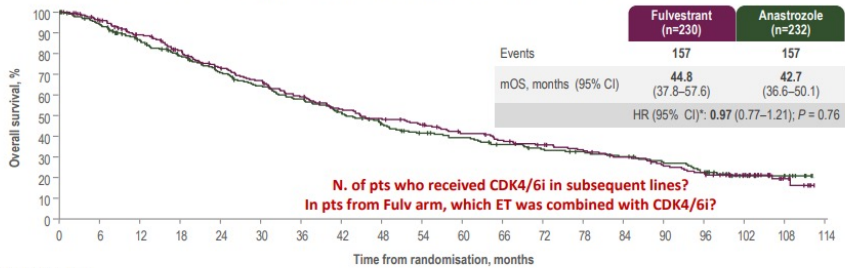
- Final analysis at 65% maturity and ≥8 years since the last patient was enrolled
- Data cut-off: 11 July 2022
- One-sided α for the final OS = 0.01845

†The FALCON study was not formally powered to detect an OS benefit, and this analysis should be regarded as descriptive with nominal P values.

*Patients with HER2 overexpression or gene amplification, i.e., IHC 3-positive or FISH-positive, where appropriate, were excluded. One patient in the anastrozole arm had hormone receptor-positive/HER2-positive BC. BC, breast cancer; HER2, human epidermal growth factor receptor 2; FISH, fluorescence in situ hybridisation; IHC, immunohistochemistry; OS, overall survival; PFS, progression-free survival; R, randomised.

OS in the ITT population (data cut-off 11 July 2022)

The final analysis demonstrated no significant differences in OS between fulvestrant and anastrozole

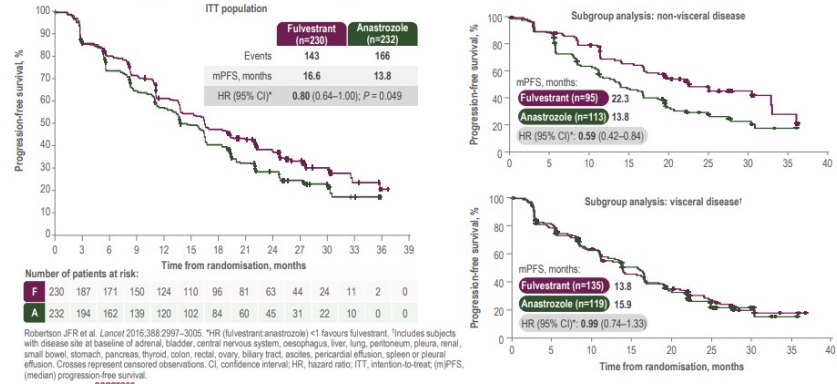


Number of patients at risk:

Time from randomisation, months	Fulvestrant	Anastrozole
0	230	232
6	211	214
12	190	187
18	170	166
24	149	146
30	137	131
36	120	118
42	106	104
48	96	89
54	89	77
60	77	71
66	70	63
72	63	58
78	57	53
84	50	48
90	41	42
96	36	35
102	24	19
108	8	9
114	0	0

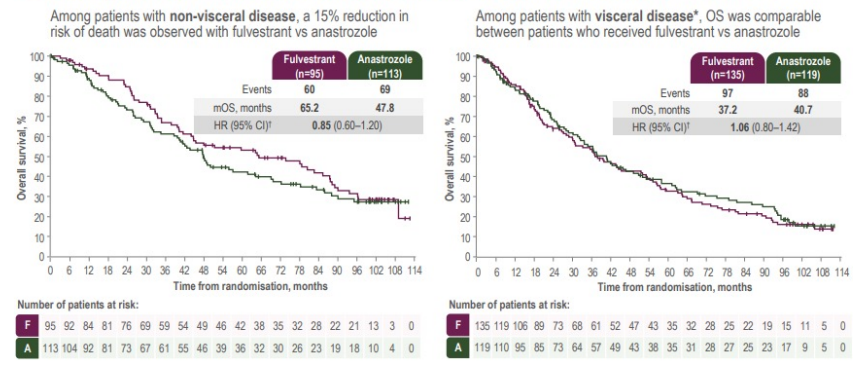
[†]HR (fulvestrant:anastrozole) <1 favours fulvestrant. Median follow-up was 37.5 months in the fulvestrant arm and 36.5 months in the anastrozole arm. Crosses represent censored observations. CI, confidence interval; HR, hazard ratio; ITT, intention-to-treat; (m)OS, (median) overall survival.

FALCON primary efficacy results: PFS



Robertson JFR et al. *Lancet* 2016;388:2997-3005. *HR (fulvestrant:anastrozole) <1 favours fulvestrant. †Includes subjects with disease site at baseline of adrenal, bladder, central nervous system, oesophagus, liver, lung, peritoneum, pleura, renal, small bowel, stomach, pancreas, thyroid, colon, rectal, ovary, biliary tract, esophagus, pericardial effusion, spleen or pleural effusion. Crosses represent censored observations. CI, confidence interval; HR, hazard ratio; ITT, intention-to-treat; (m)PFS, (median) progression-free survival.

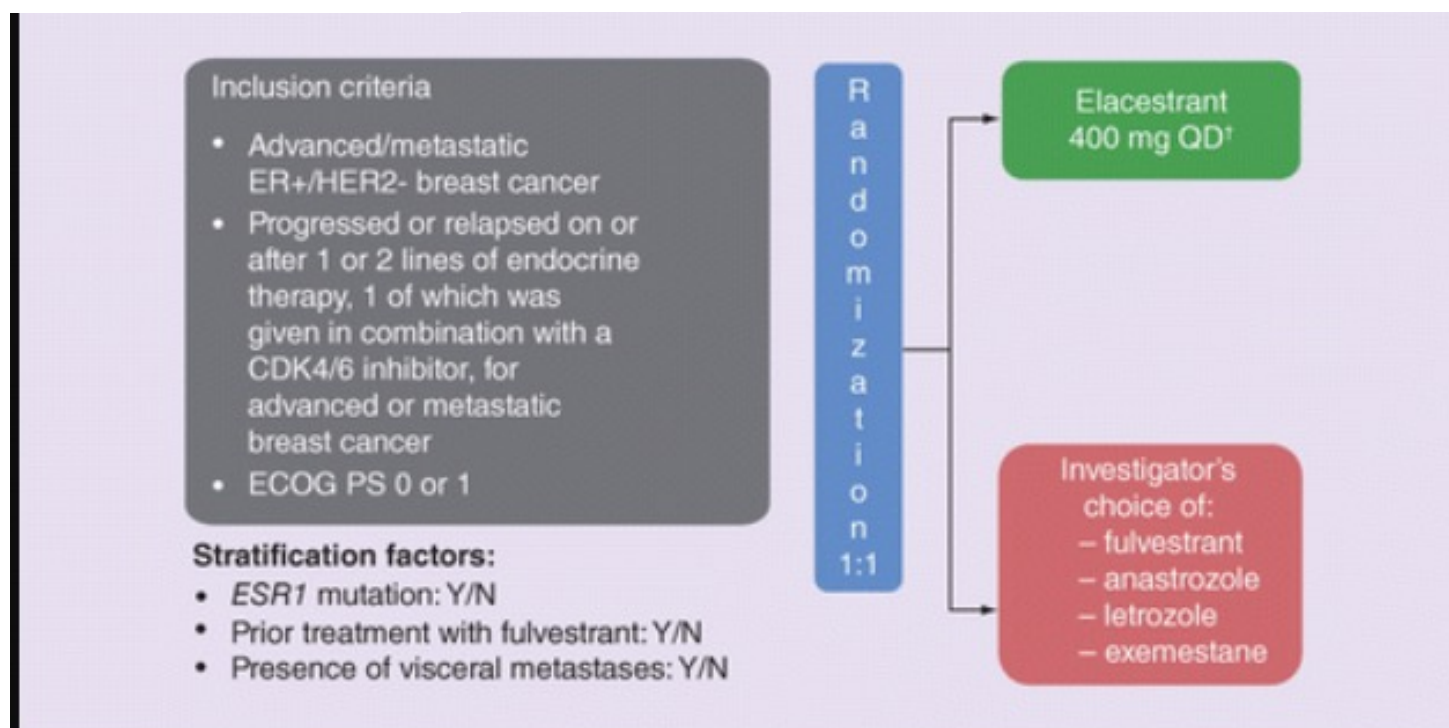
OS in patients with non-visceral and visceral disease

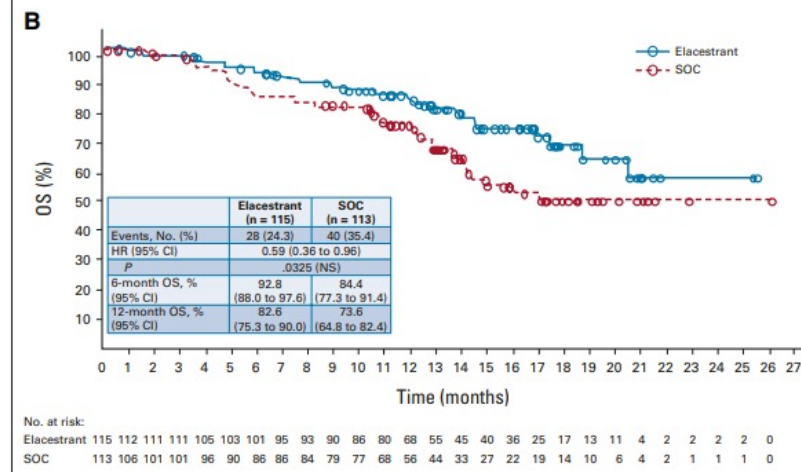
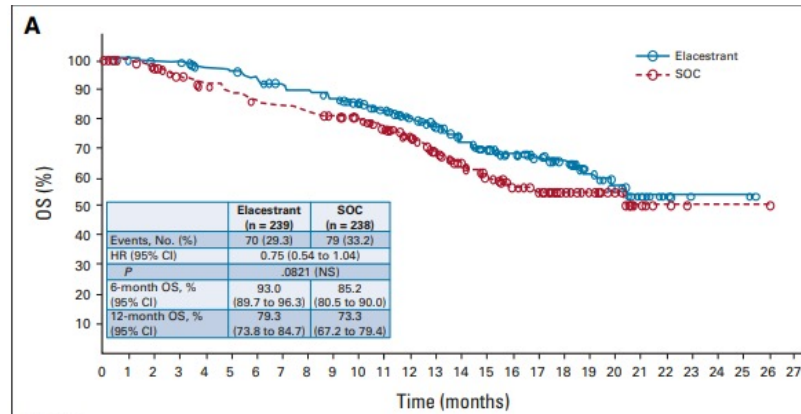
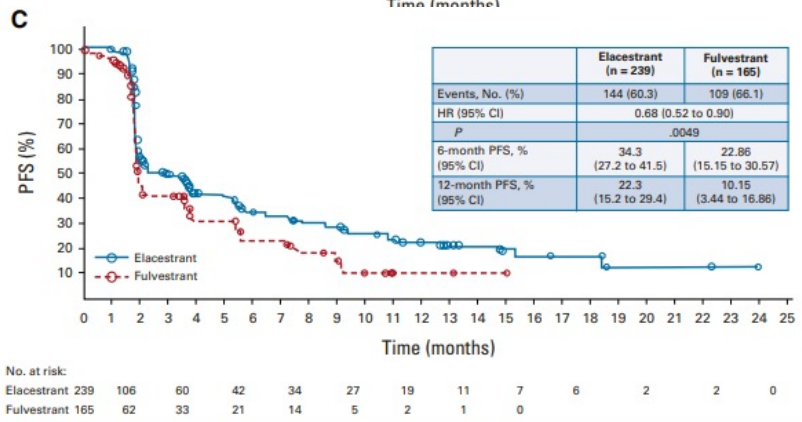
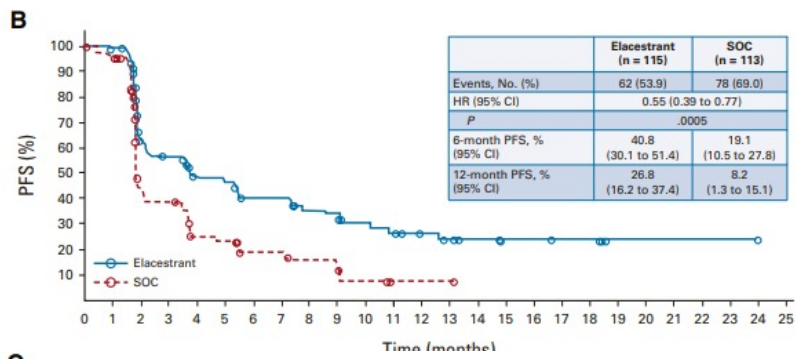
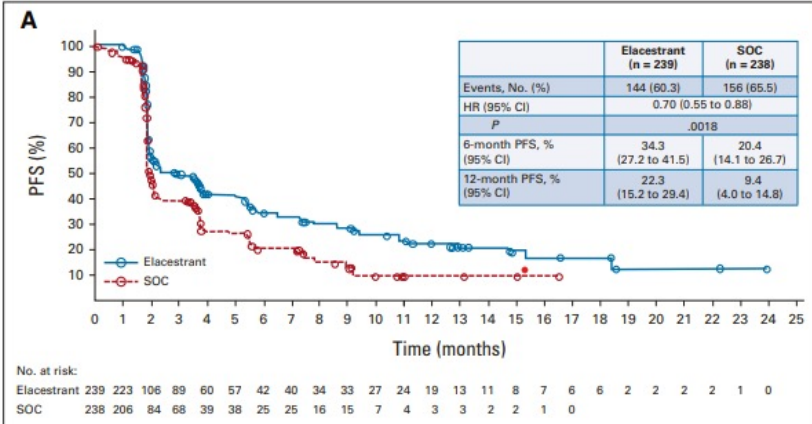


A trend in favour of OS benefit with fulvestrant was seen in patients with non-visceral vs visceral disease

Elacestrant (oral selective estrogen receptor degrader) Versus Standard Endocrine Therapy for Estrogen Receptor–Positive, Human Epidermal Growth Factor Receptor 2–Negative Advanced Breast Cancer: Results From the Randomized Phase III EMERALD Trial

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GRAZIE PER L'ATTENZIONE!