



# STANDARD TREATMENTS AND NEW DIRECTIONS IN GYNAECOLOGICAL CANCERS

MILANO June 26th-29th, 2025

Responsabili Scientifici:  
NICOLETTA COLOMBO, FRANCESCO RASPAGLIESI



## Improving outcomes in non-MMRd disease

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# Disclosure

Tipo di affiliazione o supporto finanziario	Sponsor
Partecipazione ad eventi scientifici	MSD / Astra Zeneca
Partecipazione ad eventi scientifici	GSK

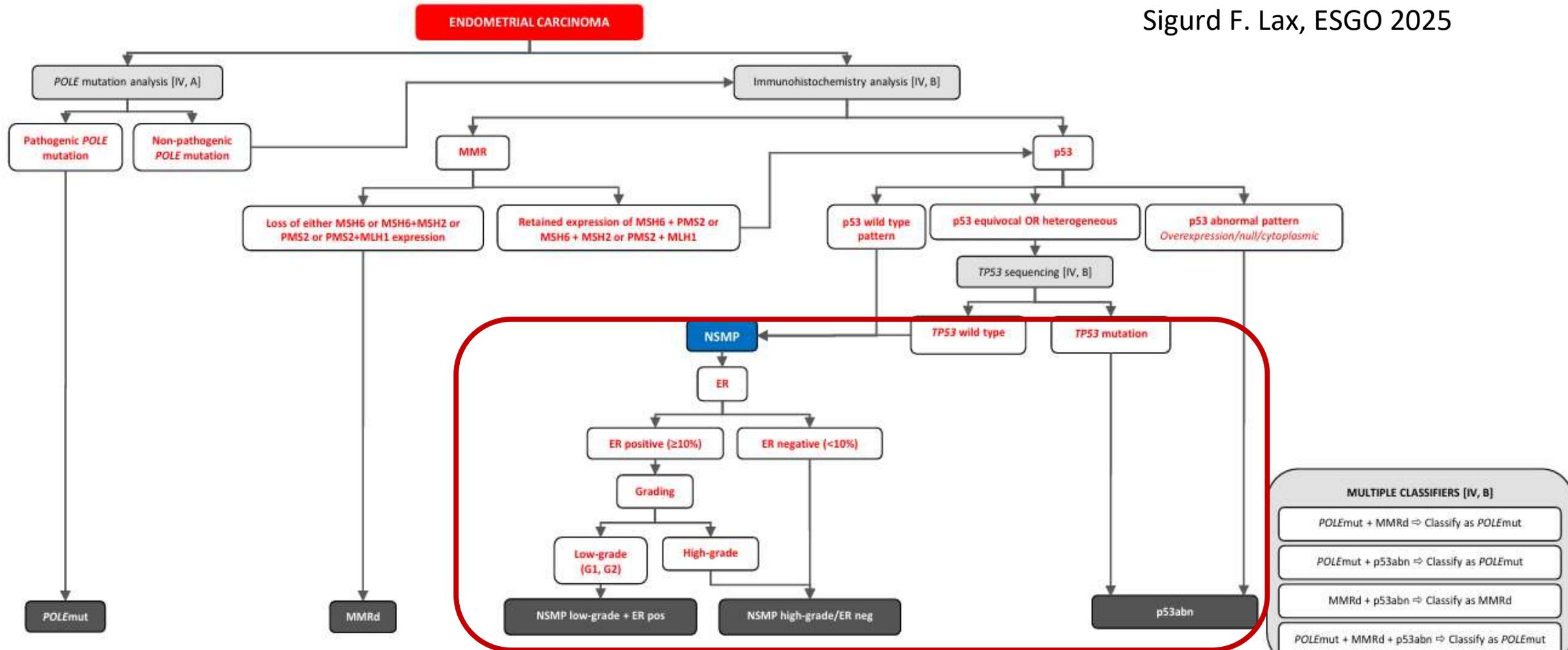
# Molecular types of endometrial carcinoma

	Mismatch Repair (MMR) deficient	P53 mutant	POLE mutant	No special molecular profile (NSMP)
<b>Molecular characteristics</b>	MMR deficient/MSI, POLE & p53 wild type	P53 mutations, POLE mostly wild type, MMR proficient/MSS	Pathogenic POLE mutation, p53 wt, MMR proficient/MSS	MMR proficient/MSS, p53 and POLE wild type
<b>Multiple classifier</b>	Yes (p53 mut)	No	Yes (p53mut/MMRd)	No
<b>Histological types (most frequent)</b>	Endometrioid, undifferentiated	Serous, carcinosarcoma	Endometrioid, undifferentiated	Endometrioid, clear cell
<b>Grade endometrioid</b>	Low > high	Low << high	Low > high	Low >> high
<b>Stage (frequent)</b>	Stage I	Stage >I	Stage I	Stage I
<b>Prognosis</b>	Good/intermediate	Poor	Very good	Good/intermediate
<b>% of all endometrial carcinoma</b>	25-30%	15-20%	5-10%	45-50%

Huvila et al. 2021; Lax Onko News Austria 2022

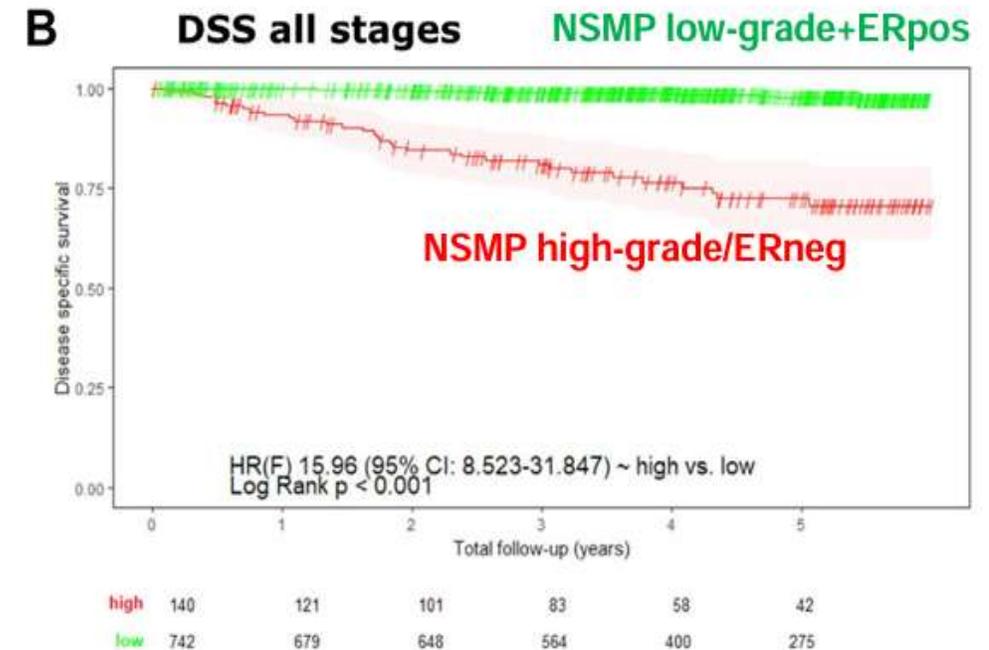
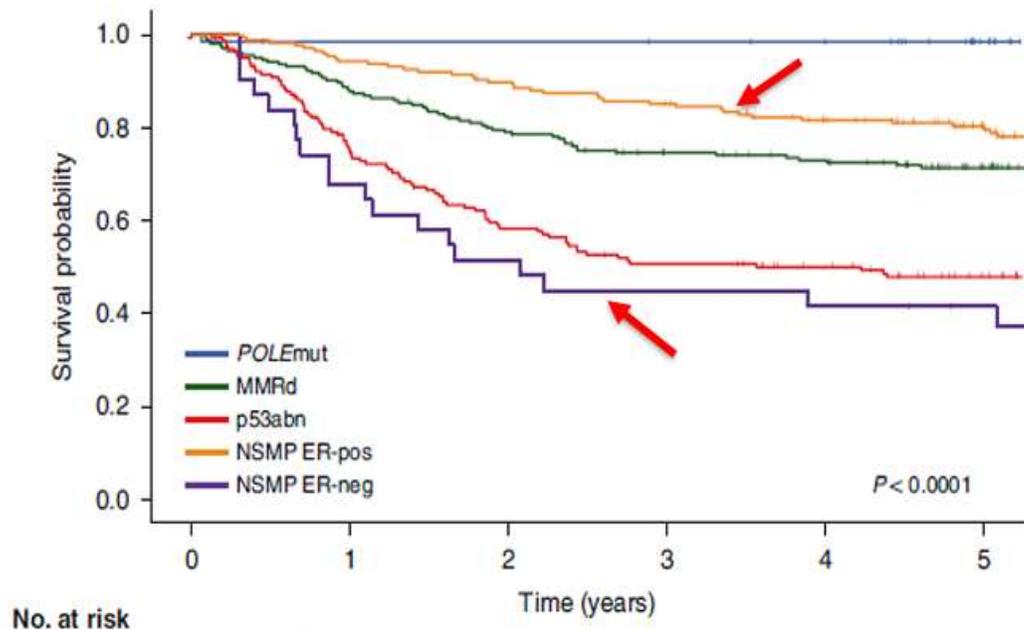
# Assessment of molecular classification

Sigurd F. Lax, ESGO 2025



# Role of ER-status in NSMP

- Prognosis of NSMP ER-neg similar to p53abn
- Strongest model within NSMP: combination ER-neg OR grade 3 versus ER-pos AND endometrioid grade 1/2



Jamieson et al., Modern Pathology 2023; Vermij et al., BJC 2023

# non-MMRd disease

non-MMR

ER positive  
(Low grade)

POLEmut

BASSO  
RISCHIO



Paziente

ER negative  
(High grade)

ALTO  
RISCHIO

P53 abn

p53wt

# Definition of risk groups

Prognostic risks in the respective groups are defined as estimated overall 5-year risk of recurrence:

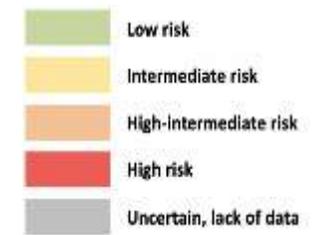
- **low risk group:** risk less than 8%;
- **intermediate risk group:** risk between 8 and 15%;
- **high-intermediate risk group:** risk between 15 and 25%;
- **high risk group:** risk higher than 25%.

Remi Nout, ESGO 2025



# Definition of risk groups based on 2023 FIGO staging and molecular classification

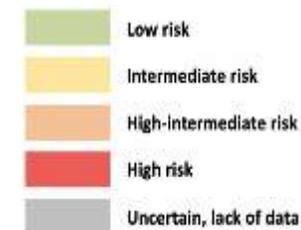
Remi Nout, ESGO 2025



2023 FIGO staging <sup>II</sup>			Molecular classification*				
			<i>POLE</i> mut	MMRd	NSMP low-grade+ERpos	NSMP high-grade/ERneg**	p53abn
<b>I</b>	<b>Confined to the uterine corpus</b>						
IA	IA1	Low-grade endometrioid, limited to polyp/endometrium (no myoinvasion)	IAm <i>POLE</i> mut			**	
	IA2	Low-grade endometrioid, myoinvasion <50%, no/focal LVSI	IAm <i>POLE</i> mut			**	IICm p53abn
	IA3	Low-grade endometrioid carcinoma of the endometrium & ovary#	IAm <i>POLE</i> mut			**	IICm p53abn
IB		Low-grade endometrioid, myoinvasion ≥50%, no/focal LVSI	IAm <i>POLE</i> mut			**	IICm p53abn
IC		High-grade histologies <sup>^</sup> , limited to polyp/endometrium	IAm <i>POLE</i> mut		n.a.		
<b>II</b>	<b>Confined to the uterus</b>						
IIA		Low-grade endometrioid, invasion of the cervical stroma	IAm <i>POLE</i> mut			**	IICm p53abn
IIB		Low-grade endometrioid, substantial LVSI***	IAm <i>POLE</i> mut			**	IICm p53abn
IIC		High-grade histologies <sup>^</sup> , myoinvasion	IAm <i>POLE</i> mut	Myoinvasion <50%, no/focal LVSI	n.a.		IICm p53abn
			IAm <i>POLE</i> mut	Myoinvasion ≥50%, no/focal LVSI			
			IAm <i>POLE</i> mut	Cervical stromal invasion, no/focal LVSI			
			IAm <i>POLE</i> mut	Substantial LVSI**			

# Definition of risk groups based on 2023 FIGO staging and molecular classification

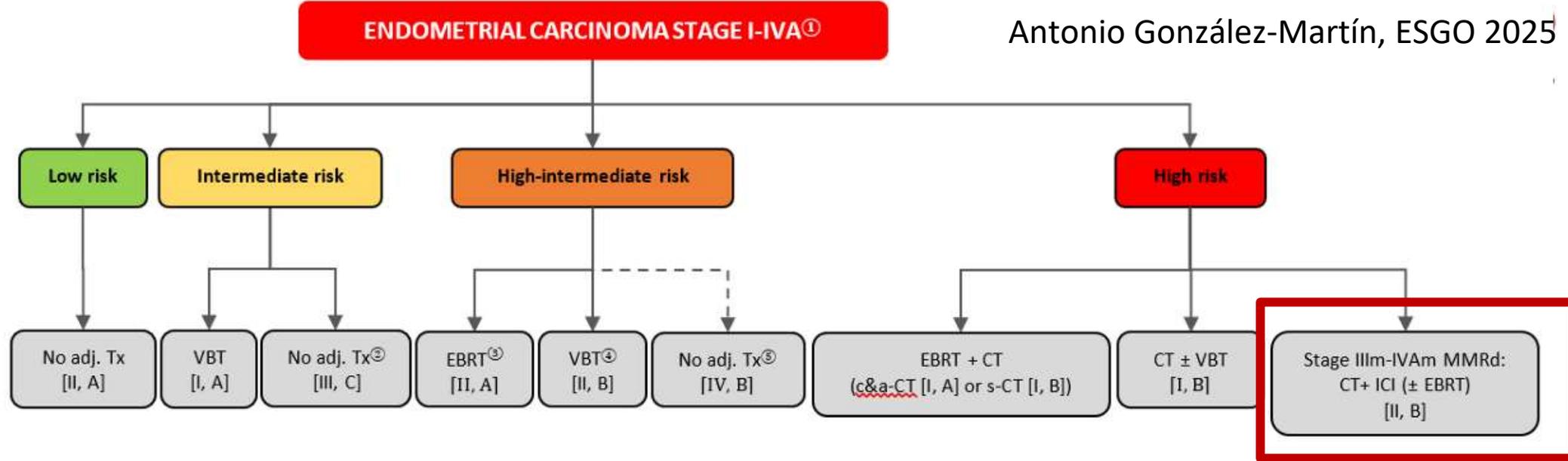
Remi Nout, ESGO 2025



2023 FIGO staging <sup>II</sup>			Molecular classification*				
			<i>POLE</i> mut	MMRd	NSMP low-grade+ERpos	NSMP high-grade/ERneg**	p53abn
<b>III</b>	<b>Local and/or regional spread</b>						
IIIA	IIIA1	Spread to ovary or fallopian tube (except when meeting stage IA3 criteria)					
	IIIA2	Involvement of uterine subserosa or spread through the uterine serosa					
IIIB	IIIB1	Metastasis or direct spread to the vagina and/or the parametria					
	IIIB2	Metastasis to the pelvic peritoneum					
IIIC	IIIC1	Pelvic lymph node metastasis					
	IIIC1i	Micrometastasis					
	IIIC1ii	Macrometastasis					
	IIIC2	Para-aortic lymph node metastasis (up to renal vessels)					
	IIIC2i	Micrometastasis					
	IIIC2ii	Macrometastasis					
<b>IV</b>	<b>Locally advanced and/or metastatic disease</b>						
IVA		Invasion of the mucosa and/or the intestinal mucosa					
	<b>Metastatic disease or residual disease after surgery</b>						
III/IVA		With residual disease					
IVB		Peritoneal metastasis beyond the pelvis					
IVC		Distant metastasis					

# Adjuvant therapy in endometrial carcinoma stage I-IVa

Antonio González-Martín, ESGO 2025



<sup>①</sup> For patients with FIGO 2023 stages IA1m NSMP high-grade/ERneg or p53abn & ICm NSMP high-grade/ERneg or p53abn, there are limited data and adjuvant therapy is generally not recommended.

For patients with FIGO 2023 stages IIIIm POLEmut & IVAm POLEmut, no firm recommendation can be given, however de-escalation from high-risk treatment can be considered.

<sup>②</sup> Especially for patients under 60 years of age and/or low-grade [II, A].

<sup>③</sup> EBRT is recommended for optimal pelvic control.

<sup>④</sup> VBT is an alternative option, especially for patients who underwent lymph node staging and are pN0.

<sup>⑤</sup> No adjuvant therapy can be considered, especially for patients who underwent lymph node staging and are pN0, without substantial LVSI and low-grade.

Adj. Tx adjuvant therapy; c&a-CT concurrent and adjuvant chemotherapy; CT chemotherapy; EBRT external beam radiotherapy; ICI immune checkpoint inhibitor; s-CT sequential chemotherapy; VBT vaginal brachytherapy.

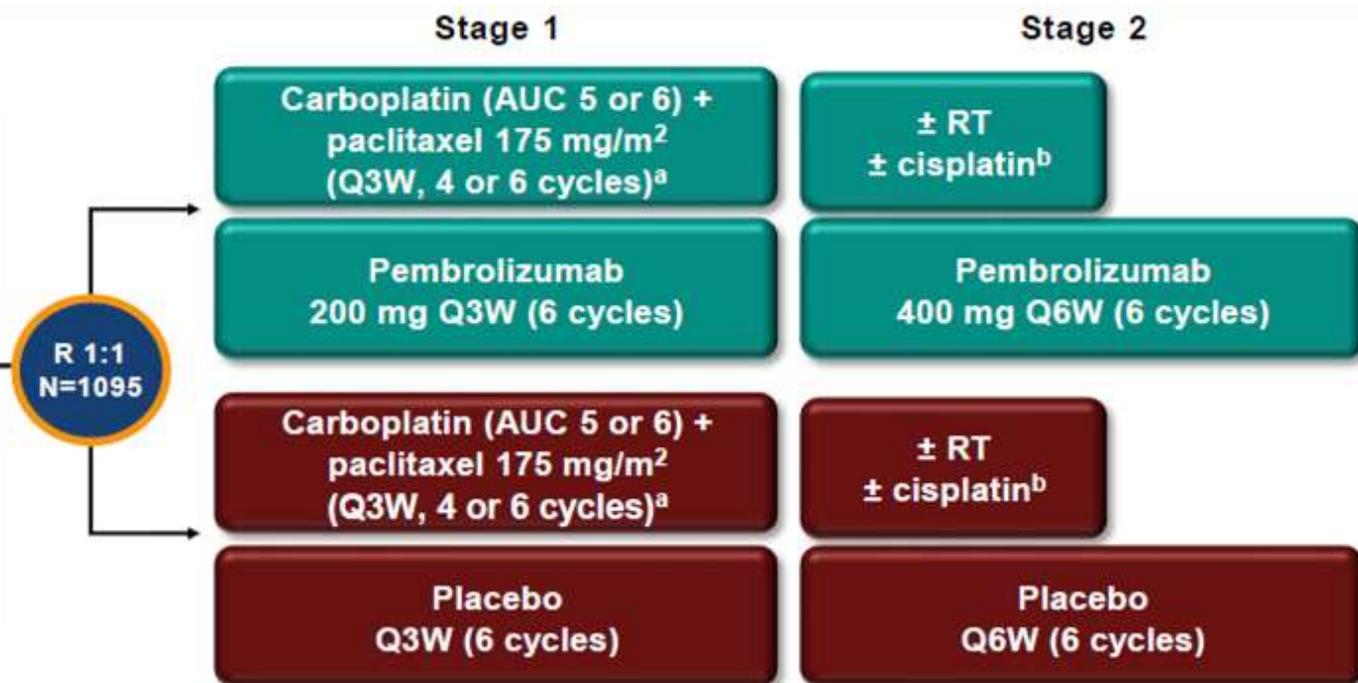
# ENGOT-en11/GOG-3053/KEYNOTE-B21

## Key Eligibility Criteria

- Newly diagnosed EC or carcinosarcoma
- Curative surgery with no residual disease
- At high risk for recurrence:
  - FIGO (2009) surgical stage I/II, non-endometrioid with myometrial invasion
  - FIGO (2009) surgical stage I/II with myometrial invasion of any histology with known aberrant p53 expression or *TP53* mutation
  - FIGO (2009) surgical stage III/IVA of any histology
- No prior RT or systemic therapy (including neoadjuvant) for EC

## Stratification Factors

- **MMR status (pMMR vs dMMR)**, and within pMMR stratum:
  - Planned RT (chemo-EBRT vs EBRT vs no EBRT)
  - Histology (endometrioid vs non-endometrioid)
  - FIGO (2009) surgical stage (I/II vs III/IVA)

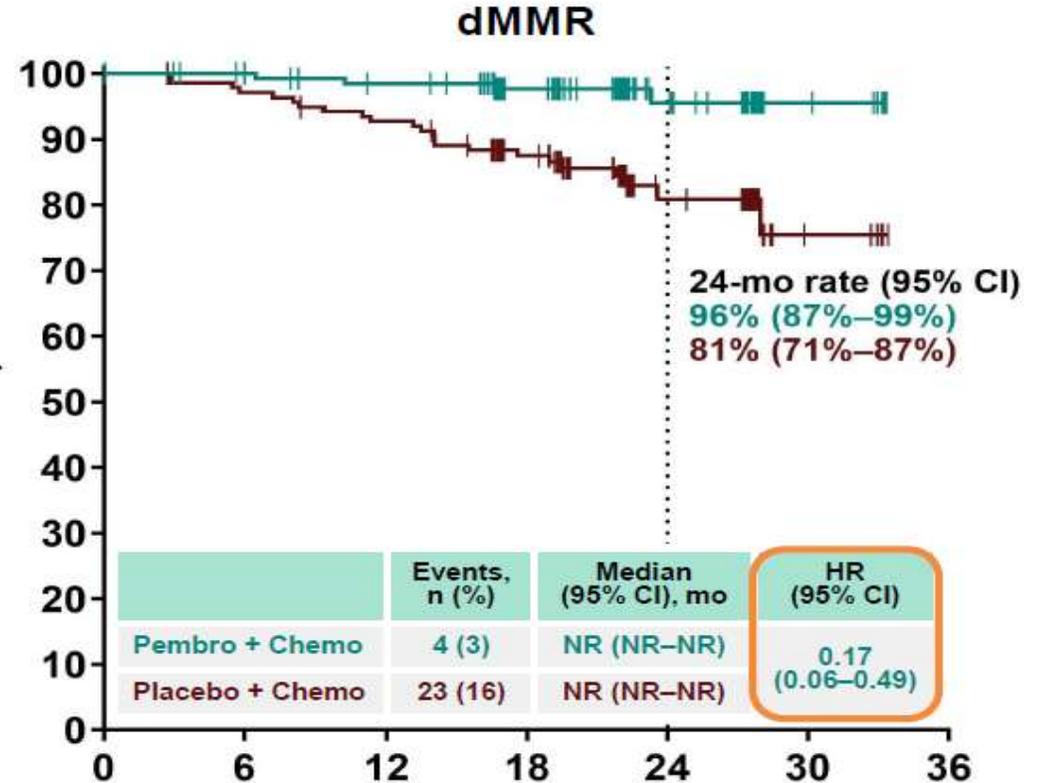
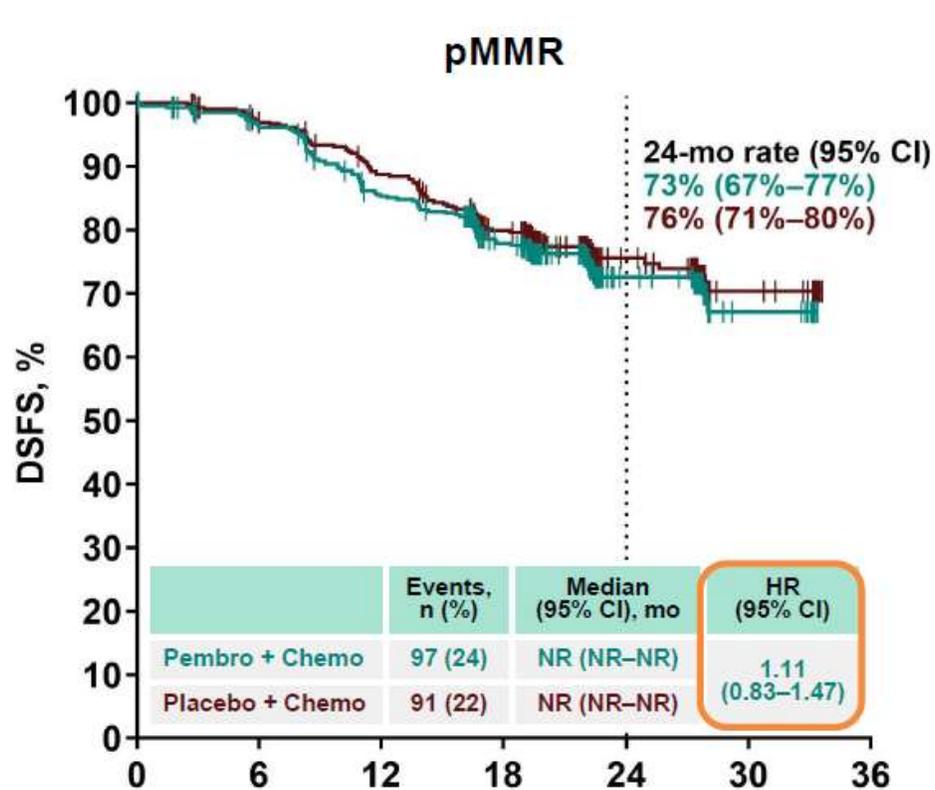


**Dual primary endpoints:** DFS and OS

**Exploratory endpoint:** DSFS by TMB, PD-L1, histology, and stage

Van Gorp T, ESMO 2024; Van Gorp T, ESGO 2025

# ENGOT-en11/GOG-3053/KEYNOTE-B21



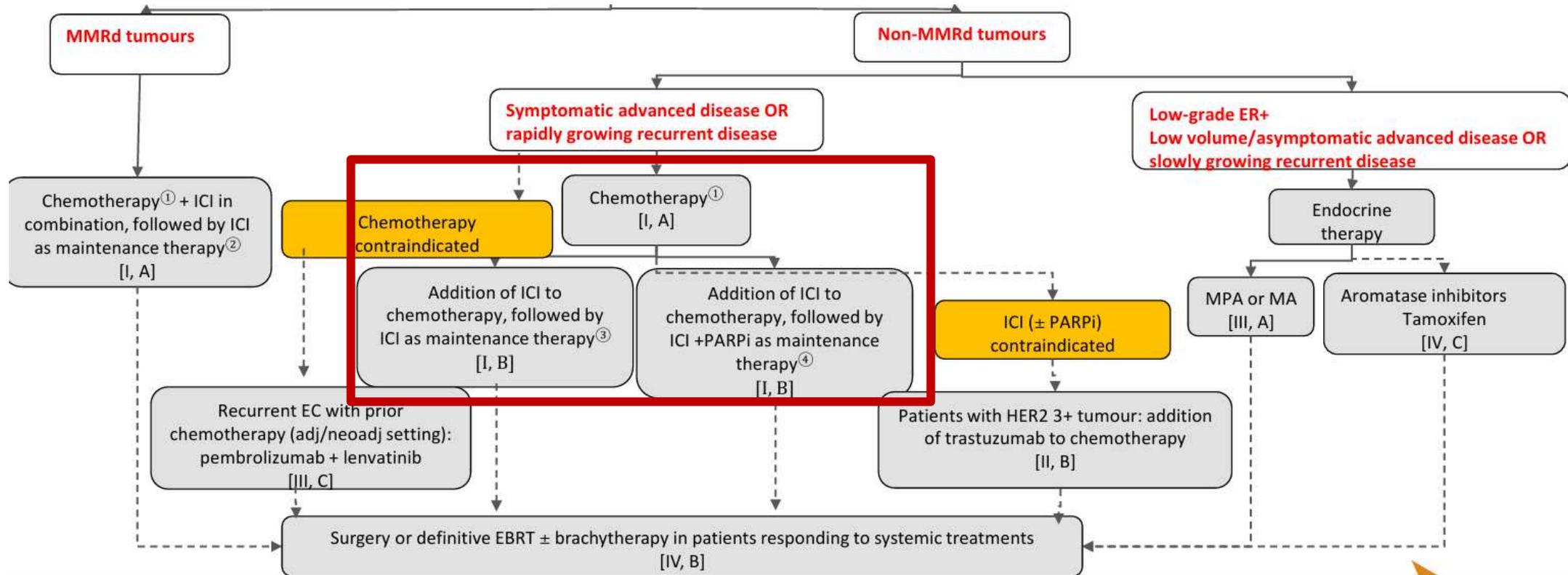
In dMMR EC, DSFS improved with the addition of pembrolizumab regardless of PD-L1 expression or TMB. Of note, there were only few events in PD-L1 CPS <1 and TMB-low tumors

In pMMR EC, DSFS did not improve with the addition of pembrolizumab regardless of PD-L1 or TMB status

Van Gorp T, ESMO 2024;

Van Gorp T, ESGO 2025

# Unresectable stage III-IV or recurrent endometrial carcinoma with no prior chemotherapy except in the adjuvant setting Colombo N and Ledermann J, ESGO 2025



①The standard chemotherapy regimen is carboplatin + paclitaxel.

②Immune checkpoint inhibitor (ICI): dostarlimab or durvalumab or pembrolizumab (drugs in alphabetical order).

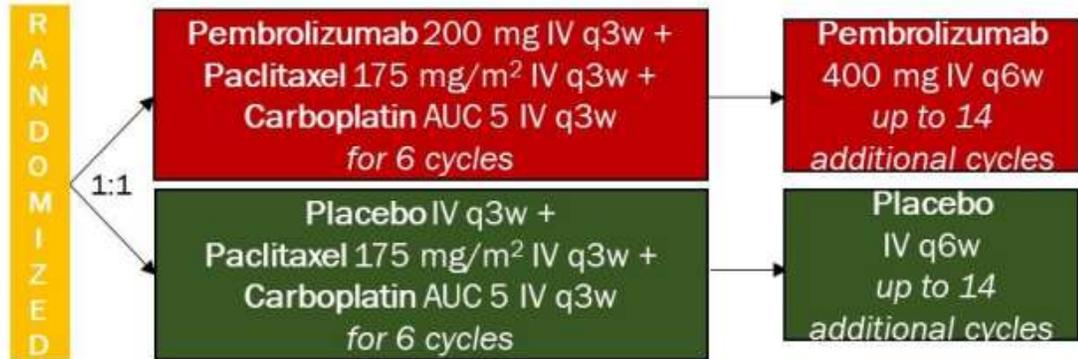
③ICI: dostarlimab or pembrolizumab.

④ICI + poly(ADP-ribose) polymerase inhibitor (PARPi): durvalumab + olaparib.

Adj/neoadj adjuvant/neoadjuvant; EBRT external beam radiotherapy; ER+ estrogen receptor positive; MA megestrol acetate; MMRd mismatch repair deficiency, MPA medroxyprogesterone acetate; non-MMRd non-mismatch repair deficiency; NSMP non-specific molecular profile.

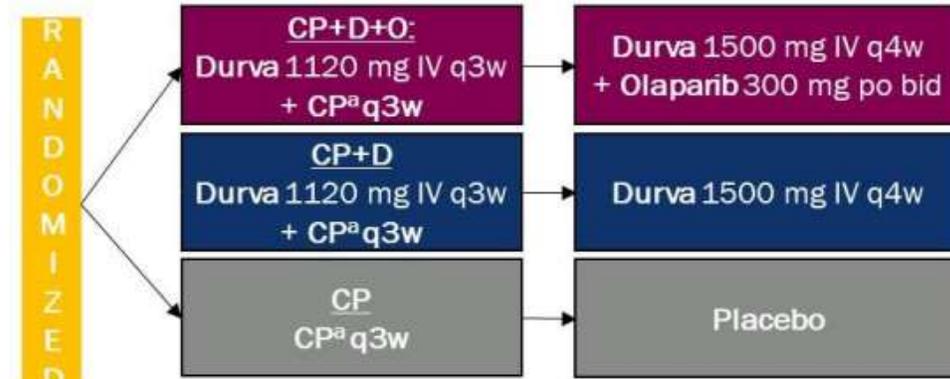
# Transformative Clinical Trials in the Advanced Stage / Recurrent Setting

## NRG GY018



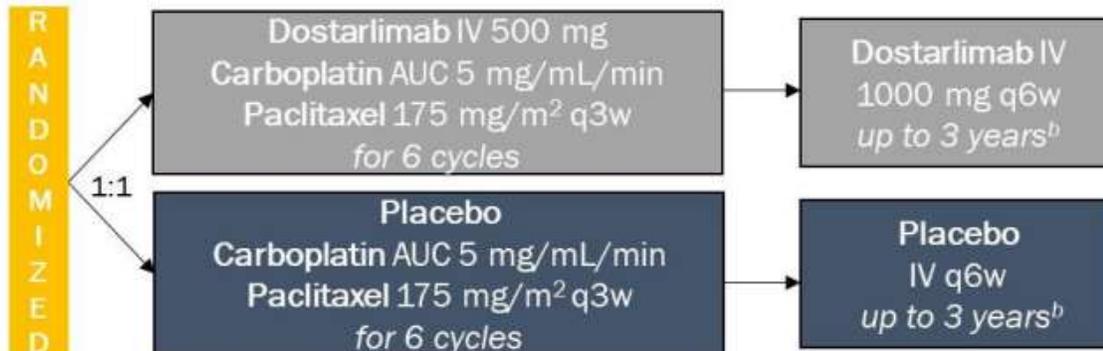
Stratified by MMR status (pMMR vs dMMR), ECOG status, and prior adjuvant Chemo

## DUO-E/GOG 3041



Stratified by MMR status, Disease status, Region of world

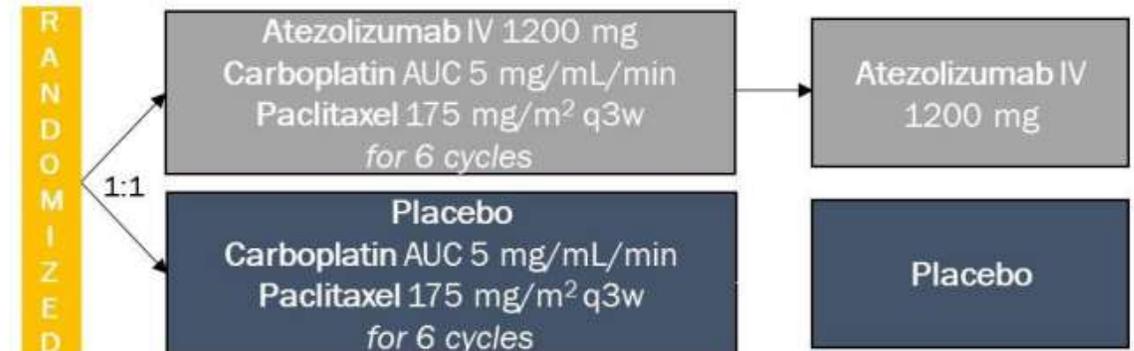
## GOG 3031/RUBY



Stratified by MMR/MSI status,<sup>c</sup> prior external pelvic radiotherapy, and disease status

Eskander R, et al. SGO 2023. Abstract 264. N Eng J Med March 2023; Mirza MR, et al. SGO 2023. Abstract 265. N Eng J Med March 2023; Westin, S et al. ESMO 2023 and J Clin Oncol Jan 2024; Colombo et al. ESMO 2023

## AtTEnd



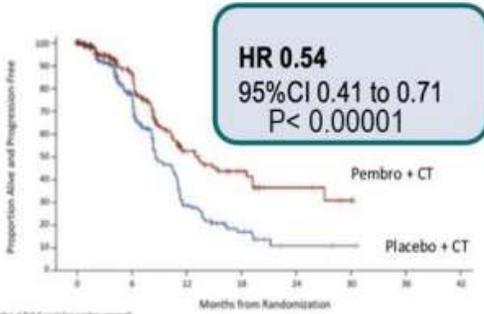
Brian Slomovitz, ASCO 2024

# Transformative Clinical Trials in the Advanced Stage / Recurrent Setting

## Benefit of IO + Chemo in the pMMR EC population: PFS

GY018

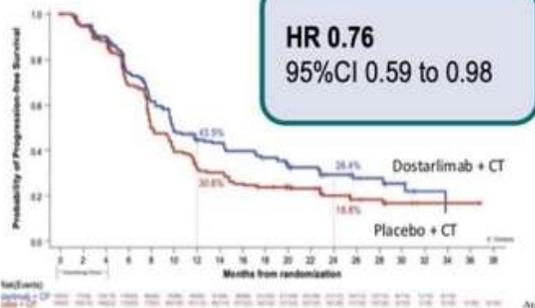
Brian Slomovitz, ASCO 2024



	No with events%	Median
<b>Pembro + CT</b>	<b>30.6</b>	<b>13.1 (10.5-18.8)</b>
<b>Placebo + CT</b>	<b>45.5</b>	<b>8.7 (8.4-10.7)</b>
<b>Maturity</b>	<b>38.1%</b>	

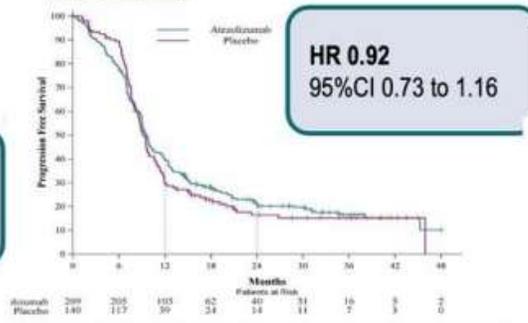
**Only trial with prespecified alpha allocated analysis in pMMR EC cohort as primary endpoint**

RUBY



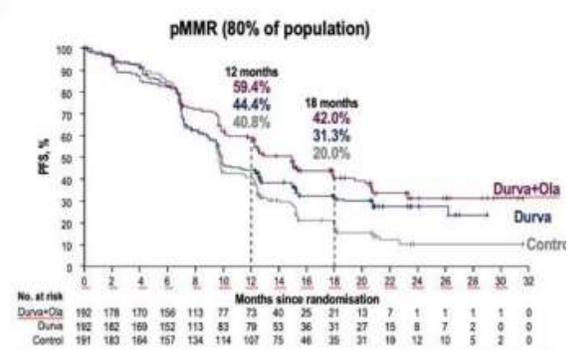
	No with events%	Median
<b>Dorsta + CT</b>	<b>60.4</b>	<b>9.9 (9.0-13.3)</b>
<b>Placebo + CT</b>	<b>70.7</b>	<b>7.9 (7.6-9.8)</b>
<b>Maturity</b>	<b>65.4%</b>	

AtTEnd



	No with events%	Median
<b>Atezo + CT</b>	<b>78</b>	<b>9.5 (9.0-10.4)</b>
<b>Placebo + CT</b>	<b>77</b>	<b>9.2 (8.5-9.9)</b>
<b>Maturity</b>	<b>78%</b>	

DUO-E



	No with events %	Median
<b>Durva + CT</b>	<b>64.6</b>	<b>9.9 (9.4-12.5)</b>
<b>Durva + O + CT</b>	<b>56.5</b>	<b>15 (12.4-18)</b>
<b>Placebo + CT</b>	<b>77.1</b>	<b>9.7 (9.2-10.1)</b>

# non-MMR disease



non-MMR

ER positive  
(Low grade)

POLEmut

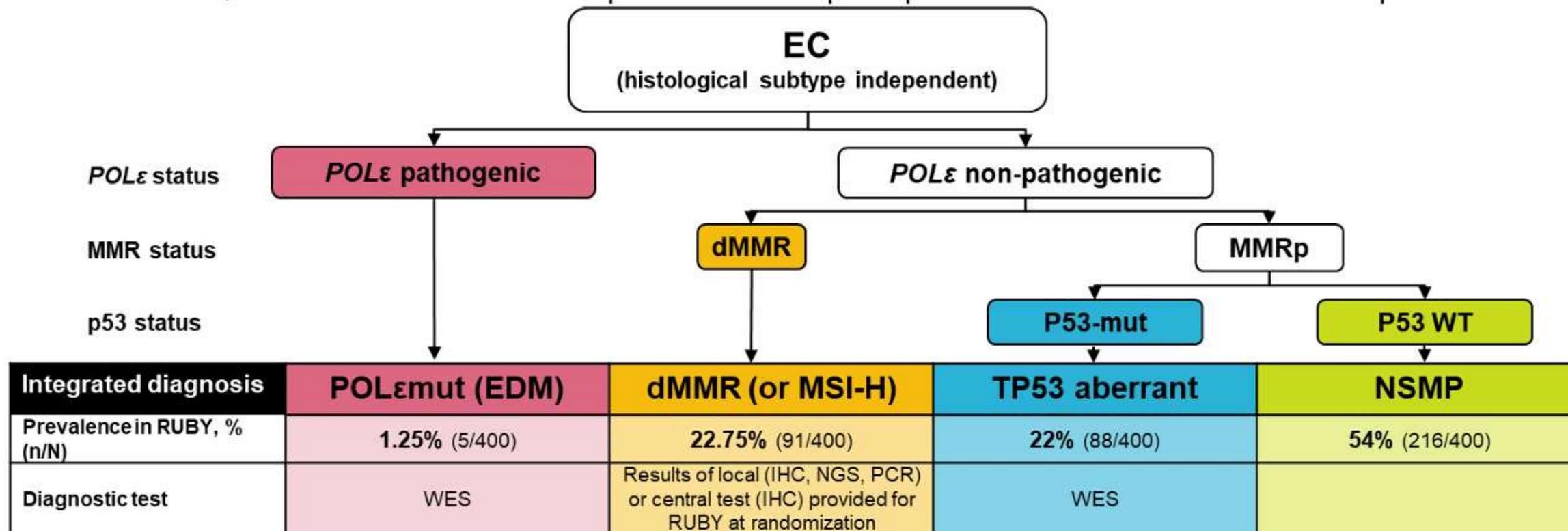


# RUBY Molecular Classification Algorithm



Scan for slides

In RUBY Part 1, molecular classification was performed for all participants with WES results—400 of 494 patients



Efficacy per molecular classification was an exploratory analysis.  
 dMMR, mismatch repair deficient; EC, endometrial cancer; EDM, exonuclease domain; IHC, immunohistochemistry; MMRp, mismatch repair proficient; MSI-H, microsatellite instability high; mut, mutated; NGS, next-generation sequencing; NSMP, no specific molecular profile; PCR, polymerase chain reaction; POLε, polymerase epsilon; TP53, tumour protein 53; WES, whole-exome DNA sequencing; WT, wild type.



**25<sup>th</sup> European Congress on Gynaecological Oncology**  
 March 7-10, 2024 | Barcelona, Spain

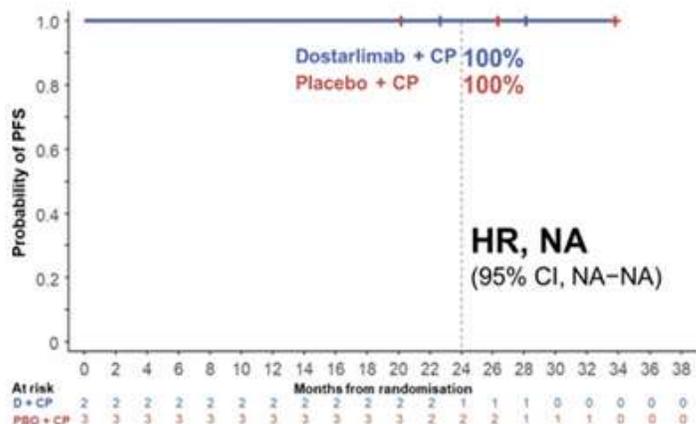
# Exploratory Analysis of PFS According to Molecular Subgroup

Based on 400/494 patients with known molecular classification per whole-exome sequencing

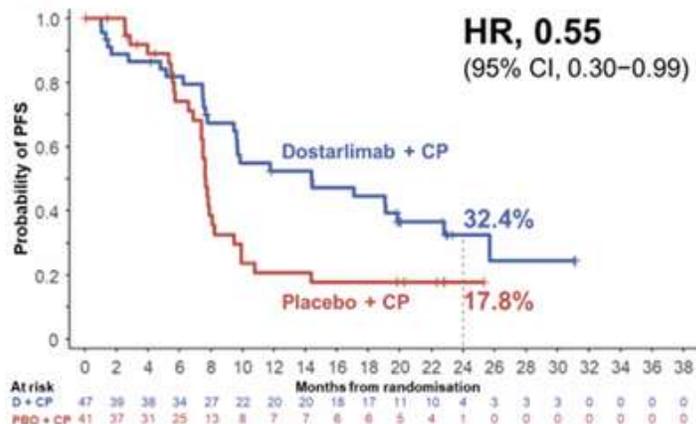


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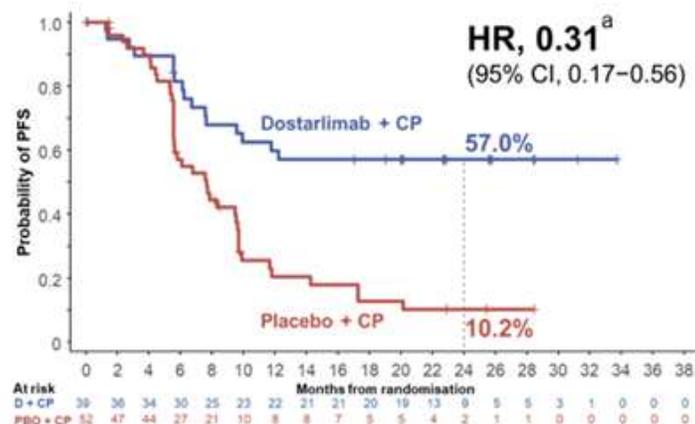
POLE mut



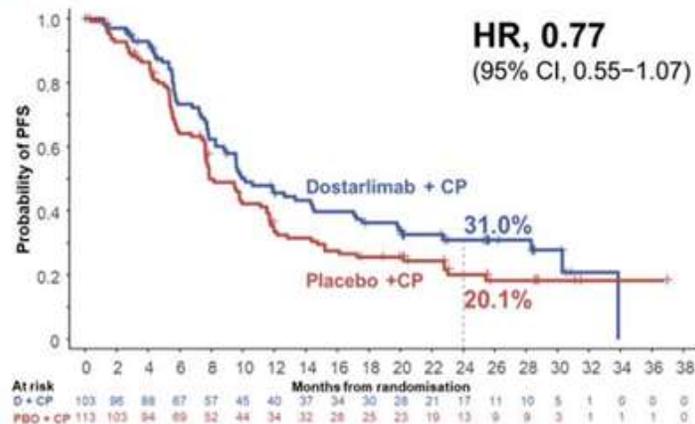
TP53 mut



dMMR/MSI-H



NSMP



Mirza M R et al

<sup>a</sup>Primary endpoint of PFS in dMMR/MSI-H patients (n=118) showed HR, 0.28; P<0.0001  
Data cutoff date: September 28, 2022. CP, carboplatin-paclitaxel; D, dostarlimab; dMMR, mismatch repair deficient; HR, hazard ratio; MSI-H, microsatellite instability high; mut, mutated; NA, not applicable; NSMP, no specific molecular profile; PBO, placebo; PFS, progression-free survival; POLE, polymerase epsilon; TP53, tumour protein 53.



**DEBATES IN  
ENDOMETRIAL CANCER  
MANAGEMENT:**

HOW TO CHOOSE 1ST LINE THERAPY  
FOR YOUR METASTATIC EC PATIENT

See You Online  
**Nov 29, 2024**  
**14:00 CET**



## 3rd debate:

**TP53m pMMR impact on treatment decisions?**

Discussants:

**Pro: Alexandra Leary, France**

**Con: Annamaria Ferrero, Italy**

# RUBY part 1

Mirza M R et al, ESMO 2023

	D+CP	PBO+CP
Overall, n	245	249
PFS by INV, HR (95% CI)		0.64 (0.507–0.800)
OS, HR (95% CI)		0.64 (0.464–0.870)
Patients with both MMR/MSI status and mutational data, n	191	209
POLe <sub>mut</sub> , n	2	3
PFS by INV, HR (95% CI)		NA <sup>a</sup>
OS, HR (95% CI)		NA <sup>a</sup>
<u>dMMR/MSI-H</u> , n	39	52
PFS by INV, HR (95% CI)		0.31 (0.17–0.56)
OS, HR (95% CI)		0.4 (0.17–0.95)
<u>TP53mut</u> , n	47	41
PFS by INV, HR (95% CI)		0.55 (0.3–0.99)
OS, HR (95% CI)		0.41 (0.2–0.82)
<u>NSMP</u> , n	103	113
PFS by INV, HR (95% CI)		0.77 (0.55–1.07)
OS, HR (95% CI)		0.87 (0.56–1.36)

**dMMR, MSI-h**

**TP53mut**



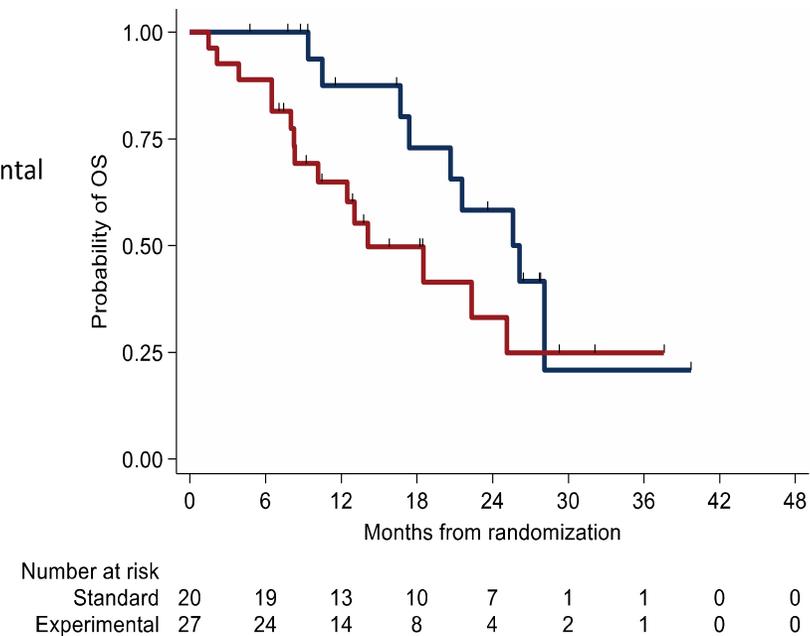
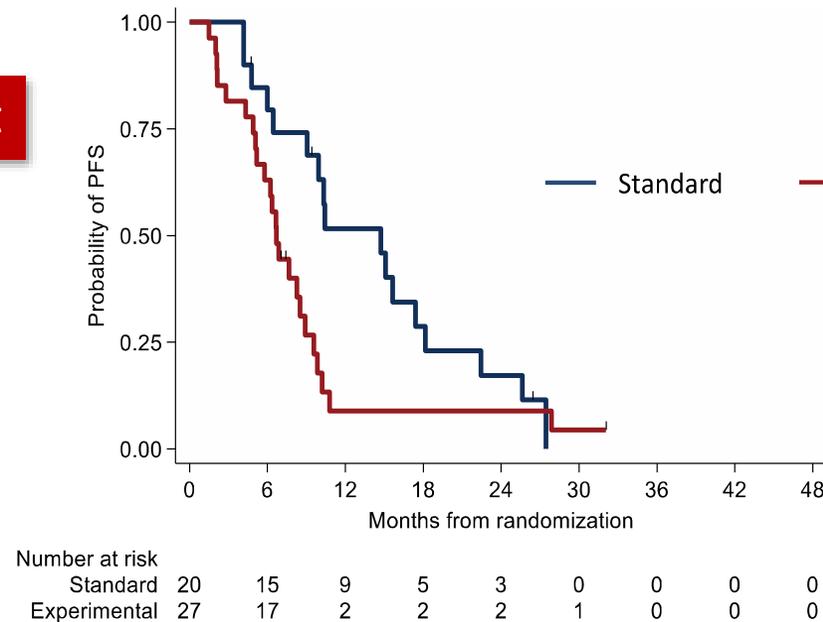
**NSMP**

# MITO END-3 trial

Pignata S. et al, Annals of Oncology 2024

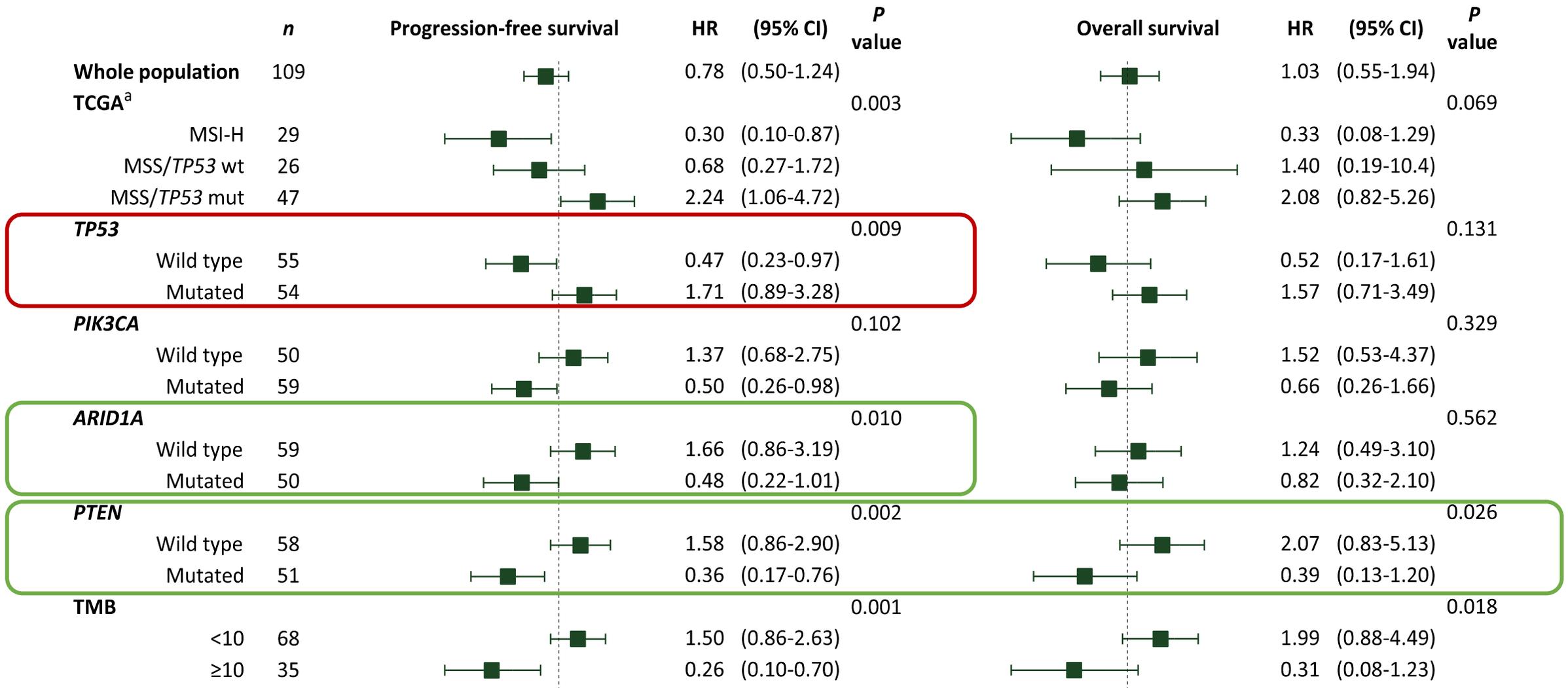
- Phase II randomized trial, translational analysis
- Avelumab plus carboplatin/paclitaxel versus carboplatin/paclitaxel as first-line treatment
- 109 analyzed NGS patients, 47 MSS/TP53 mutated

MSS/TP53mut



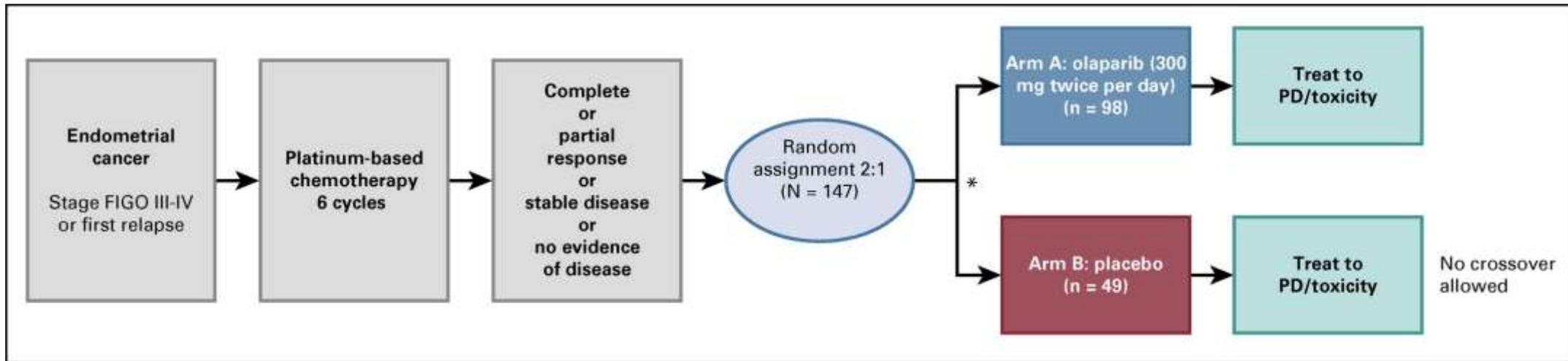
# MITO END-3 trial

Pignata S. et al, Annals of Oncology 2024



# UTOLA trial

F Joly Lobbedez et al



Phase IIb trial

**Primary endpoint:** PFS in the ITT population

**Main secondary endpoints:**

- **PFS according to P53 status** and to CT response
- OS
- safety

# UTOLA trial

147 randomized patients (98 to Olaparib, 49 to placebo)

F Joly Lobbedez et al

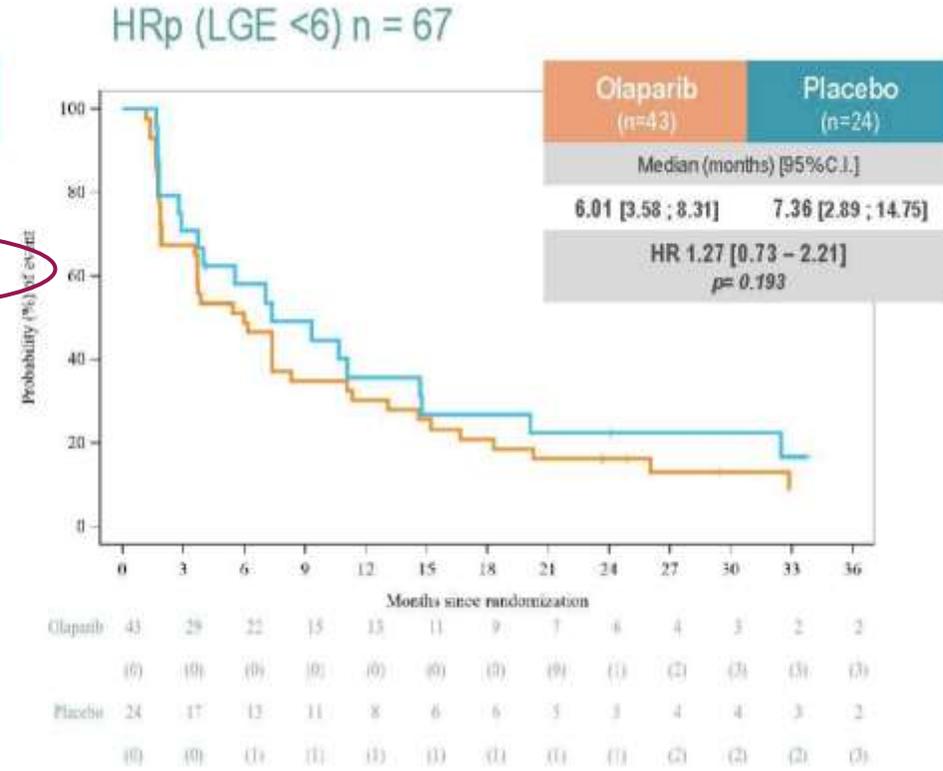
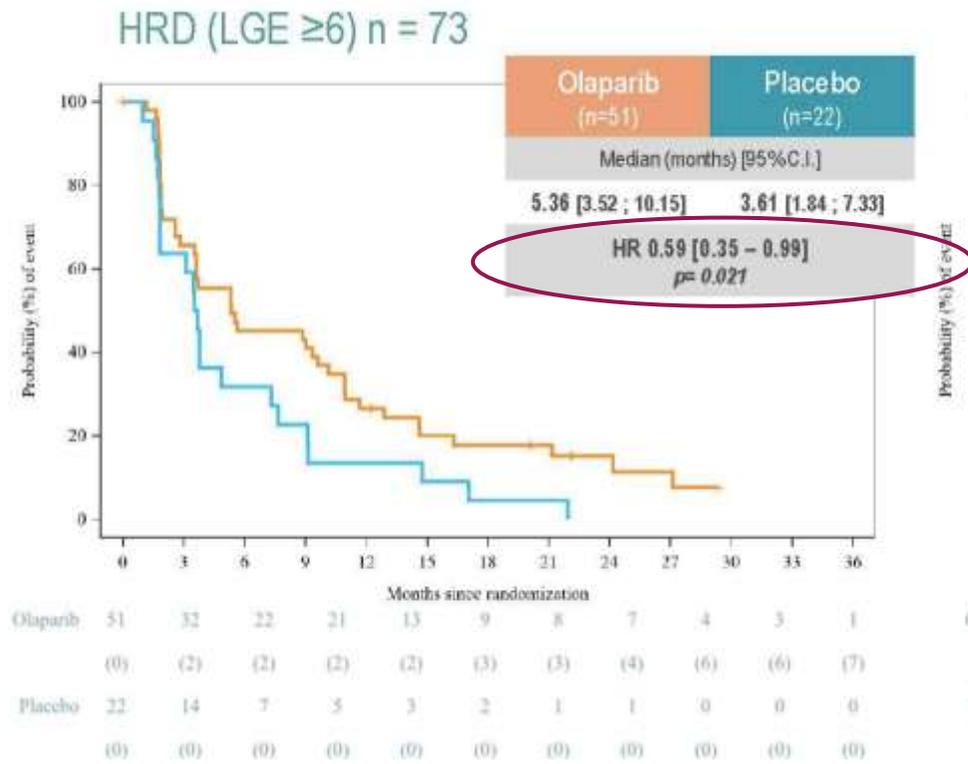
Population	mPFS olaparib (months)	mPFS placebo (months)	
ITT	5.6	4.0	HR:0.94, p=0.29
P53 mut	5.6	3.6	HR:0.75, p=0.12
P53 wt	6.1	7.7	HR:1.13, p=0.3
HRD pos	5.4	3.6	HR:0.59, p=0.02

52% (73) were HRD positive:

- 79% in P53mut
- 23% in P53WT

# UTOLA trial

F Joly Lobbedez et al

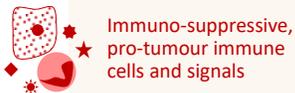


PFS was statistically higher with olaparib in HRD tumors, **regardless of P53 status**

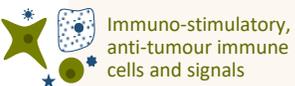
1

### Induction phase

Platinum chemotherapy (SoC) + durvalumab



Immuno-suppressive, pro-tumour immune cells and signals



Immuno-stimulatory, anti-tumour immune cells and signals

Cytotoxic T cell

2

### Maintenance phase

Durvalumab  
Durvalumab + olaparib

Tumour Microenvironments

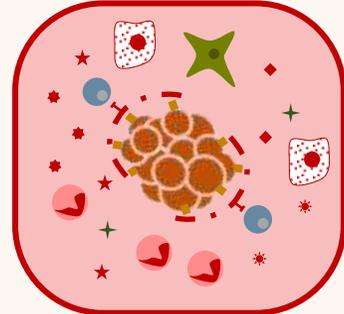
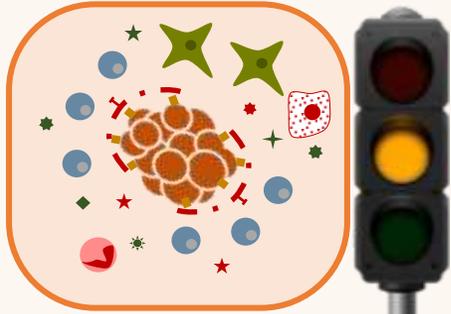


Immuno-suppressive

Active anti-tumour immune response

## dMMR

Pre-existing immune response held in check by PD-L1 inhibition of T cells



## pMMR

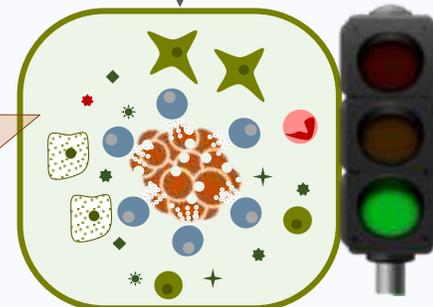
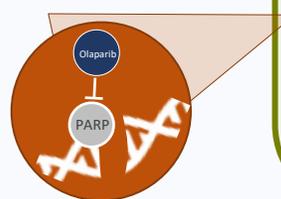
Biologically heterogeneous population – diverse genomic drivers and variable immune priming

Chemotherapy + durvalumab drives direct tumour cell killing and an enhanced immune response through blockade of PD-L1



Blockade of PD-L1 leads to more limited anti-tumour immunity in pMMR tumours

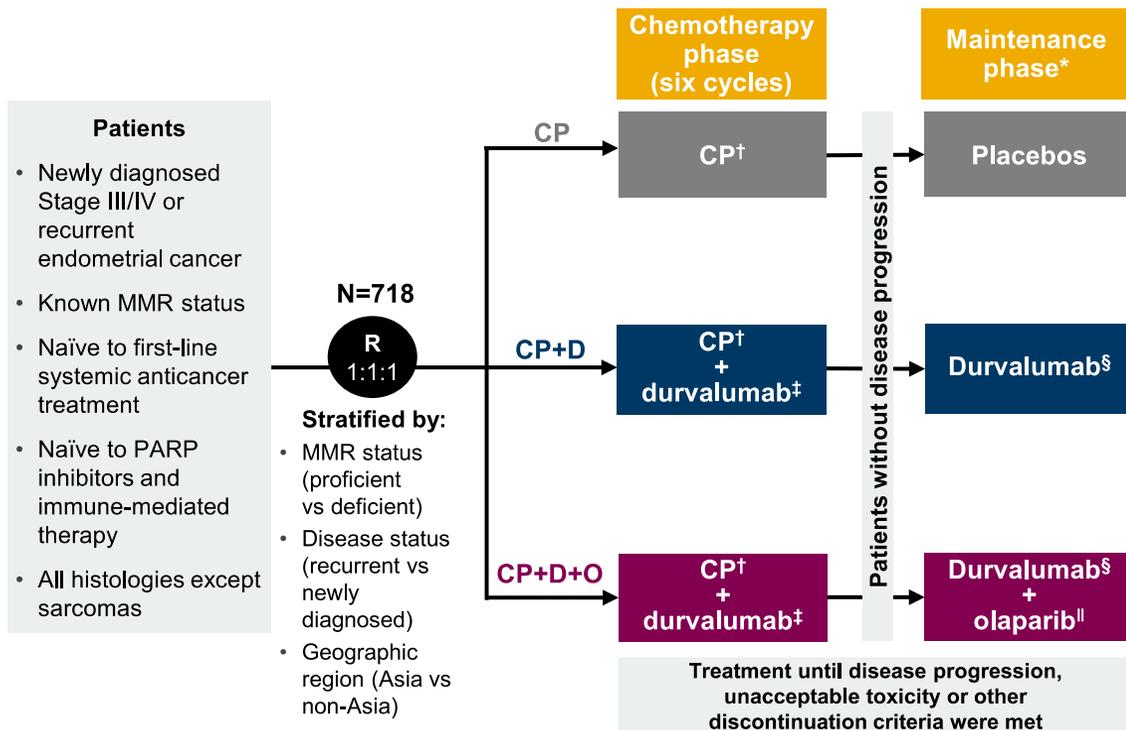
Blockade of PD-L1 with durvalumab drives prolonged anti-tumour immunity and durable clinical activity in dMMR tumours, with limited potential for further enhancement



Olaparib induced DNA damage leads to tumour cell death and further immune priming promoting a more robust anti-tumour immunity and more durable benefit for the durvalumab + olaparib combination

# DUO-E trial

Shannon N. Westin et al, IGCS 2024



**Endpoints**

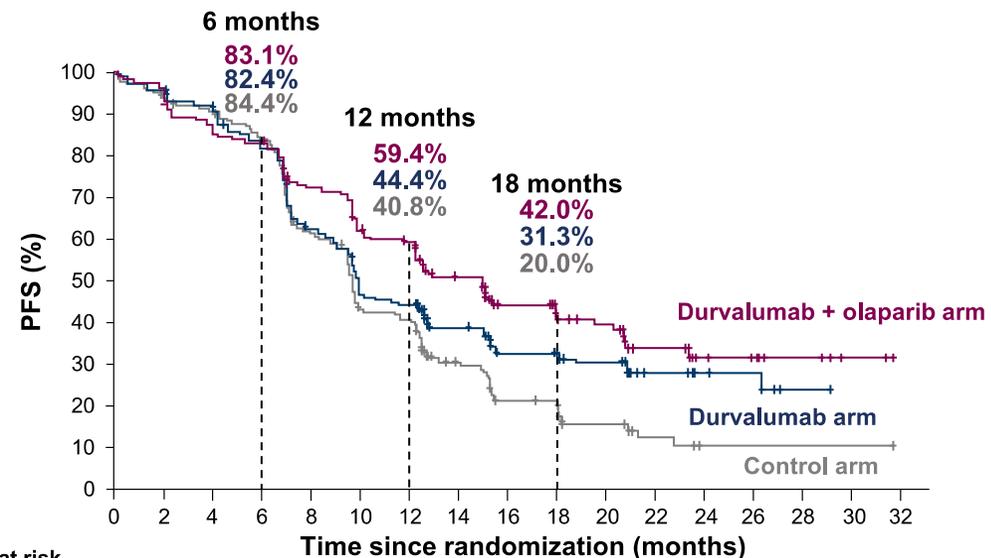
**Primary (ITT):** PFS (RECIST per investigator) in CP+D versus CP and CP+D+O versus CP

**Secondary (ITT):** OS (key secondary) and safety

**Prespecified exploratory analyses:** Subpopulation analyses of PFS by MMR status

**Post hoc exploratory analyses:** PFS by molecular subgroup in the pMMR subpopulation

## pMMR subpopulation: PFS – prespecified exploratory analysis<sup>1</sup>



**No. at risk**

Time since randomization (months)	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32																
<b>Durvalumab + olaparib arm</b>	191	185	183	168	164	159	157	141	134	132	114	109	107	77	75	72	46	46	35	32	31	20	19	19	12	11	10	5	4	2	2	0	
<b>Durvalumab arm</b>	192	186	182	174	169	159	152	128	113	107	83	81	79	53	53	50	36	36	31	27	27	17	15	15	8	7	7	3	2	2	0	0	
<b>Control arm</b>	192	184	178	172	170	163	156	126	113	108	77	76	73	44	40	37	25	25	21	13	13	8	7	6	1	1	1	1	1	1	1	1	0

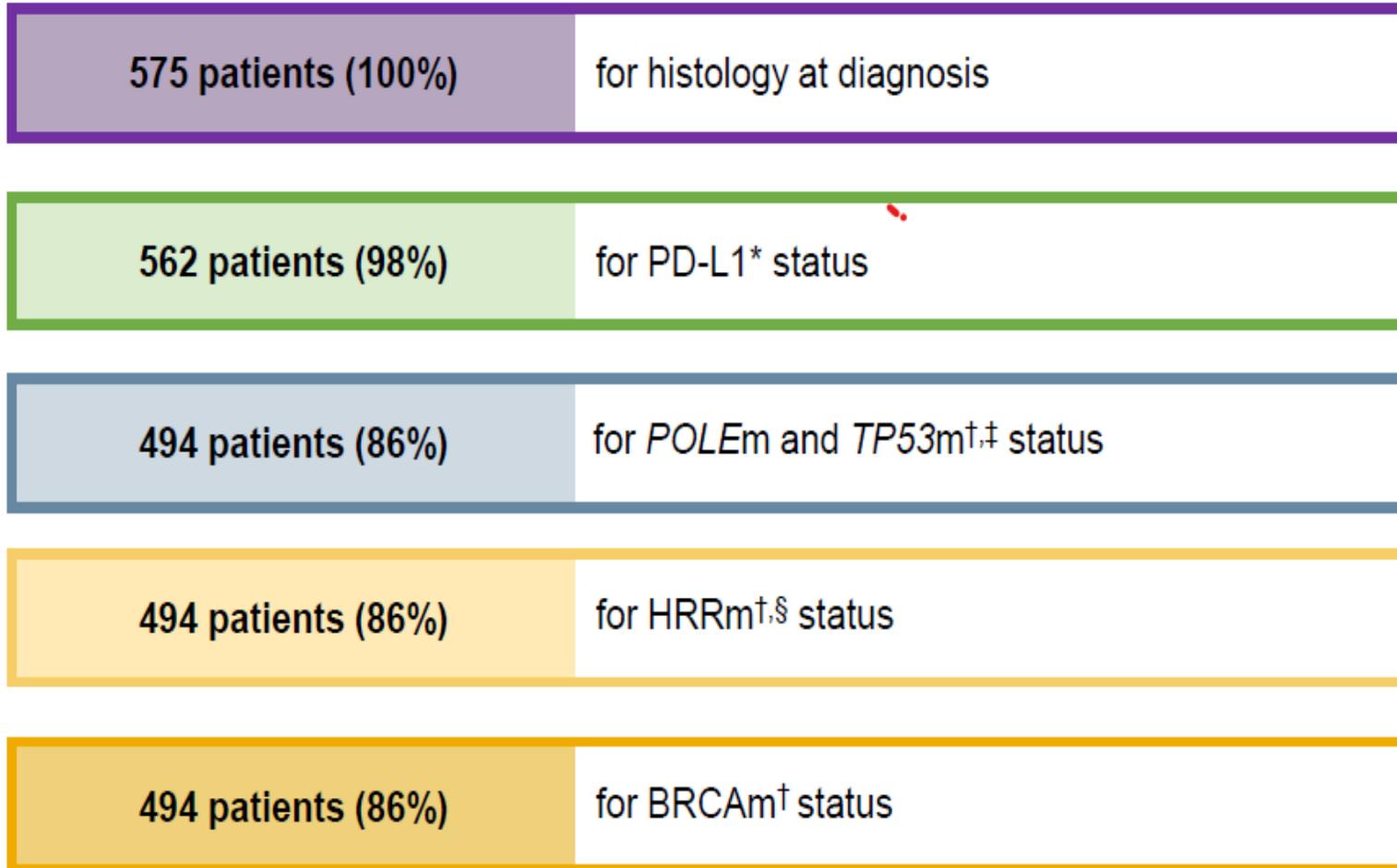
	Control arm (n=192)	Durvalumab arm (n=192)	Durvalumab + olaparib arm (n=191)
<b>Events, n (%)</b>	148 (77.1)	124 (64.6)	108 (56.5)
<b>Median PFS (95% CI),* months</b>	9.7 (9.2–10.1)	9.9 (9.4–12.5)	15.0 (12.4–18.0)
<b>HR (95% CI) vs control<sup>†</sup></b>		0.77 (0.60–0.97)	0.57 (0.44–0.73)

# pMMR biomarker-known subpopulation

## Exploratory subgroup analyses

Shannon N. Westin et al, IGCS 2024

In the pMMR subpopulation (n=575), biomarker status was known in:



**Biomarker-known population:**  
486 patients  
(85% of pMMR subpopulation)  
had known status for all  
biomarkers of interest

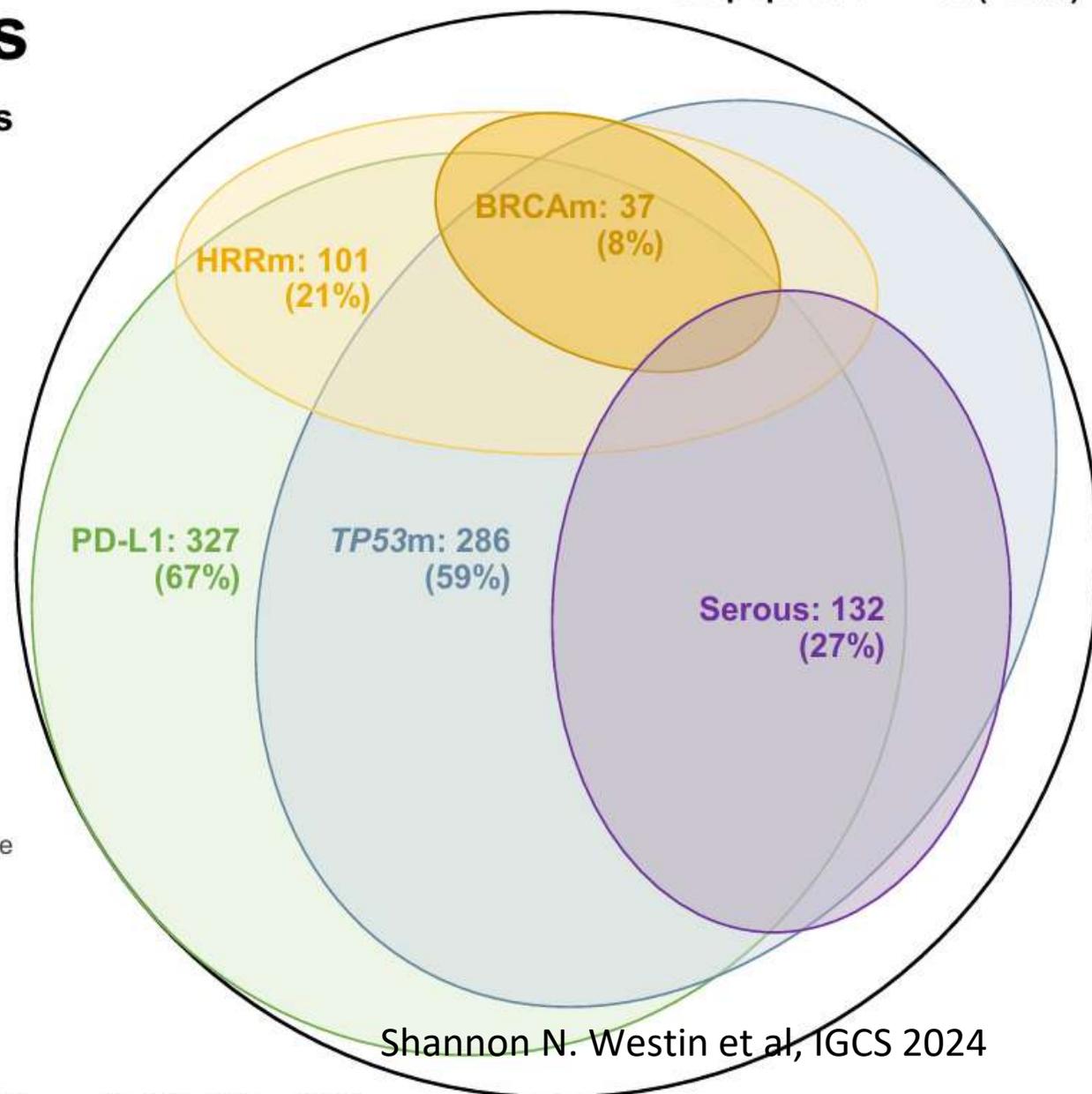
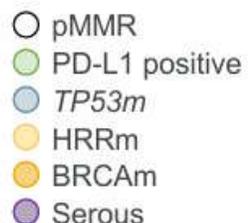
# pMMR biomarker-known subpopulation: co-prevalence of biomarkers

pMMR biomarker-known  
subpopulation: 486 (100%)

The pMMR biomarker-known (n=486) subpopulation was heterogeneous, with a frequent overlap of biomarkers:

- 84% of patients were positive for one or more biomarkers
- PD-L1 positive and *TP53m* were the most prevalent biomarkers

	PD-L1 positive	<i>TP53m</i>	HRRm	BRCAm	<i>POLEm</i>	Serous
PD-L1 positive	67%	44%	16%	6%	2%	20%
<i>TP53m</i>	44%	59%	14%	6%	2%	24%
HRRm	16%	14%	21%	8%	2%	6%
BRCAm	6%	6%	8%	8%	1%	3%
<i>POLEm</i>	2%	2%	2%	1%	2%	0%
Serous	20%	24%	6%	3%	0%	27%

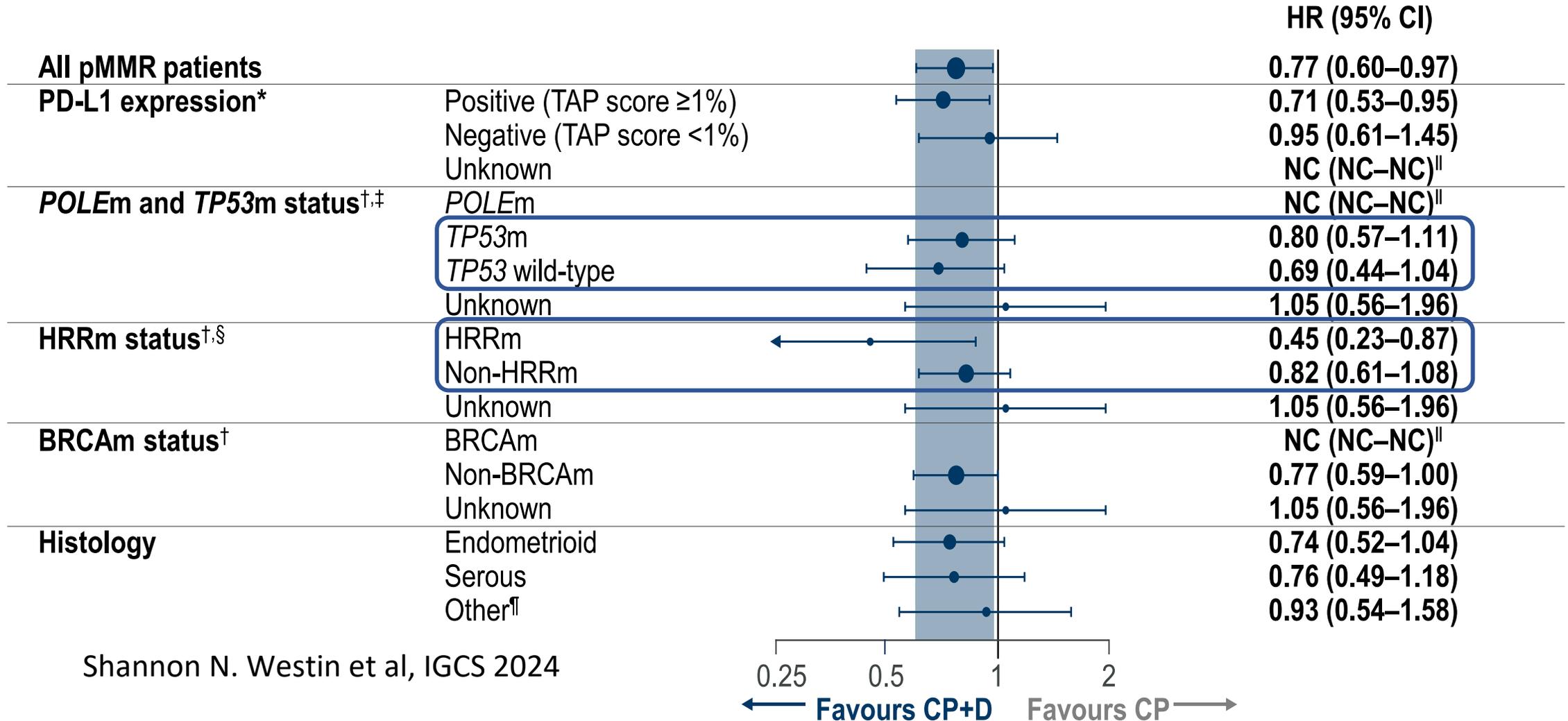


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# pMMR subpopulation: PFS by biomarker subgroup

## CP + durvalumab versus CP

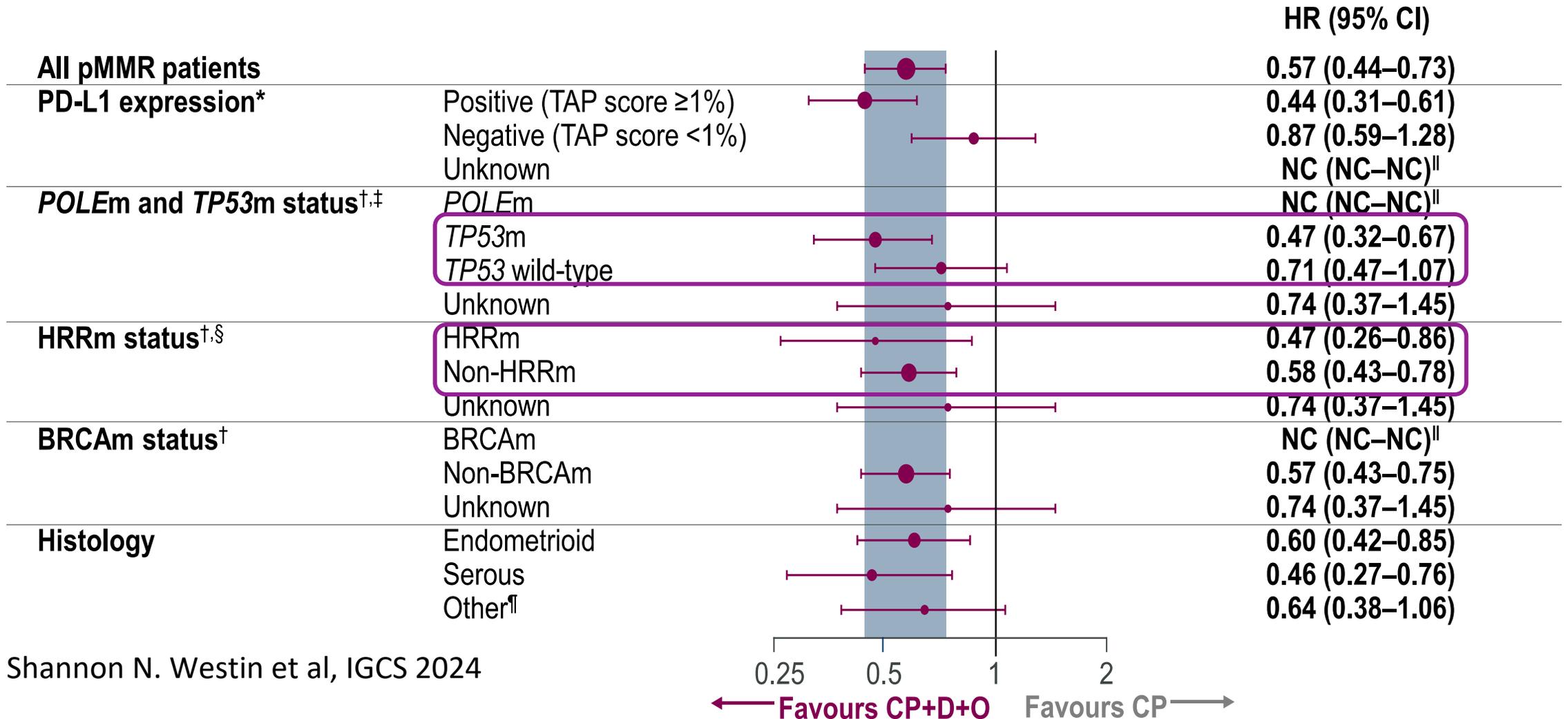
Post hoc exploratory analysis



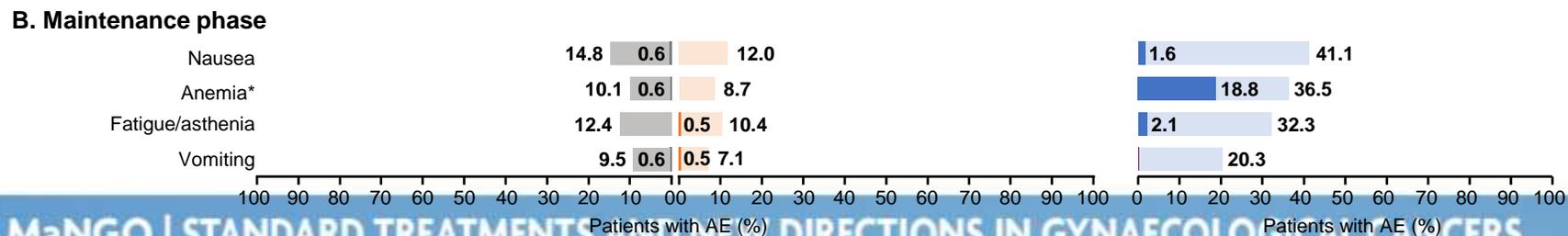
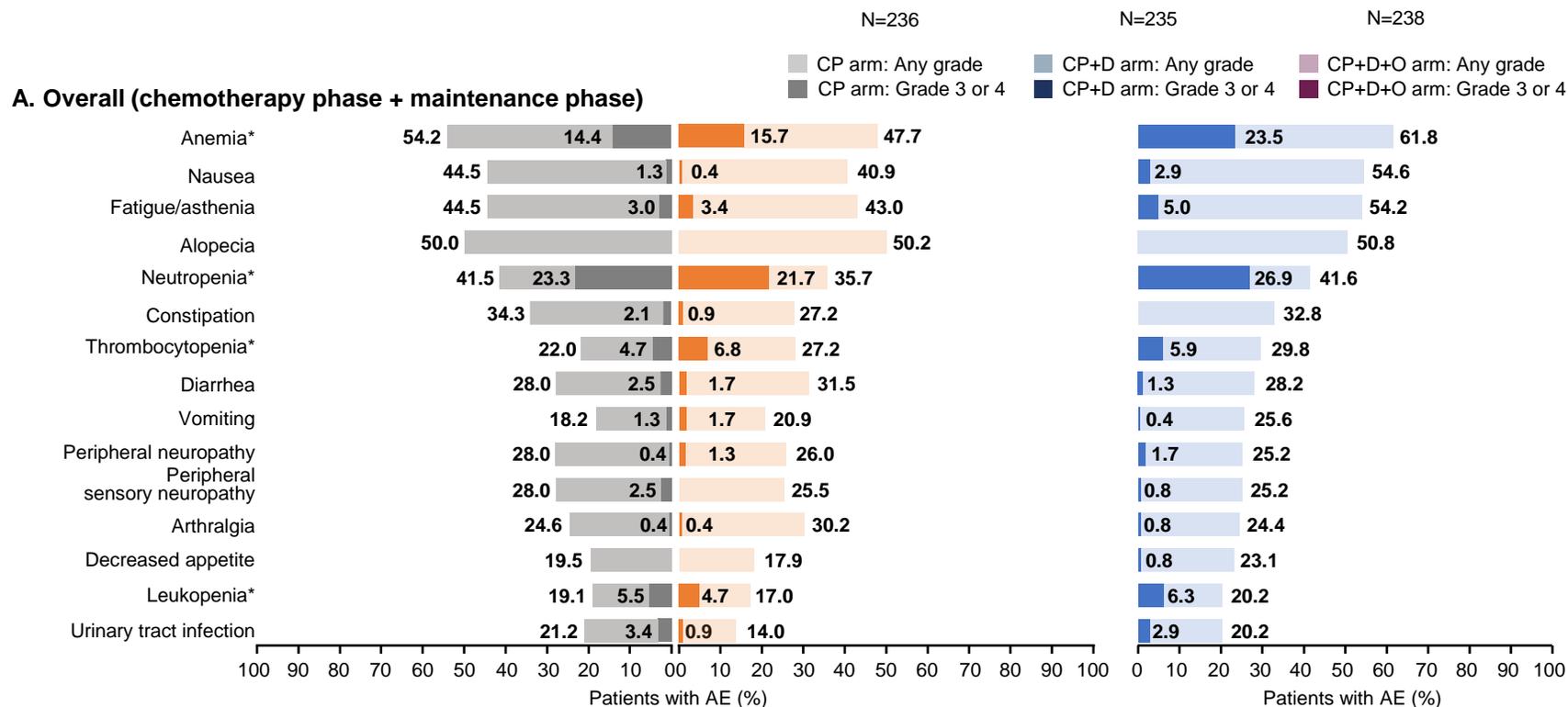
# pMMR subpopulation: PFS by biomarker subgroup

## CP + durvalumab + olaparib versus CP

Post hoc exploratory analysis



# Most common events that occurred in the overall phase in $\geq 20\%$ of patients were mostly low grade, and were expected





# ENGOT-EN6-NSGO/GOG-3031/RUBY Part 2

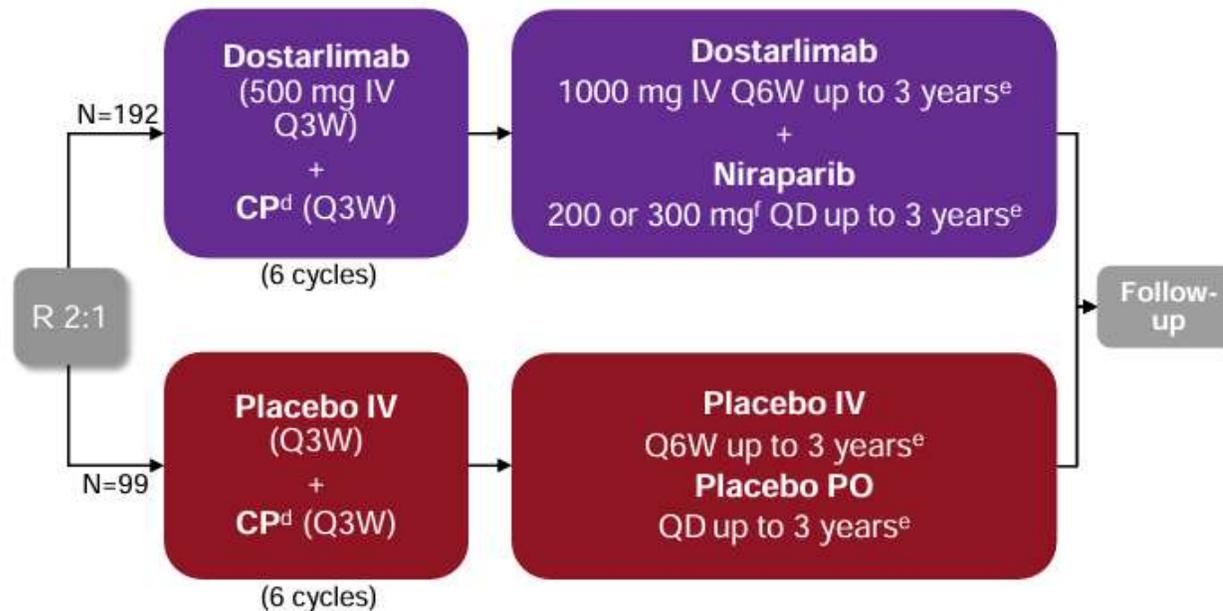
Mirza M R et al

## Eligible patients

- Stage III/IV disease or first recurrent EC<sup>a</sup>
  - All histologies except sarcomas<sup>b</sup>
- Naive to systemic anticancer therapy or had a recurrence or PD ≥6 months after completing systemic anticancer therapy
- Naive to PARP inhibitor therapy

## Stratification

- MMR/MSI status<sup>c</sup>
  - 25% dMMR/MSI-H
  - 75% MMRp/MSS
- Prior external pelvic radiotherapy
- Disease status



## Primary endpoint

- PFS by INV per RECIST v1.1
  - Overall
  - MMRp/MSS

## Secondary endpoints

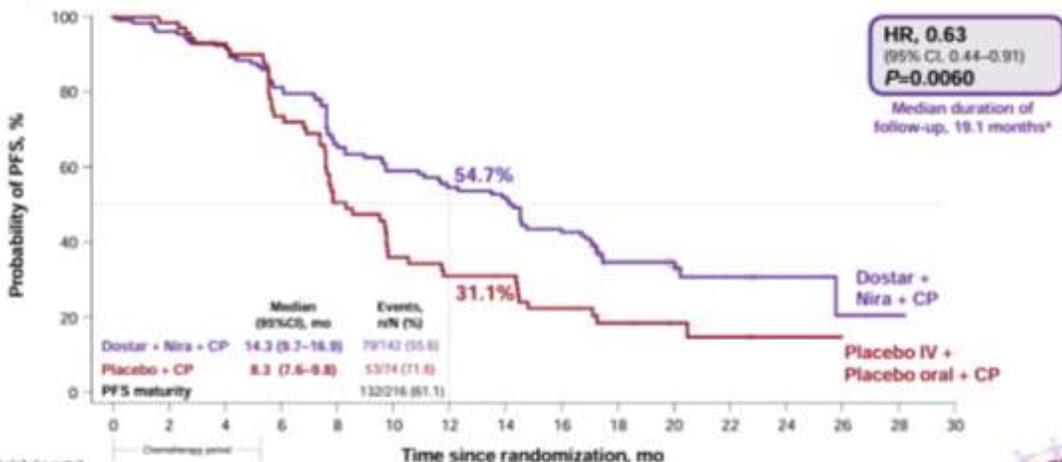
- OS
- PFS by BICR
- ORR
- DOR
- DCR (BOR of CR, PR, or SD)
- PFS2
- HRQOL/PRO
- PK
- Safety

On-study imaging assessments were performed Q6W (±7 days) from the randomization date until week 25 (cycle 6), followed by Q9W (±7 days) until week 52. Subsequent tumor imaging was performed every 12 weeks (±7 days) until radiographic PD was documented by investigator assessment per RECIST v1.1 followed by 1 additional imaging 4–6 weeks later, or subsequent anticancer therapy was started, whichever occurred first. Thereafter, scans were performed per standards of care. <sup>a</sup>Histologically/cytologically proven advanced or recurrent EC; stage III/IV disease or first recurrent EC with low potential for cure by radiation therapy or surgery alone or in combination. <sup>b</sup>Carcinosarcoma, clear cell, serous, or mixed histology permitted (mixed histology containing ≥10% carcinosarcoma, clear cell, or serous histology). <sup>c</sup>Patients were randomized based on either local or central MMR/MSI testing results. Central testing was used with local results were not available. For local determination of MMR/MSI status, IHC, next-generation sequencing, and polymerase chain reaction assays were accepted. For central determination of MMR/MSI status IHC per Ventana MMR RxDx panel was used. <sup>d</sup>Carboplatin AUC 5 mg/mL/min and paclitaxel 175 mg/m<sup>2</sup>. <sup>e</sup>Treatment ends after 3 years, PD, toxicity, withdrawal of consent, investigator's decision, or death, whichever occurs first. Continued treatment with dostarlimab or placebo beyond 3 years may be considered following discussion between the sponsor and the investigator. <sup>f</sup>Dose of 300 mg in patients with body weight ≥77 kg and platelet count ≥150,000/μL and 200 mg in patients with body weight <77 kg or platelet count <150,000/μL or both. AUC, area under the plasma or serum concentration-time curve; BICR, blinded independent central review; BOR, best overall response; CP, carboplatin-paclitaxel; CR, complete response; DCR, disease control rate; dMMR, MMR deficient; DOR, duration of response; EC, endometrial cancer; HRQOL, health-related quality of life; IHC, immunohistochemistry; INV, investigator assessment; MMR, mismatch repair; MMRp, MMR proficient; MSI, microsatellite instability; MSI-H, MSI high; MSS, microsatellite stable; ORR, objective response rate; OS, overall survival; PARP, poly(ADP-ribose) polymerase; PD, progressive disease; PFS, progression-free survival; PK, pharmacokinetic; PO, by mouth; PR, partial response; PRO, patient-reported outcome; Q3W, every 3 weeks; Q6W, every 6 weeks; Q9W, every 9 weeks; QD, once daily; R, randomization; RECIST v1.1, Response Evaluation Criteria in Solid Tumors version 1.1; SD, stable disease.



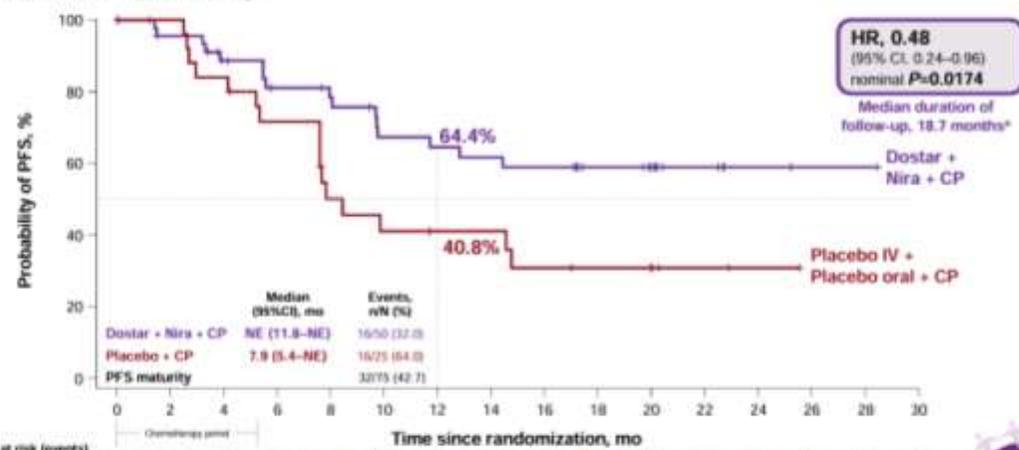
## Statistically Significant PFS Benefit in MMRp/MSS Population

Primary endpoint



## Clinically Relevant PFS Difference in dMMR/MSI-H Population

Prespecified exploratory



No. at risk (events)	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
Dostarlimab + Niraparib + CP	14200	12750	11910	10034	75420	67040	61251	57050	47580	38740	34791	11180	4780	2270	1270	670
Placebo IV + Placebo oral + CP	7400	7170	6920	4818	52331	22420	18431	18431	13530	9520	5020	400	100	100	100	100

No. at risk (events)	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
Dostarlimab + Niraparib + CP	5000	4220	3657	3190	2890	24170	23240	22210	21190	19210	13210	5190	2190	1090	1190	9190
Placebo IV + Placebo oral + CP	2500	2520	2500	1725	11121	9741	8741	8741	8190	5190	2190	1090	1090	1090	1090	1090

- RUBY Part 2 met its primary endpoint, showing significant and clinically meaningful improvement in PFS for dostarlimab + chemotherapy followed by dostarlimab + niraparib in the overall and MMRp/MSS populations
  - The trial is ongoing for OS follow-up

- The safety profile observed was generally consistent with the known safety profiles of the individual agents

- These outcomes demonstrate a potential role for PARP inhibitor maintenance in patients receiving dostarlimab plus chemotherapy, in particular for MMRp/MSS disease

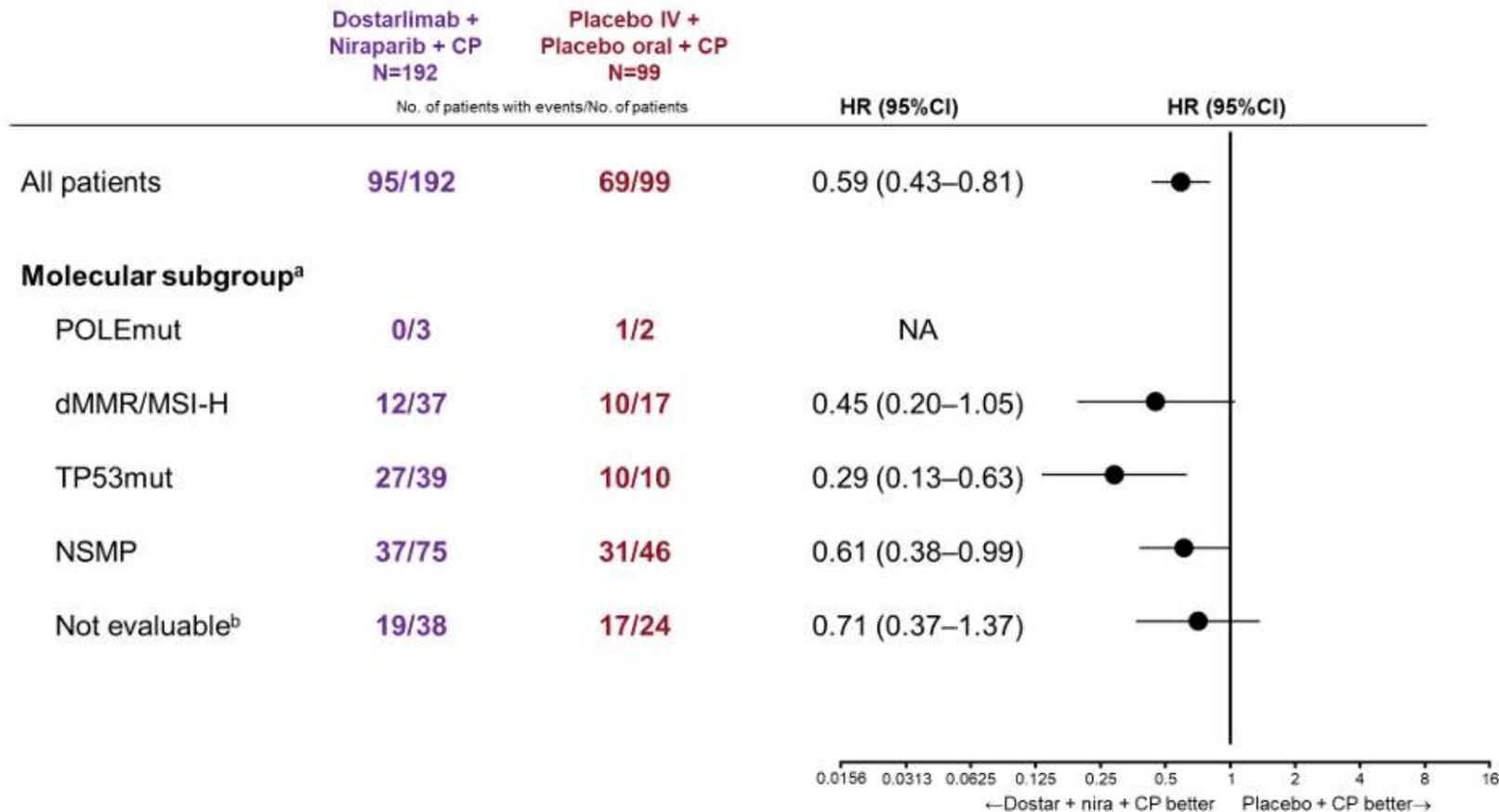
Mirza M R et al



Scan for slides

# Exploratory PFS Molecular Subgroup Analyses in Overall Population

Mirza M R et al

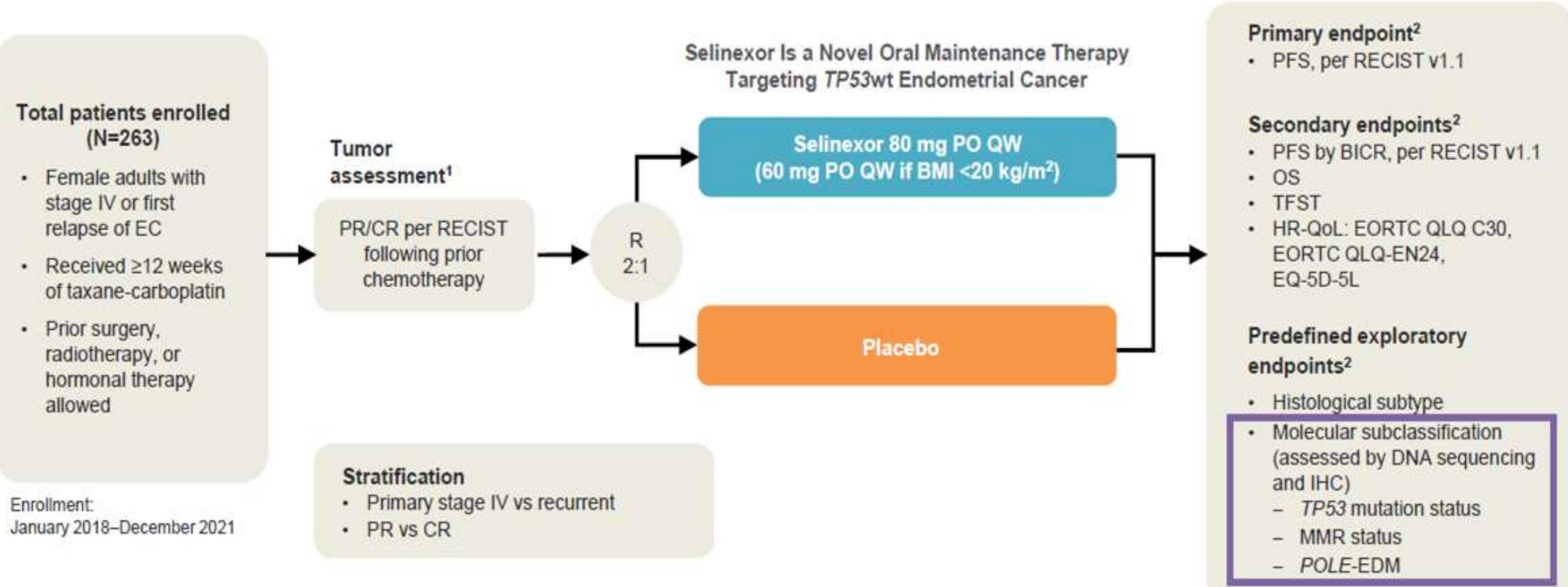


**THE POWER OF SHARED PURPOSE:**  
Transforming Gynecologic Cancer Care

Results should be interpreted with caution as the study was not powered to detect a treatment difference in any subgroup, and there were small numbers and low data maturity in some subgroups. Where there were less than 20 events in the subgroup, the HR estimation and 95% CI were not analyzed as there were too few events ("not applicable").  
<sup>a</sup>Based on available whole exome sequencing results. <sup>b</sup>Sample not available.  
 CP, carboplatin-paclitaxel; dMMR, mismatch repair deficient; dostar, dostarlimab; HR, hazard ratio; IHC, immunohistochemistry; IV, intravenous; MSI-H, microsatellite instability high; nira, niraparib; NSMP, no specific molecular profile; PFS, progression-free survival; POLE, polymerase epsilon.



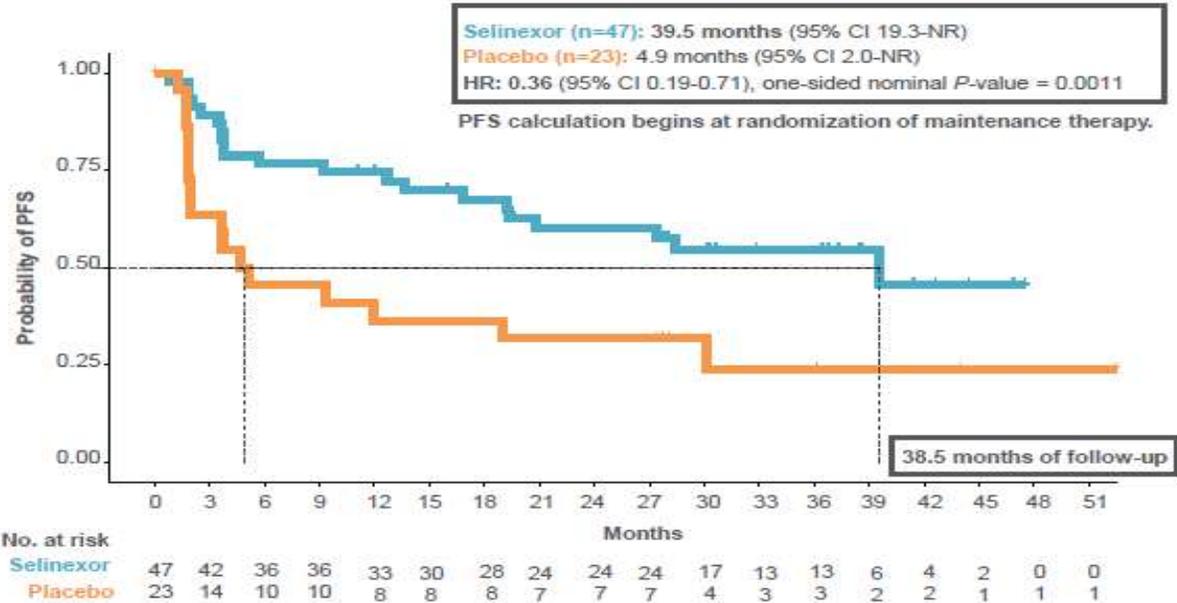
# ENGOT-EN5/GOG-3055/SIENDO



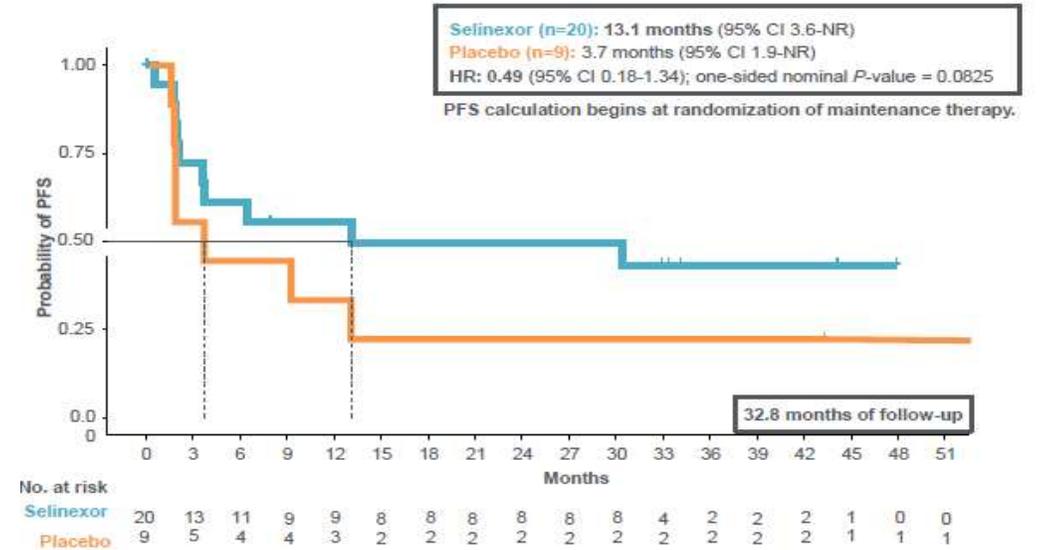
Valabrega G, ESGO 2025

# ENGOT-EN5/GOG-3055/SIENDO

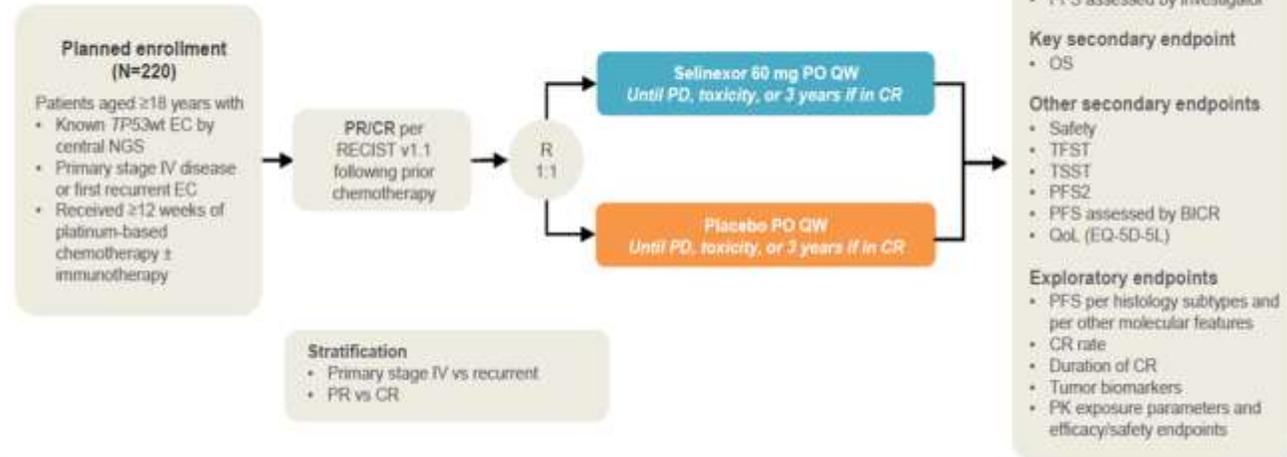
## TP53wt/pMMR



## TP53wt/dMMR



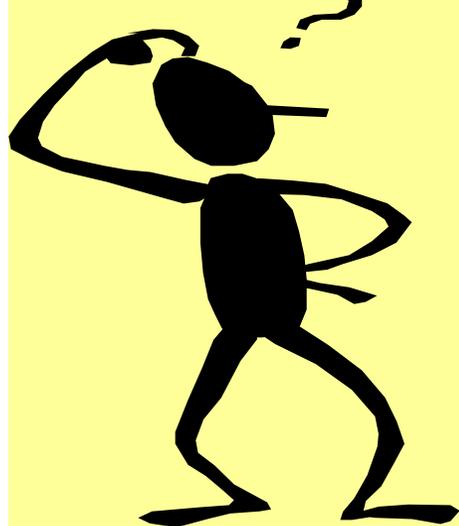
Study is ongoing and actively enrolling



Valabrega G, ESGO 2025

# non-MMR disease

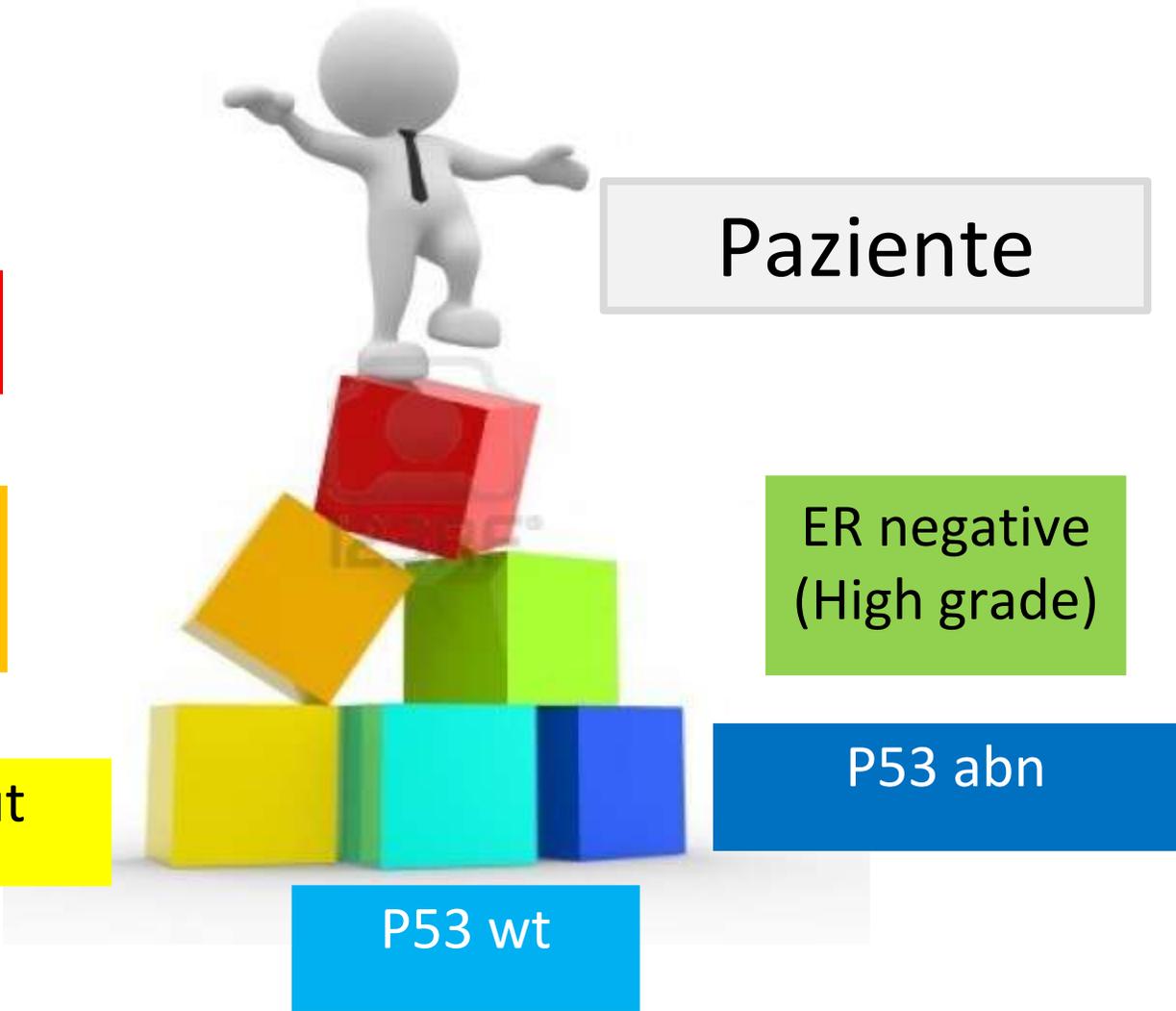
ICI or  
ICI + PARPi

A black stick figure is shown in a confused or questioning pose, with its hand on its head and a question mark above its head. The figure is set against a yellow background.

non-MMR

ER positive  
(Low grade)

POLEmut



Paziente

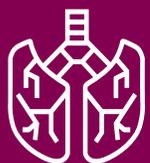
ER negative  
(High grade)

P53 abn

P53 wt

# DUO-E EAP: riassunto dei criteri di elegibilità dei pazienti

La popolazione interessata è composta da adulti con carcinoma endometriale epiteliale confermato da analisi istologica, recentemente diagnosticati con stadio III/IV, o recidivo di EC.



## Caratteristiche malattia / paziente (pz)

- Tutte le istologie sono consentite, incluso il carcinosarcoma, ed eccezione dei sarcomi.
- Pz. recentemente diagnosticati con stadio III e con malattia misurabile dopo chirurgia
- Pz. recentemente diagnosticati con stadio IV con o senza malattia misurabile dopo chirurgia
- Pz. recidivi, con malattia misurabile o non, nei quali la possibilità di cura con la sola chirurgia risulta poco probabile



## Campione del tumore

- Stato MMR conosciuto



## In relazione con la terapia

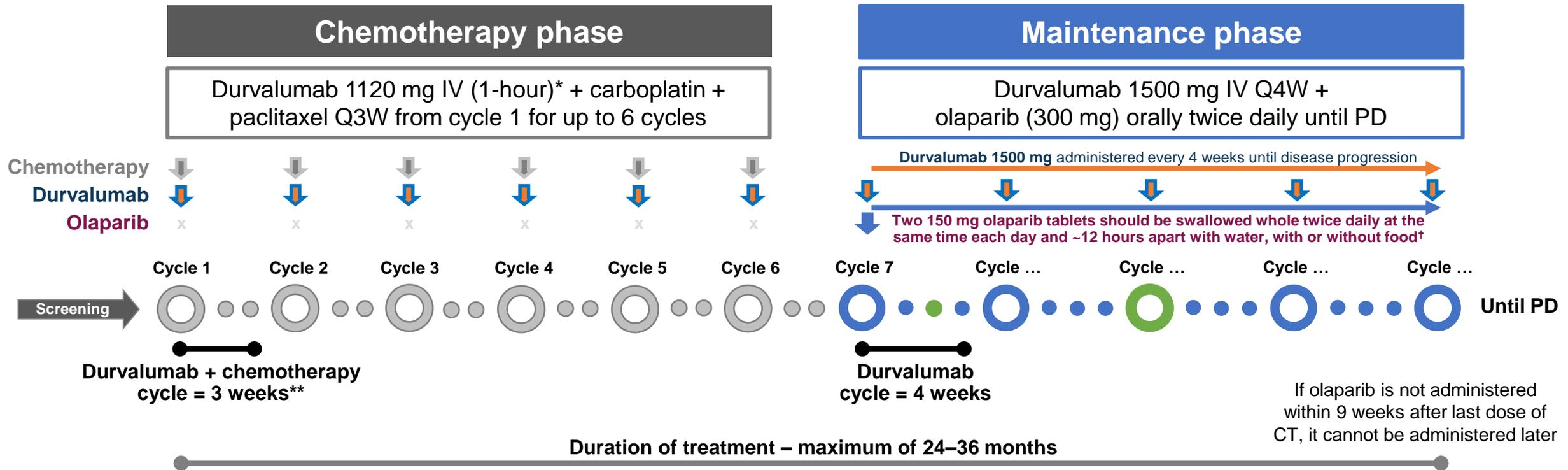
- Naïve alla prima-linea di trattamento antitumorale sistemico
- Chemioterapia adiuvante ± radioterapia è consentita solo se trascorsi almeno 6 mesi dall' ultima dose alla ricaduta



## Criteri di esclusione

- Ogni effetto avverso irrisolto di grado  $\geq 2$  dalla precedente terapia antitumorale
- Attivi o precedentemente documentati disordini autoimmuni o infiammatori
- MDS/AML presunto o tale
- Pz. che hanno partecipato ad uno studio clinico con un IMP somministrato all' interno degli ultimi 12 mesi
- Precedente immuno-terapia mediata (es. anti-PD-1, anti-PD-L, anti-CTLA-4 or anti programmed cell death ligand 2 antibodies)

# Dosing treatment sequence for patients with pMMR a/r EC



Treatment with olaparib will commence a between **3–9 weeks** after the last day of chemotherapy infusion#

# Key differences between DUO-E clinical trial and EAP protocols

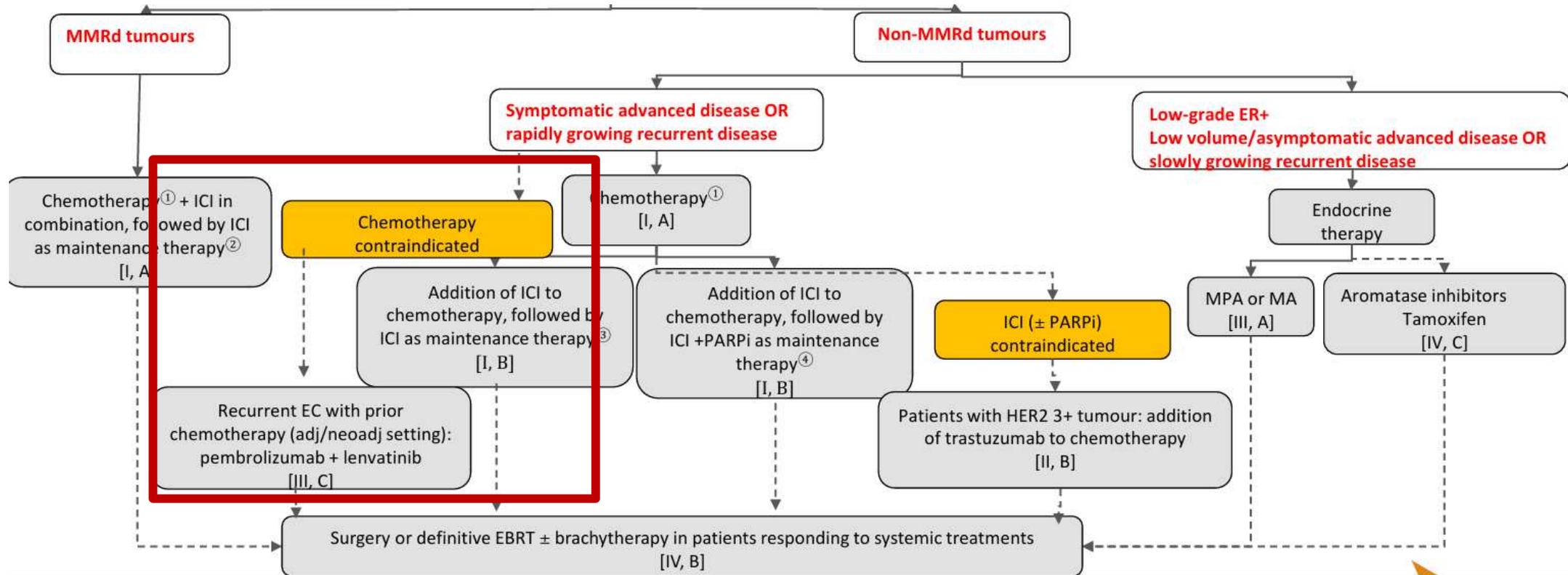
- 1 Olaparib is provided only to patients with confirmed pMMR disease
- 2 Time since previous adjuvant systemic therapy is now 6 months (vs 12 months in DUO-E clinical trial protocol)
- 3 The DUO-E clinical trial protocol specifies carboplatin/paclitaxel while the DUO-E EAP encompass any platinum-based chemotherapy regimen
- 4 Minimum 4 cycles of platinum chemotherapy requirement removed from EAP protocol
- 5 Brain metastases or spinal cord compression do not exclude a patient from inclusion within the EAP
- 6 ECOG requirements removed in EAP

# DOSTARLIMAB EAP

- Carcinoma dell'endometrio avanzato o recidivante
- Senza deficit MMR (pMMR) / con stabilità dei microsatelliti (MSS)
- Trattamento di prima linea
- Non disponibili alternative terapeutiche autorizzate

# Unresectable stage III-IV or recurrent endometrial carcinoma with no prior chemotherapy except in the adjuvant setting

Colombo N and Ledermann J, ESGO 2025



①The standard chemotherapy regimen is carboplatin + paclitaxel.

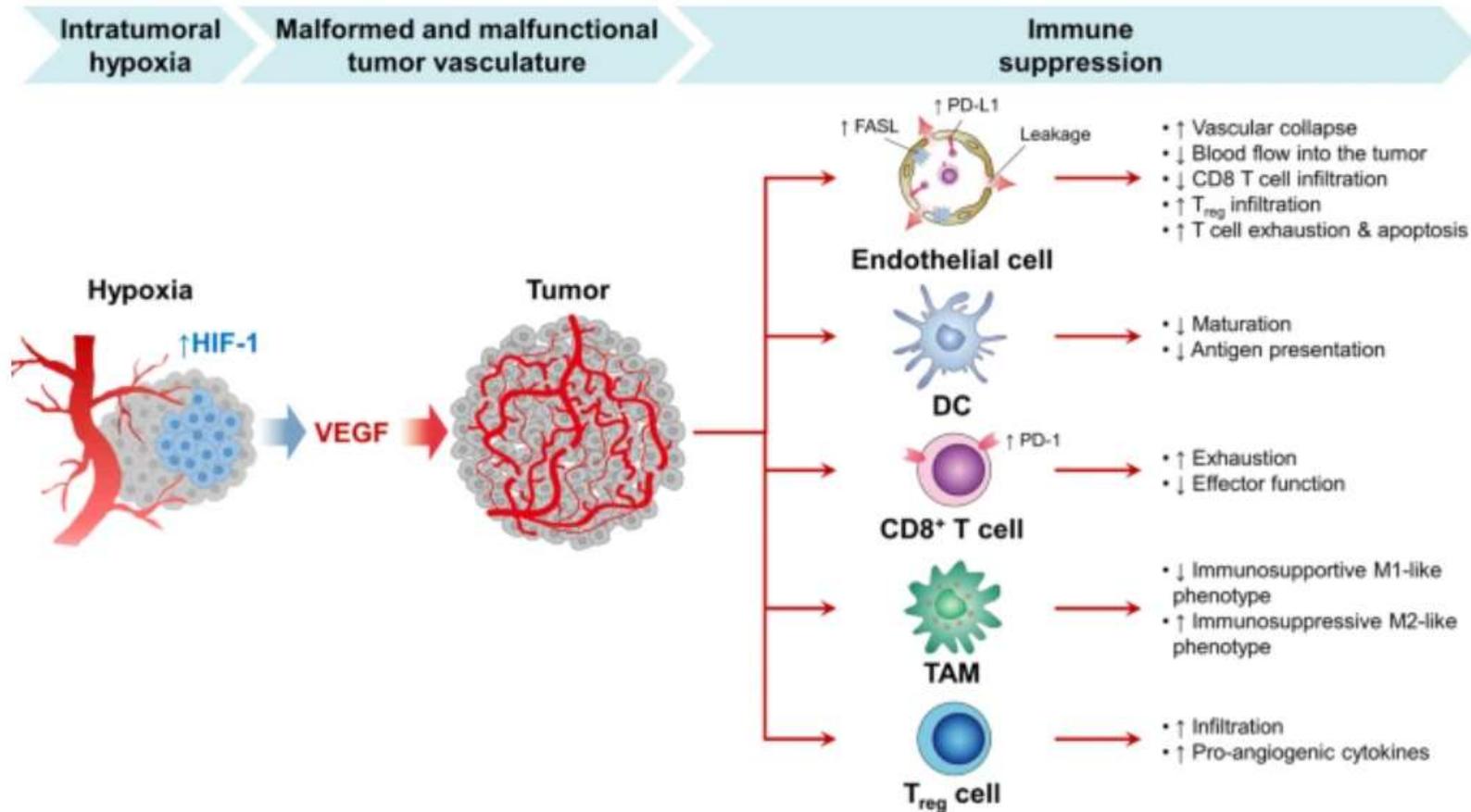
②Immune checkpoint inhibitor (ICI): dostarlimab or durvalumab or pembrolizumab (drugs in alphabetical order).

③ICI: dostarlimab or pembrolizumab.

④ICI + poly(ADP-ribose) polymerase inhibitor (PARPi): durvalumab + olaparib.

Adj/neoadj adjuvant/neoadjuvant; EBRT external beam radiotherapy; ER+ estrogen receptor positive; MA megestrol acetate; MMRd mismatch repair deficiency, MPA medroxyprogesterone acetate; non-MMRd non-mismatch repair deficiency; NSMP non-specific molecular profile.

# Abnormal tumor vasculature and immune-suppression in the tumor microenvironment



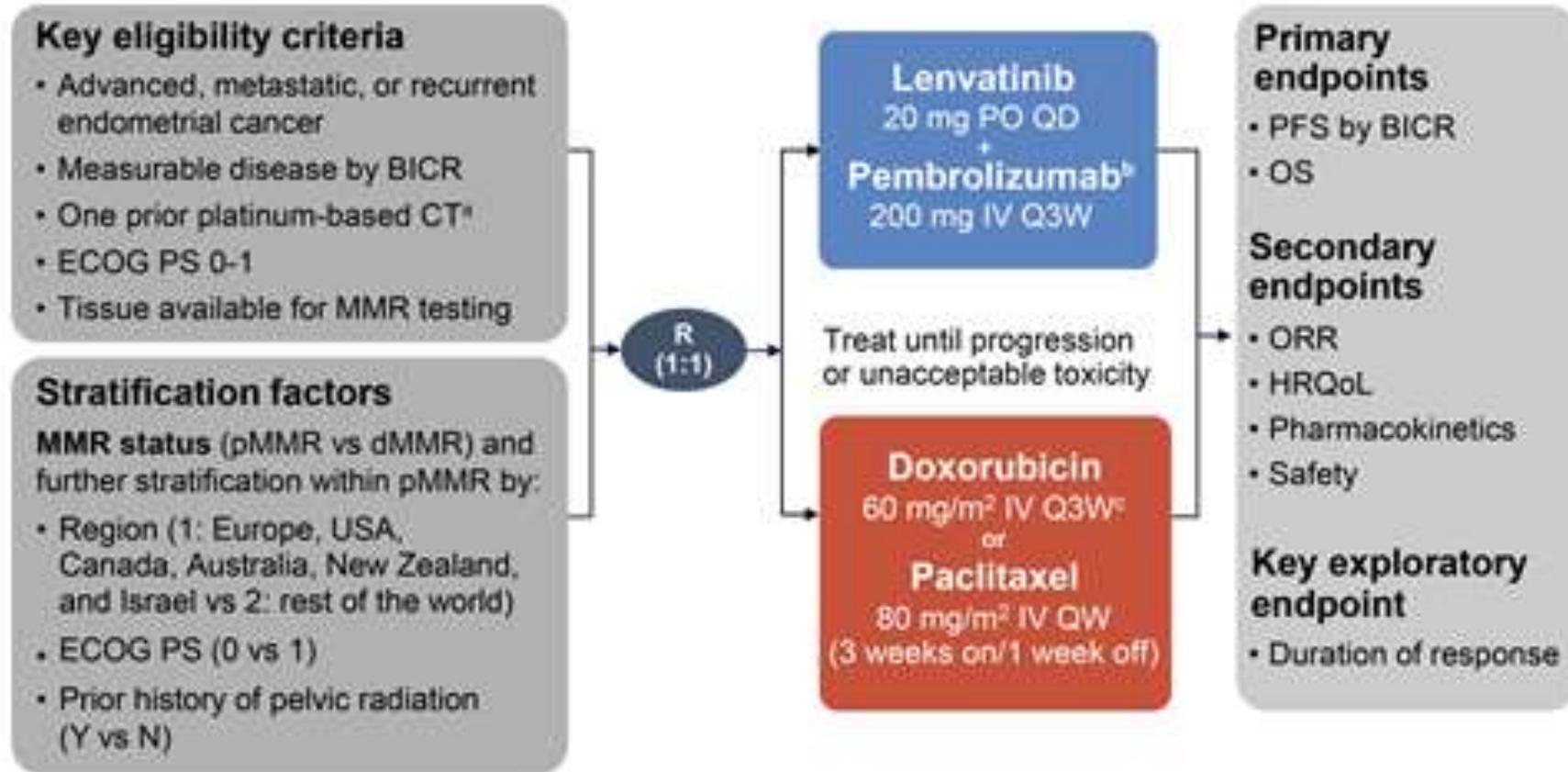
Combination of:

- anti-angiogenic therapy
- immune checkpoint blockade

normalizes vascular-immune crosstalk to potentiate cancer immunity

Lee WS et al, Experimental & Molecular Medicine2020

# STUDY 309 / KEYNOTE-775: updated efficacy and safety

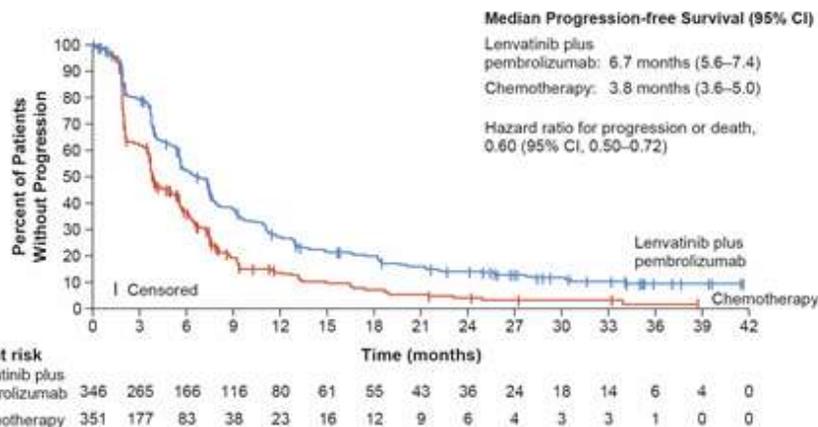


Makker V, ESMO 2022

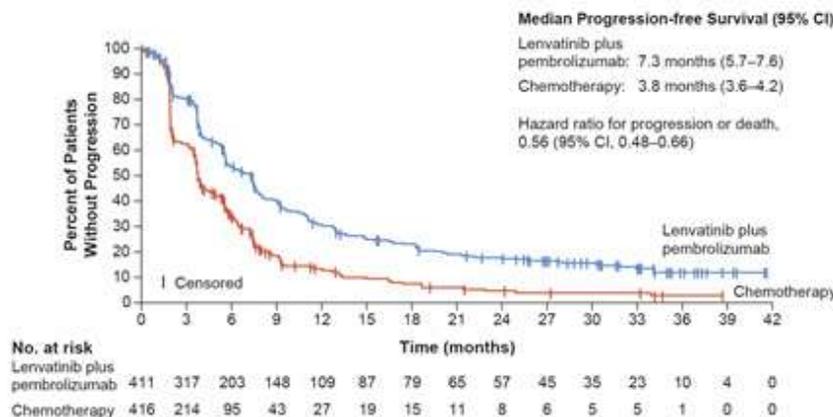
<sup>a</sup>Patients may have received up to 2 prior platinum-based CT regimens if 1 was given in the neoadjuvant or adjuvant treatment setting; <sup>b</sup>maximum of 35 doses; <sup>c</sup>maximum cumulative dose of 500 mg/m<sup>2</sup>.

# STUDY 309 / KEYNOTE-775: updated efficacy and safety

## pMMR Population



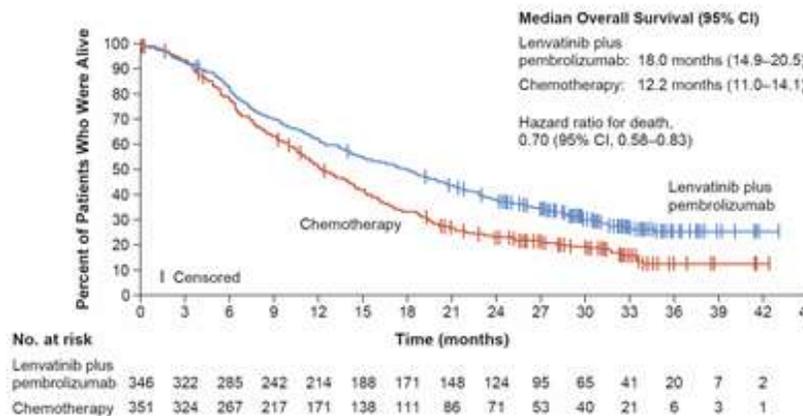
## All-Comer Population



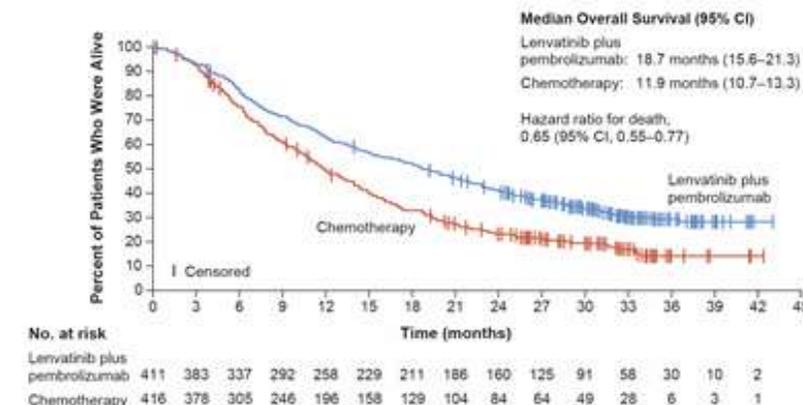
PFS

OS

## pMMR Population



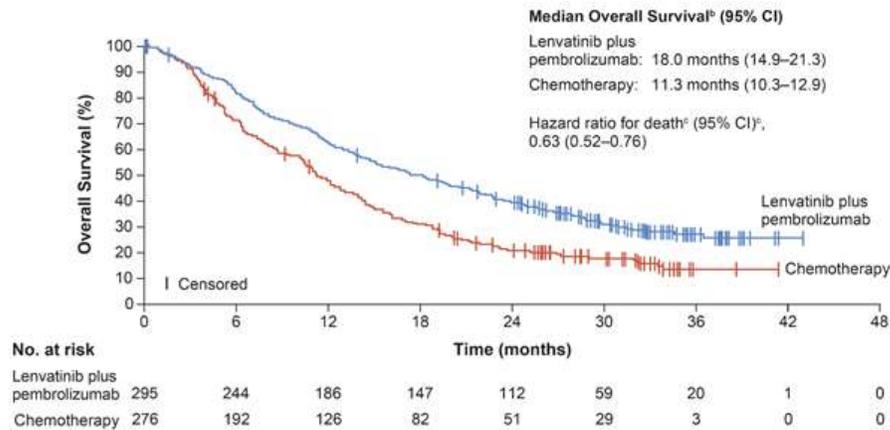
## All-Comer Population



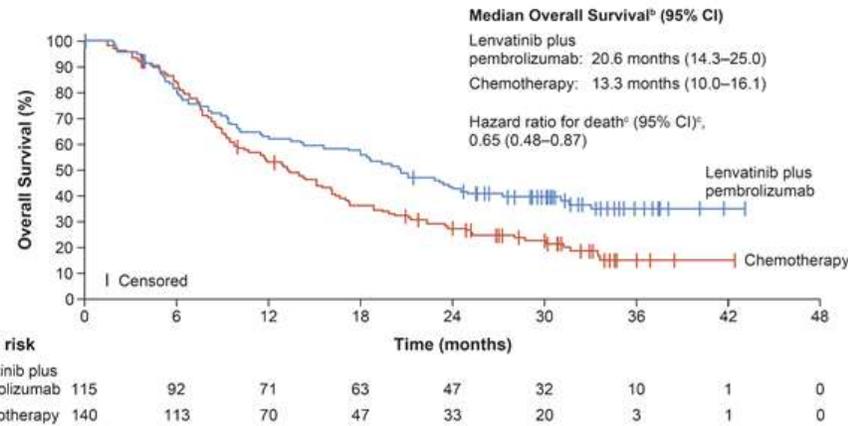
Makker V, ESMO 2022

# STUDY 309 / KEYNOTE-775: updated efficacy and safety

All-comer patients with 1 prior systemic therapy<sup>a</sup>

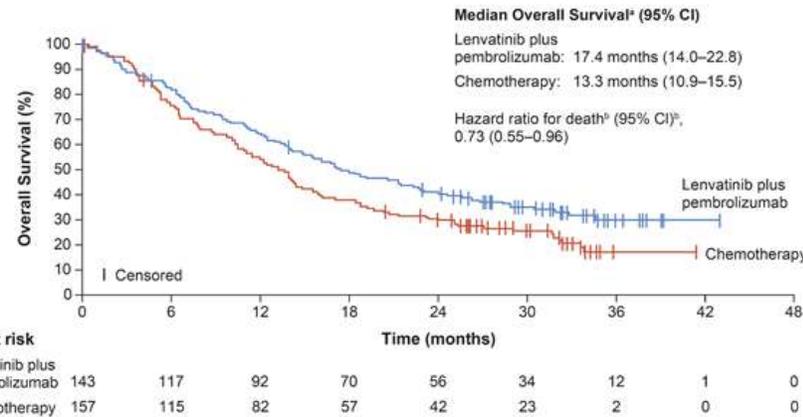


All-comer patients with ≥ 2 prior systemic therapies<sup>a</sup>

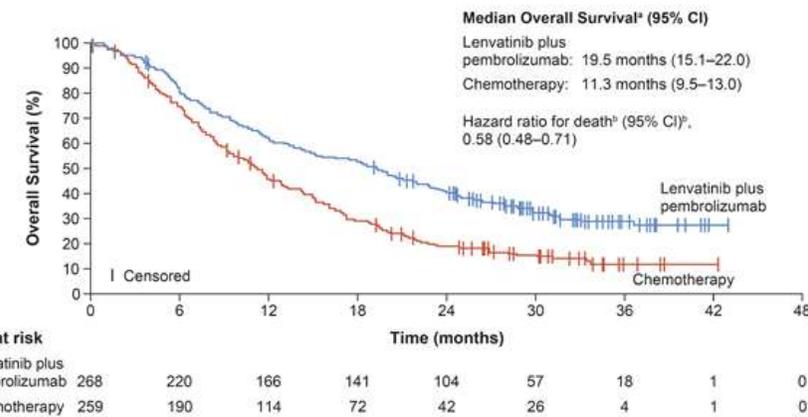


OS

All-comer patients previously treated only in a neo-adjuvant/adjuvant setting



All-comer patients previously treated in any other setting



OS

Lorusso D, ESGO 2022

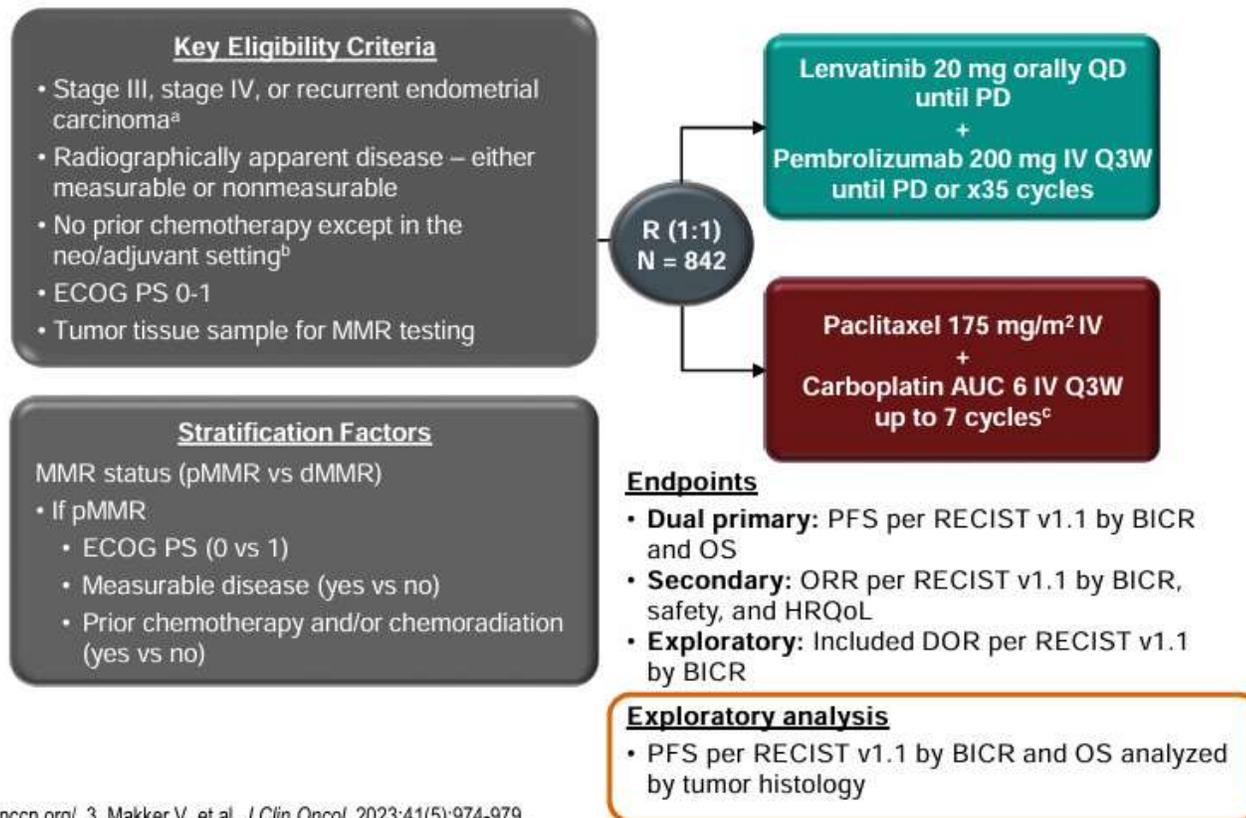
# Phase 3 ENGOT-En9/LEAP-001 Study

Marth C, ESGO 2024; Pignata S, ESMO GYN 2024

## Background

- Phase 3 KEYNOTE-775/Study 309: established lenvatinib plus pembrolizumab (LEN/PEMBRO) as standard of care option in advanced endometrial cancer (aEC) following prior systemic therapy<sup>1</sup>
  - Treatment benefit of LEN/PEMBRO was observed regardless of histology<sup>1</sup>
- LEN/PEMBRO is therefore a standard of care for patients with advanced or recurrent endometrial cancer following progression on prior systemic therapy in any setting including prior neoadjuvant or adjuvant therapy<sup>2,3</sup>
- In the **ENGOT-en9/LEAP-001** phase 3, randomized, open-label study, we compared the efficacy and safety of LEN/PEMBRO vs paclitaxel and carboplatin (TC) as first-line therapy for aEC

### ENGOT-en9/LEAP-001 Study Design (NCT03884101)



<sup>1</sup> Makker V, et al. *N Engl J Med*. 2022;368:437-448. 2. NCCN. Uterine Neoplasms (v1 2024), <https://www.nccn.org/>. 3. Makker V, et al. *J Clin Oncol*. 2023;41(5):974-979.

UC, area under the concentration-time curve; BICR, blinded independent central review; DOR, duration of response; HRQoL, health-related quality of life.

<sup>a</sup> Carcinosarcoma (malignant mixed Müllerian tumor), endometrial leiomyosarcoma or other high-grade sarcomas, or endometrial stromal sarcomas excluded.

<sup>b</sup> Prior line of neoadjuvant and/or adjuvant chemotherapy in the setting of curative-intent resection was permitted if recurrence occurred  $\geq 6$  months after last dose; prior radiotherapy with or without chemotherapy, or prior hormonal therapy were also permitted.

<sup>c</sup> Patients with ongoing clinical benefit could continue chemotherapy beyond 7 cycles if approved by sponsor.

# Phase 3 ENGOT-En9/LEAP-001 Study

Marth C, ESGO 2024; Pignata S, ESMO GYN 2024



## Summary of Efficacy Outcomes<sup>a</sup>

Efficacy Outcome	pMMR Population		All-Comers <sup>b</sup>	
	LEN/PEMBRO n = 320	TC n = 322	LEN/PEMBRO n = 420	TC n = 422
<b>PFS</b>				
Median (95% CI), mo	9.6 (8.2–11.9)	10.2 (8.4–10.5)	12.5 (10.3–15.1)	10.2 (8.4–10.4)
HR (95% CI)	0.99 (0.82–1.21)		0.91 (0.76–1.09)	
Subgroups, HR (95% CI)				
Endometrioid histology	0.96 (0.75–1.24)		0.78 (0.62–0.97)	
Non-endometrioid/other histology <sup>c</sup>	1.06 (0.77–1.44)		1.12 (0.83–1.50)	
Prior neo/adjuvant chemotherapy	0.60 (0.37–0.97)		0.52 (0.33–0.82)	
<b>OS</b>				
Median (95% CI), mo	30.9 (25.4–37.7)	29.4 (26.2–35.4)	37.7 (32.2–43.6)	32.1 (27.2–35.7)
HR (95% CI)	1.02 (0.83–1.26) <sup>d</sup>		0.93 (0.77–1.12)	
Subgroups, HR (95% CI)				
Endometrioid histology	0.93 (0.71–1.22)		0.80 (0.63–1.01)	
Non-endometrioid/other histology <sup>c</sup>	1.16 (0.85–1.58)		1.14 (0.84–1.54)	
Prior neo/adjuvant chemotherapy	0.67 (0.41–1.11)		0.64 (0.40–1.03)	
<b>ORR (95% CI), %</b>	50.6 (45.0–56.2)	54.7 (49.0–60.2)	55.7 (50.8–60.5)	55.5 (50.6–60.3)
<b>Median DOR (range), mo</b>	16.1 (1.0+ to 48.7+)	10.6 (1.1+ to 43.8+)	23.2 (1.0+ to 49.0+)	10.9 (1.1+ to 46.9+)

<sup>a</sup> "+" indicates no progressive disease at the time of last disease assessment. DCR, disease control rate (CR + PR + SD ≥ 7 weeks).

<sup>b</sup> Tumor response assessed per RECIST v1.1 by blinded independent central review. <sup>c</sup> Median follow-up duration defined as time from randomization to data cutoff date: 38.4 (range, 30.3–52.9) months. <sup>d</sup> Includes non-endometrioid, adenocarcinoma with no further information (17 patients in the pMMR population; 22 patients among all-comers) and other (2 patients in the pMMR population; 3 patients among all-comers). <sup>e</sup> 1-sided noninferiority  $P = 0.246$  based on log-rank test stratified by ECOG performance status and prior chemotherapy and/or chemoradiation was nonsignificant, not crossing the prespecified OS noninferiority boundary of  $P = 0.0158890$ . Because the prespecified statistical criterion for OS noninferiority was not met at final analysis, no further statistical testing of efficacy endpoints was performed. Data cutoff date: October 2, 2023.

# non-MMRd disease

non-MMR

ER positive  
(Low grade)

POLEmut

BASSO  
RISCHIO



Paziente

ER negative  
(High grade)

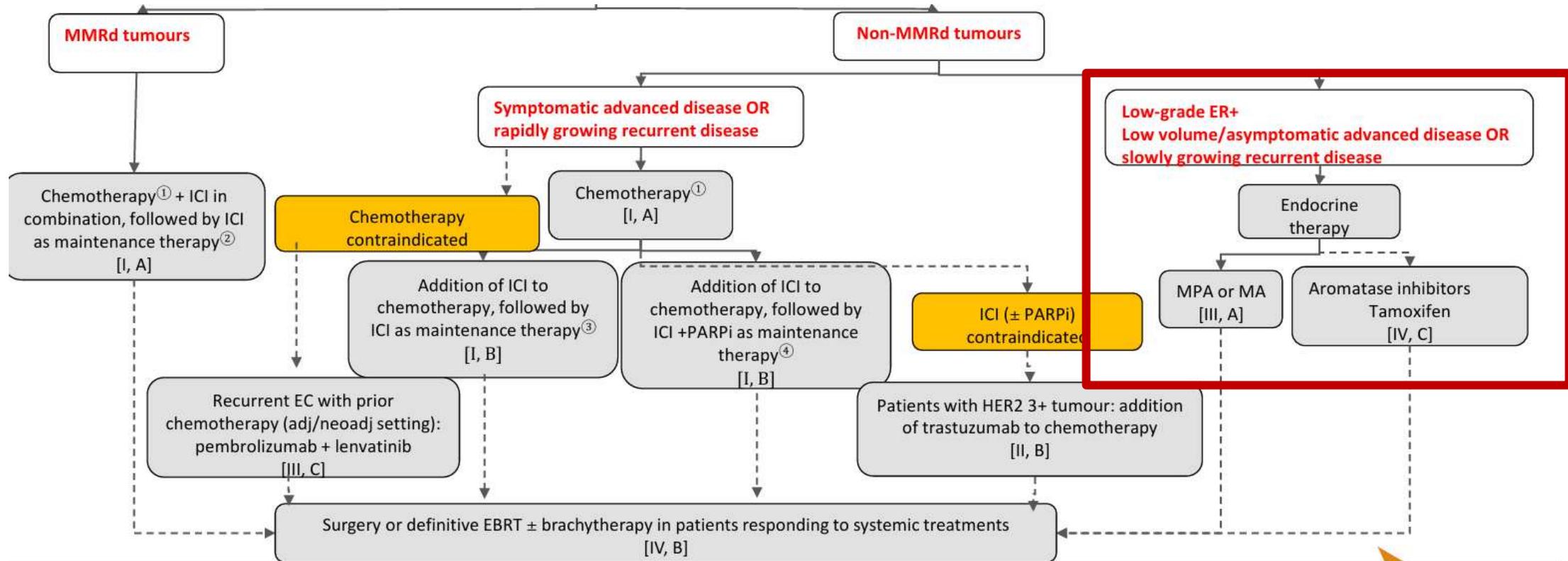
ALTO  
RISCHIO

P53 abn

p53wt

# Unresectable stage III-IV or recurrent endometrial carcinoma with no prior chemotherapy except in the adjuvant setting

Colombo N and Ledermann J, ESGO 2025



①The standard chemotherapy regimen is carboplatin + paclitaxel.

②Immune checkpoint inhibitor (ICI): dostarlimab or durvalumab or pembrolizumab (drugs in alphabetical order).

③ICI: dostarlimab or pembrolizumab.

④ICI + poly(ADP-ribose) polymerase inhibitor (PARPi): durvalumab + olaparib.

Adj/neoadj adjuvant/neoadjuvant; EBRT external beam radiotherapy; ER+ estrogen receptor positive; MA megestrol acetate; MMRd mismatch repair deficiency, MPA medroxyprogesterone acetate; non-MMRd non-mismatch repair deficiency; NSMP non-specific molecular profile.

# ER positive population

2025 **ASCO**<sup>®</sup>  
ANNUAL MEETING

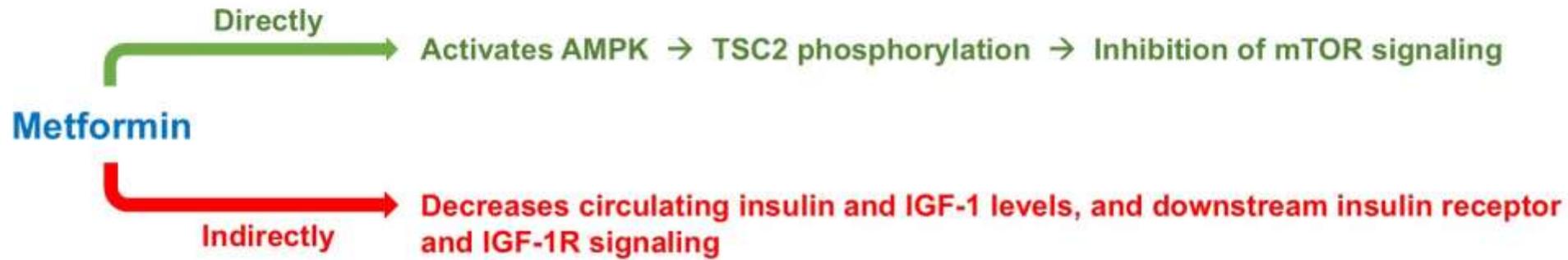
## Phase 2 study of letrozole, abemaciclib and metformin in estrogen receptor (ER) positive, recurrent endometrial cancer (EC)

Panagiotis A. Konstantinopoulos, Ningxuan Zhou, Richard T. Penson, Susana Campos, Carolyn Krasner, Alexi A. Wright, Rebecca Porter, Neil Horowitz, Sara Bouberhan, Hannah Sawyer, Lani Koppermann, Martin Hayes, Madeline Polak, Meghan Shea, Page Widick, Su-Chun Cheng, Cesar Castro, Ursula A. Matulonis, Elizabeth K. Lee

# Rationale for combined ER, CDK4/6 and PI3K inhibition in EC

- Previous studies have demonstrated promising activity of combined hormonal therapy and CDK4/6 inhibition in ER positive endometrioid EC\*
- ctDNA sequencing at the time of progression through letrozole/abemaciclib demonstrated frequent acquired PI3K pathway alterations suggesting that there is a **strong selective pressure to activate the PI3K pathway upon exposure to combined aromatase and CDK4/6 inhibition** in EC\*\*
- Preclinical studies have demonstrated **significant synergism with simultaneous inhibition** of the ER, CDK4/6 and PI3K pathways\*\*\*

# Metformin inhibits PI3K pathway signaling



- Window of opportunity (WOO) studies in endometrial cancer have demonstrated that metformin at a dose of 850mg orally daily decreases phospho-AKT and phospho-S6rp in endometrial cancer tissue samples as well as decreases circulating insulin and IGF-1 levels\*
- Based on these considerations, we hypothesized that PI3K inhibition using metformin may further enhance the activity of letrozole/abemaciclib in endometrial cancer

# Eligibility and Endpoints

## Key Eligibility Criteria

- Recurrent **ER+** EC defined as **≥1% of nuclei** by immunohistochemistry (IHC)
- **Endometrioid** Histology
- **No limit** of prior therapies
- **Any Prior Hormonal Therapy Allowed**
- **Measurable** disease by RECIST 1.1
- **No prior CDK4/6** inhibitors
- **No current metformin** use

## Primary Endpoints

- **Objective response (OR) rate (ORR)**
- **Progression-free survival ≥6 months (PFS6)**

## Secondary Endpoints

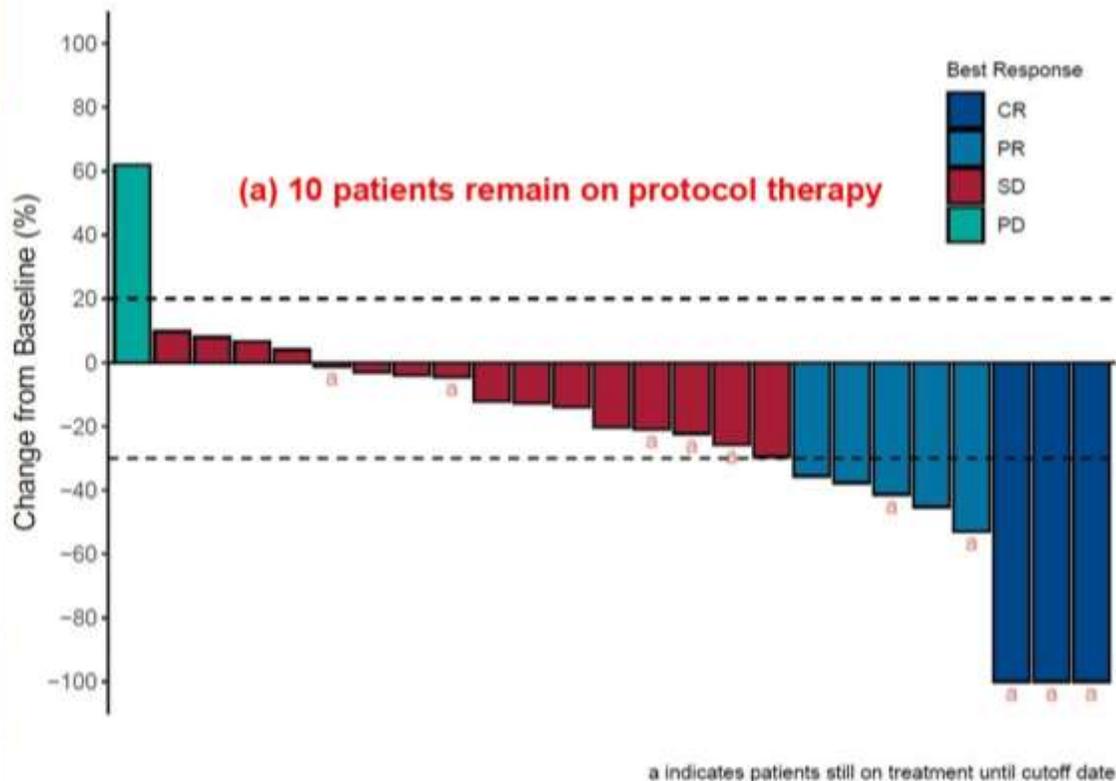
- **PFS and Overall Survival (OS)**
- **Toxicity**

## Correlative Studies

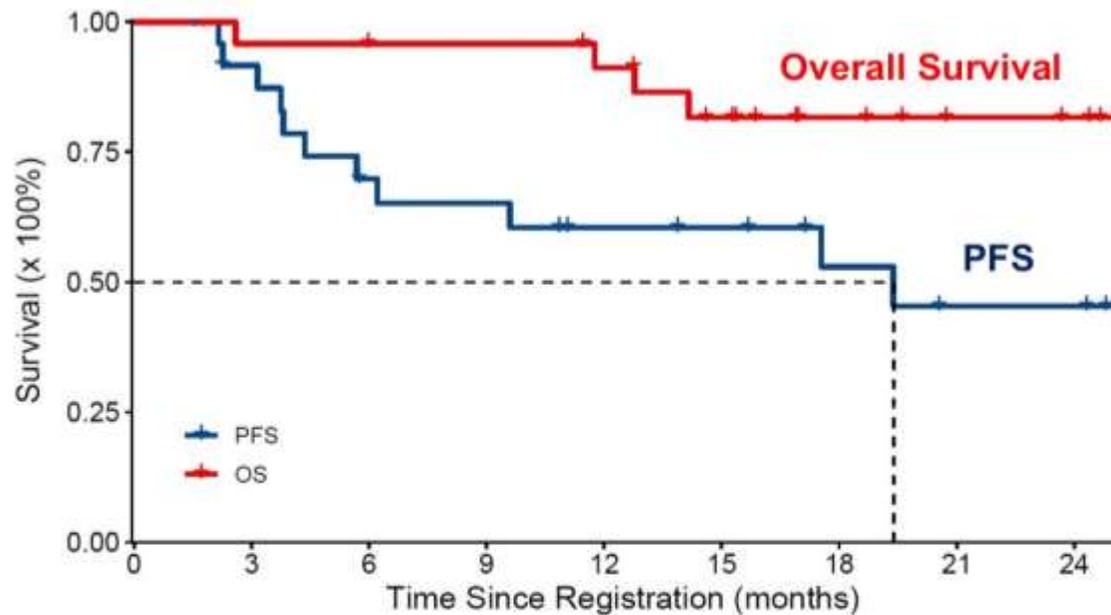
- **Pharmacokinetic (PK) analyses of metformin**
- **Molecular profiling via Oncopanel targeted NGS assay**
- **Progesterone receptor (PrgR) expression (IHC)**

# Objective Response Rate (ORR)

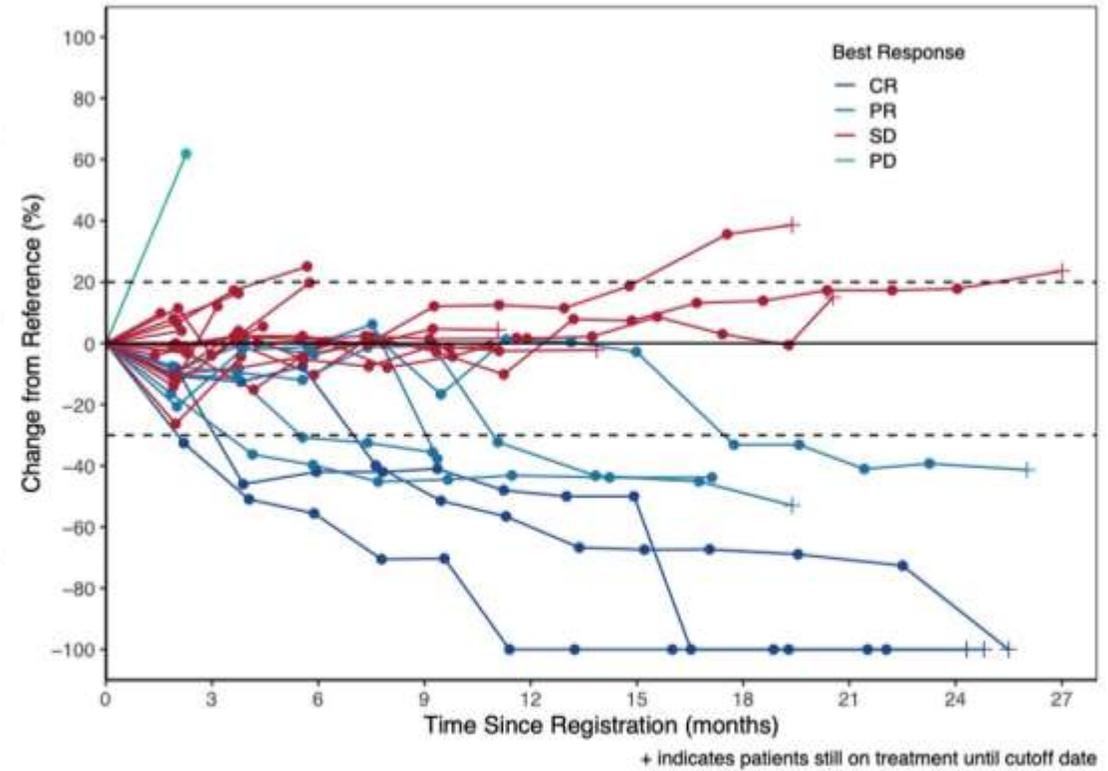
RESPONSE	Overall (N=25) n (%)
Complete Response (CR)	3 (12%) (1 unconfirmed CR but confirmed PR)
Partial Response (PR)	5 (20%) (1 unconfirmed)
Stable Disease (SD) ≥ 6 months	7 (28%)
SD < 6 months	9 (36%)
Progressive Disease	1 (4%)
<b>ORR</b>	<b>8 (32%)</b>



# Progression Free Survival (PFS)



No. at risk (No. censored)		0	3	6	9	12	15	18	21	24
<span style="color: blue;">■</span>	PFS	25 (0)	21 (2)	15 (3)	14 (3)	11 (5)	10 (6)	7 (8)	5 (9)	5 (9)
<span style="color: red;">■</span>	OS	25 (0)	23 (1)	22 (2)	22 (2)	20 (3)	16 (5)	11 (10)	8 (13)	7 (14)



**Median PFS 19.4 months (median follow-up time 18.7 months)**  
**Kaplan Meier estimate of PFS6: 69.8% (95% CI: 46.9% to 84.3%)**

# Predictive biomarkers in endometrial cancer

## Established

- dMMR/MSI-H for the use of anti-PD(L)1<sup>1,2,3</sup>
- HER2 for the use of anti-HER2 therapies<sup>8-10</sup>

## Exploratory

- HRR status for the use of PARPi<sup>4,5</sup>
- P53 status for the use of IO or PARPi<sup>6</sup>
- PDL1 status for IO or IO + PARPi<sup>5</sup>
- TMB status for the use of IO<sup>7</sup>
- ER/PR status for response to hormonal therapies

## Investigational Actionable Targets

- TROP2<sup>10</sup>
- Folate Receptor  $\alpha$ <sup>10</sup>
- MDM2
- B7H4

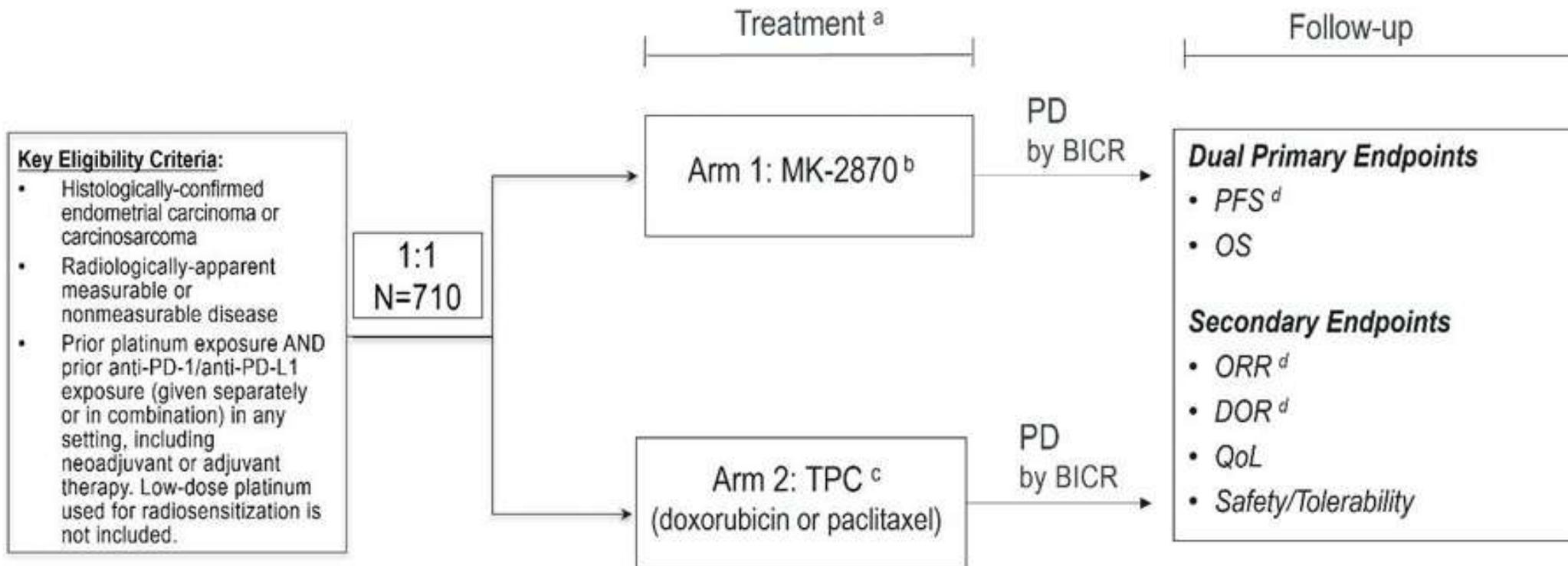
ESGO 2025

# ADC in clinical development in endometrial cancer

ESGO 2025

Target	Drug	Linker	DAR	Payload	Development Stage
FR $\alpha$	Luveltamab tazevibulin (STRO-002)	Valine-citrulline (cleavable)	4	SC239 (hemiasterlin)	Phase 1
	Farletuzumab ecteribulin (MORAb-202)	Val-Cit	4	Eribulin mesylate	Phase 1/2
B7-H4	XMT-1660	Polymer scaffold (cleavable)	6	AF-HPA/AF	Phase 1b
	SGN-B7H4V	Protease-cleavable mc-vc linker	4	MMAE	Phase 1
	AZD8205	Val-ala peptide linker with a PEG8 spacer	8	Topoisomerase I inhibitor	Phase 1/2
Trop-2	Sacituzumab govitecan	Hydrolyzable linker	7.5	Topoisomerase I inhibitor (SN-38)	Phase 2
	Datopotomab deruxtecan (Dato-DXd)	Cleavable tetrapeptide-based linker	~4	Topoisomerase I inhibitor (Dxd)	Phase 2
	MK-2870 (SKB264)	sulfonyl pyrimidine-CL2A-carbonate	7.4	Belotecan-derived topoisomerase I inhibitor	Phase 3
HER2	Trastuzumab duocarmazine (SYD985)	Mb-Val-Cit-PABC	2.7	Duocarmycin	Phase 2
	Trastuzumab deruxtecan (T-DXd)	Peptide-based	7-8	Topoisomerase I inhibitor (Dxd)	Phase 2
	DB-1303/BNT323	Maleimide tetrapeptide-based	~8	Topoisomerase I inhibitor (P1003)	Phase 1/2a

# MK 2870-005 /ENGOT-en23 /GOG3095



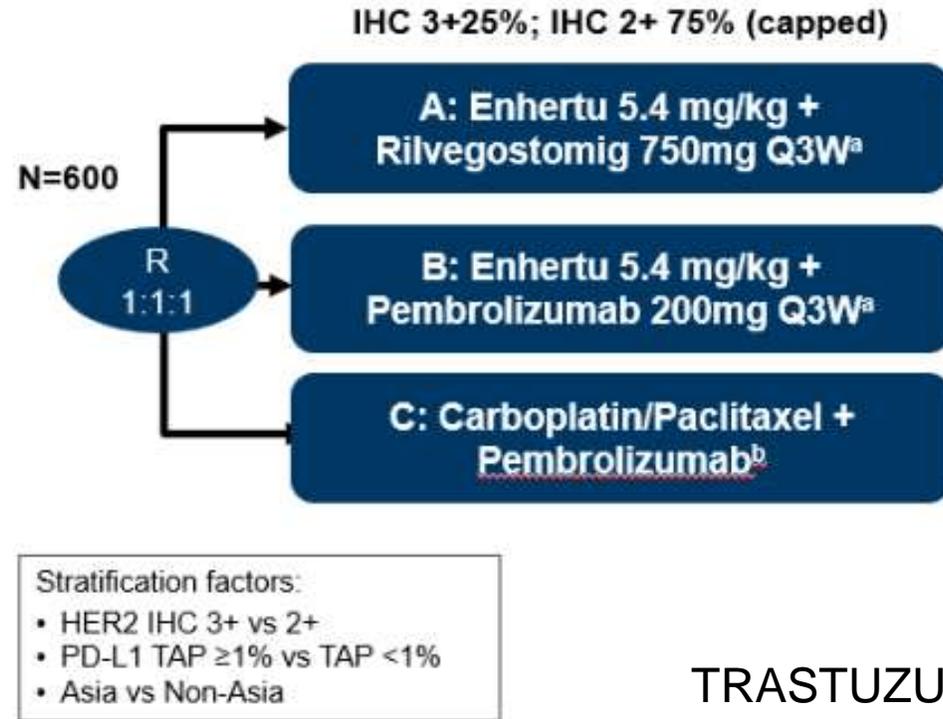
## Stratification:

- MMR (dMMR vs pMMR)
- TROP2 expression (low vs high)
- Number of prior lines of therapy ( $\leq 2$  vs 3)
- Disease status at baseline per RECIST 1.1 by BICR (measurable vs nonmeasurable)

# DESTINY-Endometrial01/GOG-3098/ENGOT-EN24

### Patient Population

- HER2 expressing (IHC 3+/2+) EC by central test
- pMMR EC by central test
- Stage III, Stage IV, or recurrent, histologically-confirmed endometrial cancer
- Stage III must have measurable disease
- Any histological subtype except for sarcomas
- May have received 1 prior line of adjuvant/neoadjuvant chemotherapy (chemotherapy and/ or chemoradiation) if recurrence  $\geq 6$  months after last dose of chemo
- No prior exposure to ADCs or ICIs
- ECOG PS 0 or 1



### Endpoints

**Primary:**

- PFS (BICR) in ITT

**Secondary:**

- OS
- PFS (Investigator)
- ORR
- PFS2
- HRQoL

**Futility analysis at 40% IF**

TRASTUZUMAB-DERUXTECAN

a. Treatment will continue until objective disease progression according to RECIST v1.1 as assessed by the Investigator and confirmed by BICR or until other discontinuation criteria is met, whichever occurs first.

b. Carboplatin AUC5, paclitaxel 175 mg/m<sup>2</sup>, and pembrolizumab 200 mg IV once Q3W x 6 cycles\*, followed by maintenance with pembrolizumab 400 mg IV Q3W. Pembrolizumab will continue for up to 20 total cycles (approximately 24 months, accounting for combination and maintenance phases) or until other discontinuation criteria is met, whichever occurs first.

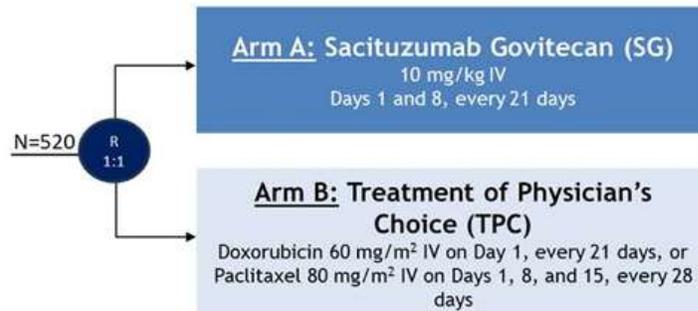
c.\*At the discretion of the treating Investigator, participants may continue to receive carboplatin, paclitaxel and pembrolizumab Q3W for up to 10 cycles.



# A Randomized, Open-label, Phase 3 Study of Sacituzumab Govitecan Versus Treatment of Physician's Choice in Participants With Endometrial Cancer Who Have Received Prior Platinum-Based Chemotherapy and Anti-PD-1/PD-L1 Immunotherapy

## Key Eligibility Criteria

- Recurrent endometrial carcinoma
- Histologically confirmed diagnosis of epithelial endometrial carcinoma, including carcinosarcoma
- Prior treatment with platinum-based chemotherapy and anti-PD-(L)1 therapy.
- Measurable or non-measurable disease



## Stratification Factors

- # of Prior lines of systemic therapy in any setting (≤2 vs 3)
- Prior Anti-PD-(L)1 therapy (yes vs no)  
Enrollment of participants who have not received prior anti-PD-1/PD-L1 therapy will be capped at approximately 10%.
- Geographic region (North America/Europe vs Asia/ROW)

## Key Study Endpoints

### Primary Endpoint:

- PFS by BICR
- OS

### Key Secondary Endpoints:

- ORR by BICR
- Change from baseline and TTdD in Physical Function as assessed by EORTC-QLQ-C30

### Secondary Endpoints:

- PFS by INV
- ORR by INV
- DOR, CBR by BICR and INV
- Safety
- Change from baseline in GHS/QoL as assessed by EORTC-QLQ-C30

Model C

ENGOT EN26/MaNGO

ENGOT PI: Nicoletta Colombo

GOG led study  
Sponsor Gilead Sciences



# non-MMRd disease

non-MMR

BASSO  
RISCHIO

ER positive  
(Low grade)

POLEmut



Paziente

ER negative  
(High grade)

ALTO  
RISCHIO

P53 abn

P53 wt

ICI / PARPi

*Grazie per l'attenzione!*