

Necesidades no cubiertas: ¿cómo nos ayudará la evidencia en 1L?

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- Speaker bureau: Astrazeneca-MSD, Clovis, GSK.
- Travel and accommodation fees: GSK, AstraZeneca-MSD, Merck.
- Honoraria: GSK.

I declare that this facts have no bearing on my prescribing as a physician.

### **AGENDA**



- 1. Introduction
- 2. Evolution of the 1st line treatment in advanced/recurrent Endometrial Cancer:
  - 1. Progestin
  - 2. GOG 177 trial
  - 3. GOG 209 trial
  - 4. SIENDO trial
  - 5. RUBY trial
  - 6. NRG GY018 trial
- 3. Conclusions



### Introduction

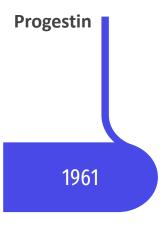


- Endometrial cancer (EC) is the most common gynecologic malignancy in women in the developed world and it is the only gynecological tumor with an increasing incidence.
- The overall prognosis is excellent for most patients diagnosed with early-stage EC. In contrast, the 5-years survival rate in stage IV EC is approximately 17%.
- In metastasic/recurrent EC, to date, there were limited therapeutic options mainly based on platinum-therapy or hormonotherapy.



# **Evolution of the 1st line treatment in advanced/recurrent Endometrial Cancer**



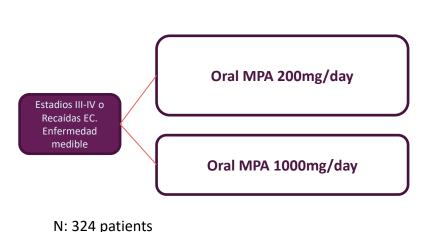


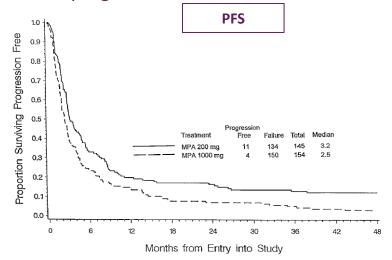


#### **PROGESTIN**



- Initial studies of progestins in endometrial carcinoma used parenteral forms.
- In 1961, a serie of 21 recurrent endometrial cancers treated with preparation of progestational agents were published. A third have shown objective responses with a duration of response ranging from 9 months to 4.5 years.
- In 1999, the GOG 81 trial evaluated the best dose of oral progestin.

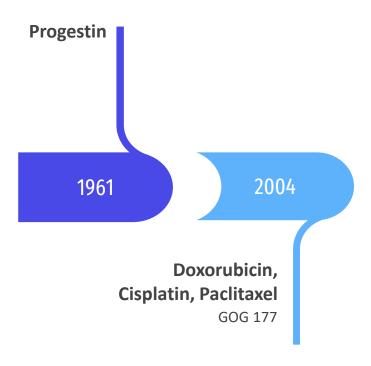




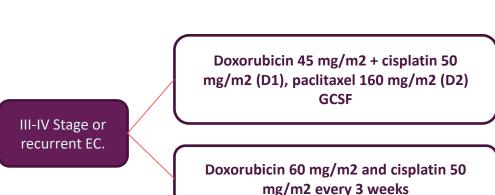


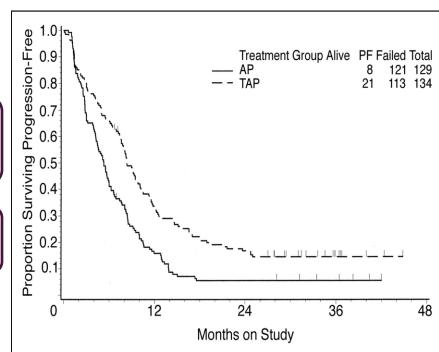
# **Evolution of the 1st line treatment in advanced/recurrent Endometrial Cancer**







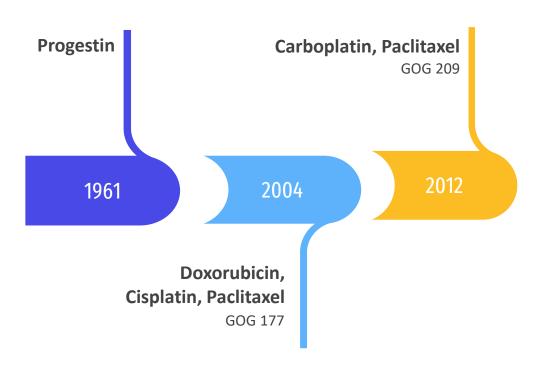






# **Evolution of the 1st line treatment in advanced/recurrent Endometrial Cancer**







#### **Advanced or Recurrent Disease**

#### Limited Efficacy of Chemotherapy in 1st Line: GOG 209 trial

Open-label, randomized, phase III noninferiority trial

Estadios III-IV o Recaídas EC. No tratamiento previo Enfermedad medible RE/P Adriamcina 45mg/m2, CDDP 50mg/m2, D1 Paclitaxel 160mg/m2, D2 c/3 semanas GSCF

Paclitaxel 175mg/m2, CBDCA AUC 6, D1 c/3 semanas

#### Stratification

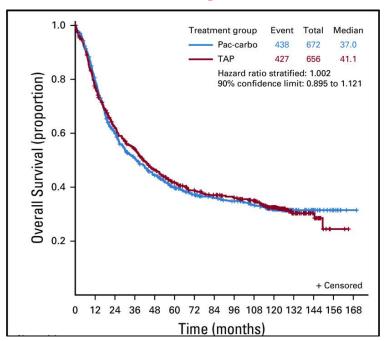
- Performance status
- Disease status (measurable or recurrent)
- Adjuvant Radiotherapy (Y/N)

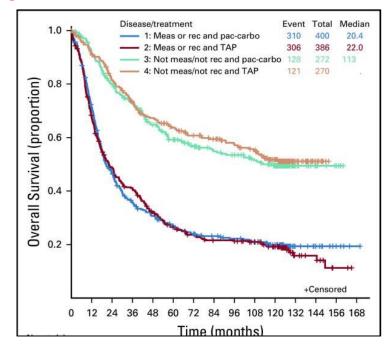
**Objective**: TC decreases survival time from study entry when compared with TAP.



#### **Advanced or Recurrent Disease**

#### Limited Efficacy of Chemotherapy in 1st Line: GOG 209 trial





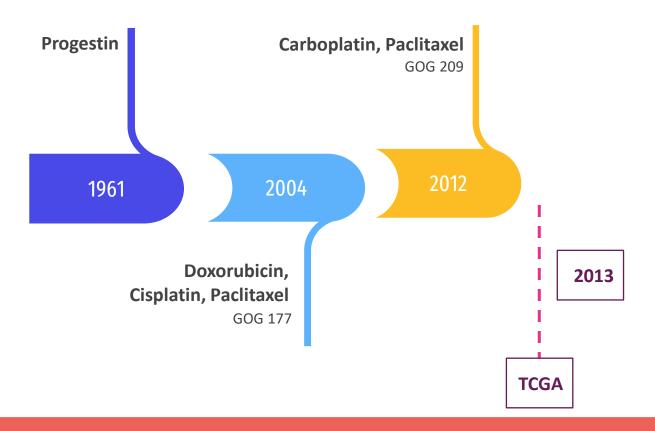
#### Median follow-up of 124 months:

- More than 65% of the patients have died
- 28% remain alive without evidence of cancer.



# **Evolution of the 1st line treatment in advanced/recurrent Endometrial Cancer**

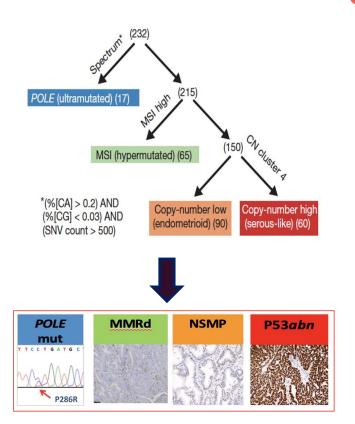


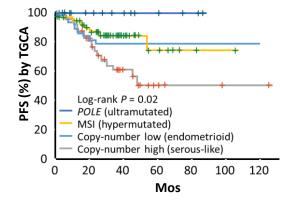


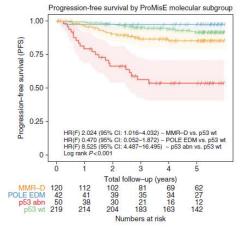


### The "Modern" Molecular Classification: TCGA Classification







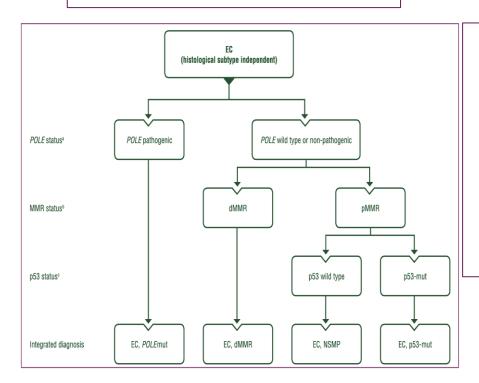




## The molecular classification is being included in International Guidelines



#### **ESMO Guidelines**



#### 2023 FIGO Staging

Molecular classification – When feasible, the addition of molecular subtype to staging criteria allows a better prediction of prognosis in a staging/prognosis scheme. The performance of complete molecular classification (*POLEmut*, MMRd, NSMP, p53abn) is encouraged in all endometrial cancer cases for prognostic risk-group stratification and as potential influencing factors of adjuvant treatment decisions. Molecular subtype assignment can be done on a biopsy, in which case it need not be repeated on the hysterectomy specimen.

- Good prognosis-- pathogenic *POLE* mutation (*POLEmut*)
- Intermediate prognosis: mismatch repair deficiency (MMRd) /microsatellite instability and no specific molecular profile (NSMP)
- Poor prognosis-- p53 abnormal (p53abn)

## Bevacizumab has not demonstrated benefit in PFS en advanced/recurrent Endometrial Cancer: MITO END-2 trial

Open-label, multicenter, randomized phase II trial

1:1

III-IV stage or Recurrent EC. Prior Adjuvant Therapy if completed ≥ 6 mo before trial. Carboplatin AUC5 + Paclitaxel 175 mg/mq +
Bevacizumab 15mg/kg i.v. d 1 q 21 and maintenance
with Bevacizumab 15 mg/kg d1 q 21

Carboplatin AUC5 + Paclitaxel 175 mg/mq i.v. d 1 q 21days

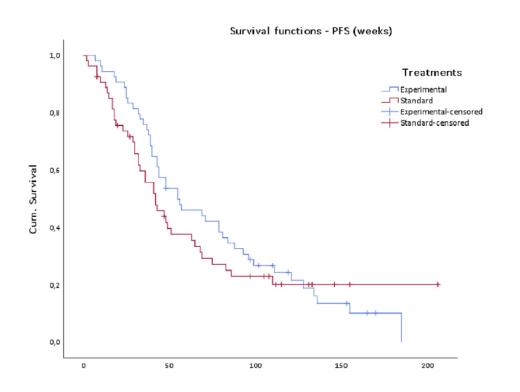
#### Stratification

- cancer type (endometrioid vs. non endometrioid EC)
- advanced versus recurrent disease
- Number of previous chemotherapy lines (0 vs 1).

Primary endpoints: PFS

Secondary endpoints: OS, ORR, Safety

## Bevacizumab has not demonstrated benefit in PFS in advanced/recurrent Endometrial Cancer: MITO END-2 trial



	<b>CT</b> (N=54)	<b>CT-B</b> (N=54)
Events, n	40	46
Median PFS, months (95% CI)	10,5 (7.2-13,5)	13.7 (7.5-20,0)
HR (stratified) (95% CI) 2-sided log-rank p-value 2- sided Breslow test p value	0.846 (0.5–1.3) 0.437 0.08*	

\* p<0.20

## Bevacizumab has not demonstrated benefit in PFS in advanced/recurrent Endometrial Cancer: GOG-86P trial

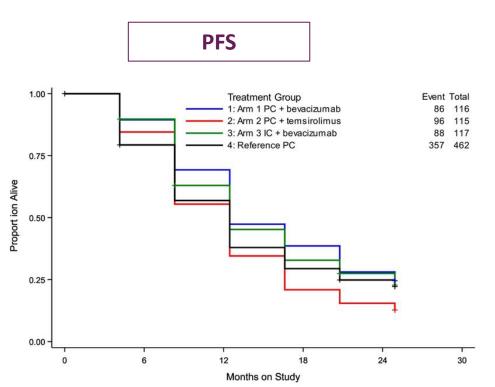
Three arm, single stage, historically controlled, randomized phase II study

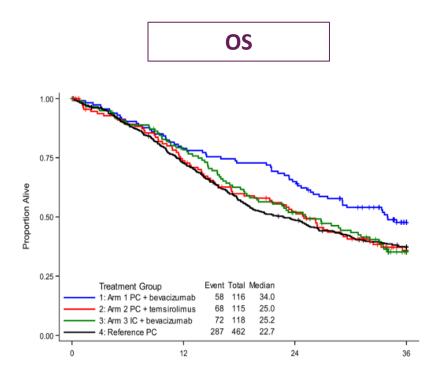
Carboplatin AUC6 + Paclitaxel 175 mg/mg + Bevacizumab 15mg/kg i.v. d 1 q 21 and maintenance with Bevacizumab 15 mg/kg d1 q 21 Stratification No prior chemotherapy Measurable: Y/N Stage IVB (may be Recurrent: Y/N Carboplatin AUC5 + Paclitaxel 175 mg/mq D1 + measurable) Prior Radiotherapy: Y/N 1:1:1 Temsirolimus 25mg iv D1 and 8 q 21 days Recurrent (measurable) Ixabepilone 30 mg/mq + carboplatin AUC 6 + bevacizumab 15 mg/kg q 21 days

Primary endpoints: PFS

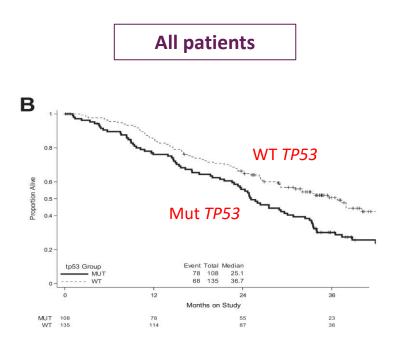
Secondary endpoints: OS, ORR, Safety



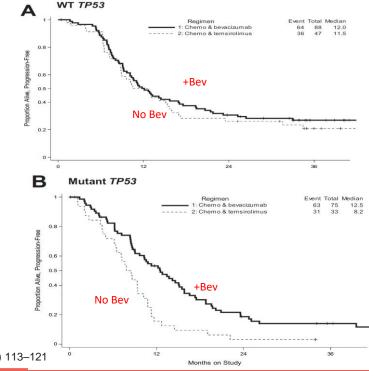




## GOG-86P trial: Analysis according the presence or absence of a TP53 mutation

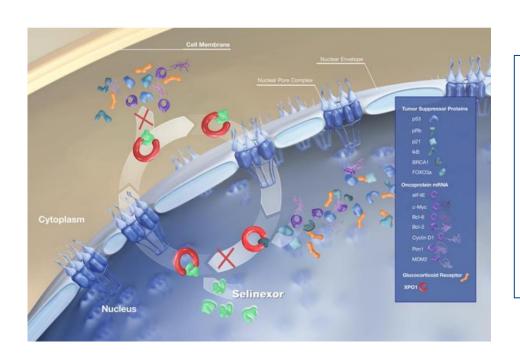


#### **TP53 status and Bevacizumab**



### **SELINEXOR:** inhibits exportin-1 (XPO1)





**Inhibition of XPO1** impacts tumor cells via three mechanisms:

- Increases nuclear levels and activation of tumor suppressor proteins (p53, PTEN and FOXO1).
- Traps oncoprotein mRNA in the nucleus leading to reduced oncoprotein levels.
- Retains activated glucocorticoid receptor in the nucleus.

# Selinexor has shown a benefit in PFS as maintenance treatment in advanced/recurrent EC

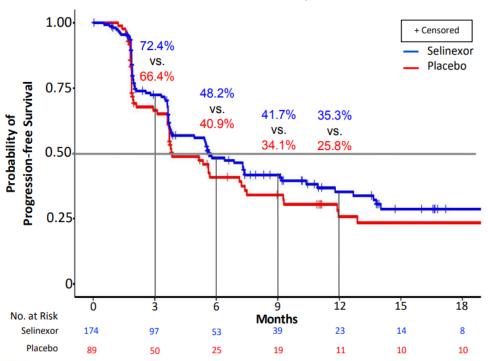
Stage IV or first relapse of endometrial cancer endometrioid, serous, undifferentiated, or carcinosarcoma (NCT03555422) Primary endpoint: PFS\*\* (Investigator assessed) Arm A Selinexor 80mg QW Secondary endpoints: If BMI<20: 60 mg QW Until PD Stage IV or first relapse of PFS per BICR **RECIST PROs** endometrial cancer N=174 PR/CR on **TFST**  Taxane-carboplatin\* 2:1 **TSST** first-line Prior surgery, radiotherapy, PFS2 chemo Arm B or hormonal therapy allowed DSS Placebo DCR Stratification Until PD \*Chemo for at least 12 weeks ✓ Primary stage IV Pre-defined exploratory vs recurrent endpoints: N=89 Histological subtype ✓ PR vs CR Molecular subclassification (including p53, MMR, and POLE)

<sup>\*\*140</sup> PFS events needed to provide 80% power to detect a hazard ratio of 0.6 (median PFS 4.5 months for placebo and 7.5 months for selinexor) with a one-sided alpha of 0.025 and 2:1 randomization ratio favoring selinexor.

# Selinexor has shown a benefit in PFS as maintenance ◆ treatment in advanced/recurrent EC

#### Primary Endpoint: PFS in ITT population

(based on audited stratification factors)\*



Median PFS (Investigator assessed)

Selinexor (n=174): 5.7 mo (95% CI 3.81-9.20)

Placebo (n=89): 3.8 mo (95% CI 3.68-7.39)

HR\* = 0.705 (95% CI 0.499-0.996)

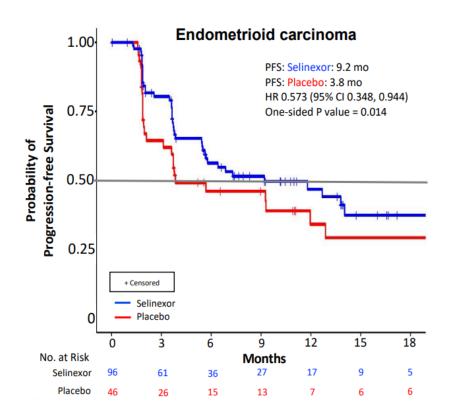
One-sided P value = 0.024

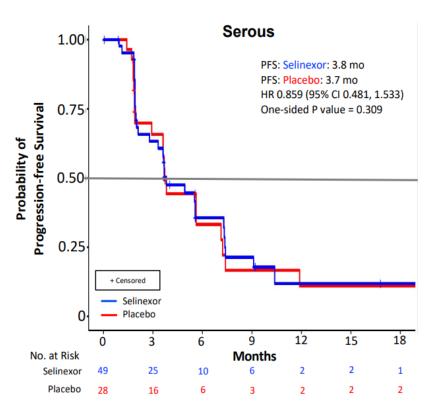
\* In 7 patients (2.7% of 263), the stratification factor of CR/PR was incorrect and was corrected by the Investigators prior to database lock and unblinding.

The statistical analysis was validated by the independent ENGOT statistician and approved by the IDMC.

HR for ITT without correction of the stratification factors was 0.76 (95% CI: 0.543, 1.076).

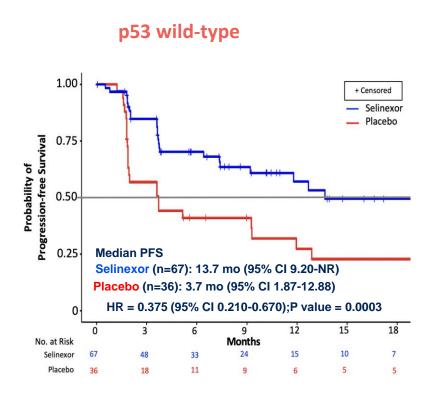
# Prespecified Exploratory Analyses: PFS according to Histological Subtype



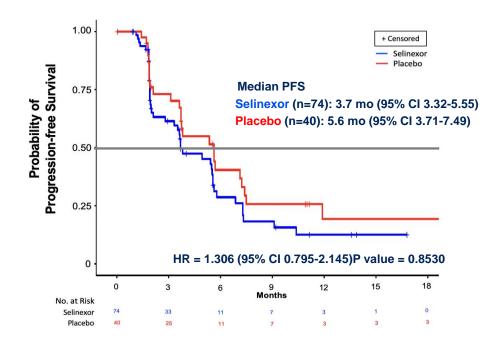


### Prespecified Exploratory Analyses: PFS according to p53 status

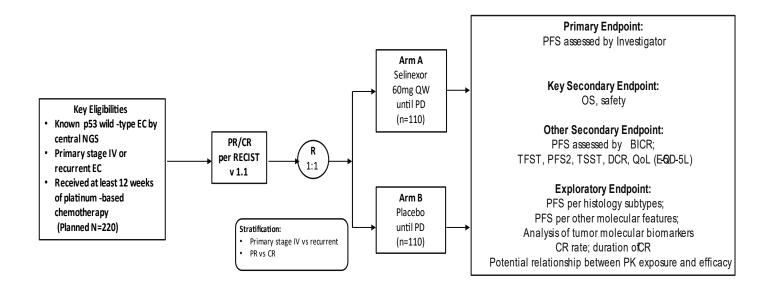




#### p53Mutant/Aberrant EC



# Initiated Phase 3 study of selinexor as a maintenance ★ therapy following systemic therapy in TP53wt advanced/recurrent EC: ENGOT-en20/BGOG/XPORT-EC-042

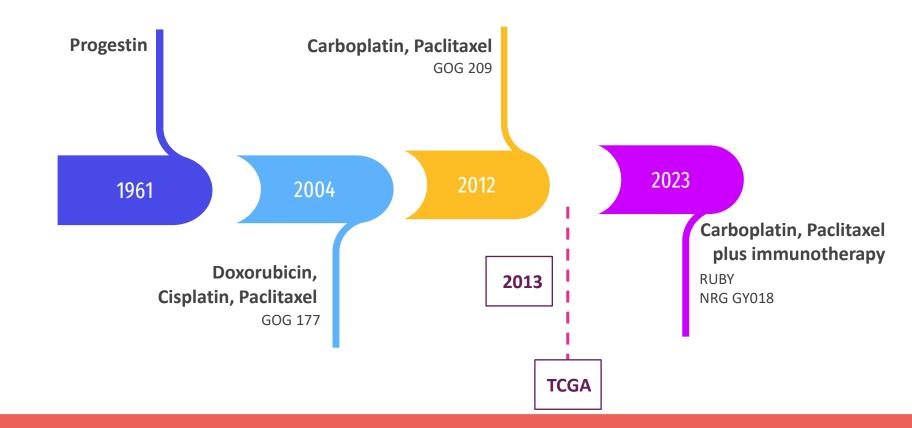


ClinicalTrials.gov Identifier: NCT03555422



# **Evolution of the 1st line treatment in advanced/recurrent Endometrial Cancer**



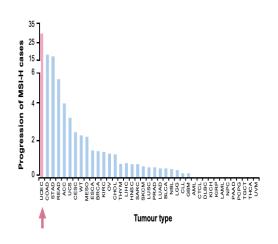




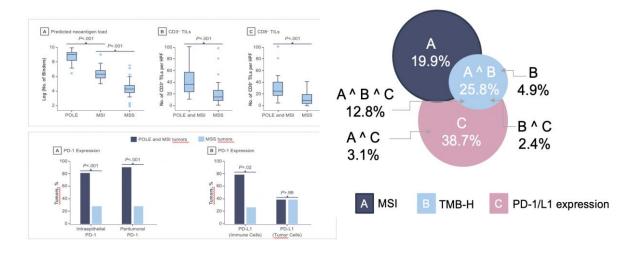
#### Rationale for checkpoint Inhibitors(ICI) in EC



### EC is the solid tumour with the greatest percentage of MSI-H cases: 31%



#### Relationship between MSI, TMB and PD-1/L1 expression in EC



For patients with EC, the large overlap between MSI-H and TMB-H may indicate dMMR/MSI-H as a useful biomarker to identify those patients who will benefit most from ICI treatment



### Immunotherapy has shown promise results after failure to platinum in dMMR/MSI-H EC



Treatment	Keynote-158 <sup>1</sup> Pembrolizumab	NCT02912572 <sup>2</sup> Avelumab	GARNET <sup>3</sup> Dostarlimab	PHAEDRA <sup>4</sup> Durvalumab
Phase	1/2	2	1/2	2
Population	Previously treated dMMR-recurrent or persistent EC	dMMR recurrent EC	Previously treated recurrent/advanced dMMR EC	Advanced dMMR EC, 0-3 prior therapies
Patients, n	79	15	143	35
ORR, %	48%	27%	45%	47%
mPFS	13.1 mo (95% CI, 4.3 to 34.4)	4.4 mo	6.0 mo (4.1–18.0 mo)	8.3 mo
mOS	NR (95% CI, 27.2 -NR ).	-	NR (95% CI 27.1–NR)	NR



### Immunotherapy has shown modest results after failure to platinum in pMMR/MSS EC



Treatment	KEYNOTE-028 <sup>1</sup> Pembrolizumab	NCT01375842 <sup>2</sup> Atezolizumab	GARNET <sup>3</sup> Dostarlimab	NCT02912572 <sup>4</sup> Avelumab	PHAEDRA <sup>5</sup> Durvalumab
Phase	<b>1</b> b	<b>1</b> a	1/2	2	2
Cohort	Previously treated locally advanced or metastatic PD-L1+ EC	Incurable or metastatic EC	Previously treated recurrent/advanced pMMR EC	pMMR recurrent EC	Recurrent pMMR EC
Patients, n	23 in efficacy analysis	15 (5 PD-L1high)	156	16	35
ORR, %	13.0*	13**	15.4	6	3
mPFS	1.8 mo	1.4 mo	2.7 mo (2.6–2.8 mo)	1.9 mo	_
mOS	NR	9.6 mo	16.9 mo (13.0–21.8 mo)	6.6 mo	_



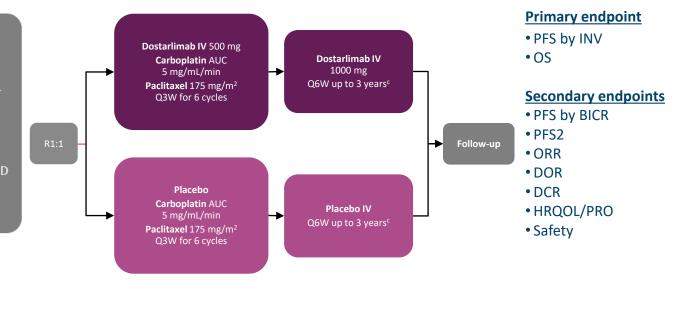
# Dostarlimab in Combination with Chemotherapy for the Treatment of Primary Advanced/Recurrent EC: a Placebo-Controlled Randomized Phase 3 Trial (ENGOT-EN6-NSGO/GOG-3031/RUBY)

#### Eligible patients

- 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
  - Carcinosarcoma, clear cell, serous, or mixed histology permitted<sup>a</sup>
- Naïve to systemic therapy or systemic anticancer therapy and had a recurrence or PD ≥6 months after completing treatment
- ECOG PS 0-1
- Adequate organ function

#### Stratification

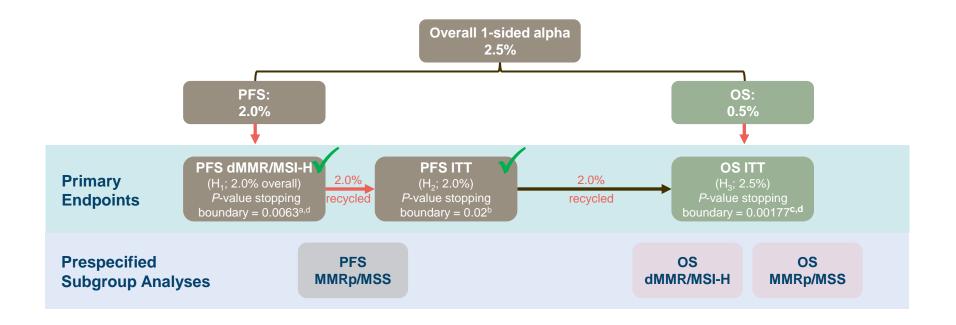
- MMR/MSI status<sup>b</sup>
- Prior external pelvic radiotherapy
- Disease status





### **RUBY trial: Statistical testing**











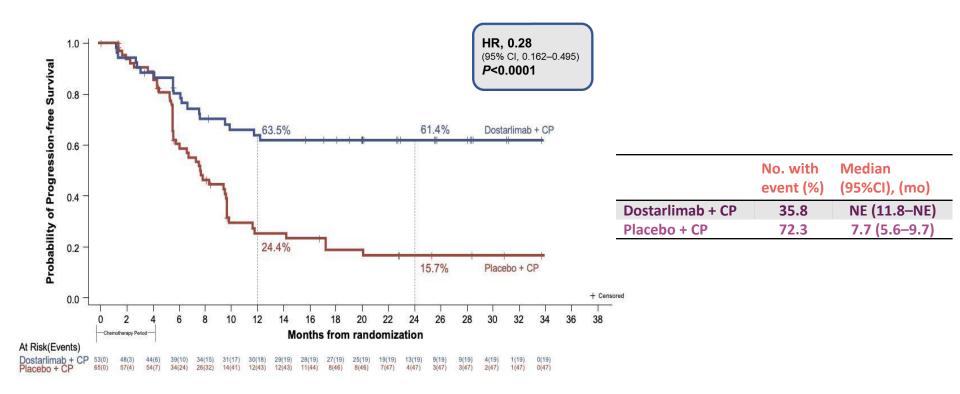
	dMMR/MSI-H		Overall		
Variable, n (%)	Dostarlimab + CP (N=53)	Placebo + CP (N=65)	Dostarlimab + CP (N=245)	Placebo + CP (N=249)	
MMR/MSI status					
dMMR/MSI-H	53 (100)	65 (100)	53 (21.6)	65 (26.1)	
MMRp/MSS	-	-	192 (78.4)	184 (73.9)	
Prior external pelvic radiation					
Yes	8 (15.1)	13 (20.0)	41 (16.7)	45 (18.1)	
No	45 (84.9)	52 (80.0)	204 (83.3)	204 (81.9)	
ECOG <sup>b</sup>					
0	28 (53.8)	39 (60.0)	145 (60.2)	160 (65.0)	
1	24 (46.2)	26 (40.0)	96 (39.8)	86 (35.0)	
Disease status					
Stage III	10 (18.9)	14 (21.5)	45 (18.4)	47 (18.9)	
Stage IV	16 (30.2)	19 (29.2)	83 (33.9)	83 (33.3)	
Recurrent	27 (50.9)	32 (49.2)	117 (47.8)	119 (47.8)	
Measurable disease at baseline					
Yes	49 (92.5)	58 (89.2)	212 (86.5)	219 (88.0)	
No	4 (7.5)	7 (10.8)	33 (13.5)	30 (12.0)	

	dMMR/MSI-H		Overall	
Variable, n (%)	Dostarlimab + CP (N=53)	Placebo + CP (N=65)	Dostarlimab + CP (N=245)	Placebo + CP (N=249)
Prior Anticancer Trea	tment			
Yes	7 (13.2)	10 (15.4)	48 (19.6)	52 (20.9)
Carboplatin/ paclitaxel	4 (7.5)	6 (9.2)	36 (14.7)	39 (15.7)
Histology type				
Carcinosarcoma	4 (7.5)	1 (1.5)	25 (10.2)	19 (7.6)
Endometrioid	44 (83.0)	56 (86.2)	134 (54.7)	136 (54.6)
Mixed carcinoma <sup>b</sup>	2 (3.8)	4 (6.2)	10 (4.1)	9 (3.6)
Serous adenocarcinoma	1 (1.9)	1 (1.5)	50 (20.4)	52 (20.9)
Clear cell adenocarcinoma	0	0	8 (3.3)	9 (3.6)
Mucinous adenocarcinoma	0	0	0	1 (0.4)
Undifferentiated carcinoma	0	0	1 (0.4)	2 (0.8)
Other	2 (3.8)	3 (4.6)	17 (6.9)	21 (8.4)



# The addition of Dostarlimab has a meaningful Benefit in PFS in MMR-d/MSI-H EC

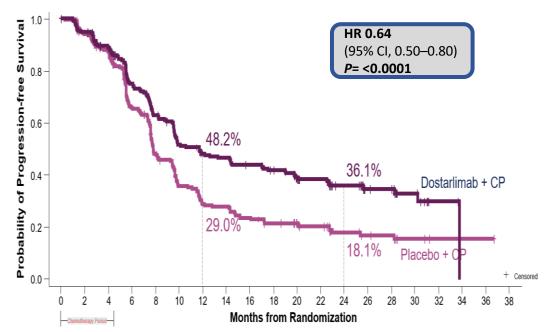






# The addition of Dostarlimab has, also, a significant Benefit in PFS in overall population



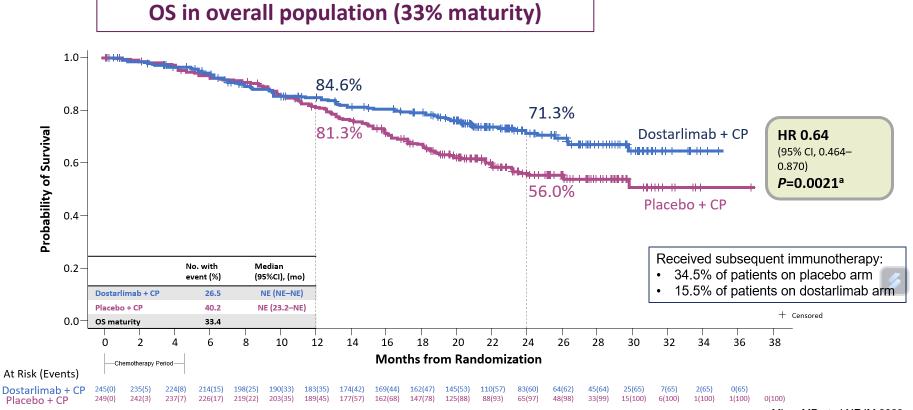


	No. with event (%)	Median (95%CI),(mo)
Dostarlimab + CP	55.1	11.8 (9.6–17.1)
Placebo + CP	71.1	7.9 (7.6–9.5)



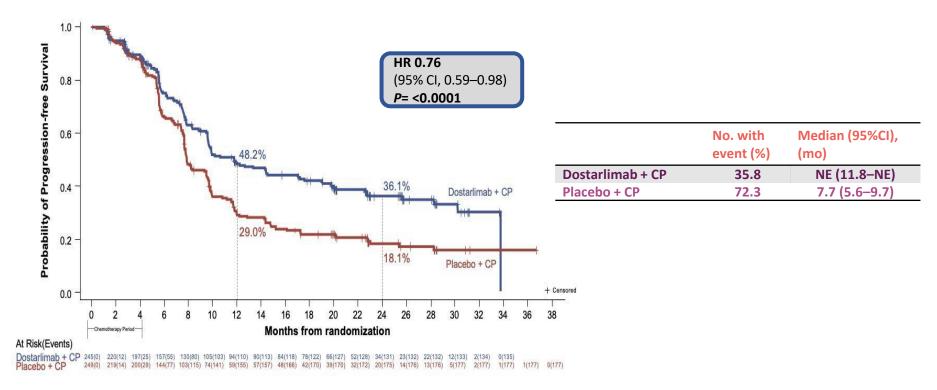
### **VALLD'HEBRON** The addition of Dostarlimab shows a trends towards ◆ improved OS







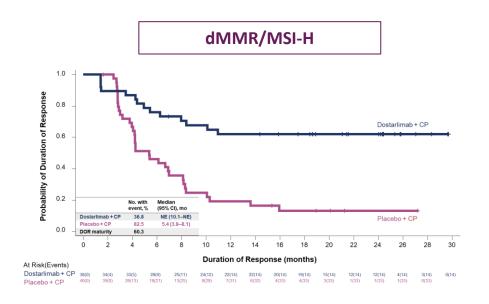


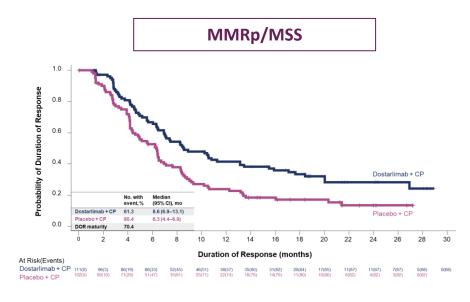




#### **Objective Response Rate and Duration of response**







ORR, %a,b
(n/N; 95% CI
CR
PR

dMMR/MSI-H		
Dostarlimab + CP	Placebo + CP	
(N=53)	(N=65)	
<b>77.6</b> (38/49; 63.4–88.2)	<b>69.0</b> (40/58; 55.5–80.5)	
15 (30.6)	12 (20.7)	
23 (46.9)	28 (48.3)	

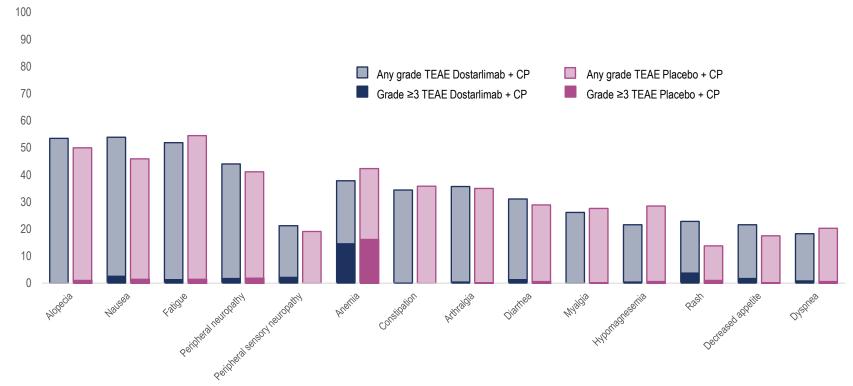
ORR, %a,b
(n/N; 95% CI)
CR
PR

MMRp/MSS		
Dostarlimab + CP Placebo + CP (N=192) (N=184)		
68.1	63.4	
(111/163; 60.4-75.2)	(102/161; 55.4-70.8)	
38 (23.3)	31 (19.3)	
73 (44.8)	71 (44.1)	



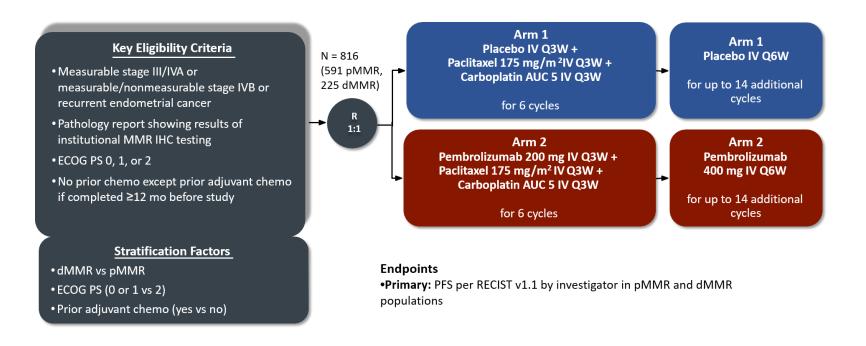
## The safety profile of dostarlimab—carboplatin—paclitaxel was consistent with that of the individual components of the regimen







# Pembrolizumab Versus Placebo in Addition to Carboplatin and Paclitaxel for Measurable Stage 3 or 4a, Stage 4b or Recurrent Endometrial Cancer: The Phase 3, NRG GY018 Study





#### NRG-GY018 trial: Statistical Consideration



#### General

- Analysis populations
  - Efficacy: Intent to treat<sup>a</sup>
  - Safety: All treated patients
- pMMR and dMMR populations evaluated separately and independently
- Power calculations for PFS (primary endpoint)
  - · pMMR population
    - If true HR is 0.70, study has at least 90% power when 394 events occurred
  - dMMR population
    - If true HR is 0.60, study has at least 85% power when 168 events occurred
- Null hypothesis of equal hazard rates tested at α = 0.0125 using a stratified log-rank test

#### **Protocol-Specified Interim PFS Analysis**

- Objective: assess whether addition of pembrolizumab to standard-of-care prolongs PFS
- Timing: When both populations were closed for accrual and had reached at least half the information time<sup>b</sup>
  - ~196 PFS events for pMMR population
  - ~84 PFS events for dMMR population
- If null hypothesis for one population rejected, alpha forwarded to other population<sup>c</sup>
- Interim OS futility analysis planned at time of final or significant interim PFS analysis
- Data cutoff date: December 16, 2022



### NRG-GY018 trial: Basaline Characteristics in dMMR population



Characteristic	Pembro + CT (N = 112)	Placebo + CT (N = 113)
Age, median (range), y	67 (38-81)	66 (37-85)
Race, no. (%)		
White	92 (82.1)	86 (76.1)
Black/African-American	11 (9.8)	9 (8.0)
Asian	3 (2.7)	4 (3.5)
Other <sup>a</sup>	0	2 (1.8)
Unknown/Not reported	6 (5.4)	12 (10.6)
Ethnicity, no. (%)		
Non-Hispanic/non-Latino	106 (94.6)	99 (87.6)
Hispanic/Latino	5 (4.5)	6 (5.3)
Unknown/Not reported	1 (0.9)	8 (7.1)
ECOG PS, no. (%)		
0	72 (64.3)	73 (64.6)
1	39 (34.8)	35 (31.0)
2	1 (0.9)	5 (4.4)

Characteristic	Pembro + CT (N = 112)	Placebo + CT (N = 113)
Histology – no. (%)		
Adenocarcinoma, NOS	12 (10.7)	14 (12.4)
Clear cell	1 (0.9)	0 (0)
Dedifferentiated/ undifferentiated	4 (3.6)	4 (3.5)
Endometrioid, G1	21 (18.8)	35 (31.0)
Endometrioid, G2	52 (46.4)	41 (36.3)
Endometrioid, G3	15 (13.4)	16 (14.2)
Mixed epithelial	3 (2.7)	2 (1.8)
Serous	4 (3.6)	1 (0.9)
No prior chemotherapy, no. (%)	107 (95.5)	105 (92.9)
No prior radiotherapy, no. (%)	71 (63.4)	58 (51.3)
Received prior surgery, no. (%)	98 (87.5)	105 (92.9)



### NRG-GY018 trial: Basaline Characteristics in pMMR population



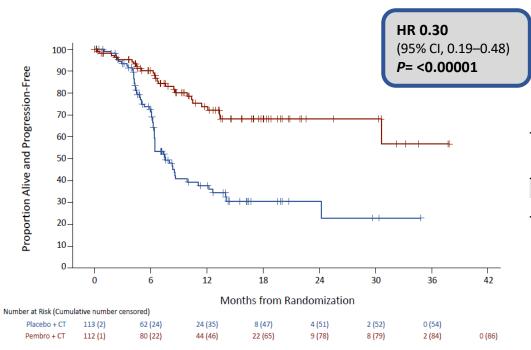
Characteristic	Pembro + CT (N = 293)	Placebo + CT (N = 295)
Age, median (range), y	66 (31–93)	65 (29–90)
Race, no. (%)		
White	212 (72.4)	212 (71.9)
Black/African-American	45 (15.4)	51 (17.3)
Asian	17 (5.8)	14 (4.7)
Other <sup>a</sup>	4 (1.4)	6 (2.0)
Unknown/Not reported	15 (5.1)	12 (4.1)
Ethnicity, no. (%)		
Non-Hispanic/non-Latino	263 (89.8)	273 (92.5)
Hispanic/Latino	21 (7.2)	16 (5.4)
Unknown/Not reported	9 (3.1)	6 (2.0)
ECOG PS, no. (%)		
0	196 (66.9)	198 (67.1)
1	88 (30.0)	88 (29.8)
2	9 (3.1)	9 (3.1)

Characteristic	Pembro + CT (N = 293)	Placebo + CT (N = 295)
Histology, no. (%)		
Adenocarcinoma, NOS	24 (8.2)	33 (11.2)
Clear cell	17 (5.8)	20 (6.8)
Dedifferentiated/ undifferentiated	7 (2.4)	6 (2.0)
Endometrioid, G1	54 (18.4)	46 (15.6)
Endometrioid, G2	51 (17.4)	58 (19.7)
Endometrioid, G3	53 (18.1)	42 (14.2)
Mixed epithelial	6 (2.0)	11 (3.7)
Serous	78 (26.6)	72 (24.4)
Pending	3 (1.0)	7 (2.4)
No prior chemotherapy, no. (%)	221 (75.4)	218 (73.9)
No prior radiotherapy, no. (%)	179 (61.1)	176 (59.7)
Received prior surgery, no. (%)	261 (89.0)	245 (83.0)



## Pembrolizumab has improved PFS in MMR-d/MSI-H EC



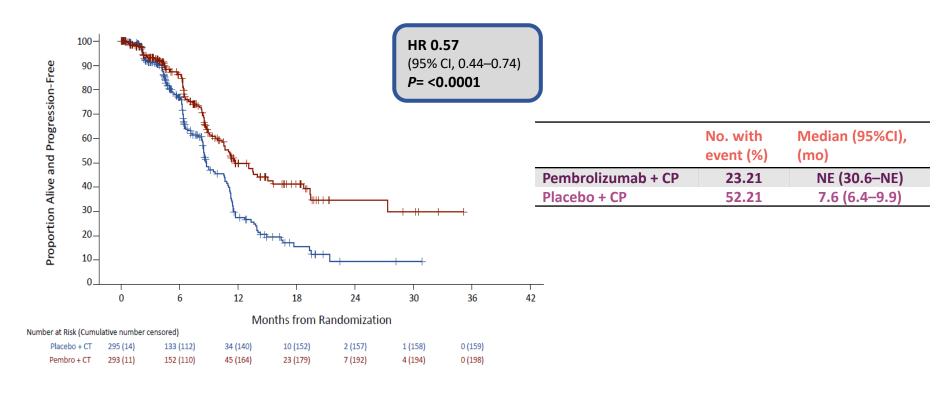


	No. with event (%)	Median (95%CI), (mo)
Pembrolizumab + CP	23.21	NE (30.6-NE)
Placebo + CP	52.21	7.6 (6.4–9.9)



## Pembrolizumab has improved PFS in MMR-p/MSS EC

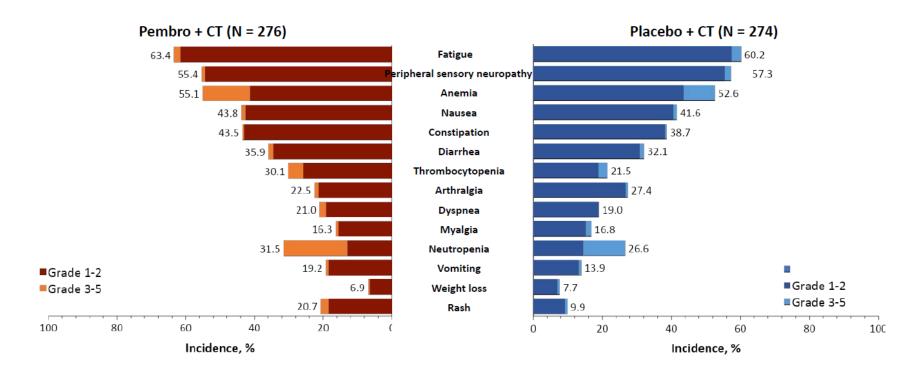






### Adverse events were as expected for pembrolizumab and combination chemotherapy: pMMR Cohort

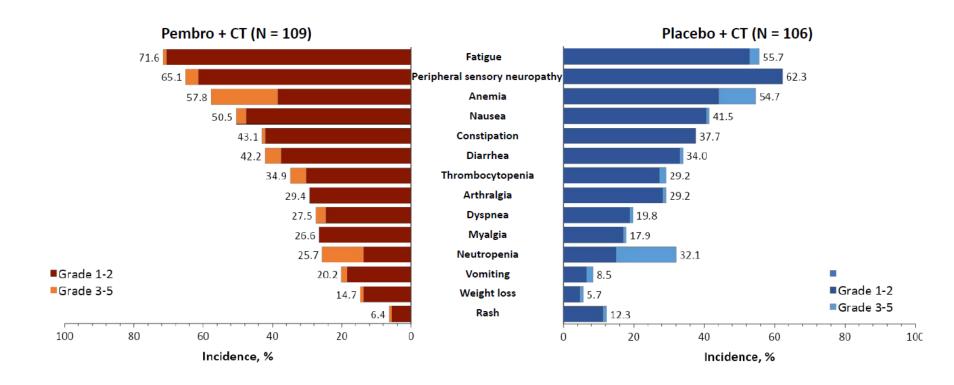






### Adverse events were as expected for pembrolizumab and combination chemotherapy: dMMR Cohort







#### **CONCLUSIONS**



At the present time, it is mandatory to know the molecular profile of the endometrial cancer as prognostic factor. Endometrial cancers have relatively high proportions of TMB-H and MSI-H/dMMR tumors, providing rationale for treatment with checkpoint inhibitors: The MSI-H/dMMR phenotype has emerged as a predictive biomarker for checkpoint inhibitor therapy. To the date, Paclitaxel plus Carboplatin is considered the standard of care. The addition of Bevacizumab to 1<sup>st</sup> line treatment has not demonstrated any benefit in PFS in advanced/recurrent Endometrial Cancer. Selinexor achieved a 62% decrease of risk for progression as maintenance treatment in p53 wt Endometrial Cancer. The phase 3 trial is ongoing. In 2023, the addition of checkpoint inhibitors to carboplatin/paclitaxel have changed the standard of care due to and statistically and clinically improved in the patients' outcomes: Dostarlimab has improved PFS in dMMR/MSI-H (HR 0.28; CI 0.162–0.495) and in overall population (HR 0.64 (95%, 0.50–0.80). Pembrolizumab has improved PFS in dMMR/MSI-H (HR 0.30 (95%, 0.19–0.48) and in MMRp/MSS (HR 0.57 (95%, 0.44-0.74)









#### **GRACIAS A TODOS**