

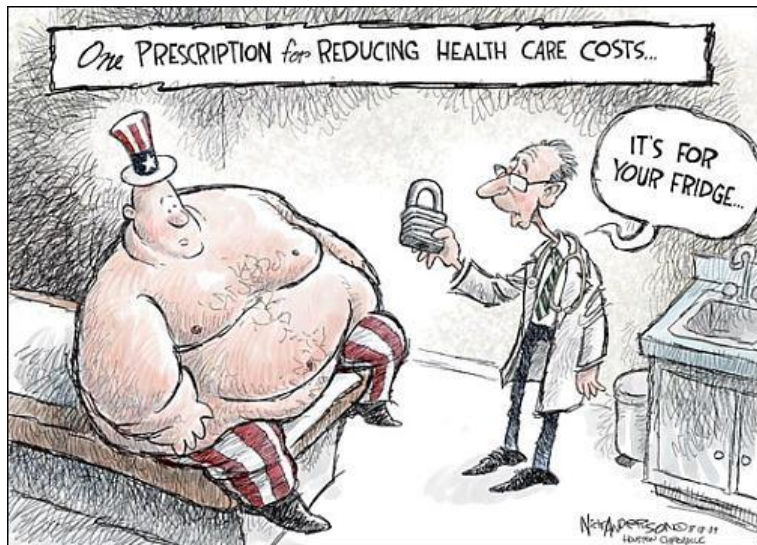
# Evidencia en la actualidad tras progresión a platino

Ignacio Romero



# ¿Cómo disminuir la incidencia?

## OBESIDAD



# Enfermedad avanzada: histología, edad, estadio

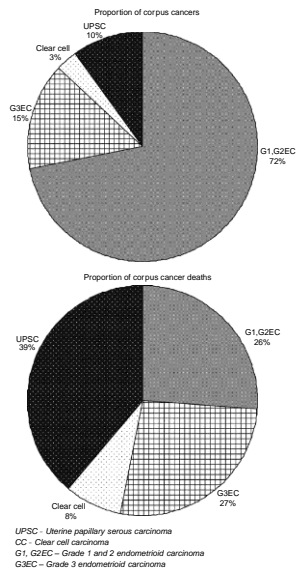
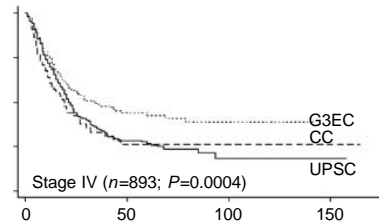


Figure 1 Proportion of corpus cancers compared to proportion of corpus cancer deaths by histologic cell type.

## Supervivencia global en estadio IV según tipo histológico



CC células claras; UPSC seroso; EG3 endometrioide G3

## Factores que aumentan el riesgo de recidiva

Table 2 Multivariate analysis

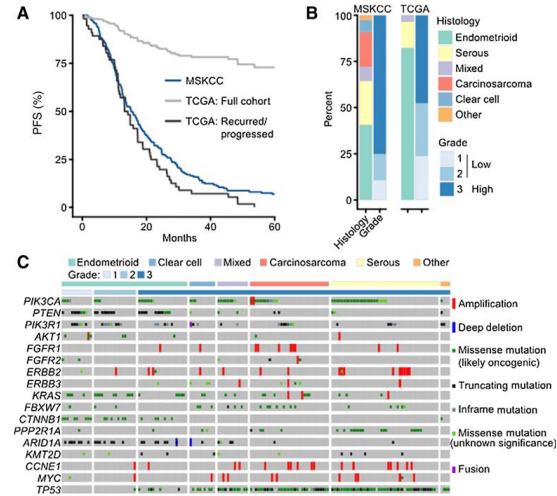
Factors	Hazard ratio	95% confidence interval	P-value
Stage of disease	2.05	1.93–2.17	Pb 0.001
Histology <sup>a</sup>	1.22	1.11–1.35	Pb 0.001
Age at diagnosis <sup>b</sup>	1.03	1.03–1.04	Pb 0.001
Race <sup>c</sup>	1.00	0.92–1.11	P% 0.888
Adjuvant radiotherapy	0.99	0.93–1.03	P% 0.450

<sup>a</sup>Uterine papillary serous carcinoma vs clear cell carcinoma vs grade 3 endometrioid carcinoma. <sup>b</sup>As a continuous variable. <sup>c</sup>Whites vs Blacks vs Asians.

# Molecular classification

**A**

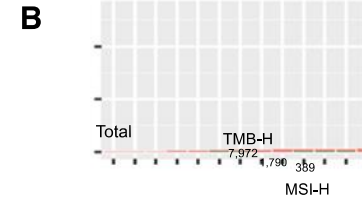
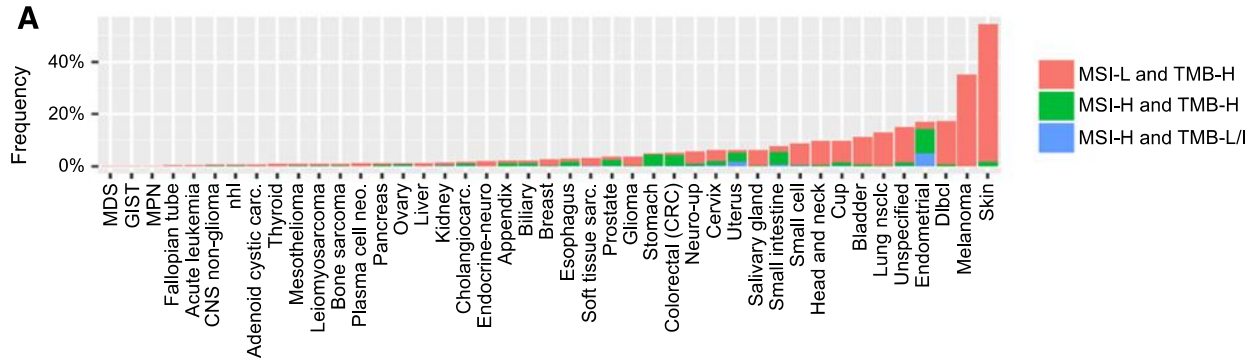
	POLE ultramutated	MSI hypermutated	Copy-number low, MSS	Copy-number high, serous-like
Mutation load				
Somatic copy number alterations load				
Histology	Endometrioid	Endometrioid	Endometrioid	Serous and endometrioid
Grade				
PI3K alterations				
KRAS mutation				
TP53 mutation	35%	5%	1%	>90%
Prognosis	Excellent	Intermediate	Intermediate	Poor



Soumerai et al. Clin Cancer Res; 24(23) December 1, 2016

# IMS EN cáncer de endometrio

MSI-H total	MSI-H and TMB H	MSS and TMB H	TMB High	MSS total
1.5%	82.1%	5.4%	6.6%	98.5%



$n = 148,803$

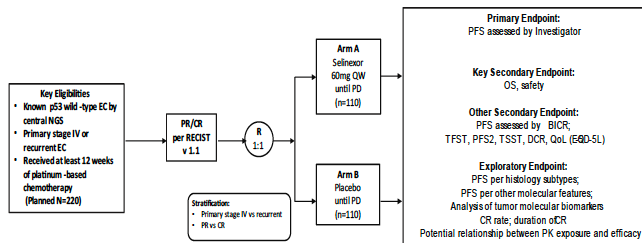
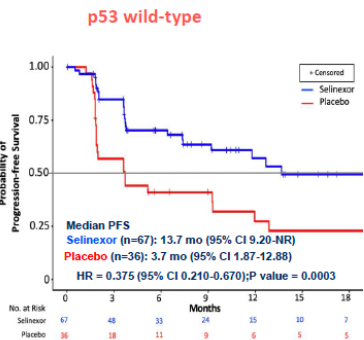
# Poblaciones y criterios

- MMRd (MSI-H) vs MMRPro (MSS)
- Tiempo desde adyuvancia platino (<6 o <12 meses)
- Líneas previas en enfermedad avanzada no resecable
- Mantenimiento

# Mantenimiento tras platino

## TP53 WT: X-PORT

“Not exactly TP53 mutant”: PARPi



	experimental	SOC	Stratification	BK	Adjuvant
Ruby P2	IO+PARP	Observation	MMR	none	
DUO-E	IO+PARP	3 arms: Obs or IO		none	>12 mo

- Unselected
- Potential BK?
  - Serous histology
  - P53 (IHC vs Mutation)
  - GIS
  - HRD mutations
  - BRCA1/2

- DUO-E: all comers
  - IO vs Obs
  - IO vs IO+PARPi

# Pembrolizumab monoterapia en CE:

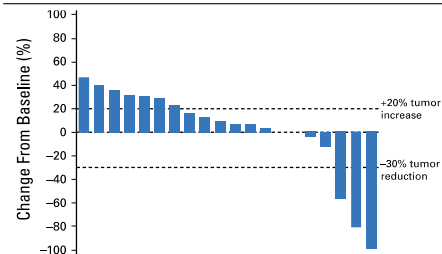
## ESTUDIO Cohorte MSI-H todos los tumores

- 9 pacientes MSI-high recurrent or progressive endometrioid endometrial
- Mediana tratamientos previos – 2
- Tasa respuesta 56% (95% CI: 21-86%, N=5/9) – CR1,PR4
- – 3 pacientes con estabilización prolongada
- Tasa control enfermedad (RC + RP + EE) es 88.9% (8/9 pacientes) • SG a los 12 meses: 89%

## ESTUDIO KEYNOTE 028 sólo CE PDL-1 +

**Table 3.** Best Objective Response Assessed per RECIST (version 1.1) by Investigator Review (n = 23)

Best Objective Response	No.	%	95% CI
Objective response rate*	3	13.0	2.8 to 33.6
PR†	3	13.0	2.8 to 33.6
Stable disease	3	13.0	2.8 to 33.6
Progressive disease‡	13	56.5	34.5 to 76.8
No assessment§	3	13.0	2.8 to 33.6
Nonevaluable	1	4.3	0.1 to 21.9



Fader, AN et.al. SGO 2016  
Ott et al. J Clin Oncol. 2017 Aug 1;35(22):2535-2541.

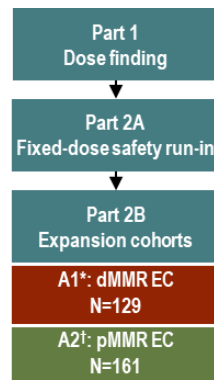


# Progresión durante/tras platino 1<sup>a</sup> línea

- MSI-H Pembrolizumab /Dostarlimab
- All comers/ MSS: Lenvatinib Pembrolizumab

# GARNET: Dostarlimab in Patients with Recurrent or Advanced MMRd Disease

- **Phase 1, single-arm study across multiple tumor types**
- **In part 2B, dostarlimab was dosed at the RTD determined from Part 1 and 2A**
  - 500 mg IV every 3 wk for 4 cycles, then 1000 mg IV every 6 wk until disease progression
- **MMR status determined by local IHC**
- **Primary endpoints: ORR and DoR**

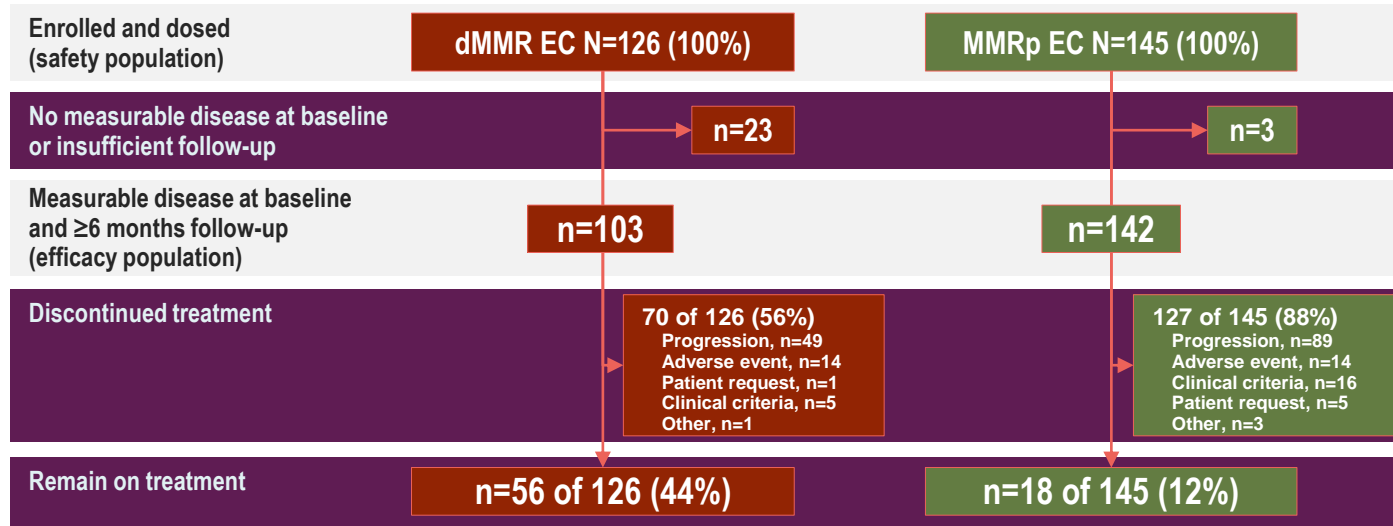


## Key inclusion/exclusion criteria for cohorts A1 and A2:

- Patients must have progressed on or after platinum doublet therapy
- Patients must have received  $\leq 2$  prior lines of treatment for recurrent or advanced disease
- Patients must have measurable disease at baseline
- Patients must be anti-PD-(L)1 naïve
- Patients could be screened based on local MMR/MSI testing results using IHC, PCR, or NGS performed in a certified local laboratory, but patient eligibility needs to be confirmed by MMR IHC results

Oaknin A, et al. *Ann Oncol.* 2020;31(Suppl\_4): Abstract LBA36; Oaknin A, et al. *JAMA Oncol.* 2020:e204515.

# GARNET: Enrollment and Outcomes



Data cut-off date March 1, 2020. dMMR, mismatch mutation repair deficient; EC, endometrial cancer; MMRp, mismatch mutation repair proficient.

## GARNETT: tasa respuestas según inestabilidad de microsatélites de anti PD-1 dostarlimab

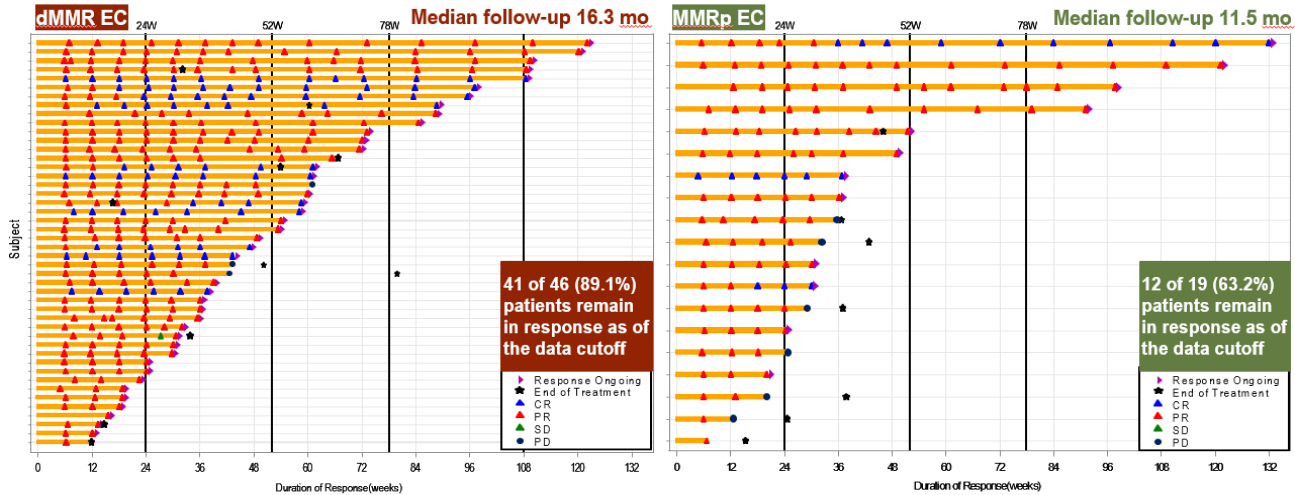
Best Overall Response		MSI-H EC (n=41)	MSS EC (n=79)	MSI status unknown <sup>a</sup> (n=5)	Total (N=125)
<b>Overall response rate</b>	<b>n (%)</b> (95% CI)	<b>20 (48.8%)</b> (32.9, 64.9)	<b>16 (20.3%)</b> (12.0, 30.8)	<b>1 (20.0%)</b> (0.5, 71.6)	<b>37 (29.6%)</b> (21.8, 38.4)
Complete response	n (%)	2 (4.9%)	4 (5.1%)	0 (0%)	6 (4.8%)
Partial response	n (%)	18 <sup>b</sup> (43.9%)	12 <sup>c</sup> (15.2%)	1 (20.0%)	31 (24.8%)
Disease control rate <sup>d</sup>	% (95% CI)	63.4% (46.9, 77.9)	46.8% (35.5, 58.4)	60.0% (14.7, 94.7)	52.8% (43.7, 61.8)
Response ongoing	%	85.0%	81.3%	100%	83.8%

<sup>a</sup>Based on central testing, MSI status could not be determined; <sup>b</sup>17 confirmed and 1 still on treatment and yet to be confirmed; <sup>c</sup>11 confirmed and 1 still on treatment and yet to be confirmed; <sup>d</sup>irCR+irPR+uirPR+irSD.  
irCR: immune-related complete response; irPR: immune-related partial response; irSD: immune-related stable disease; uirPR: unconfirmed immune-related partial response. CI: confidence interval.

Oaknin et al. SGO 2019;

# GARNET

## Primary Endpoint: DoR



Oaknin A, et al. *Ann Oncol.* 2020;31(Suppl\_4): Abstract LBA36; Oaknin A, et al. *JAMA Oncol.* 2020:e204515.

# Combinaciones IO: Lenvatinib + Pembrolizumab

Fase IB/II carcinoma endometrial

Población n<sup>o</sup> líneas previas: 1 línea (48%)

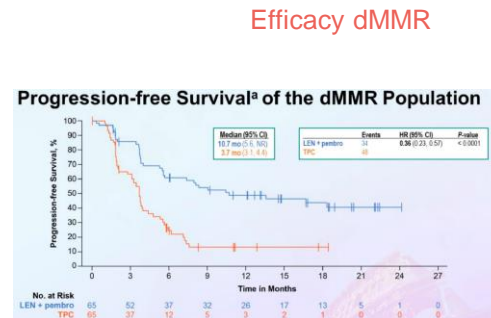
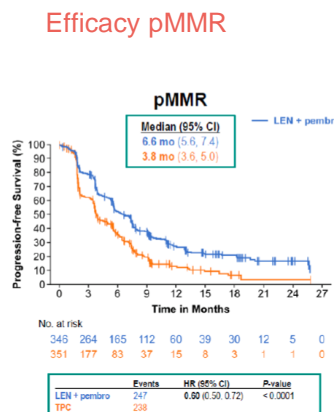
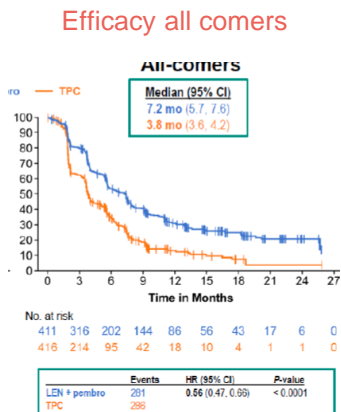
Response Category	Previously Treated EC <sup>a</sup>			All EC (N = 124)
	MSS/pMMR (n = 94)	MSI-H/dMMR (n = 11)	Total (n = 108)	
Week 24				
Best overall response				
Complete response	2 (2.1)	1 (9.1)	3 (2.8)	3 (2.4)
Partial response	32 (34.0)	6 (54.5)	38 (35.2)	46 (37.1)
Stable disease	45 (47.9)	3 (27.3)	50 (46.3)	56 (45.2)
Progressive disease	10 (10.6)	1 (9.1)	12 (11.1)	13 (10.5)
Not evaluable	5 (5.3)	0	5 (4.6)	6 (4.8)
Objective response rate (complete response + partial response)	34 (36.2)	7 (63.6)	41 (38.0)	49 (39.5)
95% CI	26.5 to 46.7	30.8 to 89.1	28.8 to 47.8	30.9 to 48.7

## Keynote-775: Segunda línea lenvatinib+pembrolizumab vs QT

	LEN + pembro (n = 411)	TPC (n = 416)
Median age (range), years	64 (30-82)	65 (35-86)
MMR status: pMMR / dMMR, %	84.2 / 15.8	84.4 / 15.6
Prior history of pelvic radiation, %	40.9	41.6
ECOG 0 / 1, % <sup>a</sup>	59.9 / 39.9	57.9 / 42.1
Race: White / Black / Asian / other, % <sup>b</sup>	63.5 / 4.1 / 20.7 / 2.9	59.1 / 3.4 / 22.1 / 4.8
Histology at diagnosis, % <sup>c</sup>		
Endometrioid carcinoma		
High-grade / low-grade / not specified <sup>d</sup>	22.9 / 14.4 / 21.9	21.6 / 13.0 / 26.4
Serous carcinoma	25.1	27.6
Clear cell carcinoma	7.3	4.1
Mixed	5.4	3.8
Prior lines of systemic treatment 1 / $\geq 2$ , %	72.3 / 27.7	66.6 / 33.4
Prior lines of platinum-based treatment 1 / 2, % <sup>e</sup>	79.3 / 20.2	75.7 / 24.3
Prior neo-adjuvant and/or adjuvant treatment, %	54.5	60.3

# Phase 3 data second line Pembrolizumab+ Lenvatinib

Efficacy according to histology (Colombo et al.)



SGO 2021

IGCS 2021

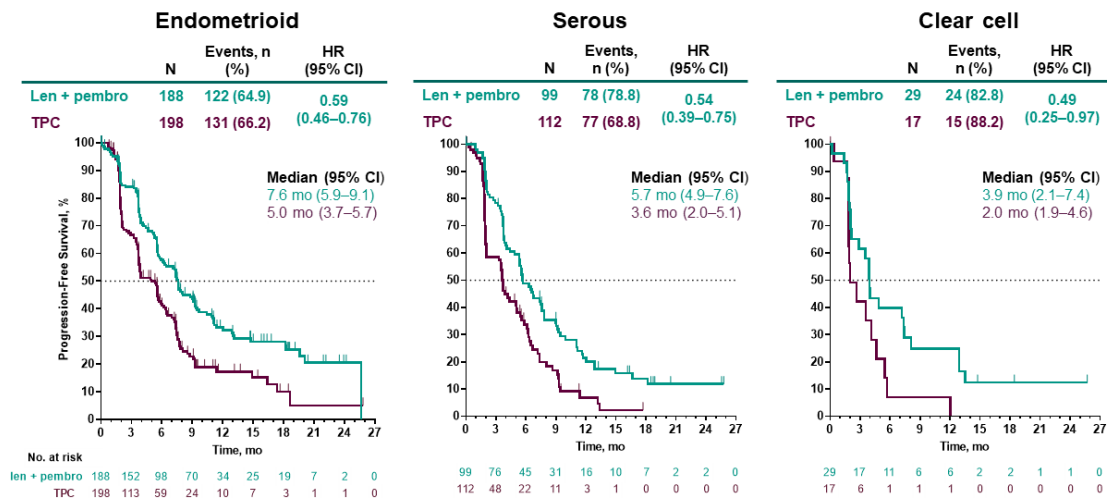


# Phase 3 data second line Pembrolizumab+ Lenvatinib

Efficacy according to histology (Colombo et al.ESMO 2021)

Posthoc analysis

## Progression-Free Survival<sup>a</sup> by Histology: pMMR



<sup>a</sup>Per RECIST v1.1 by BICR. Randomization was stratified by MMR status.  
 HRs for other histologic types: mixed cell (n = 31): HR (95% CI), 0.90 (0.35–2.29); other (n = 23): HR (95% CI), 0.38 (0.12–1.19).  
 Data cutoff: Oct 26, 2020.

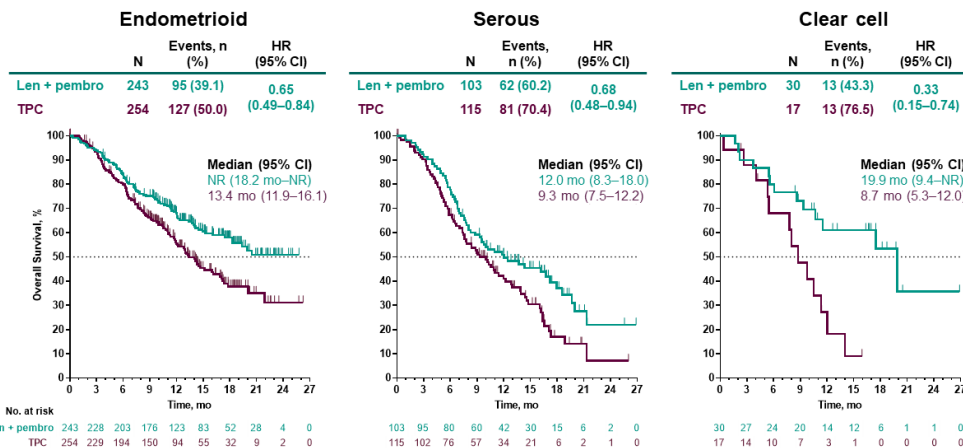
# Phase 3 data second line Pembrolizumab+ Lenvatinib

Efficacy according to histology (Colombo et al.)

## OS by Histology: All-Comers

E>CC>S

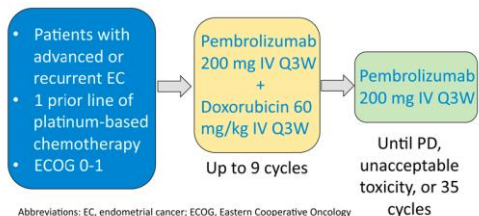
EG3 vs EG1-2?



HRs for other histologic types: mixed cell (n = 38): HR (95% CI), 0.37 (0.16-0.85); other (n = 27): HR (95% CI), 0.39 (0.15-1.04).  
Data cutoff: Oct 26, 2020.

## Second line EC

TOPIC: Adriamycin + Pembrolizumab Fariñas et al.



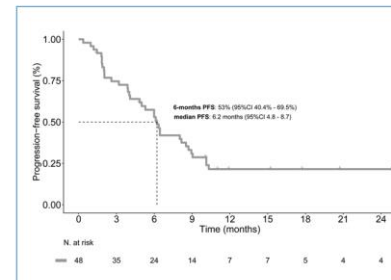
Abbreviations: EC, endometrial cancer; ECOG, Eastern Cooperative Oncology Group; IV, intravenous; PD, progressive disease; Q3W, every 3 weeks

### Primary endpoint

- Progression-free survival (PFS) rate at 6 months.

Characteristics	n (%)
Median age (range), years	65.7 (37-80)
Stage at diagnostic (FIGO)	
I-II	16 (33)
III-IV	41 (65)
Histology	
Carcinosarcoma	4 (8)
Endometrioid Adenocarcinoma	31 (65)
Mixed Carcinoma	2 (4)
Serous Carcinoma	10 (21)
Other	1 (2)
ECOG performance status	
0	33 (69)
1	15 (31)
Histological Grade	
Grade 1	6 (13)
Grade 2	11 (23)
Grade 3	21 (44)
Unknown	10 (21)
Prior radiotherapy	24 (50)
Prior chemotherapy	48 (100)
Paclitaxel with carboplatin	47 (98)
Cisplatin	10 (21)
Carboplatin	9 (19)
Paclitaxel	6 (13)
Others	3 (6)
Best response with prior chemotherapy	
Complete response	4 (8)
Partial response	18 (38)
Stable disease	7 (15)
Progressive disease	7 (15)
Unknown	12 (25)
Prior surgery	34 (71)

Figure 1. Kaplan-Meier estimate of progression-free survival by investigator assessment (N=48)



NOTE: Tick marks represent censored patients.  
Abbreviations: PFS, progression-free survival.

Table 2. Best response to study treatment

Objective response rate	15 (31)
Complete response	6 (12.5)
Partial response	9 (19)
Stable disease	22 (46)
Progressive disease	10 (21)
Median duration (95% CI) of response, months	8.2 (6.2 - NR)
Median time (range) to response, months	2.1 (1.6 - 22.9)

PFS 6 mo  
53 vs  
24%  
estimated

PFS 6 mo  
63%  
endometr  
vs 35%  
non  
endometr

# Progresión tras platino adyuvante

## MMR d: first line

	RECRUITING	Adjuvant CT	Crossover	EP	
<b>EN13 Domenica</b>	Yes worldwide	Yes >6mo	Yes	PFS	
<b>EN15 C193</b>	Yes worldwide	NO...yes	Yes in trial	PFS OS	

## All comers: first line

	RECRUITING	Adjuvant CT	Crossover	EP	
<b>LEAP001</b>	finished	Yes >6mo			
<b>DUO-E</b>	finished	Yes >12mo			
<b>RUBY Pt2</b>	finished	Yes >6mo			

# Combinaciones IO: cabozantinib + Nivolumab

## COHORTE A: nivolumab + cabozantinib

N=36

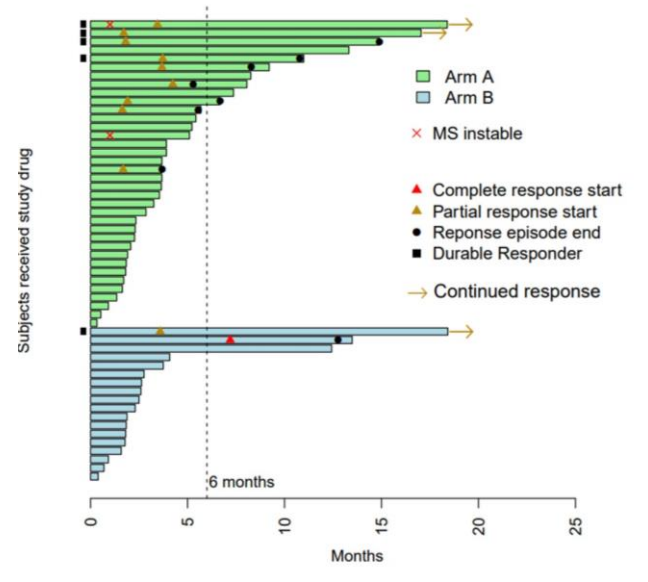
Tasa respuestas: 25%

EP tras platino

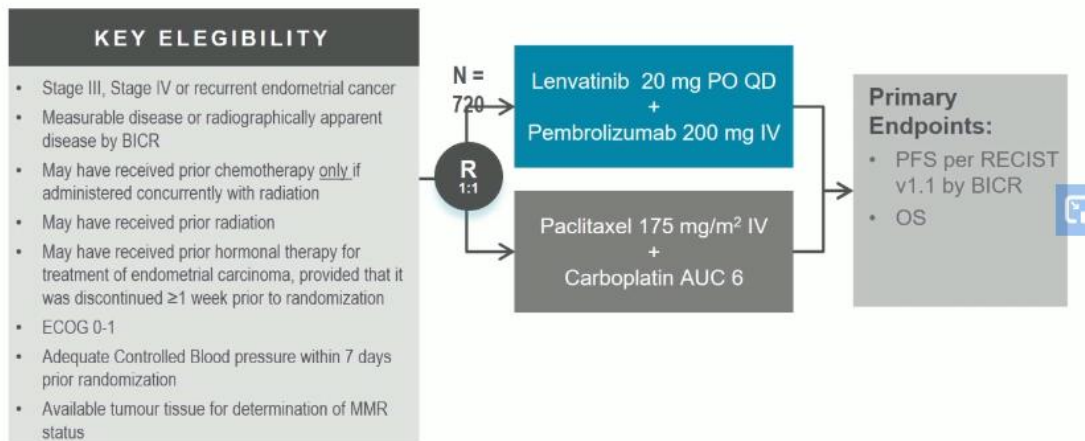
## COHORTE B: nivolumab

N=18

Tasa respuestas: 11.1%



## ENGOT-en9/LEAP-001: A Phase 3 randomized, open-label, study of pembrolizumab + lenvatinib vs. chemotherapy for first-line treatment of advanced or recurrent endometrial carcinoma



BICR, blind independent central review; IV intravenous; MMR, mismatch repair. ClinicalTrials.gov: NCT03884101 (LEAP-001)

# “Current” preSGO 2023 paradigm

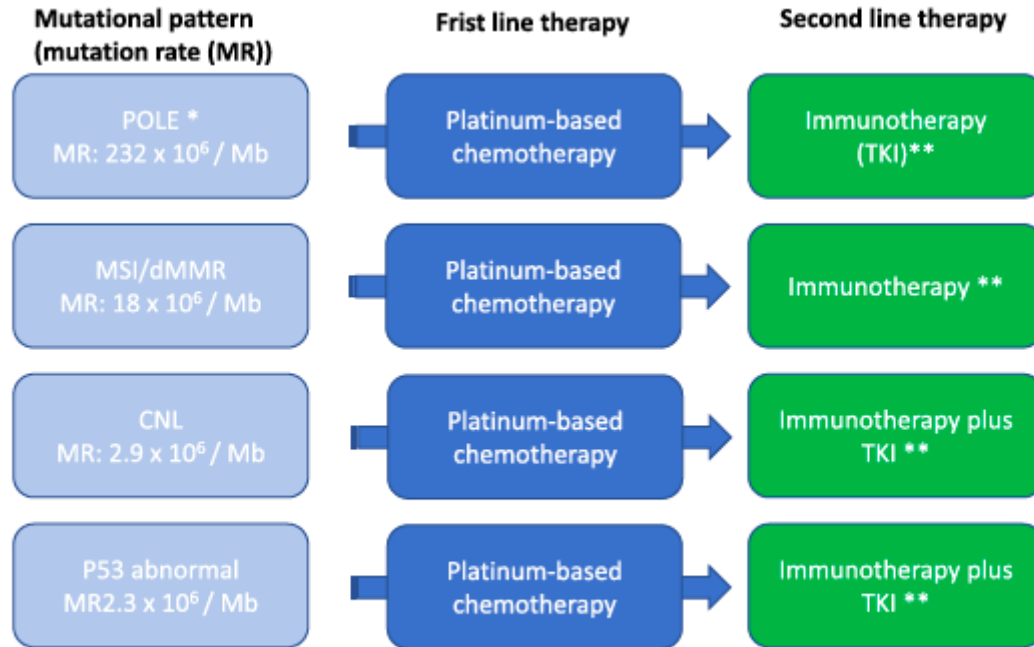


Fig. 2. Current paradigm of treatment on the basis in advanced and recurrent endometrial cancers.

# Eficacia de IO en CE MSI-H

Study	Arms	Phase	N	Biomarker selection	ORR (%)	Outcomes
KEYNOTE-158 <sup>1</sup>	Pembrolizumab	II	49	MSI-H/MMRd	57.1	mPFS 25.7 (4.9-NR) mOS NR (27.2-NR) DOR NR (2.9-27.0+)
Study	Arms	Phase	N	Biomarker selection	ORR (%)	Outcomes
GARNET <sup>2,3</sup>	Dostarlimab	I/II	103	MSI-H/MMRd	44.7	mPFS 8.1 m mOS NR DOR NR
Study	Arms	Phase	N	Biomarker selection	ORR (%)	Outcomes
Konstantinopoulos <sup>4</sup>	Avelumab	II	15	MSI	26.7	NR
Study	Arms	Phase	N	Biomarker selection	ORR (%)	Outcomes
PHAEDRA <sup>5</sup>	Durvalumab	II	35	MMRd	43	NR
Study	Arms	Phase	N	Biomarker selection	ORR (%)	Outcomes
NCI-MATCH arm Z1D <sup>6</sup>	Nivolumab	II	13	MMRd	46.1	NR

ORR: overall response rate; PFS: profesion free-survival; OS: overall survival; DOR: duration response rate; NR: not reported

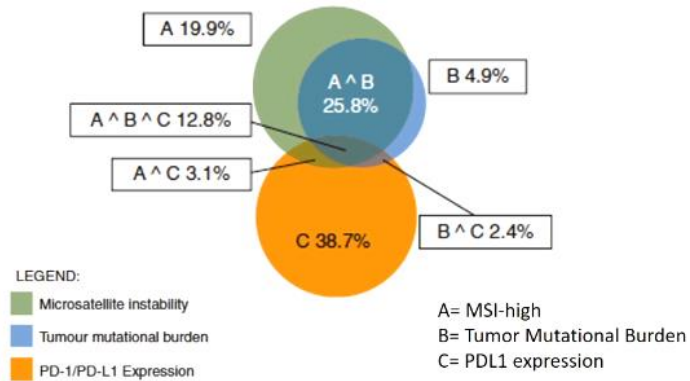
1. Marabelle et al, JCO 2019. 2.Oaknin et al,ESMO 2020. 3.Oaknin et al, JAMA oncol 2020 4.Konstantinopoulos, ASCO 2019. 5. Antill et al, ASCO 2019. 6.Azad et al,JCO 2019



# BIOMARCADORES



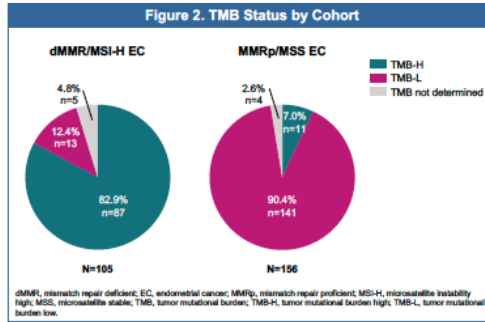
# MSI PDL1 TMB en endometrio



Luchini P et al. Ann Oncol 2019

# Second line: Molecular Biomarker beyond MSI in IO

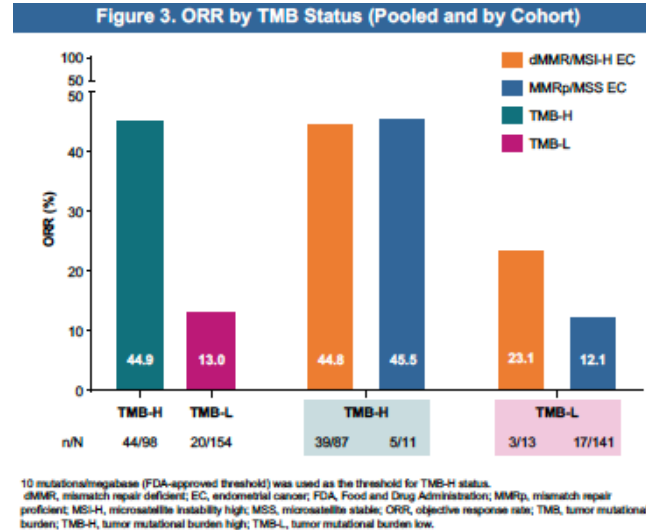
Garnett trial Dostarlimab and TMB Oaknin et al.



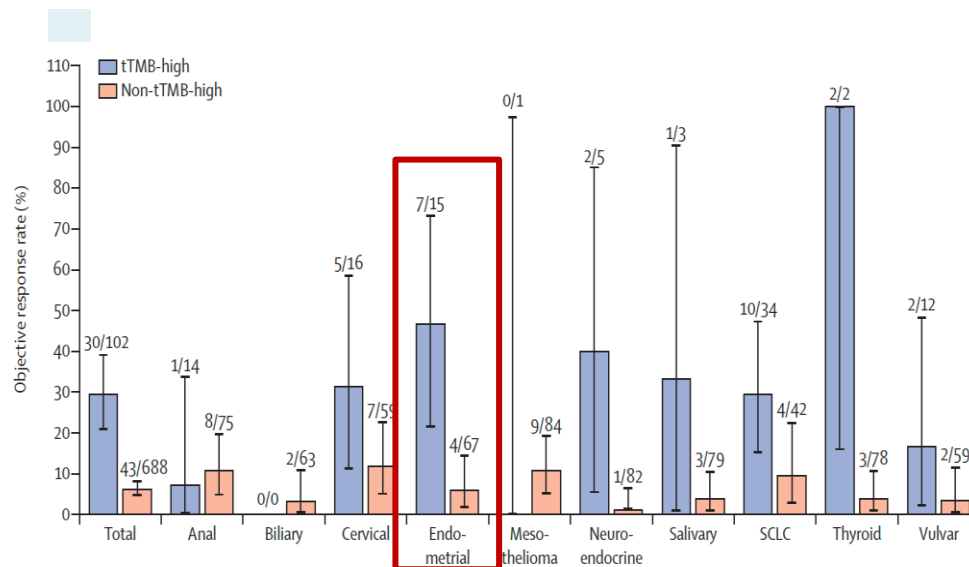
**Table 2. Mutations/Megabase by Cohort in Patients with a Known TMB Score Available**

Parameter	dMMR/MSI-H EC (n=100)	MMRp/MSS EC (n=152)
Median (range)	20.17 (2.52–428.69)	3.78 (0–83.22)
Mean (StDev)	28.39 (45.39)	4.68 (7.28)

dMMR, mismatch repair deficient; EC, endometrial cancer; MMRp, mismatch repair proficient; MSI-H, microsatellite instability high; MSS, microsatellite stable; StDev, standard deviation; TMB, tumor mutational burden.



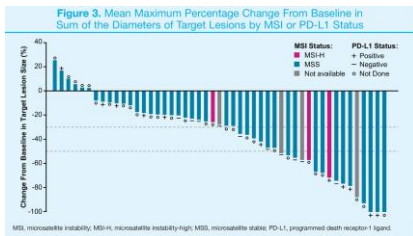
## KEYNOTE-158 Exploratory Biomarker Objective : Association of tumour mutational burden with ORR



# Second line biomarker

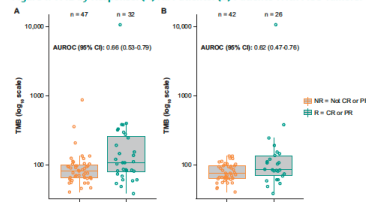
Phase 2 Lenvatinib Pembrolizumab TMB exploration (Makker et al)

Parameter	Lenvatinib + Pembrolizumab (n = 53)	
	Investigator Review	Independent Radiology Review
ORR <sub>total</sub> , n (%)	21 (39.6)	24 (45.3)
95% CI	26.5-54.0	31.6-59.6
Overall ORR, n (%)	21 (39.6)	25 (47.2)
95% CI	26.5-54.0	33.3-61.4
BRN, n (%)		
CR	1 (1.9)	3 (5.7)
PR	20 (37.7)	22 (41.5)
SD	25 (47.2)	19 (35.8)
PD	4 (7.3)	5 (9.4)
Unknown or NE	3 (5.7)	4 (7.5)
DOE		
Median, months (95% CI)	NE (3.4-NE)	NE (3.8-NE)
Range, months	1.3-23.4	1.3-23.4
≥ 6 months, % (95% CI)	83.0 (69.8-94.2)	79.3 (68.5-92.9)
≥ 12 months, % (95% CI)	64.5 (52.8-84.2)	79.3 (68.5-92.9)



## Response regardless TMB

Figure 1. TMB by Response. (A) All Patients. (B) Patients With MSS Tumors.



CR, complete response; NR, nonresponse; PR, partial response; R, response

Table 3. ORR by TMB Subgroup

Subgroup	Responders, n/N (%)
<b>All patients</b>	
TMB ≥175 mut/cell	10/13 (77)
TMB <175 mut/cell	22/66 (33)
<b>Patients with MSS tumors</b>	
TMB ≥175 mut/cell	4/4 (100)
TMB <175 mut/cell	22/64 (34)

mut, mutations.

## No correlation to RNA signatures

Table 2. P Values for Association Between RNA-Sequencing Signatures and Clinical Outcomes in All Patients

Signature	ORR		PFS	
	Before Adjusting for Tcell <sub>in</sub> GEP	After Adjusting for Tcell <sub>in</sub> GEP	Before Adjusting for Tcell <sub>in</sub> GEP	After Adjusting for Tcell <sub>in</sub> GEP
Tcell <sub>in</sub> GEP	0.749	—	0.934	—
Angiogenesis	0.749	0.514	0.934	0.841
Glycolysis	0.888	0.915	0.878	0.968
gMDSC	0.888	0.915	0.878	0.968
Hypoxia	0.888	0.915	0.878	0.968
mMDSC	0.749	0.514	0.934	0.841
MVD	0.749	0.514	0.934	0.841
MYC	0.377	0.327	0.500	0.308
Proliferation	0.888	0.915	0.878	0.968
RAS	0.888	0.915	0.878	0.968
Stroma/EMT/TGFβ	0.749	0.514	0.934	0.841
WNT	0.888	0.915	0.878	0.968

Table 4. ORR by Select Individual Genes

Gene	Responders, n/N	ORR, % (95% CI)
<b>PIK3CA</b>		
Mutation	10/27	37 (19-58)
No mutation	14/26	54 (33-73)
<b>PTEN</b>		
Mutation	7/17	41 (18-67)
No mutation	17/36	47 (30-65)
<b>TP53</b>		
Mutation	11/25	44 (24-65)
No mutation	13/28	46 (28-66)

No correlation to nonserous like (unlike TOPIC)

# Situación regulatoria

## Aprobación en Europa (abril 2021)

**Dostarlimab\*** is indicated for the treatment of patients with **dMMR/MSI-H recurrent or advanced endometrial cancer** who have progressed on or following prior therapy with a platinum-containing regimen<sup>1</sup>

\*Dostarlimab no está comercializado en España

dMMR, deficient mismatch repair; EC, endometrial cancer; FDA, US Food and Drug Administration; MSI-H, microsatellite instability-high

1. [https://ec.europa.eu/health/documents/communityregister/2021/20210421151305/anx\\_151305\\_es.pdf](https://ec.europa.eu/health/documents/communityregister/2021/20210421151305/anx_151305_es.pdf)

2. [https://www.merck.com/product/usa/pi\\_circulars/k/keytruda/keytruda\\_pi.pdf](https://www.merck.com/product/usa/pi_circulars/k/keytruda/keytruda_pi.pdf)

3. US Food and Drug Administration. Press Release. Available at: <https://www.fda.gov/drugs/resources-information-approved-drugs/simultaneous-review-decisions-pembrolizumab-plus-lenvatinib-australia-canada-and-us>. September 17, 2019. Accessed: April 30, 2021

## Aprobación en US (FDA)

**Pembrolizumab** is indicated for the treatment of adult and pediatric patients with **unresectable or metastatic MSI-H or dMMR**

- **Solid tumors** that have progressed following prior treatment and who have no satisfactory alternative treatment options
- **Colorectal cancer** that has progressed following treatment with a fluoropyrimidine, oxaliplatin, and irinotecan<sup>2</sup>

## Aprobación en US(FDA), Australia y Canadá

**Pembrolizumab plus lenvatinib** is indicated for the treatment of patients with **advanced endometrial carcinoma that is not MSI-H or dMMR** and who have disease progression following prior systemic therapy but are not candidates for curative surgery or radiation<sup>3</sup>

# Conclusiones

- ¿Biomarcadores? Sí
- Consideraciones clínicas
  - Adyuvancia
  - Línea de tratamiento
  - Posibilidades
    - MSI-H Dostarlimab Lenvatinib+ Pembrolizumab
    - MSS Lenvatinib+ Pembrolizumab
- Endometrio is on fire ver XAVIER, EVA Y CARMEN