# Endometrial Cancer – Highlight Reel

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# Objectives

- Review key studies from fall meetings
- Discuss ongoing endometrial cancer trials in GOG Partners



# Predict changes in standard of care after first-line studies report





# **Review of Key Studies**





# Study 309/K775: Updated efficacy and safety



- $\bullet$ primary analysis (Makker 2022, NEJM).
- $\bullet$ from the interim analysis for OS).



PFS, OS, and ORR were statistically significant with lenvatinib plus pembrolizumab vs chemotherapy at the

Median follow-up time: 14.7 months (data cutoff date: 1 March 2022; >16 months of additional follow-up time)

PFS and ORR (by BICR per RECIST v1.1) are also presented at this data cutoff; all analyses are descriptive.



### **Continued OS benefit of lenvatinib plus pembrolizumab vs** chemotherapy with follow-up extended by over 16 months

### pMMR Population



- ulletthe all-comer population).
  - (95% CI, 0.51, 0.71).



### **All-Comer Population**



OS favored lenvatinib plus pembrolizumab despite some pts in the chemotherapy arm receiving subsequent lenvatinib plus pembrolizumab. (In the chemotherapy arm, 10.0% of pts in the pMMR population and 8.7% of pts in

After excluding these pts, the pMMR OS HR was 0.64 (95% CI, 0.54, 0.76); the all-comer OS HR was 0.60









### **Continued PFS<sup>a</sup> benefit of lenvatinib plus pembrolizumab vs** chemotherapy with follow-up extended by over 16 months

### **pMMR** Population









### **Continued tumor responses in pMMR and all-comer** pts by BICR per RECIST v1.1 pMMR ORR pMMR DOR



### **All-comer ORR**







### **All-comer DOR**





# Conclusions

- NEJM).
- effect observed at the interim analysis (Makker 2022, NEJM).
- pembrolizumab.
- (Makker 2022, NEJM) and with the established safety profile of each agent.
- previously treated aEC.



At the interim analysis, lenvatinib plus pembrolizumab led to statistically significantly improved PFS (pMMR HR: 0.60; all-comer HR: 0.56), OS (pMMR HR: 0.68; all-comer HR: 0.62), and ORR (pMMR ORR: 30.3% vs 15.1%; all-comer ORR: 31.9% vs 14.7%) compared to chemotherapy (Makker 2022,

At the final prespecified analysis of OS, lenvatinib plus pembrolizumab continued to demonstrate clinically meaningful improvement in OS, PFS, and ORR vs chemotherapy in pts with aEC (pMMR and all-comer populations) who received prior platinum therapy, supporting the robustness of the treatment

OS KM curves for lenvatinib plus pembrolizumab and chemotherapy arms separated early and remained separated, despite some pts in the chemotherapy arm receiving subsequent lenvatinib plus

No new safety signals were observed, and safety results were consistent with the interim analysis

Results continue to support the use of lenvatinib plus pembrolizumab as a standard therapy in pts with



### **GARNET: Safety and antitumor activity of dostarlimab** in dMMR or pMMR endometrial cancer

- GARNET (NCT02715284) is a phase 1, single-arm study of dostarlimab (TSR-042) monotherapy in multiple tumor types
- In part 2B, dostarlimab was dosed at the RTD determined from Part 1 and 2A
  - 500 mg IV Q3W for 4 cycles, then 1000 mg IV Q6W until disease progression
- MMR status was determined by local immunohistochemistry
- Primary endpoint: ORR and DOR



Part 1 **Dose finding** 

Part 2A Fixed-dose safety run-in

> Part 2B **Expansion cohorts**

> > A1\*: dMMR EC N=129

> > A2<sup>†</sup>: pMMR EC N=161

> > > E: NSCLC

**F: Non-endometrial** dMMR/MSI-H basket

G: PROC

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







| Enrolled and dosed (safety population)   | dMMR EC N=126 |
|--|---------------|
| No measurable disease at baseline or insufficient follow-up                        |               |
| Measurable disease at baseline<br>and ≥6 months follow-up<br>(efficacy population) | n=103         |
| Discontinued treatment   |               |
| Remain on treatment  | n=56 of 126 ( |

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



### **Enrollment and Outcomes**







# **Primary Endpoint Analysis**

• ORR was 44.7% in patients with dMMR EC, and 13.4% in patients with MMRp EC

### Variable

Median follow-up time, mo

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Objective response rate*, n (%, 95% CI)
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Complete response, n (%)

Partial response, n (%)

Stable disease, n (%)

Progressive disease, n (%)

Not evaluable, n (%)

Not done, n (%)

Disease control rate<sup>†</sup>, n (%, 95% CI)

**Response ongoing, n (%)** 

Median duration of response, (range) mo

Kaplan–Meier estimated probability of remaining in response

at 6 mo, % at 12 mo, % at 18 mo, %



| dMMR EC, n=103   | MMRp EC, n=142   |
|--|--|
| 16.3   | 11.5   |
| <b>46 (44.7%, 34.9–54.8)</b><br>11 (10.7)<br>35 (34.0)<br>13 (12.6)<br>39 (37.9)<br>3 (2.9)<br>0 (4.0) | <b>19 (13.4%, 8.3–20.1)</b><br>3 (2.1)<br>16 (11.3)<br>31 (21.8)<br>77 (54.2)<br>0 |
| 59 (57.3%, 47.2–67.0)  | <b>50 (35.2%, 27.4–43.7)</b>   |
| 41 (89.1)  | 12 (63.2)  |
| Not reached (2.63–28.09+)  | Not reached (1.54+-30.36+)   |
| 97.8<br>90.6<br>79.2   | 83.0<br>61.3<br>61.3   |
|  |  |





# **Duration of Response**



Data cut-off date March 1, 2020. CR, complete response; dMMR, mismatch mutation repair deficient; EC, endometrial cancer; MMRp, mismatch mutation repair proficient; PD, progressive disease; PR, partial response; SD, stable disease.

### Conclusions

Dostarlimab demonstrated durable antitumor activity in both dMMR and MMRp advanced/recurrent EC

- dMMR status by IHC was associated with a higher response rate
- historically associated with a worse prognosis
- due to a TRAE
  - Most adverse events were grade 1 or 2 0
  - Safety was consistent between dMMR and MMRp cohorts Ο



CR, complete response; dMMR, mismatch mutation repair deficient; EC, endometrial cancer; IHC, immunohistochemistry MMRp, mismatch mutation repair proficient; PD-(L)1, programmed cell death (ligand) 1; PR, partial response; SD, stable disease.

Dostarlimab demonstrated a notable disease control rate (35.2%; 2.1% CR, 11.3% PR, 21.8% SD) in patients with MMRp EC, was comprised of a higher percentage of patients with Type II EC which is

No new safety signals were detected, and only 5.5% of patients discontinued dostarlimab





### Post Hoc Analysis of Objective Response Rate by Mismatch **Repair Protein Dimer Loss/Mutation Status in Patients with Mismatch Repair Deficient Endometrial Cancer Treated with** Dostarlimab

- MMR deficiency is caused by loss of expression of the MMR proteins MLH1, PMS2, MSH2, and/or MSH6<sup>1</sup>
  - These proteins function as heterodimers (MLH1–PMS2 and MSH2–MSH6) to mediate DNA repair —
- Loss of expression is caused primarily by 2 mechanisms Germline (Lynch syndrome) or somatic mutation of MLH1, PMS2, MSH2, and/or MSH6 Epigenetic methylation of the MLH1 promoter
- Gene mutation or epigenetic silencing of 1 gene typically leads to loss of expression of the heterodimer (most common dMMR staining pattern) and results in defective MMR and genomic instability<sup>1</sup>
  - Other patterns of loss are possible (loss of only 1 protein; loss of 3 proteins; or loss of atypical combinations of 2 proteins, eg, PMS2 and MSH6, etc)





# Background

- MLH1 promoter methylation accounts for approximately 75%–80% of cases with MMR deficiency in EC<sup>1-4</sup>
  - Somatic or germline mutation in an MMR gene is estimated to account for 10-20% of MMR deficiency in EC<sup>1-4</sup>
- The relationship between mechanism of MMR deficiency and outcomes is not well understood

dMMR, MMR deficient; EC, endometrial cancer; MMR, mismatch repair.

1. Pasanen, A, et al. Mod Pathol 33, 1443–1452 (2020). 2. Kurpiel, B, et al. Int J of Gyn Path 41:1:1-11 (2022). 3. Buchanan, D, et al. JCO 2014 32:2, 90-100, 4. Kahn, RM et al. Cancer, 125: 3172-3183.



### **MMR deficiency**

Germline or somatic mutation

**Epigenetic MLH1** promoter methylation



Loss of expression of ≥1 MMR proteins



No transcription or protein production of methylated genes

Loss of heterodimer (major) Loss of expression in atypical patterns (minor)

Loss of MLH1 also results in loss of PMS2

> **Defective MMR and** genomic instability



Normal No mutation or

methylation



Normal transcription and protein production













# No difference in ORR or DOR by pattern of **MMR protein loss**

MMR protein loss is similar to the estimated ratios in the dMMR EC population<sup>1-4</sup> 

| MMR protein staining pattern (IHC) | Patients, N | Responders, n | ORR, % (95% exact CI) | DOR median (95% Cl), mo |
|------------------------------------|-------------|---------------|-----------------------|-------------------------|
| Cohort A1 (dMMR/MSI-H EC)          | 143         | 65            | 45.5 (37.1–54.0)      | NR (38.9–NR)            |
| MLH1–PMS2 dimer loss               | 94 (66%)    | 46            | 48.9 (38.5–59.5)      | NR (34.7–NR)            |
| MSH2–MSH6 dimer loss               | 16 (11%)    | 9             | 56.3 (29.9–80.2)      | NR (13.9–NR)            |
| <b>Other</b> <sup>a</sup>          | 33 (23%)    | 10            | 30.3 (15.6–48.7)      | NR (13.7–NR)            |

1. Pasanen, A, et al. Mod Pathol 33, 1443–1452 (2020). 2. Kurpiel, B, et al. Int J of Gyn Path 41:1:1-11 (2022). 3. Buchanan, D, et al. JCO 2014 32:2, 90-100, 4. Kann, RM et al. Cancer, 125: 3172-3183.

<sup>a</sup>Other: any other pattern of loss that is not exclusively MLH1–PMS2 or MSH2–MSH6 dimer loss. This group includes 17 patients with loss of expression of 1 MMR protein, 13 with loss of 3 proteins, 1 with loss of 2 proteins that are not a canonical dimer, and 2 with MMR unknown/MSI-H status. dMMR, MMR deficient; DOR, duration of response; EC, endometrial cancer; IHC, immunohistochemistry; MMR, mismatch repair; MSI-H, microsatellite instability-high; ORR, objective response rate.





# No difference in ORR or DOR in those with MLH1 loss by mutation status

in the dMMR population<sup>1-4</sup>

|  | Patients, N | Responders, n | ORR, % (95% exact Cl) | DOR median (95% CI), mo |
|--|-------------|---------------|-----------------------|-------------------------|
| Cohort A1 (dMMR/MSI-H EC)  | 143         | 65            | 45.5 (37.1–54.0)      | NR (38.9–NR)            |
| Cohort A1 patients with available mutation data  | 101         |               |                       |                         |
| MLH1 loss by IHC (any pattern) <sup>a</sup>  | 78          | 31            | 39.7 (28.8–51.5)      | NR (38.9–NR)            |
| MLH1 loss by IHC (any pattern)<br>and mutation in <i>MLH1</i> or <i>PMS2</i><br>genes    | 7 (9%)      | 3             | 42.9 (9.9–81.6)       | NR (NR–NR)              |
| MLH1 loss by IHC (any pattern) and<br>no mutation in <i>MLH1</i> or <i>PMS2</i><br>genes | 71 (91%)    | 28            | 39.4 (28.0–51.7)      | NR (38.9–NR)            |

1. Pasanen, A, et al. Mod Pathol 33, 1443–1452 (2020). 2. Kurpiel, B, et al. Int J of Gyn Path 41:1:1-11 (2022). 3. Buchanan, D, et al. JCO 2014 32:2, 90-100, 4. Kahn, RM et al. Cancer, 125: 3172-3183.

<sup>a</sup>This group includes 66 patients with loss of the MLH1–PMS2 dimer and 12 with another pattern. dMMR, MMR deficient; DOR, duration of response; EC, endometrial cancer; IHC, immunohistochemistry; MMR, mismatch repair; MSI-H, microsatellite instability-high; ORR, objective response rate.

Most MLH1 loss was not accompanied by mutations, consistent with the estimated rate





# Conclusions

- Tumors with loss of MLH1 and no mutation identified in MLH1 or PMS2 are likely to have MLH1 identify these patients
  - gene methylation/mutation status
- These data are hypothesis generating
  - response to dostarlimab
- (ORR of 39.4% in patients with presumed MLH1 promoter methylation)

dMMR, MMR deficient; EC, endometrial cancer; MMR, mismatch repair; ORR, objective response rate.

• Consistent with the literature, the most common pattern of MMR protein loss was the MLH1–PMS2 heterodimer (66% of patients in the GARNET cohort A1 vs  $\approx$ 75% in the general EC population)<sup>1-4</sup>

promoter methylation; however, direct testing of methylation would be the most accurate means to

There were no noticeable differences observed in ORR by pattern of MMR protein loss or MMR

o This data set is the largest to explore the response rate by mechanism leading to MMR deficiency

GARNET was not powered to study the effect of MMR protein pattern or mutation status on

# The data suggest the route to MMR deficiency does not influence response to dostarlimab





**ANNUAL GLOBAL MEETING** 

<sup>1.</sup> Pasanen, A, et al. Mod Pathol 33: 1443–1452 (2020). 2. Kurpiel, B, et al. Int J of Gyn Path 41(1): 1-11 (2022). 3. Buchanan, D, et al. JCO 2014 32(2), 90-100, 4. Kahn, RM et al. *Cancer*, **125**: 3172-3183.

### **Atezolizumab and Bevacizumab in Recurrent** Endometrial Cancer: A Phase II, Multi-institutional Trial

### Inclusion criteria:

- Advanced, recurrent endometrial cancer
- Endometrioid, serous, mixed adenocarcinoma, clear-cell, or carcinosarcoma
- 1-2 prior lines for endometrial cancer
- Measurable disease at time of recurrence
- Prior carboplatin/paclitaxel acceptable
- Archival tissue or tissue biopsy

Pre-treatment blood collection



# U Health Stephenson Cancer Center

**O'NEAL** COMPREHENSIVE CANCER CENTER AT UAB



Washington University in St. Louis

**SITEMAN** 

Ø

CANCER CENTER

NCT03526432

# **Results: Overall Adverse events** and Clinical Activity

### **Total Number of Subjects**

**Adverse events** 

**Grade 3 due to atezolizumab** 

Grade 3 due to bevacizumab

Grade 4

**Dose interruption** 

**Dose reduction** 

**Discontinued due to toxicity** 

**Clinical Activity** 

**ORR** for all

**ORR for MMRp** 

Median DOR (months)

Median PFS (months)



| n=57                   |   |
|------------------------|---|
| n (%)                  |   |
| 4 (7%)                 |   |
| 12 (22%)               |   |
| 0                      |   |
| 45 (79%)               | ٦ |
| 2 (4%)                 |   |
| 9 (16%)                |   |
|                        |   |
| 30% (95% CI 18-43)     |   |
| 33% (95% CI 20-48)     |   |
| 15 (95% CI 2.9-34)     |   |
| 7.87 (95% CI 5.5-11.7) |   |





### RANDOMIZED TRIAL OF PELVIC RADIATION WITH AND WITHOUT CONCURRENT CISPLATIN IN PATIENTS WITH A PELVIC ONLY RECURRENCE OF ENDOMETRIAL CANCER



Institution IMRT Credentialing is required when IMRT is to be used before registering any patient on this trial. A Knowledge Assessment for this study must be completed by the treating radiation oncologist before registering patients on this trial.

For patients with tumors involving the distal vagina and clinically negative groins, the bilateral inguino-femoral lymph node regions should be treated to 4500 cGy.

3-D conformal or IMRT boost is allowed for patients who are not candidates for brachytherapy.

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### PFS



### HR 1.5 (95% CI: 0.88 – 2.55)

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Radiation therapy remains the standard of care for pelvic only/vaginal cuff recurrences Low grade endometrioid cancers highly represented (81.5%) 32% of patients treated with radiation therapy recurred

# **GOG-0238**

### OS

### HR 1.14 (95% CI: 0.57 – 2.28)











# Ongoing Trials









First Line: **CDK 4/6 inhibition** Nuclear export inhibition





A Phase 3 Randomized, Open-label, Active**comparator Controlled Clinical Study of Pembrolizumab versus Platinum Doublet Chemotherapy in Participants With Mismatch Repair Deficient (dMMR) Advanced or Recurrent Endometrial Carcinoma in the First-line Setting** (KEYNOTE-C93/GOG-3064/ENGOT-en15)

Global lead: GOG (PI: Slomovitz co-PI: Backes)

**ENGOT PI:** S.Pignata









### **KEYNOTE-177: Robust Activity of Pembro Monotx Compared to SOC in Stage IV MSI-H/dMMR CRC**





dian study follow-up: 32.4 months (range, 24.0 – 48.3); PFS (time from randomization to first documented disease progre ession or death) assessed per RECIST v1.1 by BIC Superiority of pembrolizumab vs chemotherapy for PFS was demonstrated at the pre-specified one-sided a = 0.0117; Data cut-off: 19Feb2020



Thierry Andre, MD





|  | Pembrolizumab<br>N = 153 | Chemotherapy<br>N = 154 |
|--|--------------------------|-------------------------|
| ORR, n (%)                                       | 67 (43.8)                | 51 (33.1)               |
| Difference, estimate (95% CI)<br><i>P</i> -value | 10.7 (<br>0              | (-0.2-21.3)<br>.0275    |
| Best Overall Response, n (%)                     |                          |                         |
| Complete response                                | 17 (11.1)                | 6 (3.9)                 |
| Partial response                                 | 50 (32.7)                | 45 (29.2)               |
| Stable disease                                   | 32 (20.9)                | 65 (42.2)               |
| Disease control rate (CR+PR+SD)                  | 99 (64.7)                | 116 (75.3)              |
| Progressive disease                              | 45 (29.4)                | 19 (12.3)               |
| Not evaluable                                    | 3 (2.0)                  | 2 (1.3)                 |
| No assessment                                    | 6 (3.9)                  | 17 (11.0)               |
| Median time to response (range), mo              | 2.2 (1.8-18.8)           | 2.1 (1.7-24.9)          |

t-off: 19Feb2020; Response assessed per RECIST v1.1 by BICR.



Duration of Response assessed per RECIST v1.1 by BICR; Data cut-off: 19Feb2020.

The same And and Arts







### GOG 3064/ ENGOT–en15/MK KN-C93: 1L dMMR platinumdoublet chemotherapy vs pembro (with formal cross over)

1:1

N=350

Phase 3, multi-center, randomized, open-label

### Key Eligibility Criteria:

- Stage III or IV, persistent/ recurrent, or metastatic EC
- Measurable/non-measurable disease (radiological apparent)
- dMMR/MSI-H
- No previous chemo for first line except as part of chemoradiation
- Prior adjuvant/neoadjuvant chemotherapy allowed, as long as completed > 6 mths before recurrence
- ECOG 0-1

### **Potential Stratification:**

- Previous radiation and/or adj chemotherapy
- Histology endometrioid vs. non-endometrioid











# **Background on CDK 4/6 Inhibition**

- Most endometrial tumors are hormonally driven (type 1 endometrioid) oncogenic signal
- options for later lines
- There is established clinical proof of concept for CDK 4/6i in metastatic endometrial cancer
- in enhanced efficacy



adenocarcinoma); estrogen signaling through estrogen receptor acts as an

• Not all patients can handle more toxic treatments; low grade endometrioid cancer should be treated with endocrine therapy in the 1L, leaving cytotoxic

 Endometrial cancer endocrine sensitivity and frequent cell cycle deregulation suggest that coupling mechanisms of CDKi and estrogen blockade could result





### ongress **ENGOT-EN3/NSGO-PALEO:** VIRTUAL 2020 Efficacy (ITT population)

**Primary endpoint: PFS** 



CI, confidence interval; HR, hazard ratio; PFS, progression-free survival



Mirza MR et al. Ann Oncol. 2020;31(suppl 4). Abstract LBA28.



**ENGO** 

uropean Network of

### **Secondary endpoint: Disease** control rate\*



\* = at 24 weeks



### Phase 2, two-stage study of letrozole and abemaciclib in estrogen receptor (ER) positive recurrent or metastatic endometrial cancer (EC)

•**Regimen:** Letrozole 2.5mg PO daily and Abemaciclib 150 mg PO BID until progression or toxicity







# **Objective Response Rate**

### RESPONSE

**Best Overall Response** 

**Complete Response (CR)** 

Partial Response (PR)

Stable Disease (SD)

**Progressive Disease (PD)** 

Not evaluable

**ORR, % (95% CI)** 







### Promising Early signal with combined AI and **CDK4/6** inhibition in ER+ EC

- Colon-Otero et al ESMO 2020
  - Letrozole 2.5 mg oral +Ribociclib 400 mg oral QD
  - PFS12 weeks 55%
  - PFS24 weeks 35%
  - PFS24 weeks in grade 1-2 EC 45%
  - Median PFS and OS 5.4 and 16

| Table 2   | Subset analysis of PFS      |        |
|-----------|-----------------------------|--------|
| Total Pat | tients PFS ≥24 <b>weeks</b> | 11/4   |
| Ovarian   | group                       | 4/20   |
| Low-g     | rade serous                 | 3/3 (* |
| High-g    | grade serous                | 1/17   |
| Endome    | trial group                 | 7/20   |
| Grade     | 1 to 2                      | 5/11   |
| High-g    | grade                       | 2/9 (2 |













### EQ132-303/GOG-3075/ENGOT en-17: A Randomized, Double-Blinded, Placebo-Controlled Phase 3 Study of Lerociclib with Letrozole, versus Placebo in Combination with Letrozole, in Participants with **Advanced or Recurrent Grade 1 or Grade 2 Endometrioid**





Letrozole 2.5 mg PO QD and Lerociclib 150 mg PO BID

Letrozole 2.5 mg PO QD and Placebo

**PI: Mahdi ENGOT PI: Ray-Coquard** 











### **Prospective double-blind, randomized phase III ENGOT-EN5/GOG-3055/SIENDO study of oral selinexor/placebo as maintenance** therapy after first-line chemotherapy for advanced or recurrent endometrial cancer

Ignace Vergote,<sup>1</sup> Alejandro Pérez Fidalgo,<sup>2</sup> Erika Hamilton,<sup>3</sup> Giorgio Valabrega,<sup>4</sup> Toon Van Gorp,<sup>1</sup> Jalid Sehouli,<sup>5</sup> David Cibula,<sup>6</sup> Tally Levy,<sup>7</sup> Stephen Welch,<sup>8</sup> Debra Richardson,<sup>9</sup> Eva Maria Guerra Álía,<sup>10</sup> Giovanni Scambia,<sup>11</sup> Stéphanie Henry,<sup>12</sup> Pauline Wimberger,<sup>13</sup> David Miller, <sup>14</sup> Jerónimo Martínez,<sup>15</sup> Bradley Monk,<sup>16</sup> Sharon Shacham,<sup>17</sup> Mansoor Raza Mirza,<sup>17,18</sup> Vicky Makker<sup>19</sup>

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# **Primary Endpoint: PFS in ITT Population**





Vicky Makker, M.D., ENGOT-EN5/GOG-3055/SIENDO



Selinexor (n=174): 5.7 mo (95% CI 3.81-9.20) Placebo (n=89): 3.8 mo (95% CI 3.68-7.39)

Audited\* (by electronic case report form) HR = 0.705 (95% CI 0.499-0.996)**One-sided P value = 0.024** 

**Unaudited**\* (by interactive response technology) HR = 0.76 (95% CI 0.543 - 1.076)**One-sided P value = 0.063** 

\*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.

CI, confidence interval; HR, hazard ratio; mo, months; PFS, progression-free survival





### Preliminary Analysis of a Prespecified Exploratory Subgroup PFS: Patients with p53 wild-type EC



Vicky Makker, M.D., ENGOT-EN5/GOG-3055/SIENDO

+ Censored Selinexor Placebo 18 7 5

**Median PFS** 

Selinexor (n=67): 13.7 mo (95% CI 9.20-NR) Placebo (n=36): 3.7 mo (95% CI 1.87-12.88)

Audited

HR = 0.375 (95% CI 0.210-0.670) Nominal one-sided P value = 0.0003

Unaudited HR = 0.407 (95% CI 0.229-0.724) Nominal one-sided P value = 0.0008

CI, confidence interval; HR, hazard ratio; mo, months; PFS, progression-free survival





### ENGOT-EN20/GOG3083/XPORT-EC-042 Randomized, blinded Phase 3 international study of oral Selinexor once weekly versus placebo for maintenance therapy in patients with p53wt endometrial carcinoma responding to front line

Primary Objective: To evaluate the efficacy of selinexor compared to placebo as maintenance therapy in patients with p53wt advanced or recurrent endometrial cancer

### Stratified by:

- Primary stage IV vs recurrent
- PR vs CR
- Prior CPI (yes/no)

### n = 220 PFS (HR 0.7)**Key Eligibilities**

- Known p53wt EC by central NGS
- Primary stage IV or recurrent EC
- Received at least 12 weeks of taxaneplatinum chemotherapy (1<sup>st</sup> or 2<sup>nd</sup> line)

PR/CR Per RECIST v1.1













# Second Line:





### **INCMGA 0012-204/GOG-3038 POD1UM-204**

An Umbrella Study of INCMGA00012 Alone and in Combination With Other **Therapies in Participants With Advanced or Metastatic Endometrial Cancer** Who Have Progressed on or After Platinum-Based Chemotherapy



CPI = checkpoint inhibitor therapy.

Note: Participants in Group A or Group B who experience disease progression on INCMGA00012 monotherapy may be eligible for further treatment with 1 of the combination. regimens.

\*Participants naive to CPI therapy will be prioritized for central MSI testing to confirm eligibility for Group A, regardless of dMMR status.



### Primary Endpoint = ORR PI: Slomovitz, B



NCT04463771



### POD1UM-204: Phase 2, open-label, nonrandomized, umbrella study of retifanlimab alone or combined with other therapies in recurrent advanced/metastatic endometrial cancer\*



<u>Closed Groups:</u> \*Group C (unselected): completed enrollment (Retifanlimib+Epacadostat), Group E (CPI Naïve, PD-L1+): enrollment closed (Retifanlimab+Epacadostat)







# **MSI-H Endometrial Cancer - anti-LAG-3/anti-**TIM-3/anti-PD-1 combination rationale

- Analysis of LAG-3 expression in the The Cancer Genome Atlas dataset showed a wide range of expression among different cancer types. Multiple solid tumors, including endometrial cancer, have considerably high expression of LAG-3 (Panda et al 2020).
- high LAG-3 expression measured by mRNA sequencing correlates significantly with high TMB
- tumor associated LAG-3+ lymphocytes are higher in MMR-deficient tumors compared with intact tumors
- TIM-3 and LAG-3 are frequently co-expressed with PD-1 in TILs
- rationale for PD-1, LAG 3, and TIM-3 combination blockade support exploring the clinical activity of the triplet combination approach in MSI-H/dMMR advanced endometrial cancer with evidence of disease progression on or after prior PD-(L)1 therapy









# Predicting the Future







### MK-3475-B21/ENGOT-en11/GOG-3053 **KEYNOTE-B21**

A Phase 3, Randomized, Double-Blind Study of Pembrolizumab versus Placebo in Combination With Adjuvant Chemotherapy With or Without Radiotherapy for the Treatment of Newly Diagnosed High-Risk Endometrial Cancer After Surgery With Curative Intent



- FIGO (2009) Surgical Stage I or II with myometrial invasion of non-endometrioid histology
  - of any histology with known aberrant p53 expression or p53 mutation
- FIGO (2009) Surgical Stage III or IVA of any histology



### Closed to accrual PI: Slomovitz, B, Barber, E

Stage (I/II vs III/IVA)

- Planned radiation (EBRT vs Chemo-EBRT vs no EBRT)
- Histology (non-endometrioid vs endometrioid)



### NCT04634877



# **Endometrial Cancer: 1st line metastatic recurrent**

| Front-line,<br>metastatic or<br>recurrence<br>PI: Powell<br>*ENGOT led               | GOG-3031/RUBY<br>NCT03981796  | A Phase 3, Randomized, Double-blind, Multicenter<br>Study of Dostarlimab (TSR-042) Plus Carboplatin-<br>paclitaxel Versus Placebo Plus Carboplatin-paclitaxel in<br>Patients With Recurrent or Primary Advanced<br>Endometrial Cancer   | CLOSED TO ACCRUAL |
|--|-------------------------------|---|-------------------|
| Front-line,<br>metastatic or<br>recurrence<br>PI: Westin<br>Co-PI: Moore<br>*GOG led | GOG-3041/DUO-E<br>NCT04269200 | A Randomised, Multicentre, Double-blind, Placebo-<br>controlled, Phase III Study of First-line Carboplatin and<br>Paclitaxel in Combination With Durvalumab, Followed<br>by Maintenance Durvalumab With or Without Olaparib<br>in Patients With Newly Diagnosed Advanced or<br>Recurrent Endometrial Cancer | CLOSED TO ACCRUAL |
| Front-line,<br>metastatic or<br>recurrent<br>PI: Slomovitz,<br>Backes<br>*GOG led    | GOG-3064/c93<br>NCT05173987   | A Phase 3 Randomized, Open-label, Active-<br>comparator Controlled Clinical Study of<br>Pembrolizumab Versus Platinum Doublet<br>Chemotherapy in Participants With Mismatch<br>Repair Deficient (dMMR) Advanced or Recurrent<br>Endometrial Carcinoma in the First-line Setting                             | Recruiting        |







# **Endometrial Cancer: 1st line metastatic recurrent**

| Front-line,<br>metastatic or | Attend      | Phase III Double-blind<br>Controlled Trial of Ate   |
|------------------------------|-------------|---|
| recurrence                   | NCT03603184 | With Paclitaxel and C<br>Advanced/Recurrent I       |
| Front-line,<br>metastatic or | NRG-GY-018  | Testing the Addition of t<br>Pembrolizumab to the U |
| recurrence<br>PI: Eskander   | NCT03914612 | (Paclitaxel and Carbopla<br>Endometrial Cancer      |



| Double-blind Randomized Placebo<br>I Trial of Atezolizumab in Combination<br>itaxel and Carboplatin in Women With<br>I/Recurrent Endometrial Cancer | CLOSED     |
|---|------------|
| Addition of the Immunotherapy Drug<br>umab to the Usual Chemotherapy Treatment<br>and Carboplatin) in Stage III-IV or Recurrent<br>al Cancer        | Recruiting |





# **Predicting Future in First Line Recurrent**dMMR

### Chemo + I/O +/- PA

| Scenario #1 | Positive |
|-------------|----------|
| Scenario #2 | Positive |
| Scenario #3 | Negative |
| Scenario #4 | Negative |



| RP | LEAP-001 |                          |
|----|----------|--------------------------|
|    | Positive | Either regimen or CS     |
|    | Negative | Chemo I/O; C93??         |
|    | Positive | Pembro/Len or C93        |
|    | Negative | Chemo; EXPORT;<br>CDK4/6 |
|    |          |                          |





# **Predicting Future in First Line Recurrent**dMMR

### Chemo + I/O +/- PA

| Scenario #1 | Positive |
|-------------|----------|
| Scenario #2 | Positive |
| Scenario #3 | Negative |
| Scenario #4 | Negative |

Scenario #5

**Positive or Negativ** 



| RP | LEAP-001             |               |
|----|----------------------|---------------|
|    | Positive             |               |
|    | Negative             |               |
|    | Positive             |               |
|    | Negative             |               |
| ́е | Positive or Negative | B21: Positive |









# **Predicting Future in First Line Recurrent**pMMR

|             | Chemo + I/O +/- PARP | <b>LEAP-001</b> |                            |
|-------------|----------------------|-----------------|----------------------------|
| Scenario #1 | Positive             | Positive        | Chemo+I/O or Pem/Le        |
| Scenario #2 | Positive             | Negative        | Chemo+I/O                  |
| Scenario #3 | Negative             | Positive        | Pem/Len; EXPORT,<br>CDK4/6 |
| Scenario #4 | Negative             | Negative        | Chemo; EXPORT,<br>CDK4/6   |







# **Predicting Future in First Line Recurrent**pMMR

|             | Chemo + I/O +/- PARP | LEAP-001             |          |
|-------------|----------------------|----------------------|----------|
| Scenario #1 | Positive             | Positive             |          |
| Scenario #2 | Positive             | Negative             |          |
| Scenario #3 | Negative             | Positive             |          |
| Scenario #4 | Negative             | Negative             |          |
| Scenario #5 | Positive or Negative | Positive or Negative | Positive |









# The Future is Bright





