

Therapeutic Advances in Gynecologic Oncology



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- **November 16, 2024**

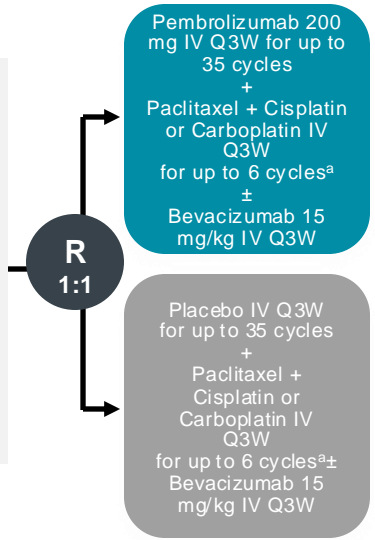
Themes by Disease Site

- Cervix
 - IO with upfront treatment – Keynote 826, BEATcc, A 18
 - Induction chemo prior to RT - INTERLACE
- Endometrial
 - Upfront IO – RUBY, NRG GY018, Keynote B21
 - PARP + IO maintenance –DUO- E & RUBY 2
 - Selenexor
- Ovary
 - Mirvetuximab
- Gyn cancers
 - HER2 – Destiny

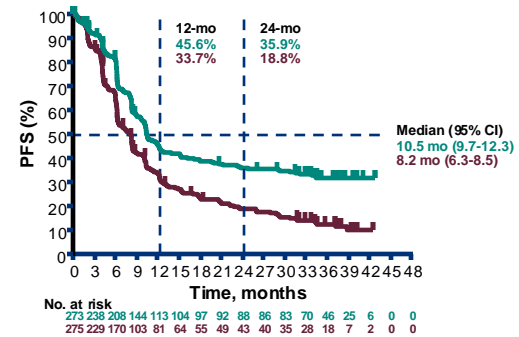
Keynote 826: IO with Chemo Becomes Standard of Care for PDL1+ Metastatic Cervical Cancer

Key Eligibility Criteria:

- Persistent, recurrent, or metastatic cervical cancer not amenable to curative treatment
- No prior systemic chemotherapy (prior radiotherapy and chemoradiotherapy permitted)
- ECOG PS 0 or 1

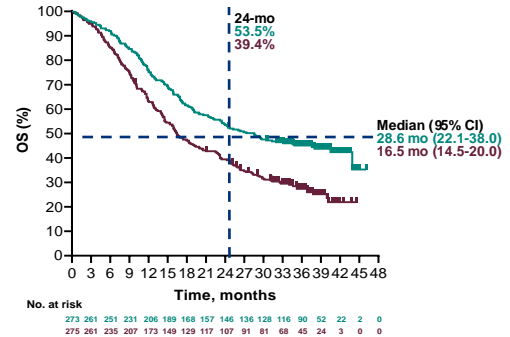


PFS: PD-L1 CPS ≥1 Population



	Pembro arm	Placebo arm
n/N	171/273	220/275
Events	62.6%	80.0%
HR (95% CI)	0.58 (0.47-0.71)	

OS: PD-L1 CPS ≥1 Population

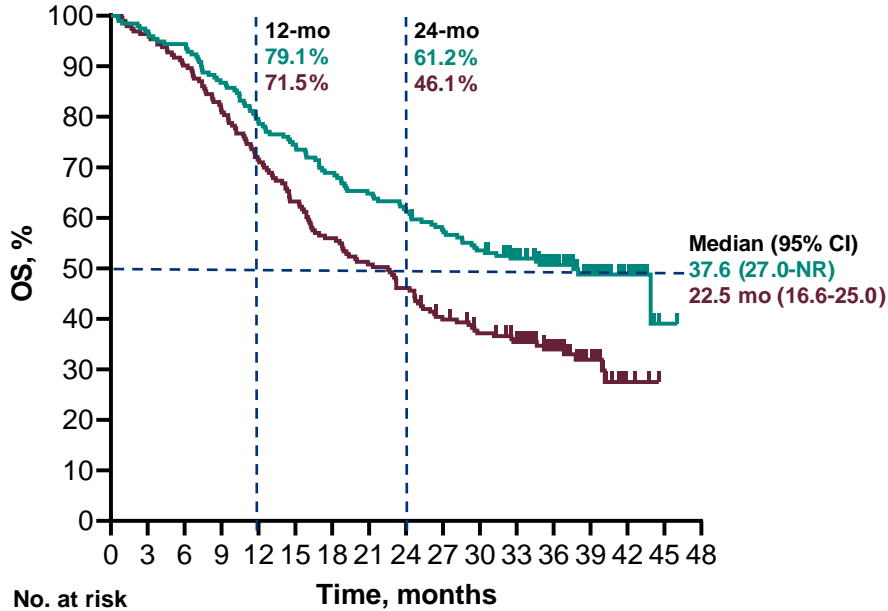


	Pembro arm	Placebo arm
n/N	153/273	201/275
Events	56.0%	73.1%
HR (95% CI)	0.60 (0.49-0.74)	

Primary Endpoints: PFS (per RECIST v1.1 by investigator), OS
Secondary Endpoints: ORR, DOR, 12-mo PFS, safety

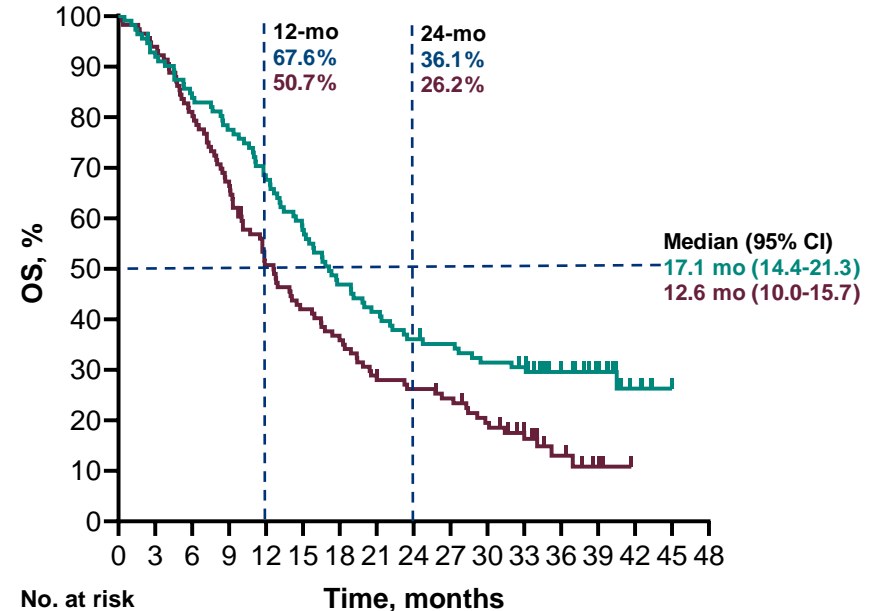
With Bevacizumab (N=389)

	n/N	Events	HR (95% CI)
Pembro arm	99/196	50.5%	0.61 (0.47-0.80)
Placebo arm	130/193	67.4%	



Without Bevacizumab (N=228)

	n/N	Events	HR (95% CI)
Pembro arm	79/112	70.5%	0.67 (0.49-0.91)
Placebo arm	98/116	84.5%	



BEATcc (ENGOT-Cx10-GEICO 68C/JGOG1084/GOG-3030)

Metastatic, persistent or recurrent cervical cancer not amenable to curative therapy

GOG/ECOG PS

No prior systemic anti-cancer therapy for R/M CC

In patients with pelvic disease, no bladder or rectal mucosa involvement

Available archival or fresh tumor sample for PD-L1 expression

R
1:1

N=410

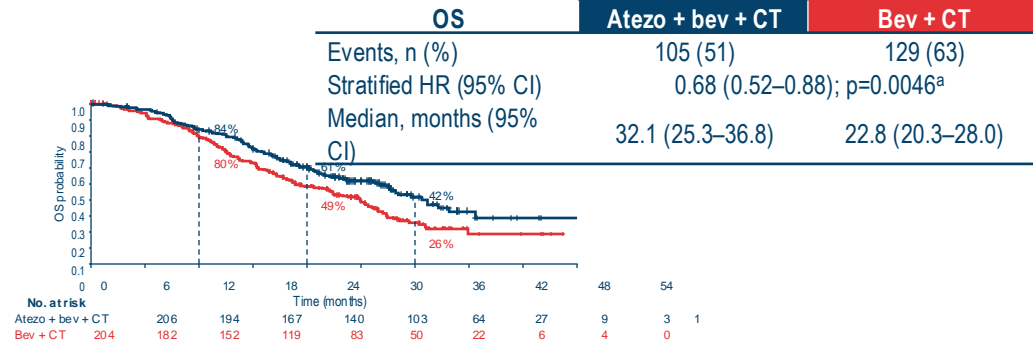
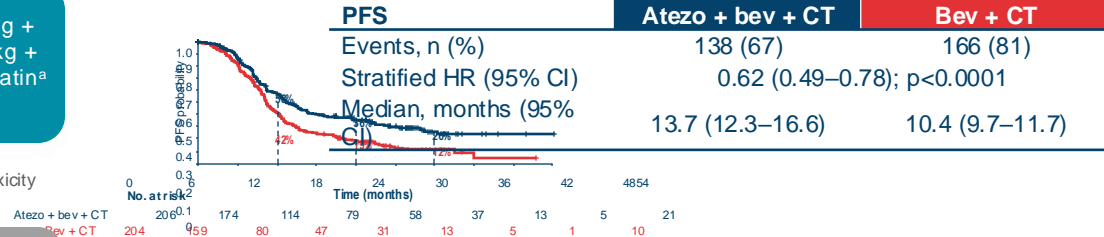
Atezolizumab 1200 mg + Bevacizumab 15 mg/kg + Paclitaxel+ cis/carboplatin^a all IV Q3W

Continued until disease progression/unacceptable toxicity

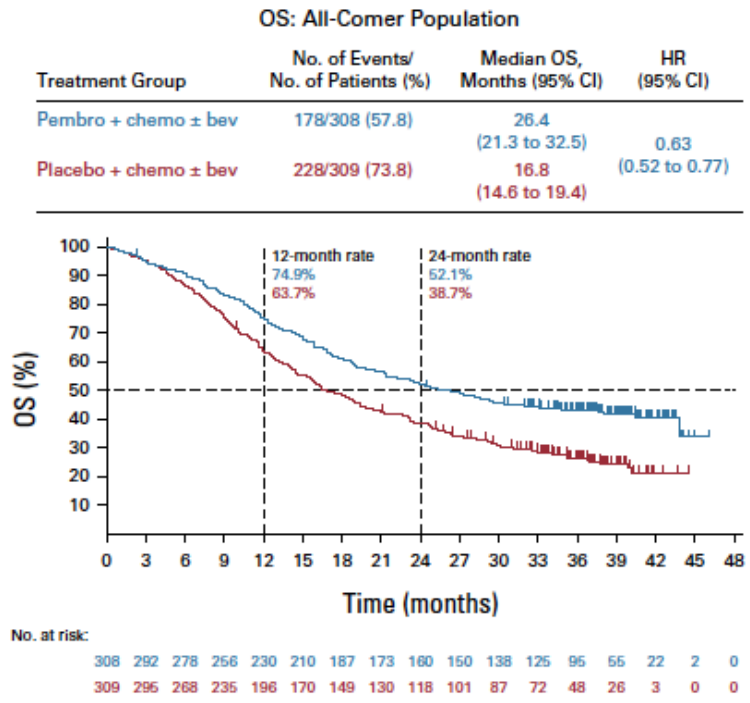
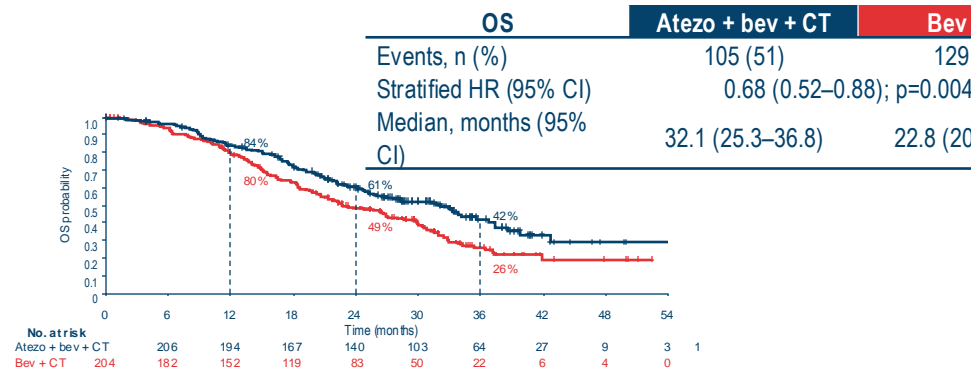
Bevacizumab 15 mg/kg + Paclitaxel + cis/carboplatin^a all IV Q3W

Stratified by:

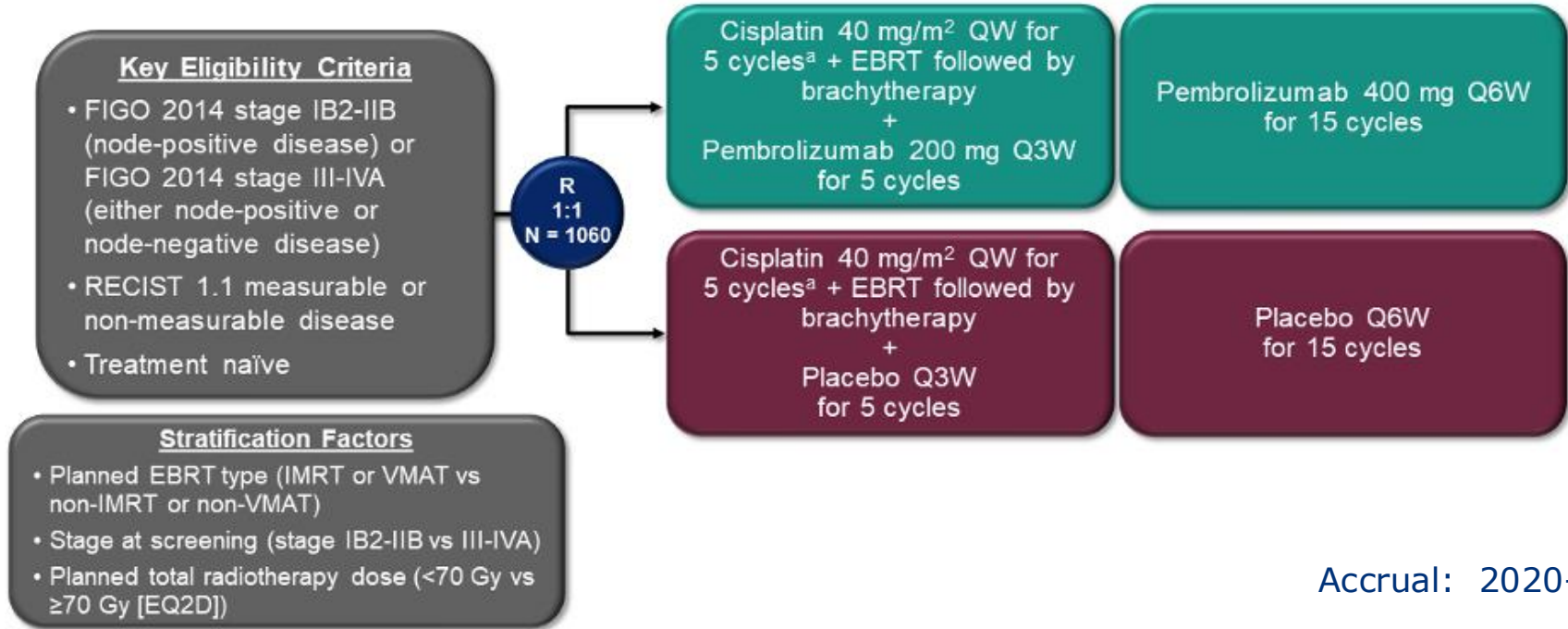
- Prior concurrent chemoradiation (Y/N)
- Histology (squamous cell carcinoma vs adenocarcinoma including adenosquamous carcinoma)
- Chemotherapy backbone



BEATcc compared to Keynote 826 - OS



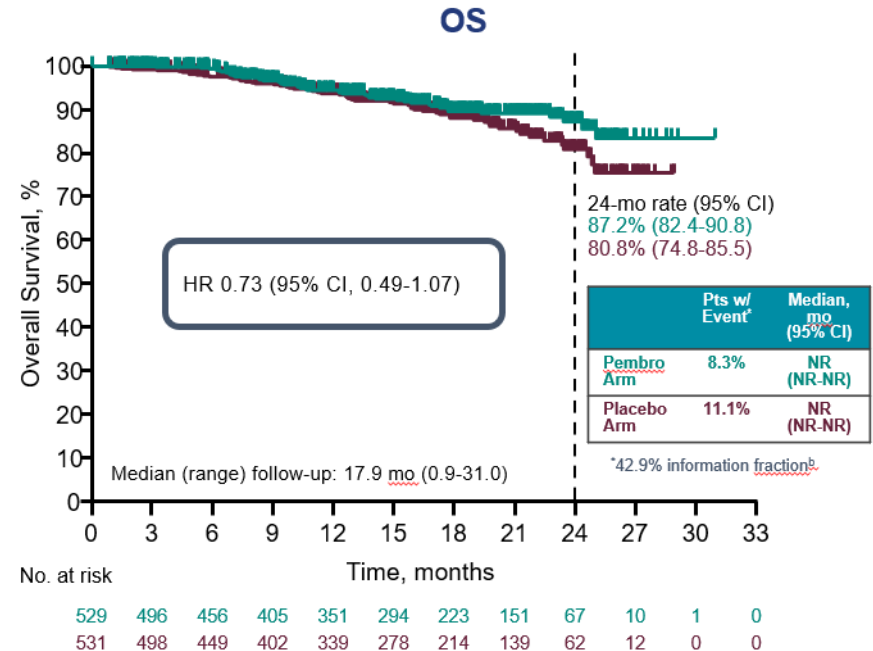
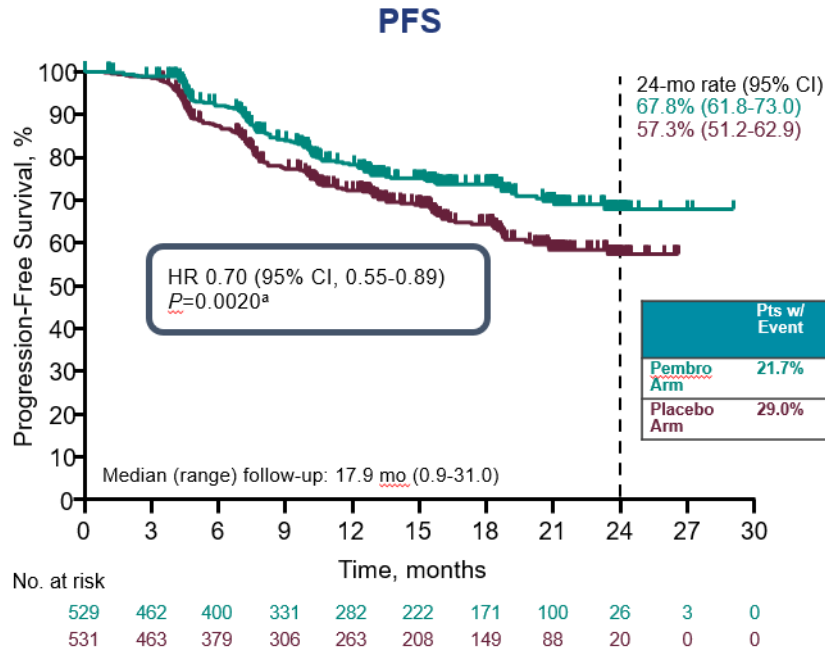
Upfront IO with chemoRT: ENGOT-cx11/GOG-3047/KEYNOTE-A18



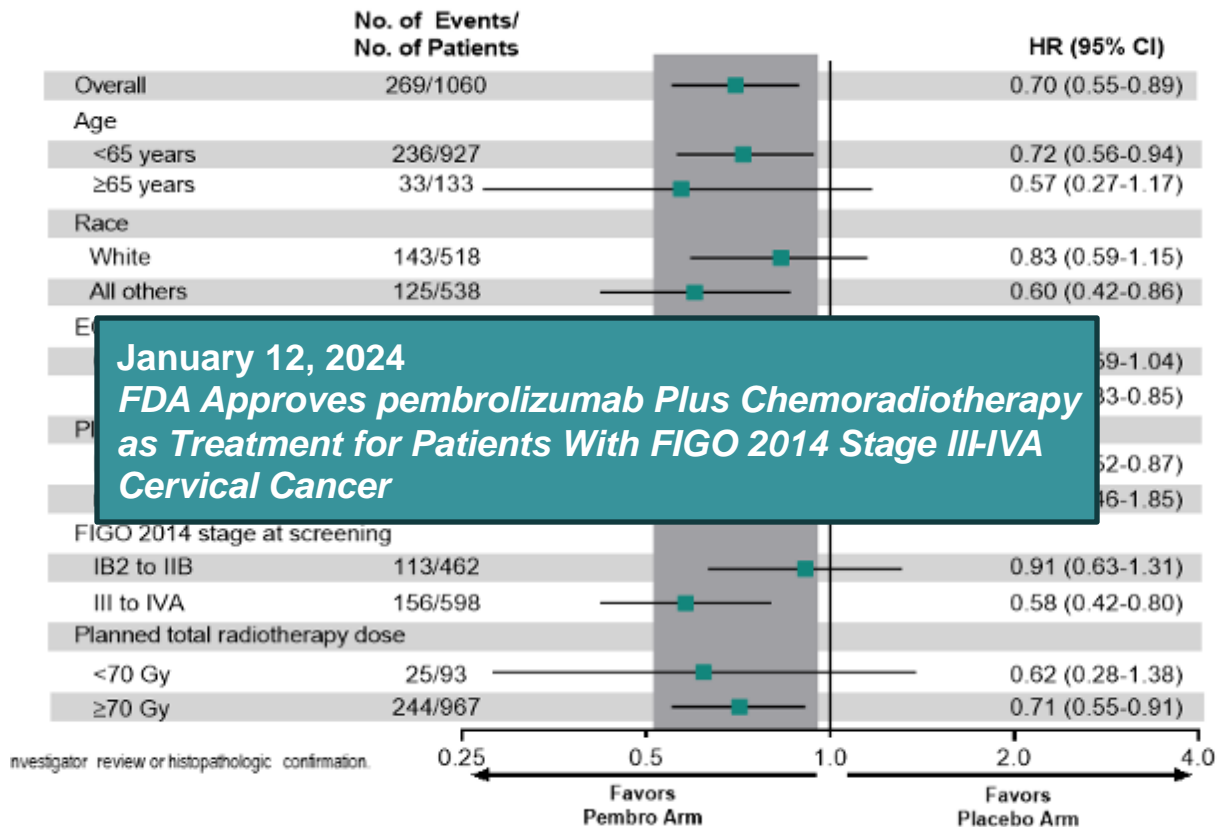
Accrual: 2020-2022

KEYNOTE A18: Progression Free and Overall Survival

Protocol specified first interim analysis: triggered at the completion of enrollment and when 237 events (PD or death) had occurred.



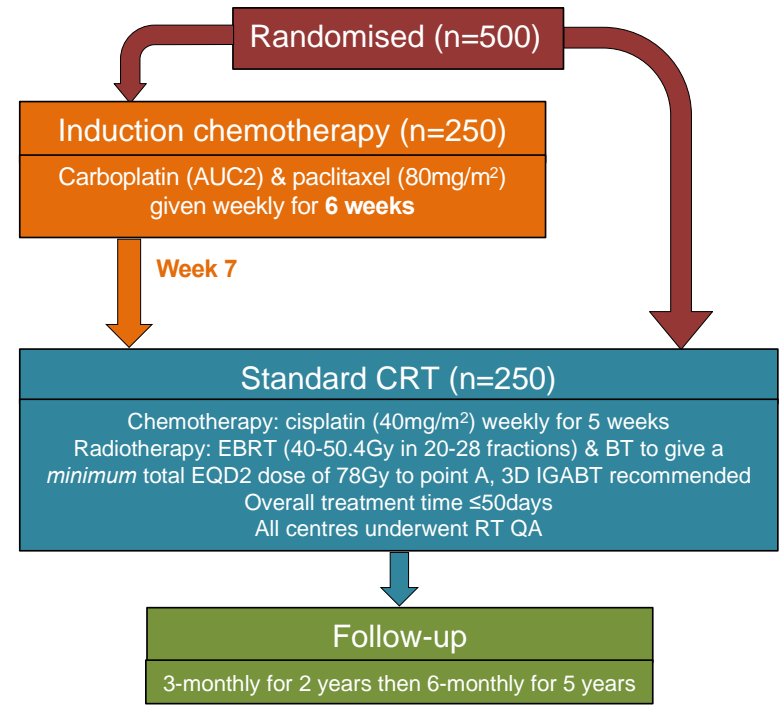
At the time of this analysis, 58% on pembro arm and 55% of CRT arm are still on treatment.



Key eligibility criteria

- Newly diagnosed histologically confirmed FIGO (2008) stages IB1 node+, IB2, II, IIIB, IVA squamous, adeno, adenosquamous cervical cancer
- No nodes above aortic bifurcation on imaging
- Adequate renal, liver & bone marrow function
- Fit for chemotherapy & radical RT
- No prior pelvic RT

RT = Radiotherapy
3D-Conformal = 3D conformal radiotherapy
IMRT = Intensity modulated radiotherapy
EBRT = External beam radiotherapy
BT = Brachytherapy
IGABT = Image-guided adaptive brachytherapy
RT QA = Radiotherapy quality assurance



Stratified by

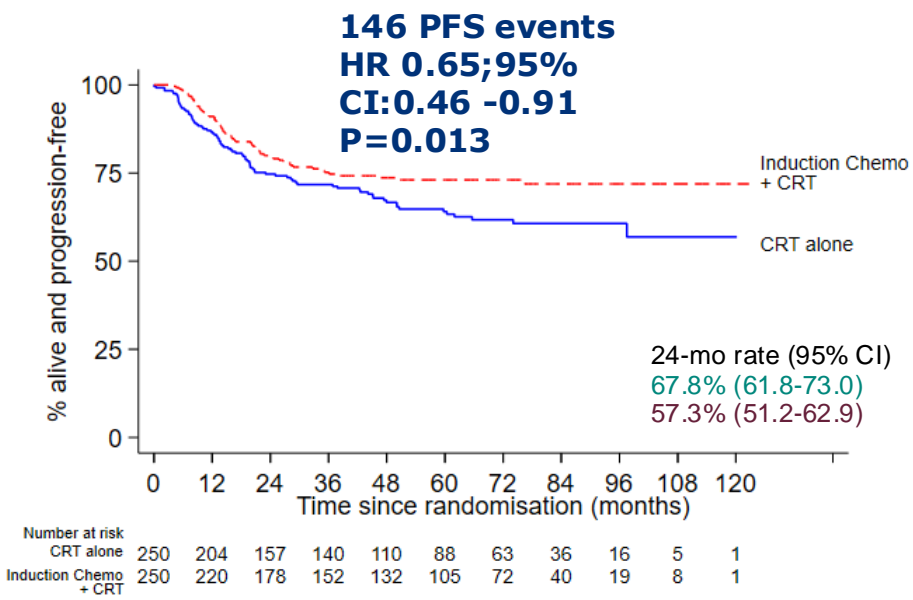
- Site
- Stage
- Nodal status
- 3D-Conformal v IMRT EBRT
- 2D v 3D BT
- Tumour size
- SCC v other

Primary endpoints

- PFS
- OS

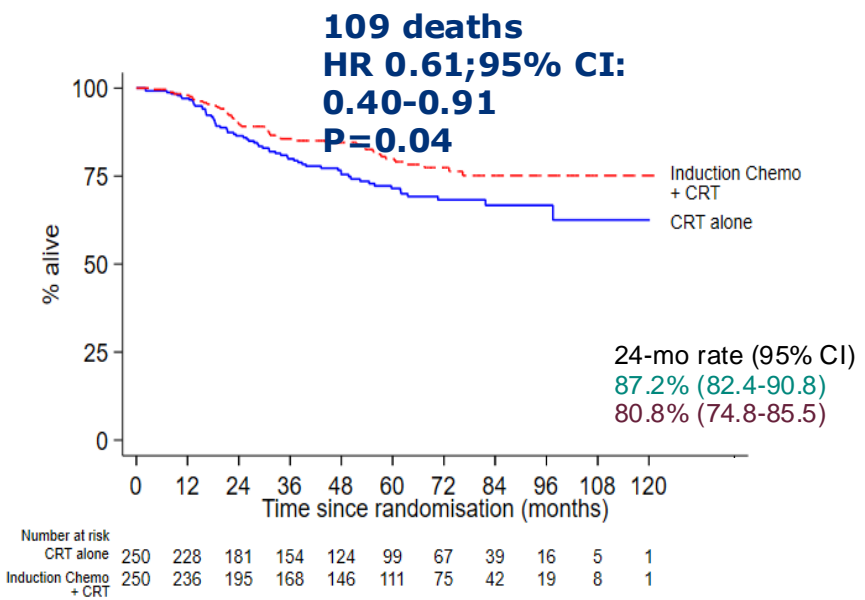
- Adverse events
- Pattern of relapse
- QOL
- Time to subsequent treatment

PFS (median f/u: 64 months)



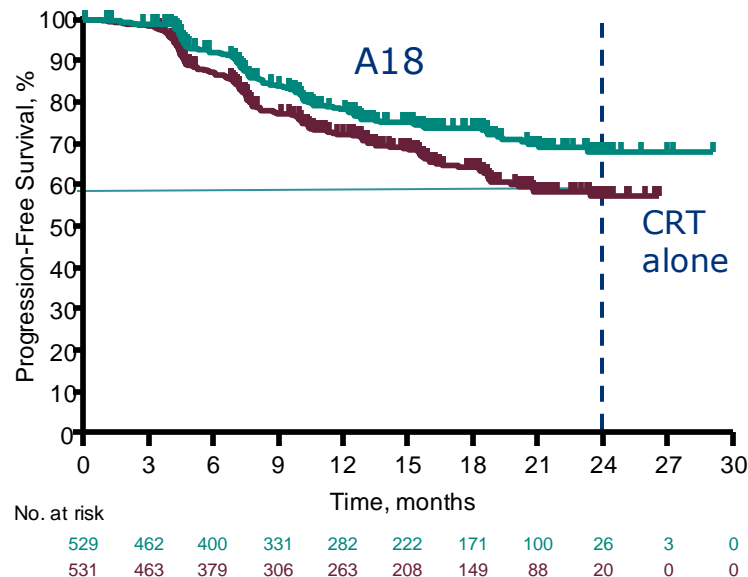
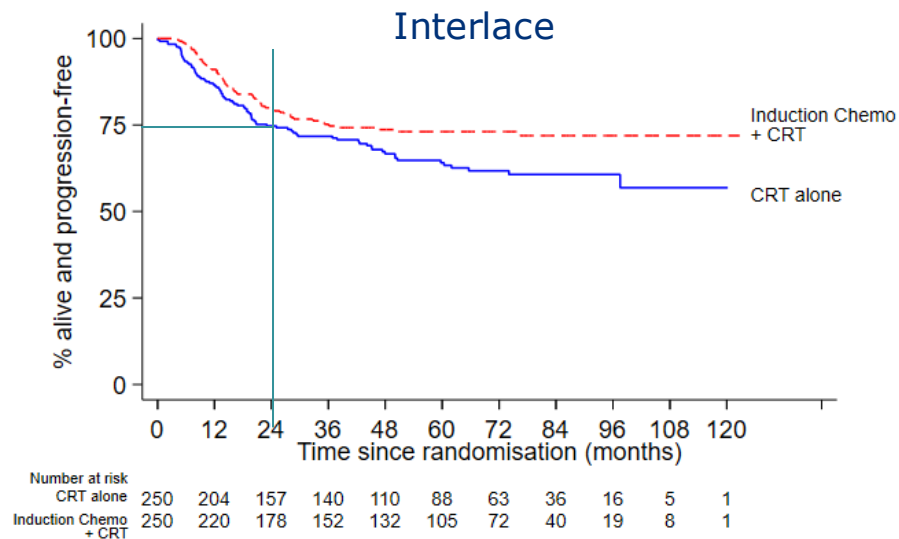
	Induction Chemo+ CRT (n=250)	CRT alone (n=250)
3yr PFS	75%	72%
5yr PFS	73%	64%

OS (median f/u: 64 months)



	Induction Chemo+ CRT (n=250)	CRT alone (n=250)
3yr OS	86%	80%
5yr OS	80%	72%

Comparison of Interlace vs A18



	CRT alone (n=250)
3yr PFS	72%
5yr PFS	64%

24-mo rate
(95% CI)
57.3% (51.2-62.9)

**CRT alone
(N=250)**

Induction Chemo + CRT

FIGO stage (2008)	No.
IB1	2 (<1)
IB2	23 (9)
IIA	14 (6)
IIB	176 (70)
IIIB	30 (12)
IVA	5 (2)

Cell type

Non-squamous	45 (18)
Squamous	205 (82)

Nodal status

Negative	142 (57)
Positive	108 (43)

**Longest tumour diameter, cm
median (range)**

4.9 (1.8-12.8)

	Pembro Arm (N = 529)	Placebo Arm (N = 531)
Stage at screening (FIGO 2014 criteria)		
IB2-IIB	235 (44.4%)	227 (42.7%)
III-IVA	294 (55.6%)	304 (57.3%)
Lymph node involvement^b		
Positive pelvic only	326 (61.6%)	324 (61.0%)
Positive para-aortic only	14 (2.6%)	10 (1.9%)
Positive pelvic and para-aortic	105 (19.8%)	104 (19.6%)
No positive pelvic or para-aortic	84 (15.9%)	93 (17.5%)
Planned type of EBRT		
IMRT or VMAT	469 (88.7%)	470 (88.5%)
Non-IMRT and non-VMAT	60 (11.3%)	61 (11.5%)
Planned total radiotherapy dose (EQD2)		
<70 Gy	47 (8.9)	46 (8.7)
≥70 Gy	482 (91.1)	485 (91.3)

4.8 (1.3-13.5)

Adapted from McCormack, ESMO 2023

But will Interlace change SOC?

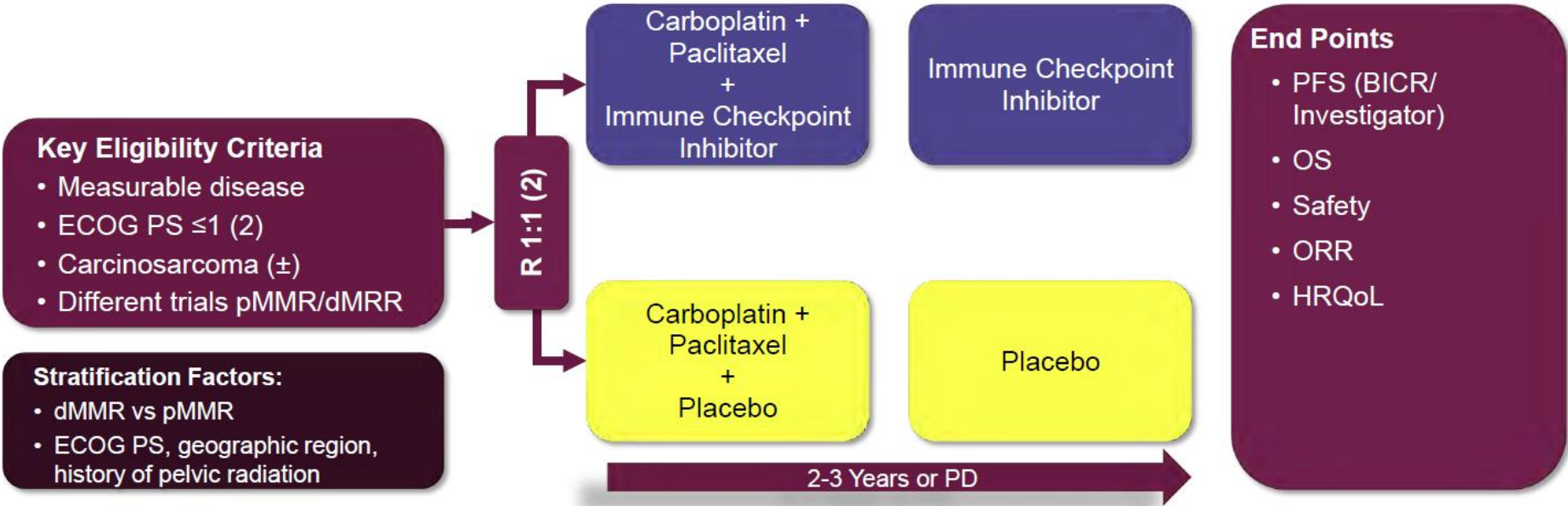
- Higher toxicity
- More complexity
- Bone marrow reserve for definitive RT?
- No incorporation of IO

Exciting Time for Endometrial Cancer!

FDA drug approvals

- **July 13, 2023:** *Dostarlimab-gxly* with chemotherapy and maintenance for dMMR and/or MSI-H advance/recurrent endometrial cancer
- **April 5, 2024:** Accelerated approval for *Fam-trastuzumab deruxtecan-nxki* for HER2 IHC 3+ recurrent solid tumors
- **June 14, 2024:** *Durvalumab* with chemotherapy followed by maintenance for advanced or recurrent dMMR endometrial cancer
- **June 17 2024:** *Pembrolizumab* with chemotherapy followed by maintenance for advance/recurrent endometrial cancer (dMMR/MSI-H or pMMR)
- **August 1 2024:** *Dostarlimab-gxly* with chemotherapy and maintenance for adults with advance/recurrent endometrial cancer

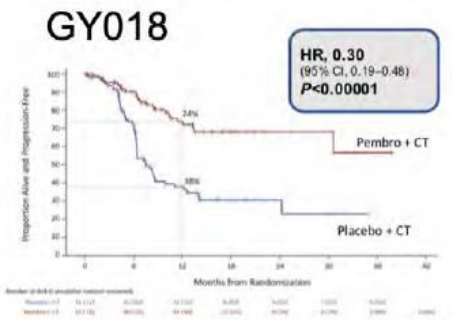
Benefits of IO in upfront EMCA Treatment: Core Study Designs



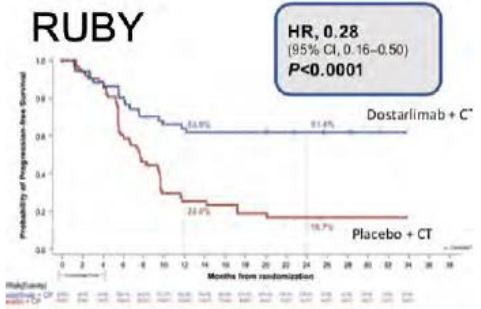
BICR=blinded independent central review; dMMR=deficient mismatch repair; ECOG PS=Eastern Cooperative Oncology Group Performance Status; HRQoL=health-related quality of life; ORR=overall response rate; OS=overall survival; pMMR=proficient mismatch repair; PD=progressive disease; PFS=progression-free survival; R=randomized.

Mirza M et al. NEJM March 2023
 Eskander et al. NEJM March 2023
 Colombo N, et al. Lancet Oncol Sept 2024
 Marth C, et al. SGO 2024 Annual Meeting

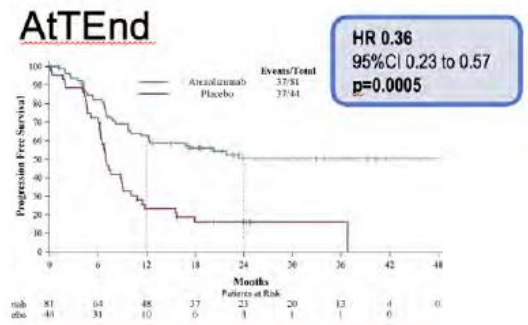
Adapted from Eskander UC5 2024



	No with events%	Median
<u>Pembro</u> + CT	23.2	NR (30.6-NR)
Placebo + CT	52.2	7.6 (6.4-9.9)

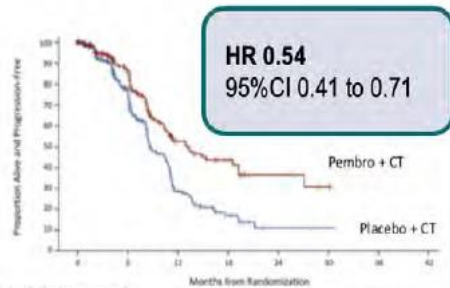


	No with events%	Median
<u>Dorsta</u> + CT	35.8	NR (11.8-NR)
Placebo + CT	72.3	7.7 (5.6-9.7)



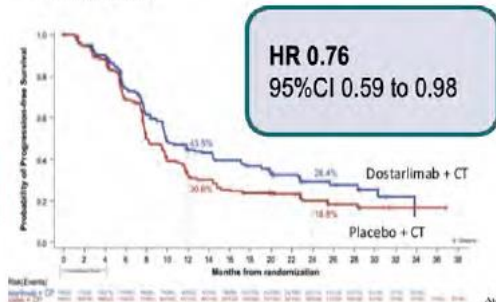
	No with events%	Median
<u>Atezo</u> + CT	45.7	NR (12.3-NR)
Placebo + CT	84.1	6.9 (6.2-9.0)

GY018



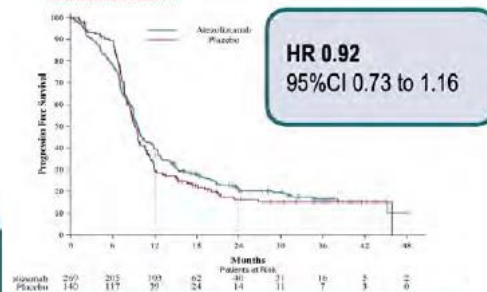
	No with events%	Median
Pembro + CT	30.6	13.1 (10.5-18.8)
Placebo + CT	45.5	8.7 (8.4-10.7)
Maturity	38.1%	

RUBY



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

AtTEnd



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

	GY018 Pembro	RUBY Dostarlimab
Measurable stage III/IVA	X	X
Non-measurable stage IVB	X	X
Non-measurable clear cell, carcinosarcoma, serous, mixed, IIIC2-IVA		X
Recurrent EMCA	X	X
Carcinosarcoma		X
PS 0-1	X	X
PS 2	X	
Time since completion of adjuvant chemo	≥12 mo	≥6 mo

What about IO in early stage completely resected Endometrial cancer? (ENGOT-E11/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 of any histology with known aberrant p53 expression or TP53 mutation with myometrial invasion
 - FIGO (2009) surgical stage III/IVA of any histology
- No prior radiation or systemic therapy (including neoadjuvant) for EC

Stratification Factors

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

R 1:1
N=1095

Stage 1

Stage 2

Carboplatin (AUC 5 or 6) +
paclitaxel 175 mg/m²
(Q3W, 4 or 6 cycles)^a

± radiotherapy
± cisplatin^b

Pembrolizumab
200 mg Q3W (6 cycles)

Pembrolizumab
400 mg Q6W (6 cycles)

Carboplatin (AUC 5 or 6) +
paclitaxel 175 mg/m²
(Q3W, 4 or 6 cycles)^a

± radiotherapy
± cisplatin^b

Placebo
Q3W (6 cycles)

Placebo
Q6W (6 cycles)

Dual primary endpoints

- DFS as assessed radiographically by the investigator or by histopathologic confirmation
- OS

What about IO in early stage completely resected Endometrial cancer? (ENGOT-E11/GOG-3053-KEYNOTE- B21)

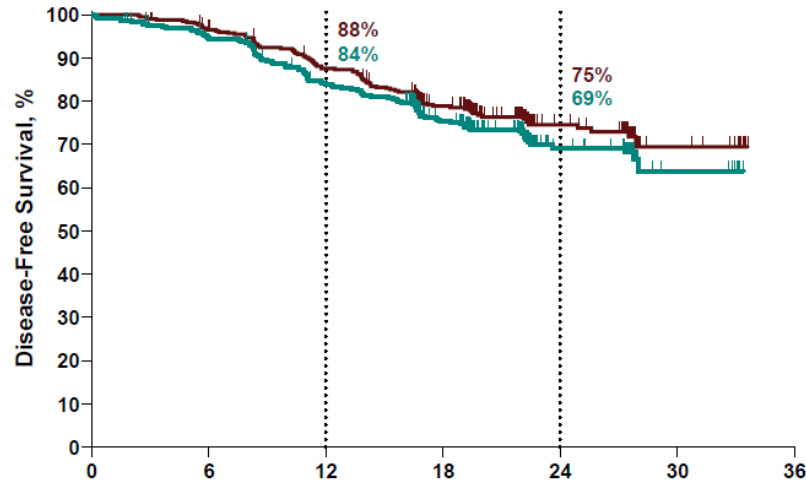
Characteristic	Pembro + Chemo (n = 545)	Placebo + Chemo (n = 550)
Age, median (range), y	62 (29–95)	62 (27–89)
ECOG PS 0	409 (75%)	416 (76%)
Race		
White	315 (58%)	362 (66%)
Asian	189 (35%)	157 (29%)
Multiple	23 (4%)	10 (2%)
Black or African American	11 (2%)	13 (2%)
American Indian or Alaska Native	2 (<1%)	3 (<1%)
Missing	5 (<1%)	5 (<1%)
Lymph node dissection	483 (89%)	502 (91%)
Lymph node status		
Lymph node involvement	223 (41%)	250 (45%)
No lymph node involvement	300 (55%)	284 (52%)
Not evaluable	22 (4%)	16 (3%)
MMR status at study entry		
dMMR	141 (26%)	140 (25%)
pMMR	404 (74%)	410 (75%)

Characteristic	Pembro + Chemo (n = 545)	Placebo + Chemo (n = 550)
FIGO 2009 stage at study entry		
IA/B	146 (27%)	144 (26%)
II	40 (7%)	41 (7%)
IIIA	109 (20%)	94 (17%)
IIIB	20 (4%)	19 (3%)
IIIC1	144 (26%)	169 (31%)
IIIC2	78 (14%)	81 (15%)
IVA/B ^a	8 (1%)	2 (<1%)
Planned radiation therapy at study entry		
EBRT ^b with cisplatin	94 (17%)	95 (17%)
EBRT ^b without cisplatin	256 (47%)	246 (45%)
Brachytherapy only	49 (9%)	52 (9%)
No EBRT or brachytherapy	146 (27%)	157 (29%)
Histology subtype		
Endometrioid	297 (54%)	297 (54%)
Non-endometrioid	248 (46%)	253 (46%)

What about IO in early stage completely resected Endometrial cancer? (ENGOT-E11/GOG-3053-KEYNOTE- B21)

pMMR Subgroup

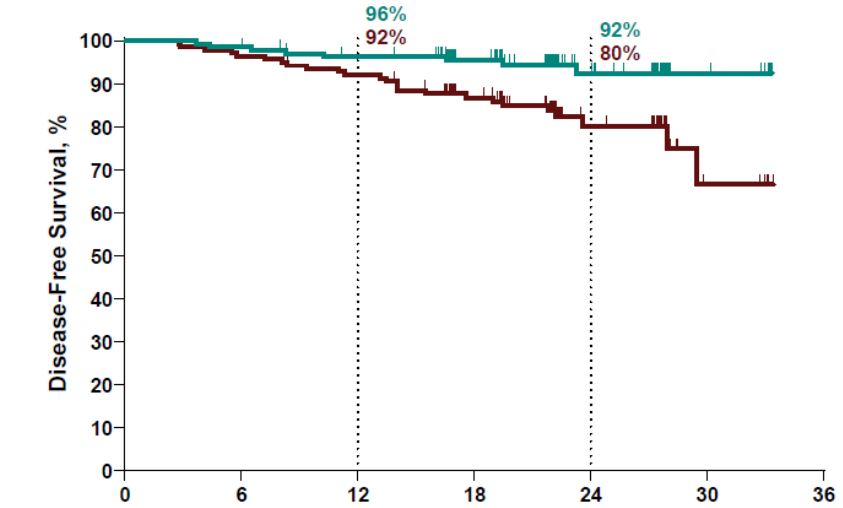
	Events, n (%)	Median (95% CI), mo	HR (95% CI)
Pembro + CT	111 (27)	NR (NR–NR)	1.20 (0.91–1.57)
Placebo + CT	96 (23)	NR (NR–NR)	



No. at risk	0	6	12	18	24	30	36
Pembro + CT	404	369	323	244	88	17	0
Placebo + CT	410	381	343	259	94	16	0

dMMR Subgroup

	Events, n (%)	Median (95% CI), mo	HR (95% CI)
Pembro + CT	8 (6)	NR (NR–NR)	0.31 (0.14–0.69)
Placebo + CT	25 (18)	NR (29.5–NR)	



No. at risk	0	6	12	18	24	30	36
Pembro + CT	141	136	129	103	46	10	0
Placebo + CT	140	134	127	99	39	7	0

What Lies Ahead: Will Immunotherapy be moved to the Frontline as a Chemotherapy Replacement?

**GOG 3064
KN-C93**

Primary endpoints:
PFS, OS

Key secondary endpoints:
ORR, DCR, DOR

Recruitment ongoing

dMMR patient population

**ENGOT-en13
DOMENICA**

Primary endpoint:
PFS

Key secondary endpoints:
OS, PROs, ORR, DOR

Recruitment ongoing

dMMR patient population

**ENGOT-en9
LEAP-001**

Pembrolizumab/Lenvatinib Miss OS, PFS in Endometrial Cancer

December 8, 2023
Sabrina Serani

Primary endpoints:

patient populations

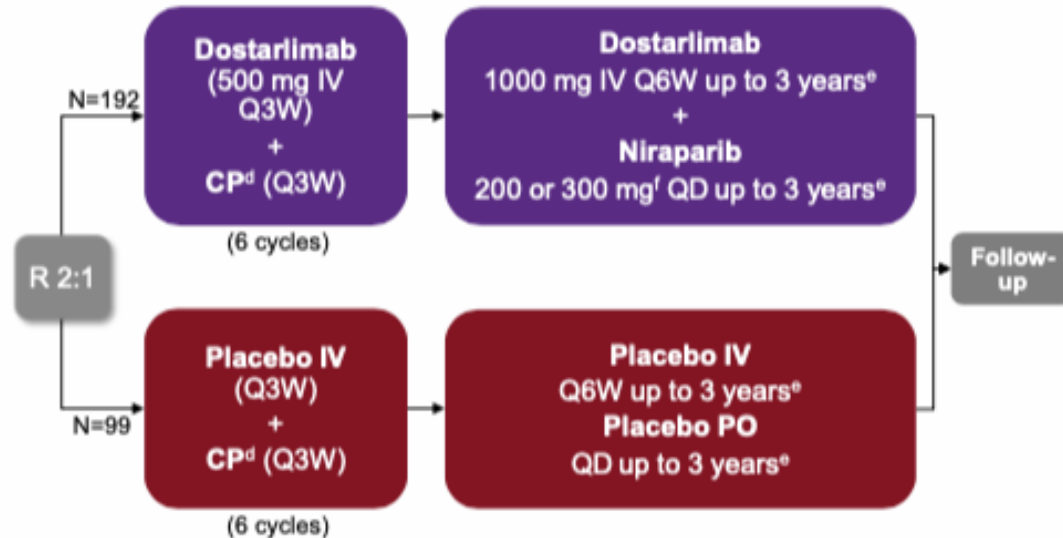
Chemo with IO followed by PARP IO maintenance: ENGOT/EN6-NSGO/GOG-3031/RUBY Part 2

Eligible patients

- Stage III/IV disease or first recurrent EC^a
 - All histologies except sarcomas^b
- 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^c
 - 25% dMMR/MSI-H
 - 75% MMRp/MSS
- Prior external pelvic radiotherapy
- Disease status



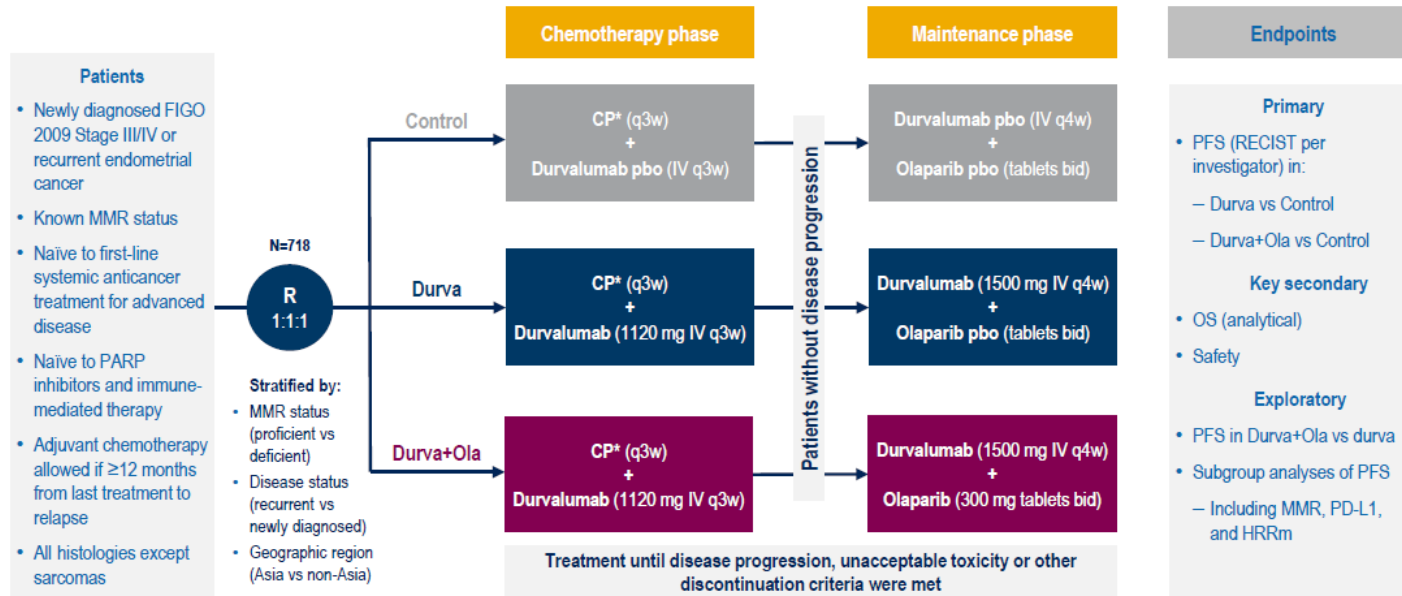
Primary endpoint

- 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

Chemo with IO followed by PARP IO maintenance: DUO-E/GOG-3014/ENGOT-en10



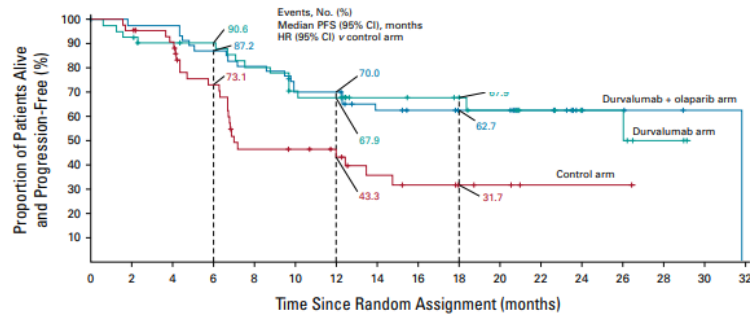
*Six cycles of carboplatin at an area under the concentration–time curve of 5 or 6 mg per mL/min and paclitaxel 175 mg/m². bid, twice daily; CP, carboplatin/paclitaxel; durva, durvalumab; FIGO, International Federation of Gynaecology and Obstetrics; HRRm, homologous recombination repair mutation; IV, intravenously; ola, olaparib; pbo, placebo; q3(4)w, every 3(4) weeks; R, randomisation; RECIST, Response Evaluation Criteria for Solid Tumours.

Chemo with IO followed PARP+ IO maintenance – dMMR

Stage III-IV or recurrent endometrial cancer, PARPi and IO naive

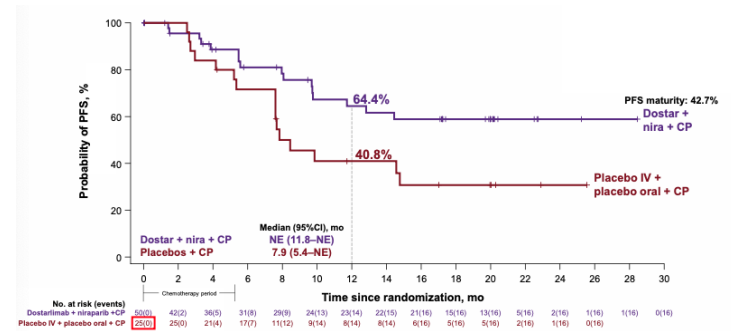
DUO-E

RUBY Part 2



No. at risk:

Time Since Random Assignment (months)	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32														
Durvalumab + olaparib arm	48	47	46	46	46	41	41	39	38	37	32	32	32	24	23	18	16	16	10	10	9	4	3	3	2	2	1	1	1	0	
Durvalumab arm	46	42	40	37	37	36	36	34	32	31	27	26	26	19	19	17	14	11	11	9	9	7	5	5	5	2	2	1	0	0	0
Control arm	49	45	43	41	39	29	28	19	17	17	16	15	13	10	9	8	7	7	5	4	4	2	2	2	2	2	0	0	0	0	0



No. at risk (events):

Time since randomization, mo	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
Dostarlimab + niraparib + CP	50(0)	43(2)	36(3)	31(8)	29(8)	24(13)	23(14)	22(15)	21(16)	15(16)	13(16)	5(16)	5(16)	2(16)	1(16)	1(16)
Placebo IV + placebo oral + CP	25(0)	25(0)	21(4)	17(7)	11(12)	9(14)	8(14)	8(14)	6(16)	5(16)	5(16)	2(16)	1(16)	0(16)	0(16)	0(16)

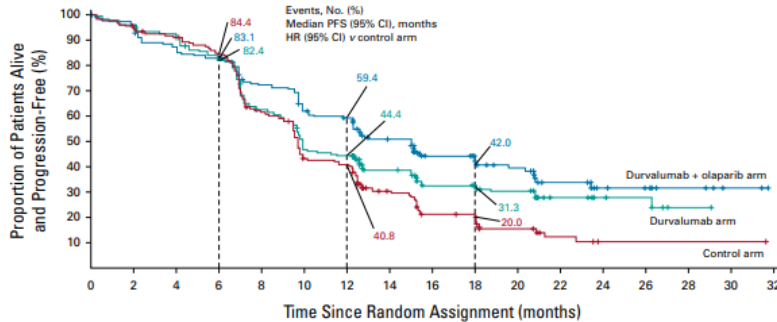
	PFS (mo)	HR vs control
Durvalumab + Olaparib	31.8	0.41 (0.21-0.75)
Durvalumab	NR	0.42 (0.22-0.80)
Control	7	

	PFS (mo)	HR vs control
Dostarlimab + Niraparib	NR	0.48 (0.24-0.96)
-		
Control	7.9	

Chemo with IO followed PARP+ IO maintenance – pMMR

Stage III-IV or recurrent endometrial cancer, PARPi and IO naive

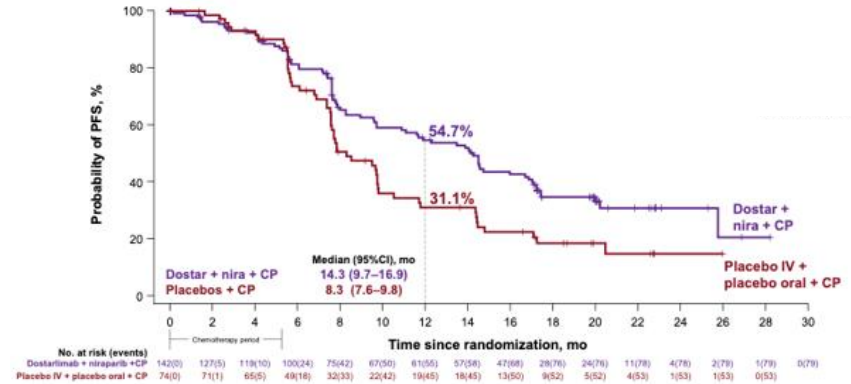
DUO-E



No. at risk:

Durvalumab + olaparib arm	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	5	4	2	2	0	
Durvalumab arm	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	0	
Control arm	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	1	0

RUBY Part 2

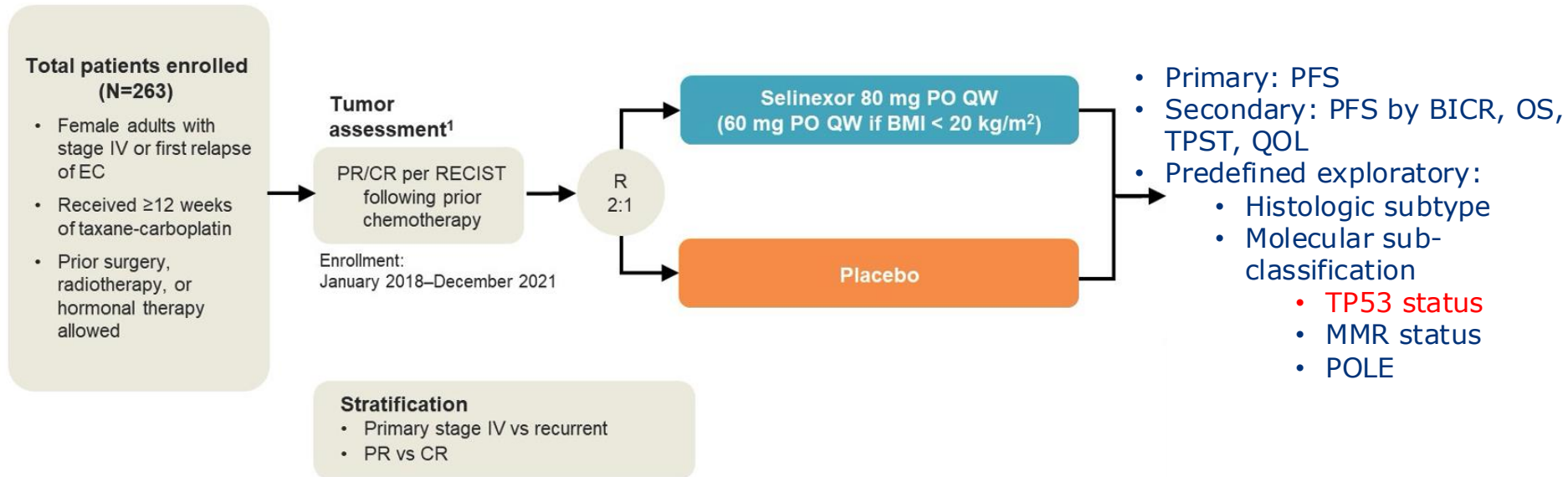


	PFS (mo)	HR vs control
Dostarlimab + Niraparib	14.3	0.63 (0.44-0.91)
-		
Control	8.3	

	PFS (mo)	HR vs control
Durvalumab + Olaparib	15	0.57 (0.44-0.73)
Durvalumab	9.9	0.77 (0.6-0.97)
Control	9.7	

What else is up and coming? ENGOT-EN5/GOG-3055/SIENDO

- Selinexor - novel oral maintenance therapy targeting TP53wt endometrial cancer
- Prevents XPO1-mediated export of tumor suppressor genes, including p53wt

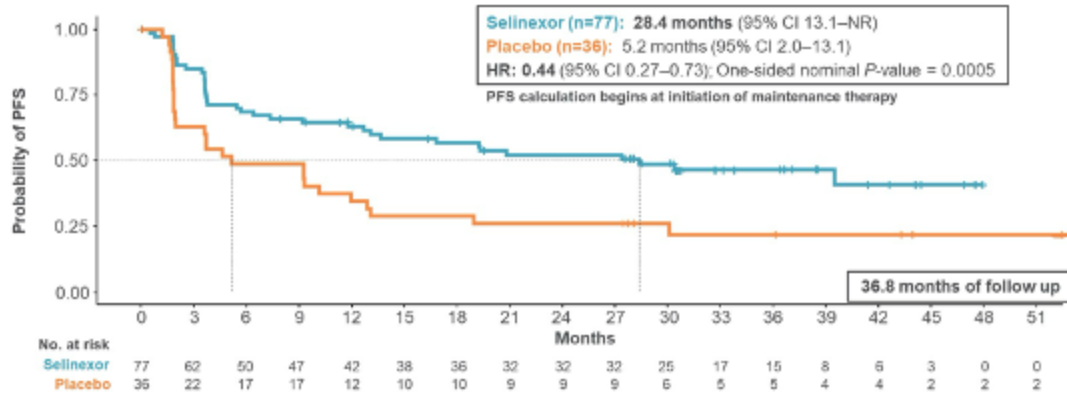


SIENDO

- Selinexor maintenance did not show clinically meaningful PFS
- Exploratory analysis showed promising PFS benefit in TP53wt subpopulation

	Selinexor	Placebo	P-value	Hazard Ratio (95% CI)
mPFS in Overall (months)	5.7	3.8	.126	0.76 (0.54 to 1.08)
mPFS in TP53 wild-type (months)	13.7	3.7	.002	0.41 (0.23 to 0.72)

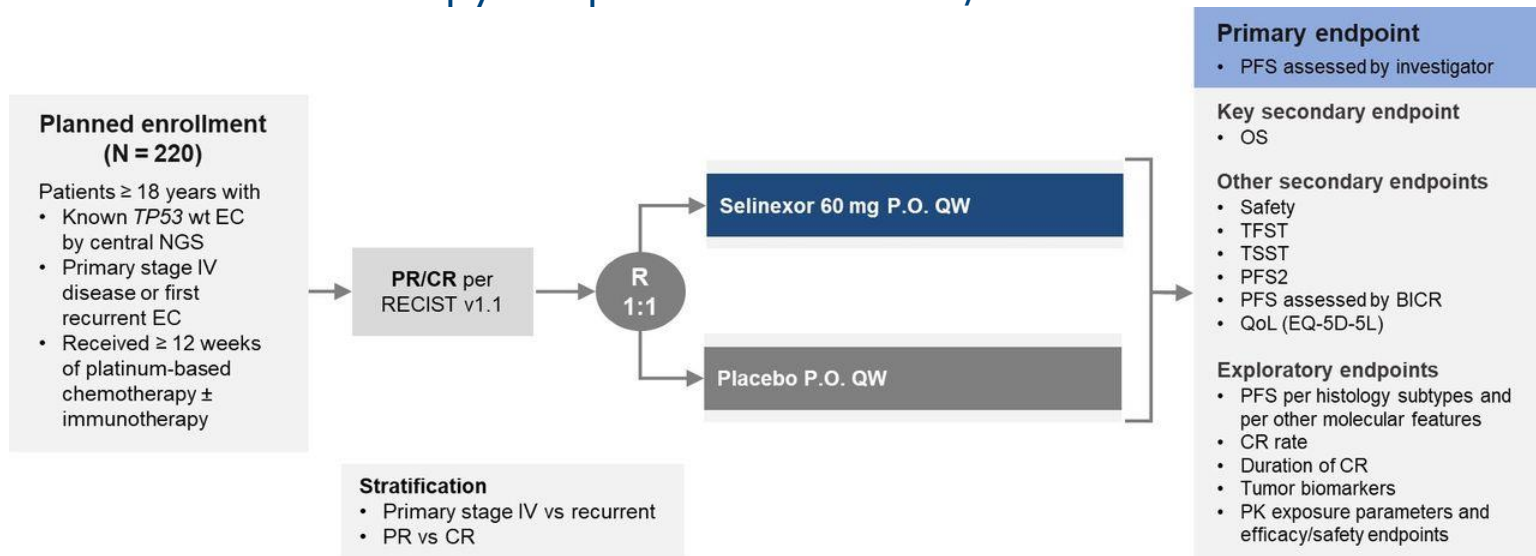
SIENDO sub-analysis: Long term mPFS in TP53wt Subgroup



TP53wt mPFS of 28.4 months with Selinexor vs 5.2 months months in placebo

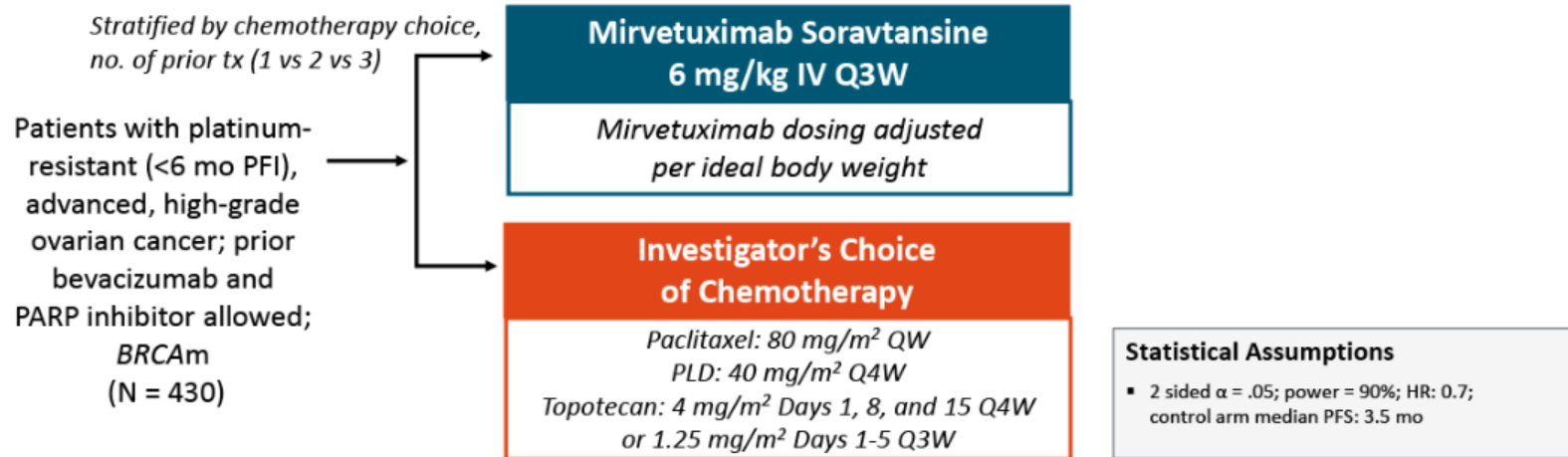
- TP53wt/pMMR subgroup mPFS 39.5 months with Selinexor
- TP53wt/dMMR subgroup mPFS 13.1 months with Selinexor

- ENGOT-EN20/GOG-3083/XPORT-EC-042: Selinexor maintenance after chemotherapy for p53wt in advance/recurrent endometrial



Mirasol: Mirvetuximab Soravtansine vs Investigator's Choice of Chemo in FRα PROC

- Randomized, open-label phase III study using PS2+ scoring in patients with FRα-high PROC

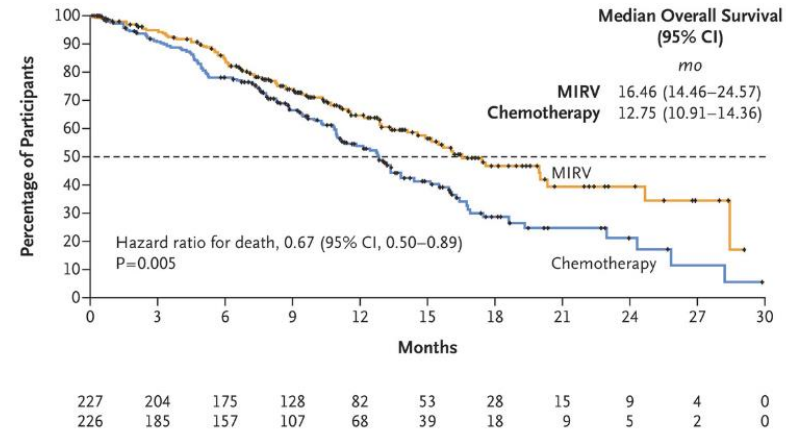
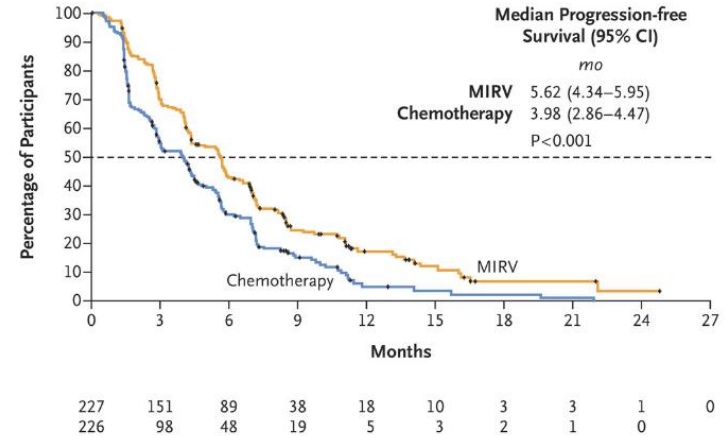


- Primary endpoints:** PFS by investigator (BICR for sensitivity analysis)
- Secondary endpoints:** ORR by investigator, OS, and PROs

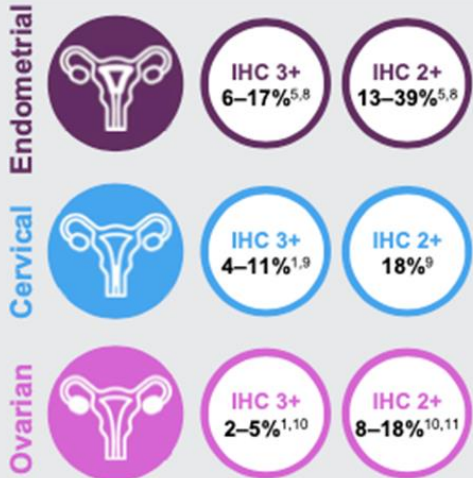
Mirvetuximab vs Chemo in PROC: Outcomes

Efficacy Endpoints	MIRV (n=227)	IC (n=226)	Hazard Ratio	P-value
mPFS (INV) (months, 95% CI)	5.62 (4.34, 5.95)	3.98 (2.86, 4.47)	0.65 (0.52, 0.81)	<0.0001
mPFS (BICR) (months, 95% CI)	5.91 (4.93, 6.97)	4.34 (3.52, 4.99)	0.72 (0.56, 0.92)	0.0082
ORR (INV) (95% CI)	42.3 (35.8, 49.0)	15.9 (11.4, 21.4)	NA	<0.0001
Complete response % (n)	5.3 (12)	0	NA	NA
Partial response % (n)	37.0 (84)	15.9 (36)	NA	NA
ORR (BICR) (95% CI)	36.1 (29.9, 42.7)	14.6 (10.3, 19.9)	NA	<0.0001
mOS (months, 95% CI)	16.46 (14.46, 24.57)	12.75 (10.91, 14.36)	0.67 (0.50, 0.88)	0.0046

Moore K et al, N Engl J Med December 6, 2023



HER2 IHC 3+ and 2+ prevalence



DESTINY-PanTumor02: T-DXd for HER2-expressing solid tumors

A Phase 2, open-label, multicenter study (NCT04482309)

Key eligibility criteria

- Advanced solid tumors not eligible for curative therapy
- 2L+ patient population
- HER2 expression (IHC 3+ or 2+)*
 - Cervical cohort was expanded to include five IHC 1+ patients†
- Prior HER2-targeting therapy allowed
- ECOG/WHO PS 0–1

T-DXd 5.4 mg/kg Q3W

n=40 per cohort‡

Primary endpoint

- Confirmed ORR (investigator)

Secondary endpoints

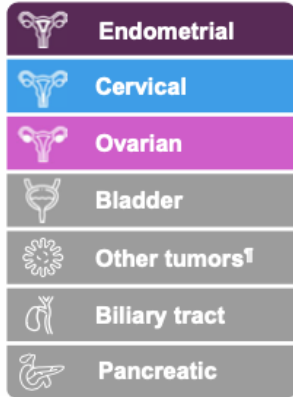
- DOR, DCR, PFS, OS
- Safety

Exploratory analyses

- Subgroup analyses by HER2 status[§]
- Subgroup analyses by biomarkers[§]

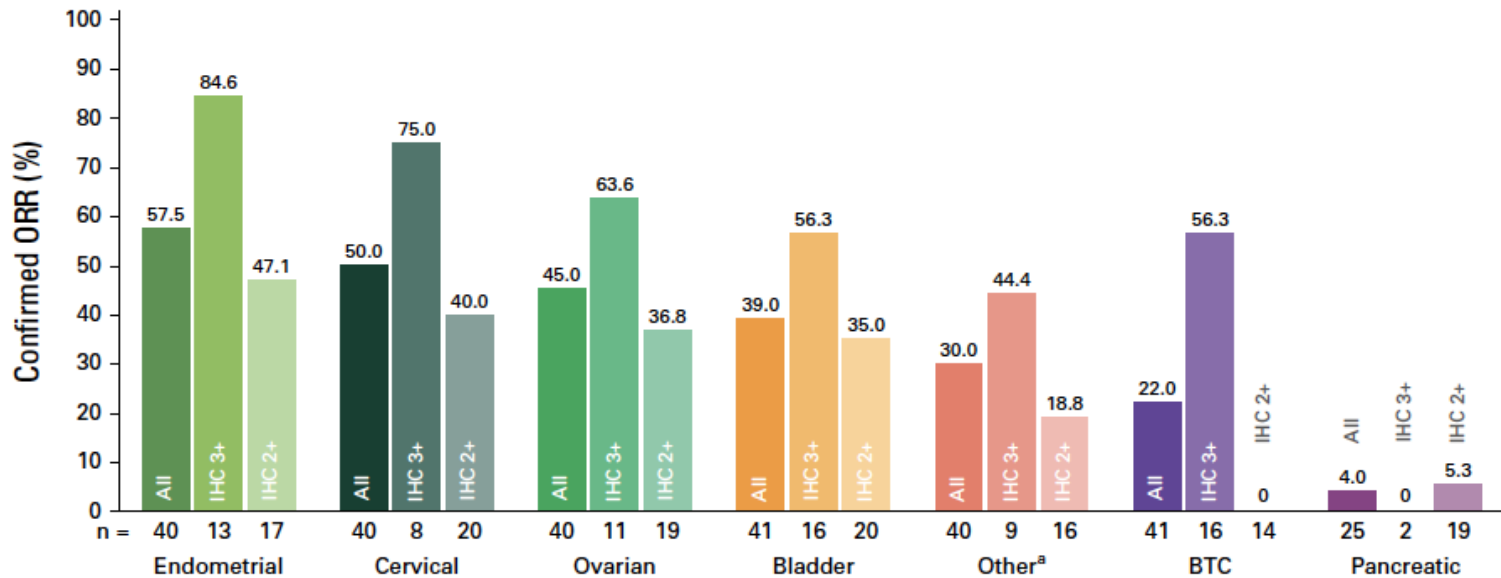
Primary analysis DCO

- June 8, 2023



- FDA approved for HER2 IHC 3+ recurrent solid tumors after prior systemic chemotherapy

DESTINY-PanTumor02



Meric-Bernstam, J Clin Oncol, 2024

Conclusions

- Cervical cancer
 - IO upfront – recurrent/metastatic PDL1+, stage III-IVA with chemoRT
 - Induction chemo prior to RT – INTERLACE – role TBD
- Endometrial
 - Upfront IO – all comers advanced/recurrent RUBY, NRG GY018, Keynote B21
 - PARP + IO maintenance –DUO- E & RUBY 2 – role TBD
 - P53 Wt maintenance - Selinexor promising initial data, trial ongoing
- Ovary
 - Mirvetuximab – FOLRα positive
- Gyn cancers
 - HER2 – Destiny – promising results in EMCA, OVCA, cervix

Thank you and Questions?

