

Cancer de l'endomètre:

DUO-E et UTOLA

Que faut-il retenir de ces deux essais pour nos patientes ?

Pr Jean-Emmanuel Kurtz

ICANS – Hôpitaux Universitaires de Strasbourg

Le cancer de l'endomètre, before et now

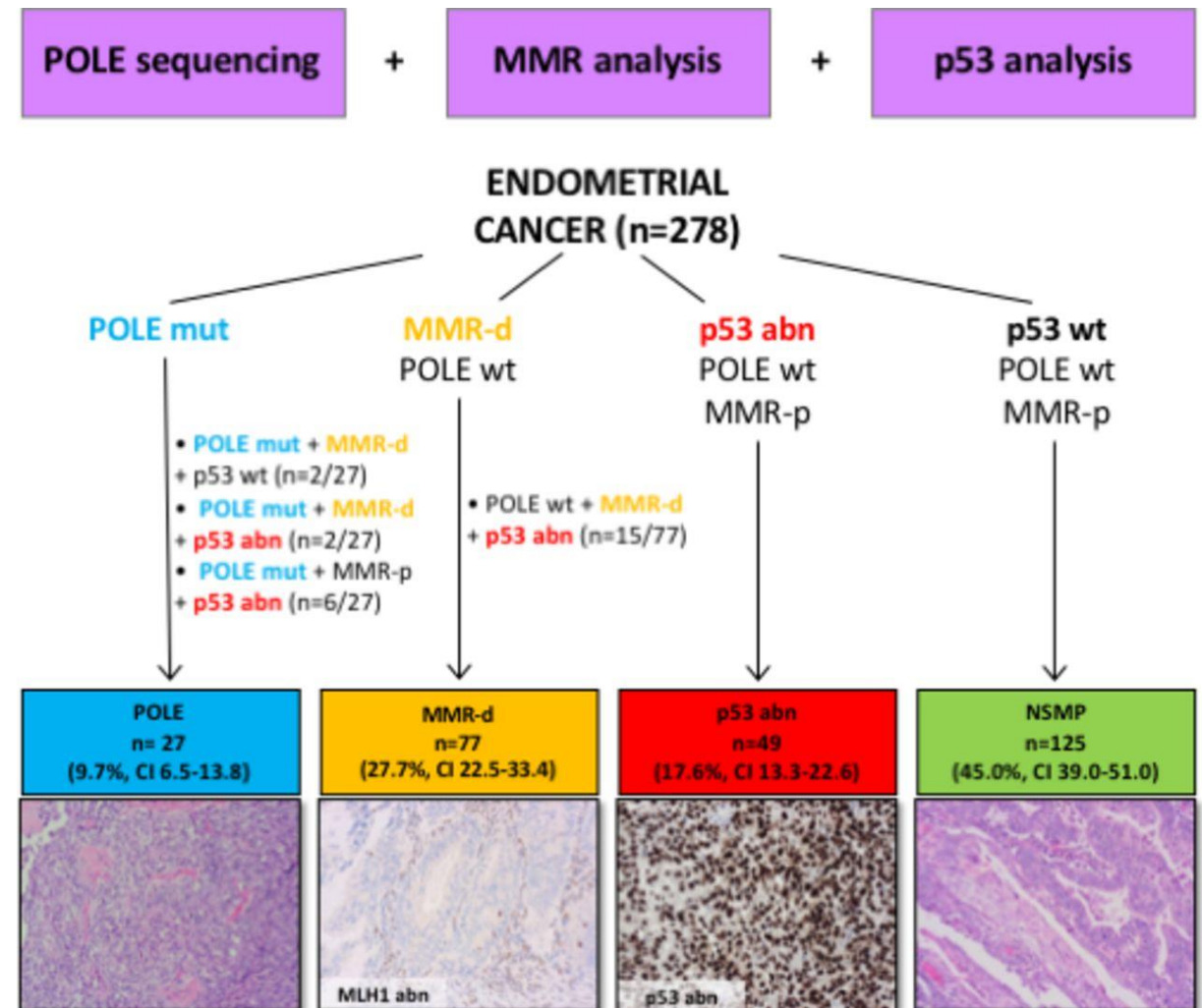


Yves Klein. Invention vitesse pure et stabilité monochrome, 1959



Le cancer de l'endomètre, before et now

	Type 1	Type 2
Clinical Features		
Risk factors	Unopposed estrogen	Age
Differentiation	Well differentiated	Poorly differentiated
Histology	Endometrioid	Serous, clear cell
Stage	I/II	III/IV
Prognosis	Favorable	Not favorable
Endometrial lining	Atrophic	Hyperplastic
Characteristic Molecular Features		
Ploidy	Diploid	Aneuploid
P53 overexpression	No	Yes
<i>PTEN</i> mutations	Yes	No
Microsatellite instability	Yes	No



Vers un traitement personnalisé du cancer de l'endomètre

- La chimiothérapie pour tous (sans discernement) n'est plus vraiment une option
- Au-delà de « hormonothérapie vs chimiothérapie »
- Recherche de cibles thérapeutiques
- Avènement de deux classes thérapeutiques majeures en oncologie gynécologique
- Inhibiteurs de PARP
 - Vers un traitement d'entretien comme dans le cancer de l'ovaire ?
- Inhibiteurs de checkpoints du système immunitaire
 - Un changement de paradigme dans les cancers MSI ?

Durvalumab plus carboplatin/paclitaxel followed by maintenance durvalumab \pm olaparib as a first-line treatment for newly diagnosed advanced or recurrent endometrial cancer: results from the Phase III DUO-E/GOG-3041/ENGOT-EN10 trial

Shannon N. Westin,¹ Kathleen N. Moore,² Hye Sook Chon,³ Jung-Yun Lee,⁴ Jessica Thomes Pepin,⁵ Michael Sundborg,⁶ Joseph de la Garza,⁷ Shin Nishio,⁸ Ke Wang,⁹ Kristi McIntyre,¹⁰ Todd D. Tillmanns,¹¹ Fernando Contreras Mejia,¹² Andreia Cristina De Melo,¹³ Dagmara Klasa-Mazurkiewicz,¹⁴ Christos Papadimitriou,¹⁵ Marta Gil-Martin,¹⁶ Birute Brasiuniene,¹⁷ Conor Donnelly,¹⁸ Xiaochun Liu,¹⁹ Els Van Nieuwenhuysen²⁰

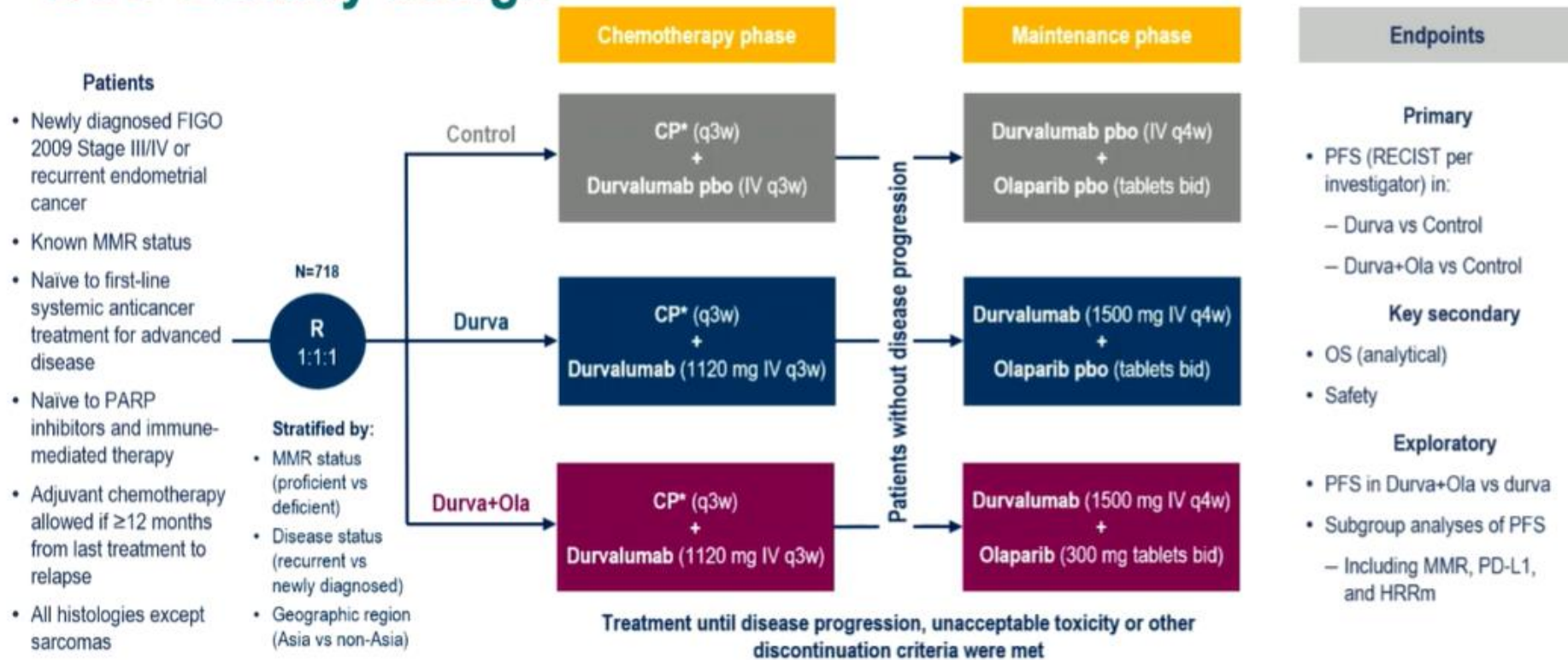
¹University of Texas MD Anderson Cancer Center, Houston, TX, USA; ²University of Oklahoma Medical Center, Oklahoma City, OK, USA; ³Moffitt Cancer Center, University of South Florida, Tampa, FL, USA; ⁴Department of Obstetrics and Gynecology, Yonsei University College of Medicine, Seoul, Republic of Korea; ⁵Minnesota Oncology, Maplewood, MN, USA; ⁶FirstHealth Moore Regional Hospital, Pinehurst, NC, USA; ⁷Texas Oncology-San Antonio Medical Center, San Antonio, TX, USA; ⁸Department of Obstetrics and Gynecology, Kurume University School of Medicine, Kurume, Fukuoka, Japan; ⁹Tianjin Medical University Cancer Institute & Hospital, Tianjin, China; ¹⁰Texas Health Presbyterian Hospital, Dallas, TX, USA; ¹¹West Cancer Center, Germantown, TN, USA; ¹²National Cancer Institute of Colombia, Bogotá, Colombia; ¹³Brazilian National Cancer Institute, Clinical Research and Technological Development Division, Rio de Janeiro, Brazil; ¹⁴Department of Obstetrics and Gynecology, Gynecological Oncology and Gynecological Endocrinology, Medical University of Gdańsk, Gdańsk, and PGOG, Poland; ¹⁵2nd Department of Surgery Aretaieon Hospital, The National and Kapodistrian University of Athens, Athens, and HeCOG, Greece; ¹⁶Medical Oncology Department, Catalan Institute of Oncology-Institut d'Investigació Biomèdica de Bellvitge (IDIBELL), Hospital Duran i Reynals, L'Hospitalet-Barcelona, Barcelona, and GEICO, Spain; ¹⁷Department of Medical Oncology, National Cancer Institute of Lithuania, Faculty of Medicine of Vilnius University, Vilnius, and NSGO, Lithuania; ¹⁸Oncology Biometrics, AstraZeneca, Cambridge, UK; ¹⁹Oncology R&D, Late-stage Development, AstraZeneca, Gaithersburg, MD, USA; ²⁰UZ Leuven, Leuven, and BGOG, Belgium

Conducted in partnership with the Gynecologic Oncology Group (GOG-3041) and the European Network for Gynaecological Oncological Trial groups (ENGOT-EN10). ClinicalTrials.gov identifier: NCT04269200. This study was sponsored by AstraZeneca.



Des inhibiteurs de PARP dans le cancer de l'endomètre

DUO-E study design



*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.

Patient characteristics

Characteristics		Control (N=241)	Durva (N=238)	Durva+Ola (N=239)
Age, years	Median (range)	64 (31–85)	64 (22–84)	63 (27–86)
Geographic region,* %	Asia	28	29	28
	Non-Asia	72	71	72
Race, %	White	59	57	56
	Asian	30	30	29
	Black/African American	4	5	6
	American Indian/Alaska Native	0	3	3
	Other or not reported	6	5	7
Ethnicity, %	Not Hispanic or Latino	90	87	86
	Hispanic or Latino	8	12	13
Disease status, %	Newly diagnosed*	48	47	48
	FIGO Stage III	5	7	5
	FIGO Stage IV	42	40	41
	Recurrent*	52	53	52
ECOG PS, %	(0) Normal Activity	65	66	69
	(1) Restricted Activity	35	34	31
Measurable disease at baseline, %		82	85	77

Characteristics		Control (N=241)	Durva (N=238)	Durva+Ola (N=239)
MMR status,*† %	Proficient	80	81	80
	Deficient	20	19	20
PD-L1 status,‡ %	Positive (TAP score ≥1%)	68	71	63
	Negative (TAP score <1%)	31	26	34
	Unknown	1	3	3
HRRm status,§ %	HRRm	13	11	16
	Non-HRRm	55	58	59
	Unknown	32	31	25
Histology type at diagnosis, %	Endometrioid	58	59	64
	Serous	22	24	18
	Carcinosarcoma	9	5	8
	Mixed, epithelial	5	4	4
	Clear cell	3	2	3
	Undifferentiated	1	2	2
	Mucinous or other	2	4	2
Previous chemotherapy, %	21	21	23	
Previous radiotherapy, %	29	31	36	
Prior surgery, %	84	86	87	

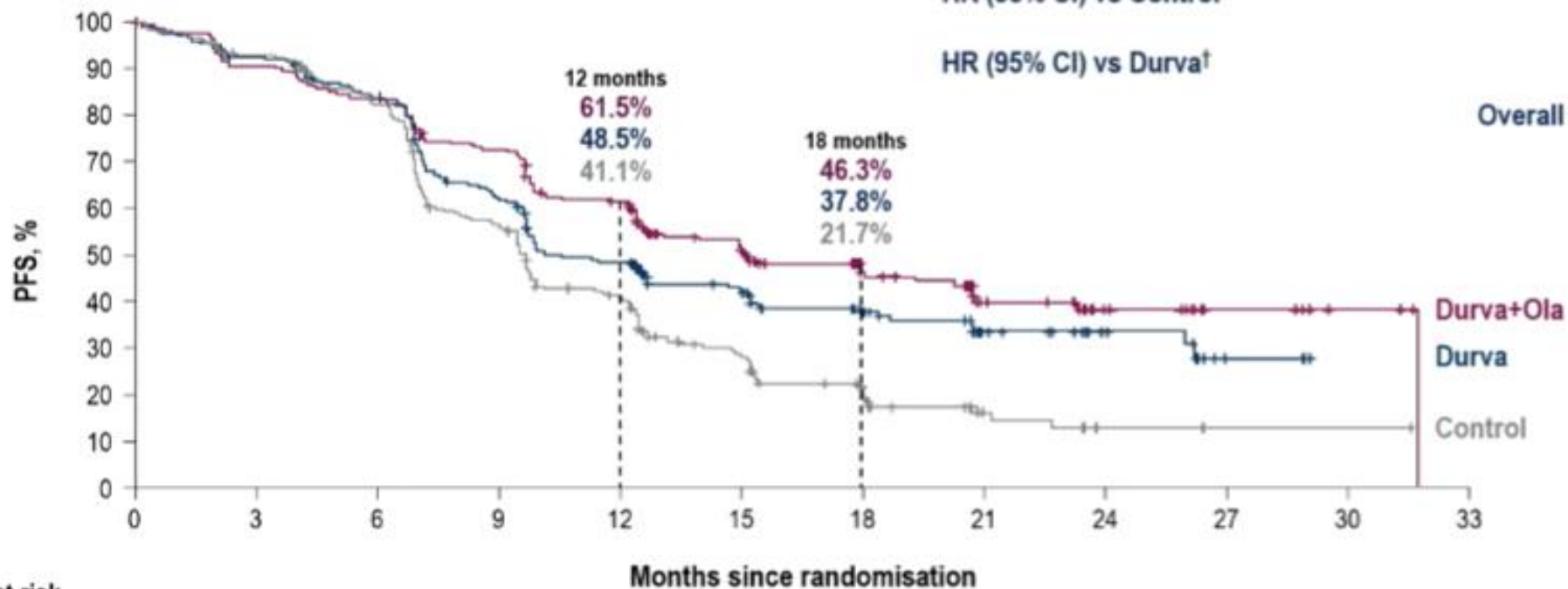
Percentages may not total 100 because of rounding. *Stratification factors (MMR status [proficient vs deficient], disease status [newly diagnosed vs recurrent], and geographic region [Asia vs non-Asia]) are per the randomisation code. Two patients with 'unknown' MMR status per central laboratory were randomised as 'deficient' per interactive voice response system, based on local testing. Asia included China, Hong Kong, India, Japan, Singapore and South Korea; †MMR status evaluated using the Ventana immunohistochemistry MMR panel; ‡PD-L1 expression evaluated using Ventana SP263; §HRRm status evaluated using the Foundation One CDx NGS assay and includes deleterious or suspected deleterious mutations in *ATM*, *BRCA1*, *BRCA2*, *BARD1*, *BRIP1*, *CDK12*, *CHEK1*, *CHEK2*, *FANCL*, *PALB2*, *RAD51B*, *RAD51C*, *RAD51D*, *RAD54L*. HRRm status unknown includes patients recruited in China where HRR testing was not performed and patients with samples that were unavailable for testing. ECOG PS, Eastern Cooperative Oncology Group performance status; TAP, tumour area positivity.

PFS: ITT population

Primary endpoint

	Control (N=241)	Durva (N=238)	Durva+Ola (N=239)
Events, n (%)	173 (71.8)	139 (58.4)	126 (52.7)
Median PFS (95% CI),* months	9.6 (9.0–9.9)	10.2 (9.7–14.7)	15.1 (12.6–20.7)
HR (95% CI) vs Control†		0.71 (0.57–0.89); P=0.003	0.55 (0.43–0.69); P<0.0001
HR (95% CI) vs Durva‡			0.78 (0.61–0.99)

Overall data maturity 61.0%



No. at risk

	0	3	6	9	12	15	18	21	24	27	30	33
Durva+Ola	239	214	198	169	139	95	51	30	16	7	3	0
Durva	238	211	188	138	105	69	45	26	13	5	0	0
Control	241	213	184	125	86	45	26	10	3	1	1	0

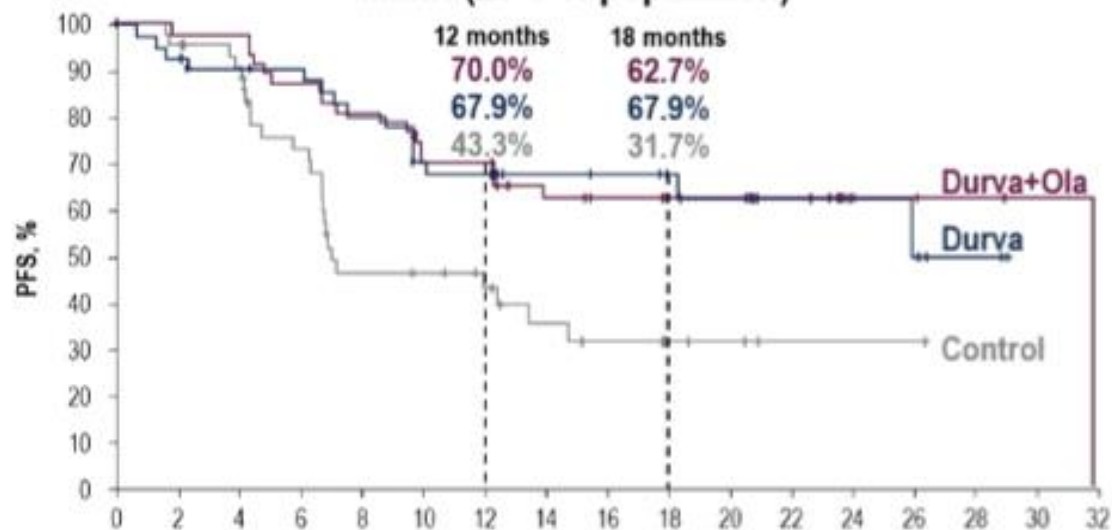
The median (range) duration of follow-up for PFS was 12.6 (0.0–31.6), 15.4 (0.0–29.1), and 15.4 (0.0–31.7) months in censored patients for the Control, Durva, and Durva+Ola arms, respectively. PFS rates were estimated by the KM method. *CI for median PFS is derived based on the Brookmeyer–Crowley method; †The primary PFS analysis for each comparison was performed separately. The HR and CI were estimated from a Cox proportional hazards model stratified by MMR and disease status. The CI was calculated using a profile likelihood approach.

The P value was calculated using a log-rank test stratified by MMR and disease status. ITT, intent-to-treat; KM, Kaplan–Meier.

Subgroup analysis of PFS by MMR status

Prespecified exploratory analysis

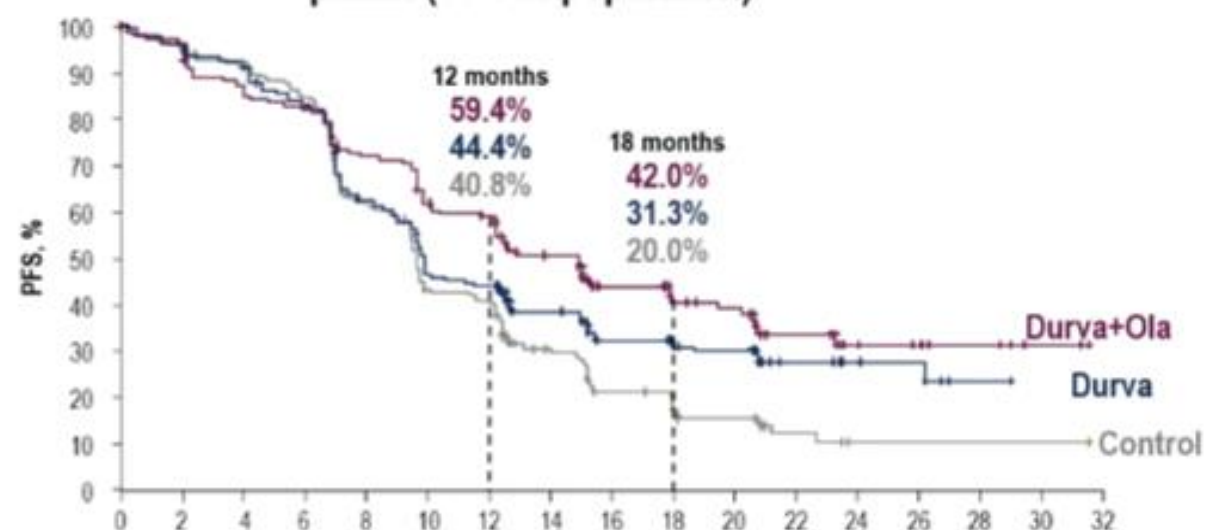
dMMR (20% of population)



No. at risk	Months since randomisation																
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
Durva+Ola	49	43	39	28	17	16	13	9	7	5	4	2	2	0	0	0	
Durva	46	40	37	36	32	27	26	19	17	14	11	9	5	5	2	0	0
Control	48	46	46	41	38	32	32	23	18	16	26	10	4	3	2	1	0

	Control (N=49)	Durva (N=46)	Durva+Ola (N=48)
Events, n (%)	25 (51.0)	15 (32.6)	18 (37.5)
Median PFS (95% CI),* months	7.0 (6.7–14.8)	NR (NR–NR)	31.8 (12.4–NR)
HR (95% CI) vs Control†		0.42 (0.22–0.80)	0.41 (0.21–0.75)
HR (95% CI) vs Durva†			0.97 (0.49–1.98)

pMMR (80% of population)



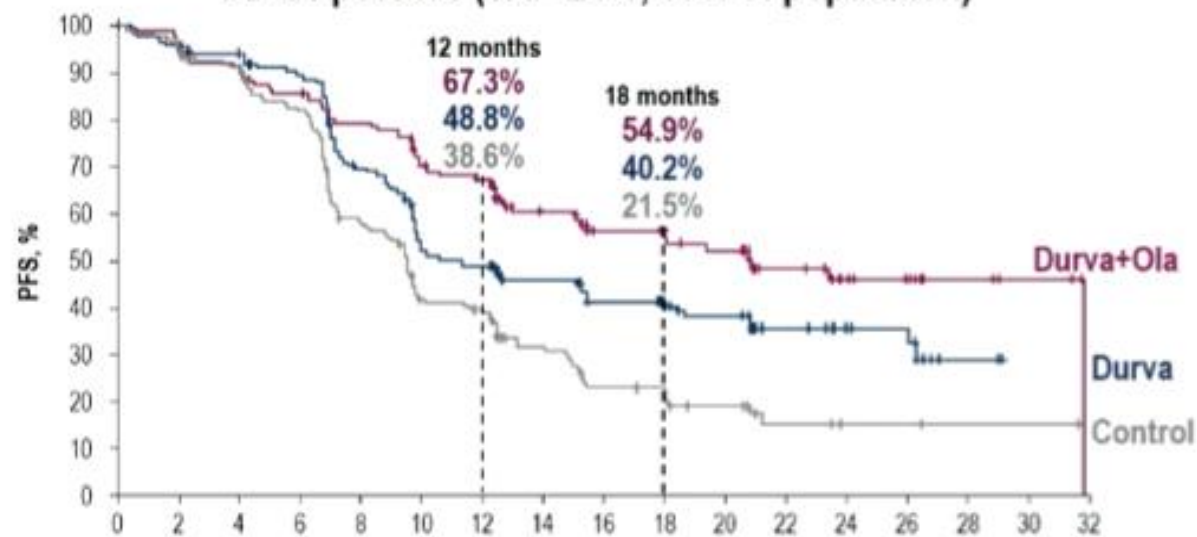
No. at risk	Months since randomisation																
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
Durva+Ola	192	178	170	156	113	77	73	40	25	21	13	7	1	1	1	1	0
Durva	192	182	169	152	113	83	79	53	36	31	27	15	8	7	2	0	0
Control	191	183	164	157	134	114	107	75	46	35	31	19	12	10	5	2	0

	Control (N=192)	Durva (N=192)	Durva+Ola (N=191)
Events, n (%)	148 (77.1)	124 (64.6)	108 (56.5)
Median PFS (95% CI),* months	9.7 (9.2–10.1)	9.9 (9.4–12.5)	15.0 (12.4–18.0)
HR (95% CI) vs Control†		0.77 (0.60–0.97)	0.57 (0.44–0.73)
HR (95% CI) vs Durva†			0.76 (0.59–0.99)

Subgroup analysis of PFS by PD-L1 status

Prespecified exploratory analysis

PD-L1 positive (TAP $\geq 1\%$; 69% of population)

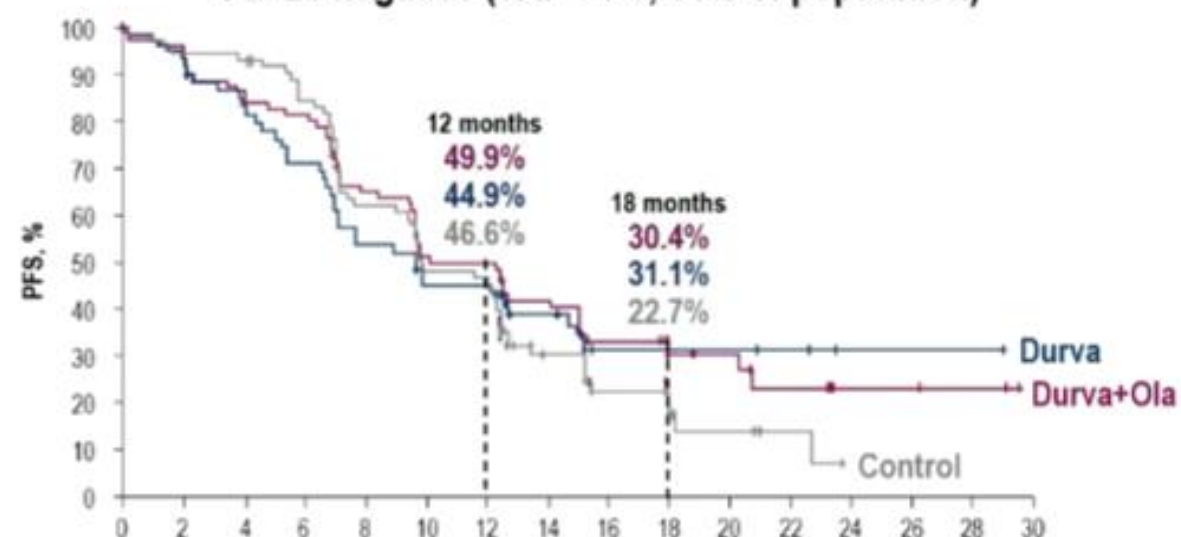


No. at risk	Months since randomisation																
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
Durva+Ola	150	144	135	126	116	101	95	66	45	40	37	23	13	10	5	3	0
Durva	170	158	152	142	109	80	75	53	43	38	33	21	12	11	3	0	0
Control	163	149	139	122	85	58	53	33	22	17	13	7	3	3	1	1	0

	Control (N=163)	Durva (N=170)	Durva+Ola (N=150)
--	-----------------	---------------	-------------------

Events, n (%)	114 (69.9)	97 (57.1)	68 (45.3)
Median PFS (95% CI),* months	9.5	11.3	20.8
HR (95% CI) vs Control†		0.63 (0.48–0.83)	0.42 (0.31–0.57)
HR (95% CI) vs Durva†			0.67 (0.49–0.91)

PD-L1 negative (TAP $< 1\%$; 31% of population)



No. at risk	Months since randomisation															
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
Durva+Ola	82	78	69	66	51	40	39	28	18	10	9	6	3	3	2	0
Durva	61	57	48	41	31	25	25	16	9	6	4	3	1	1	1	0
Control	75	69	68	60	44	34	33	16	10	9	4	2	0	0	0	0

	Control (N=75)	Durva (N=61)	Durva+Ola (N=82)
--	----------------	--------------	------------------

Events, n (%)	57 (76.0)	38 (62.3)	55 (67.1)
Median PFS (95% CI),* months	9.9	9.7	10.1
HR (95% CI) vs Control†		0.89 (0.59–1.34)	0.80 (0.55–1.16)
HR (95% CI) vs Durva†			0.93 (0.61–1.41)

OS: ITT population

Secondary endpoint; interim analysis

	Control (N=241)	Durva (N=238)	Durva+Ola (N=239)
Events, n (%)	82 (34.0)	65 (27.3)	52 (21.8)
Median OS (95% CI),* months	25.9 (23.9–NR)	NR (NR–NR)	NR (NR–NR)
HR (95% CI) vs Control†		0.77 (0.56–1.07); P=0.120	0.59 (0.42–0.83); P=0.003
HR (95% CI) vs Durva‡			0.77 (0.53–1.10)



No. at risk	Months since randomisation												
	0	3	6	9	12	15	18	21	24	27	30	33	36
Durva+Ola	239	233	227	208	202	152	109	77	38	18	8	2	0
Durva	238	227	221	205	192	147	105	64	34	17	6	0	0
Control	241	229	215	201	185	136	104	69	35	15	4	0	0

The median (range) duration of follow-up for OS was 18.6 (0.5–32.9), 18.4 (2.1–33.0), and 18.7 (1.1–33.4) months in censored patients for the Control, Durva, and Durva+Ola arms, respectively. OS rates were estimated by the KM method. *CI for median OS is derived based on the Brookmeyer–Crowley method; †The HRs were estimated from an unstratified Cox proportional hazards model. The CI was calculated using a profile likelihood approach. P values were calculated using an unstratified log-rank test. P values failed to reach statistical significance.

NR, not reached.

Que faut-il retenir de DUO-E ?

- Y a-t-il vraiment un apport de l'olaparib ?
- Pas d'analyse BRCA/HRD (pas de bénéfice dans la population dMMR)
- Vs NRG GY-018 (carboplatine paclitaxel + pembrolizumab)
- A venir: DOMENICA dans la population dMMR

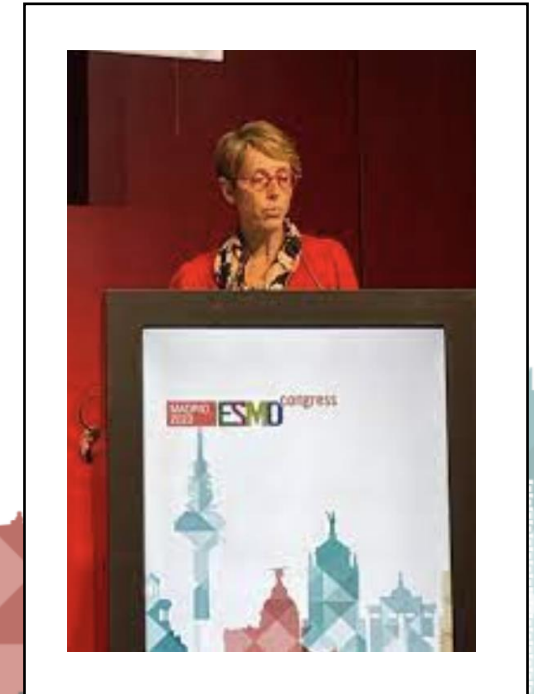
Les questions qui restent en suspens

- Hétérogénéité du groupe NSMP (No Specific Mutation Profile)
- Quel test compagnon pour l'inhibiteur de PARP ?
 - Il n'est pas dit que les tests et seuils du cancer de l'ovaire soient applicables au cancer de l'endomètre
- Il faut résoudre une équation à plusieurs variables qui sont peut-être (dans une certaine proportion) interdépendantes:
 - HRD/HRP
 - P53mut/non mut
 - pMMR/dMMR
 - PD1 vs PDL1 Mab

Olaparib vs placebo as maintenance therapy after platinum based chemotherapy in advanced/metastatic endometrial cancer patients: The GINECO randomized phase IIb UTOLA trial

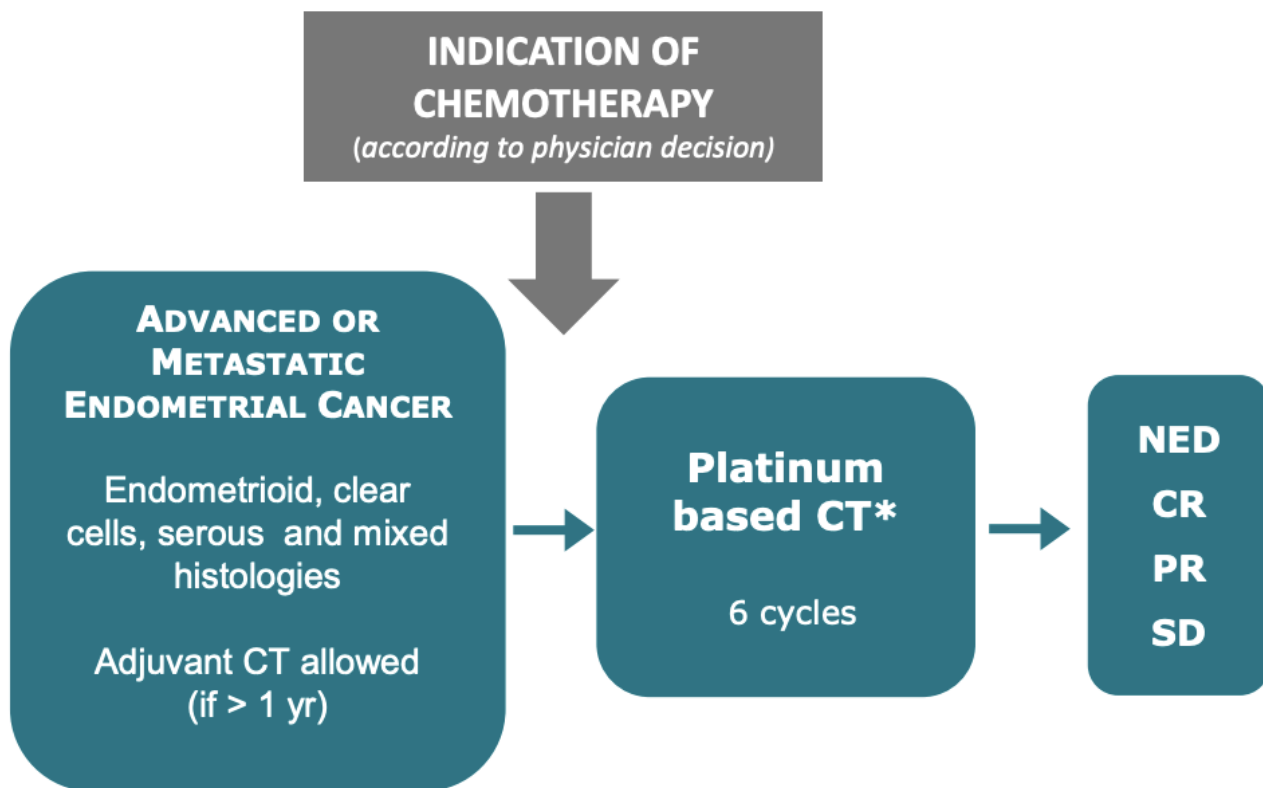
Florence Joly¹, Alexandra Leary², Isabelle Ray-Coquard³, Bernard Asselain⁴, Manuel Rodrigues⁵, Laurence Gladieff⁶, Fernando Bazan⁷, Sophie Abadie-Lacourtoisie⁸, Coriolan Lebreton⁹, Leïla Bengrine¹⁰, Karen Leroy¹¹, Raphaël Leman¹², Céline Callens⁵, Pierre Fournel¹³, Rémy Largillier¹⁴, Frédéric Selle¹⁵, Jean Sébastien Frenel¹⁶, Yolanda Fernandez Diez¹⁷, Cyril Foa¹⁸, Benoit You¹⁹, Jérôme Alexandre²⁰

¹Centre François Baclesse, CAEN, France, ²Gustave Roussy, VILLEJUIF, France, ³Centre Léon Bérard, LYON, France, ⁴Arcagy-Gineco, PARIS, France, ⁵Institut Curie, PARIS, France, ⁶Institut Claudius Régaud IUCT Oncopole, TOULOUSE, France, ⁷Centre Hospitalier Régional Universitaire – Hôpital Jean Minjot, BESANCON, France, ⁸Institut de Cancérologie de l'Ouest – Site Paul Papin, ANGERS, France, ⁹Institut Bergonié, BORDEAUX, France, ¹⁰Centre Georges François Leclerc, DIJON, France, ¹¹Département de médecine génomique des tumeurs et cancers, Université Paris Cité, AP-HP, Hôpital Européen Georges Pompidou, PARIS, France, ¹²Département de Bio-Pathologie, Centre François Baclesse, CAEN, France, ¹³Centre Hospitalier Universitaire Saint-Etienne, pôle de cancérologie, SAINT ETIENNE, France, ¹⁴Centre Azuréen de Cancérologie, MOUGINS, France, ¹⁵Groupe Hospitalier Diaconesses Croix Saint-Simon, PARIS, France, ¹⁶Institut de Cancérologie de l'Ouest – Site René Gauducheau, SAINT-HERBLAIN, France, ¹⁷Institut de Cancérologie de Lorraine – Centre Alexis Vautrin, VANDOEUVRE-LES-NANCY, France, ¹⁸Hôpital Saint-Joseph, MARSEILLE, France, ¹⁹Hospices Civil de Lyon – Centre Hospitalier Lyon Sud, PIERRE BENITE, France, ²⁰Université de Paris Cité, AP-HP, Cochin Port Royal, PARIS, France.



UTOLA study design

Randomized phase II trial



*Chemotherapy, at least 4 cycles
Recommended regimen : Carboplatin plus Paclitaxel

Primary endpoint : PFS in the ITT Population

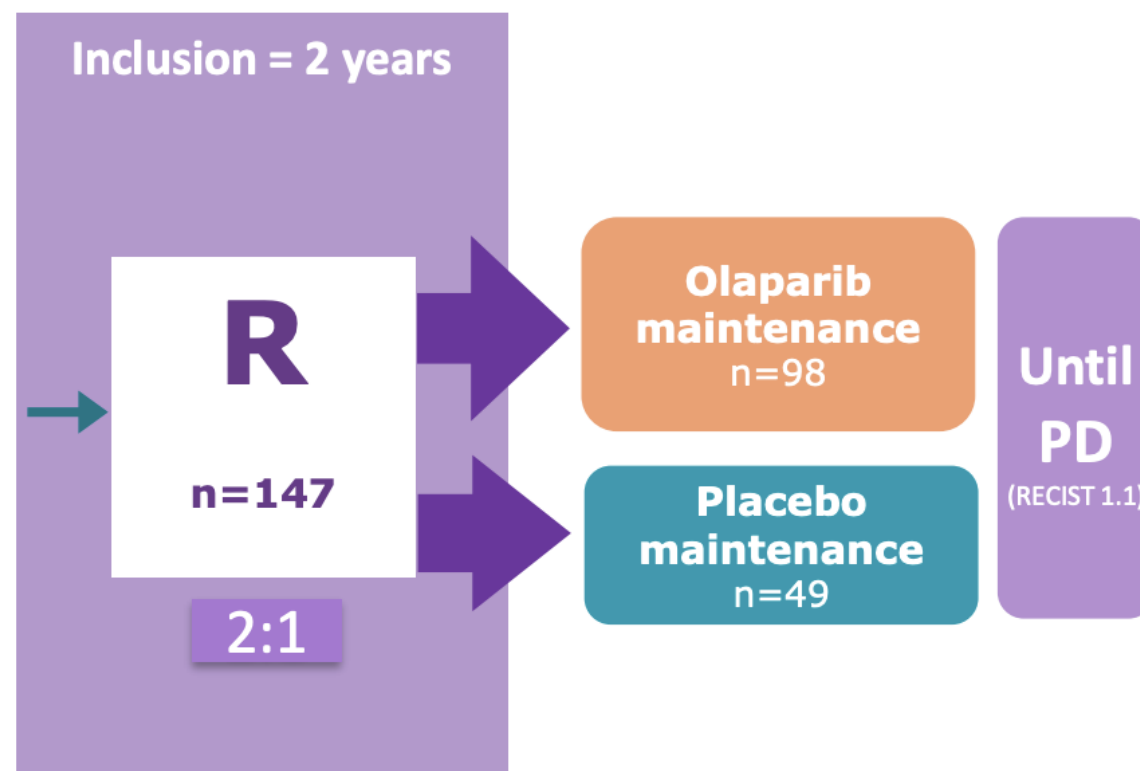
Endpoint : Improvement of median PFS from 4.5 months to 7.5 months (from randomization)

Main secondary endpoints

- PFS according to P53 status
- PFS according to response rate
- OS in ITT and according to P53 status
- Safety
- (QoL)

Pre-specified other secondary endpoint

PFS according to HRD status



Stratification factors

- P53 and MMR status
- Response to previous CT

Molecular characteristics



		Olaparib (n=98)	Placebo (n=49)	Total (n=147)
P53 status, n (%)	<i>Muted</i>	51 (52)	27 (55)	78 (53)
	<i>Wild-type</i>	46 (48)	22 (45)	68 (47)
	<i>Not informative</i>	1	0	1
MMR status, n (%)	<i>MMRp</i>	84 (88)	41 (85)	125 (87)
	<i>MMRd</i>	11 (12)	7 (15)	18 (13)
	<i>MMRp/P53 mut</i>	50 (51)	25 (51)	75 (51)
	<i>Not informative</i>	3	1	4
POLE mutation, n (%)*		1	0	1
BRCA1/2 mutation , n**		2	1	3
HRD status, n (%)***	<i>LGE ≥6</i>	51 (54)	22 (48)	73 (52)

*Pole E = pMMR, LGE<6,

**one pt with BRCA 1 and 2,

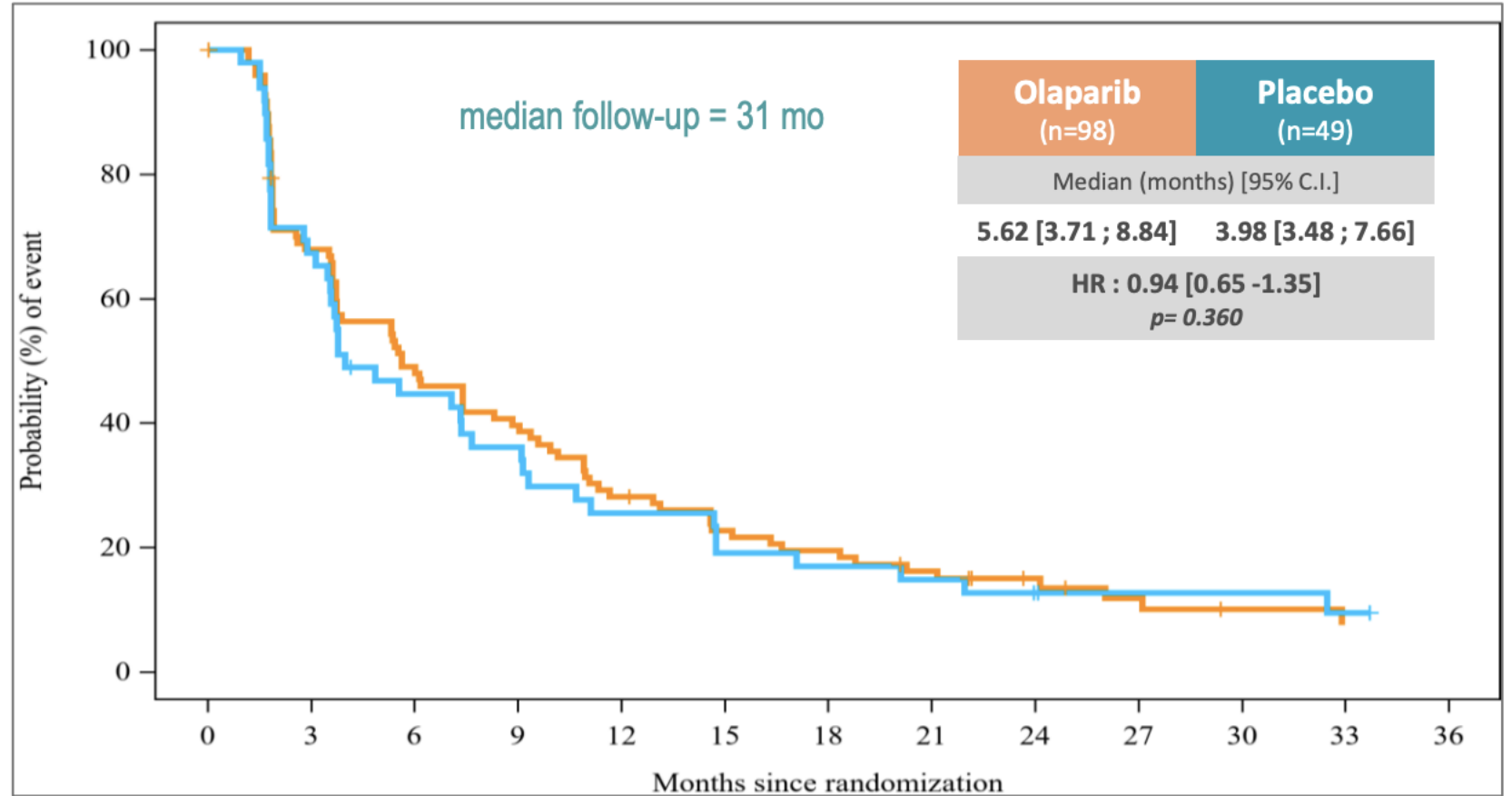
***HRD status (Large genomic event =LGE) available for 140 pts

74% of P53 mut are HRD
79% of HRD are P53 mut

PFS* by investigator assessment: ITT



N=147

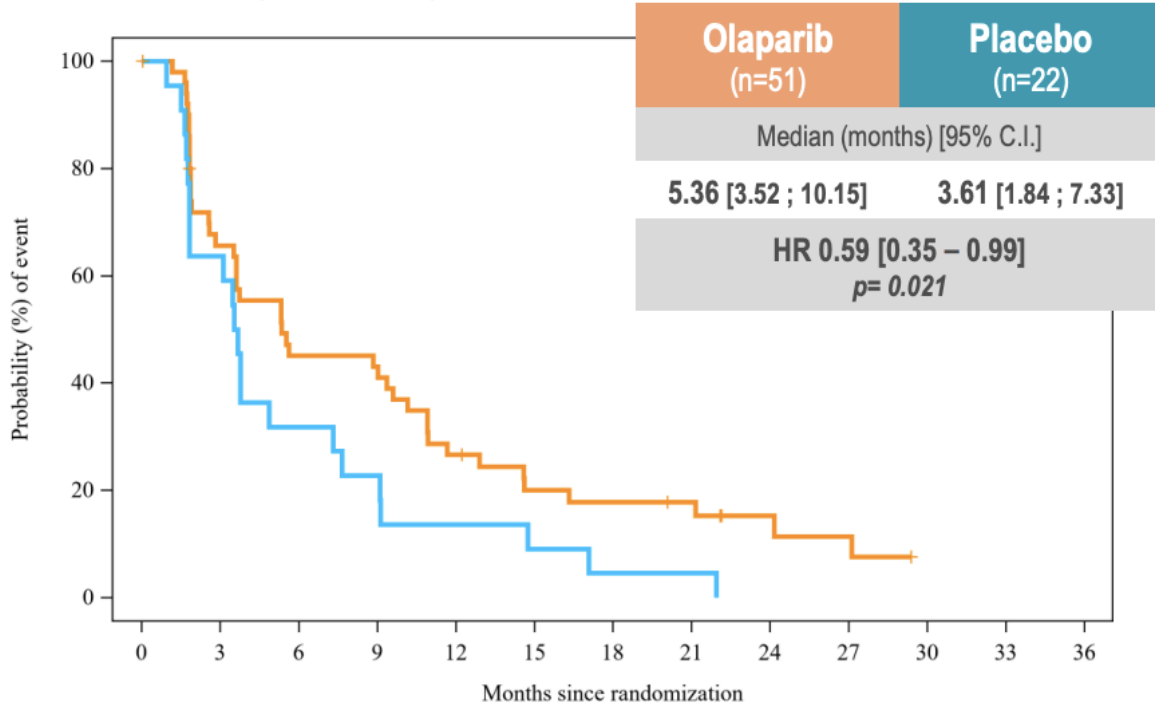


	0	3	6	9	12	15	18	21	24	27	30	33	36
Olaparib	98	65	47	38	27	21	18	14	10	7	4	3	3
	(0)	(2)	(2)	(2)	(2)	(3)	(3)	(4)	(7)	(8)	(10)	(10)	(10)
Placebo	49	33	21	17	12	9	8	7	5	4	4	3	2
	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(3)	(3)	(3)	(4)

*PFS calculated from randomization (end of CT)

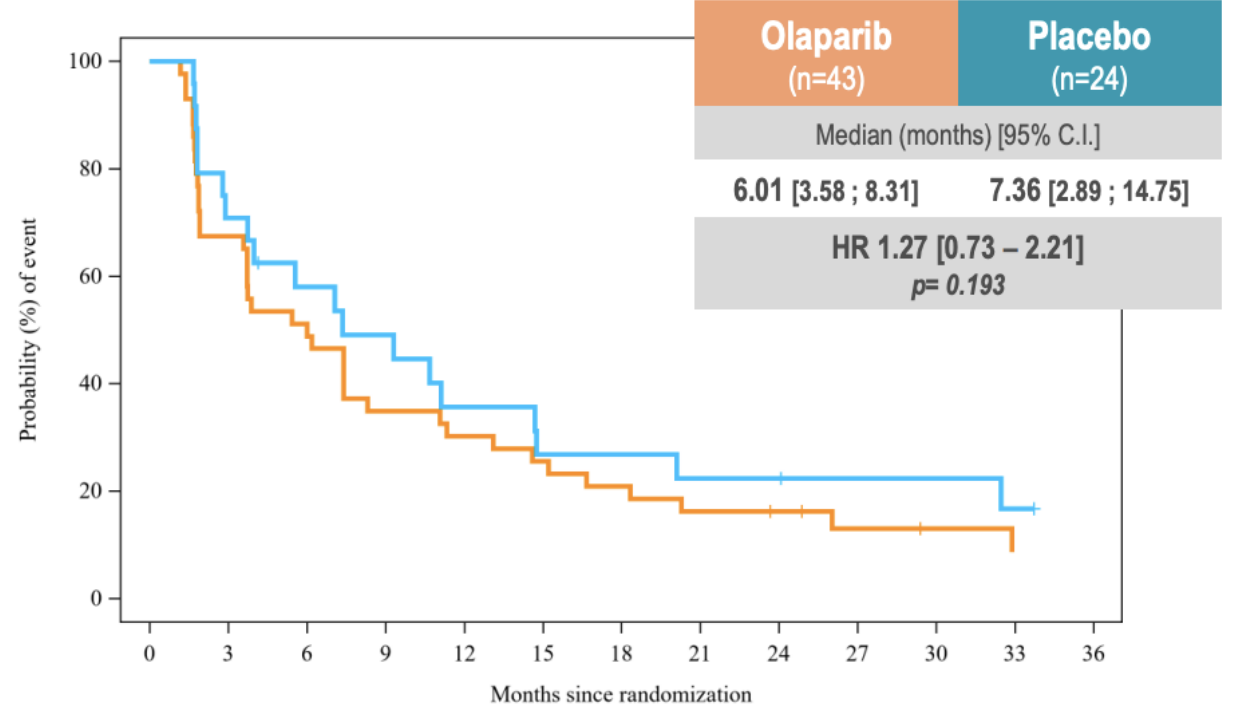
PFS: According to HRD status

HRD (LGE ≥6) n = 73



	0	3	6	9	12	15	18	21	24	27	30	33	36
Olaparib	51	32	22	21	13	9	8	7	4	3	1		
	(0)	(2)	(2)	(2)	(2)	(3)	(3)	(4)	(6)	(6)	(7)		
Placebo	22	14	7	5	3	2	1	1	0	0	0		
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)		

HRp (LGE <6) n = 67

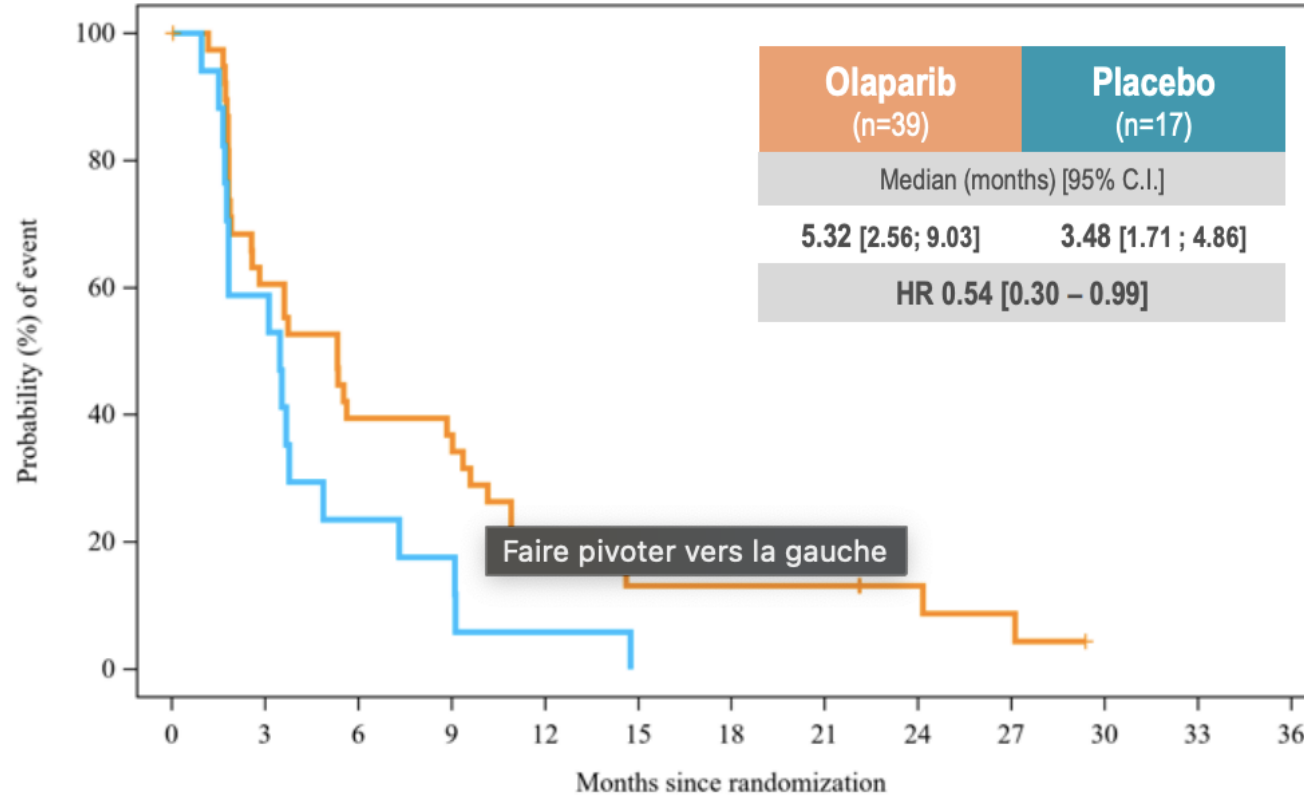


	0	3	6	9	12	15	18	21	24	27	30	33	36
Olaparib	43	29	22	15	13	11	9	7	6	4	3	2	2
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1)	(2)	(3)	(3)	(3)
Placebo	24	17	13	11	8	6	6	5	5	4	4	3	2
	(0)	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(2)	(2)	(3)

PFS: HRD (LGE ≥ 6) and P53mut (exploratory analysis)



LGE ≥ 6 , pMMR, P53 mut n=56



	0	3	6	9	12	15	18	21	24	27	30
Olaparib	39	23	15	14	7	5	5	5	3	2	0
	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(3)	(3)	(4)
Placebo	17	10	4	3	1	0	0	0	0	0	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Que faut-il retenir de l'essai UTOLA ?

- Y a-t-il vraiment un apport de l'olaparib ?
- Certainement pas chez toutes les patientes
- Peut-être pour les patientes HRD/p53mut
- Séreux de haut grade ?
- Définition de HRD dans le cancer de l'endomètre (quelx test ?)