

# Cancer de la prostate

6 décembre 2023

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**Niort**

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**Dr PILLET Armelle**

Rétrospectives et perspectives en cancérologie urologique

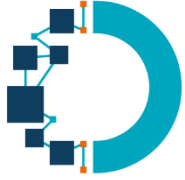


## Liens d'intérêts

- Sanofi, ipsen, janssen



- **Cancer de la prostate métastasé  
hormonosensible**

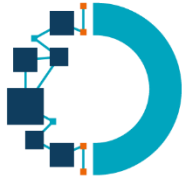


# **Prostate irradiation in men with *de novo*, low-volume, metastatic castration-sensitive prostate cancer (mCSPC): Results of PEACE-1, a phase 3 randomized trial with a 2x2 design**

**Alberto BOSSI,**

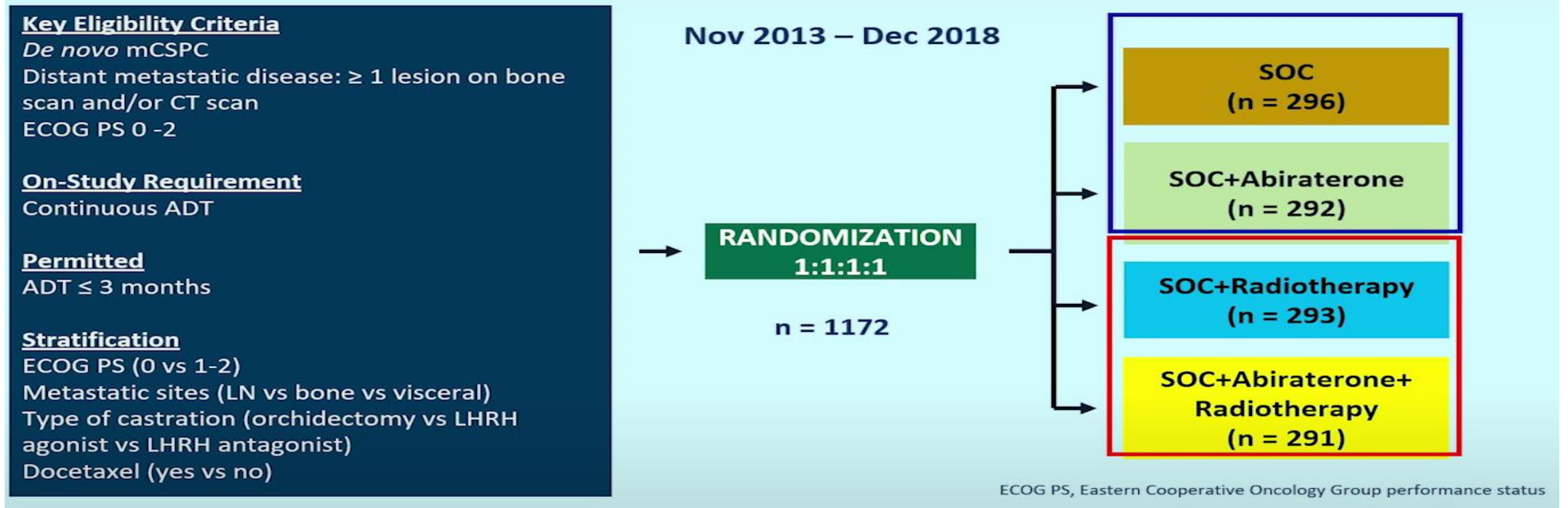
Institut Gustave Roussy, Amethyst RT Group, France

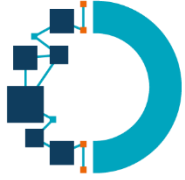
Stéphanie Foulon, Xavier Maldonado, Paul Sargos, Ray McDermott, Paul Kelly, Aude Fléchon, Bertrand Tombal, Stéphane Supiot, Dominik Berthold, Philippe Ronchin, Gabriel Kacso, Naji Salem, Fabio Calabro', Jean-François Berdah, Ali Hasbini, Marlon Silva, Jihane Boustani, Hélène Ribault, Karim Fizazi



# Etude PEACE 1

## Design de l'étude

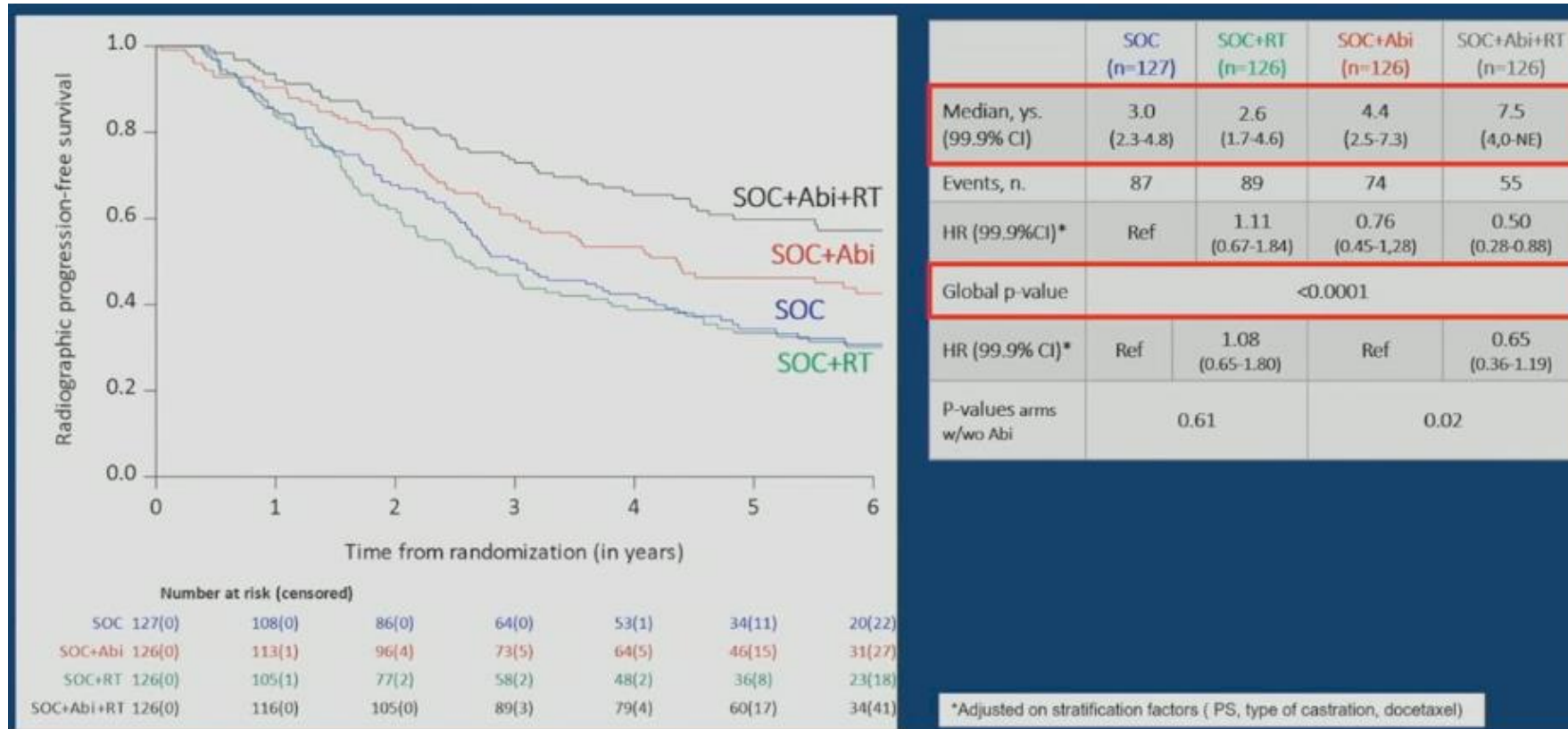


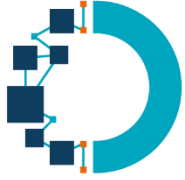


# Etude PEACE 1

## Critère de jugement principal

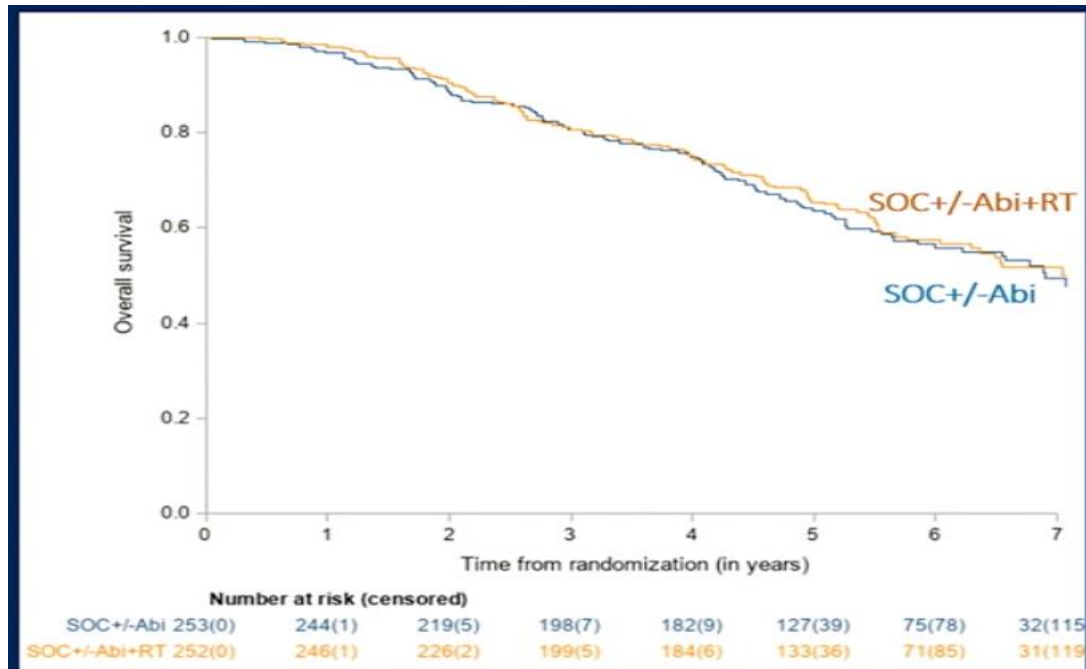
rPFS patient de faible volume





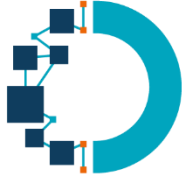
# Etude PEACE 1

## Survie globale



	SOC+/-Abi (n=253)	SOC+/-Abi+RT (n=252)
Median, ys. (95.1% CI)	6.9 (5.9-7.5)	7.5 (6-NE)
Events, n	111	104
HR*	Ref	0.98 (0.74-1.28)
p-value	0.86	

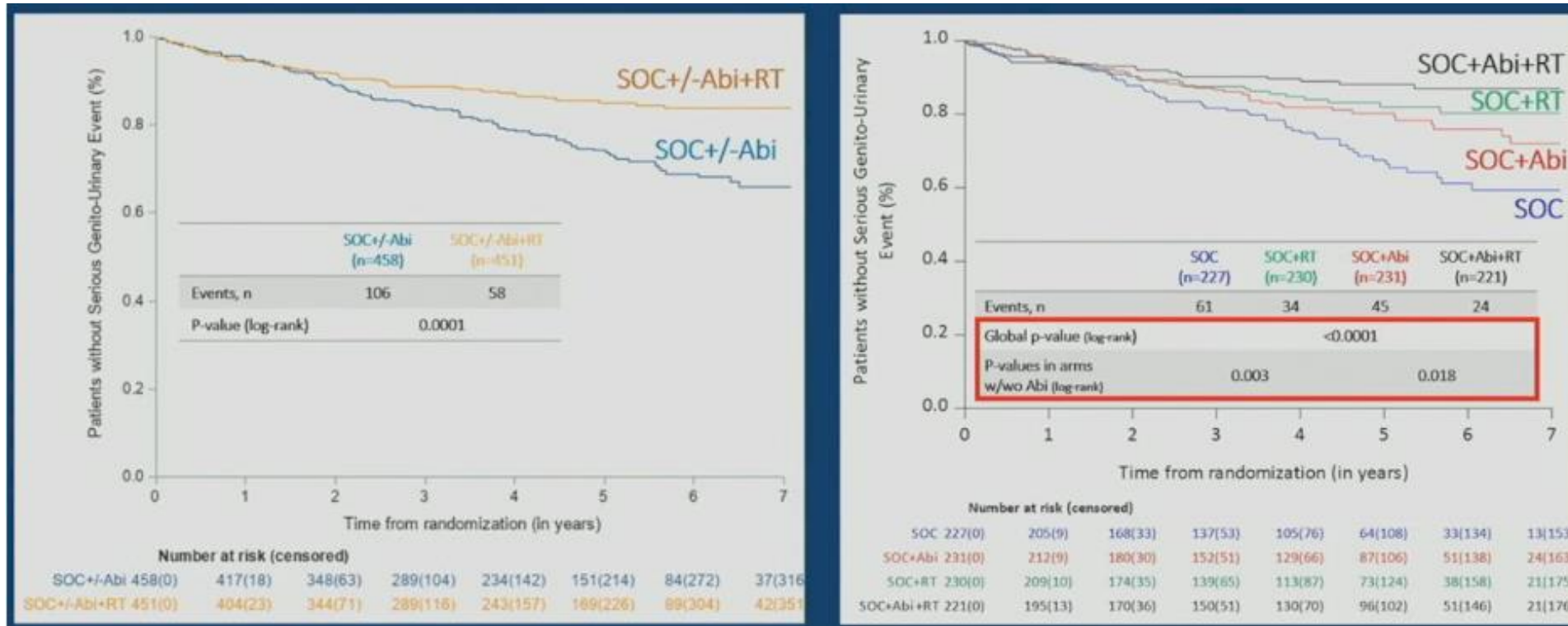
\*Adjusted on Abiraterone and stratification factors ( PS, type of castration, docetaxel)



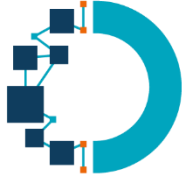
# Etude PEACE 1

## Evènements urologiques majeurs

### Population globale

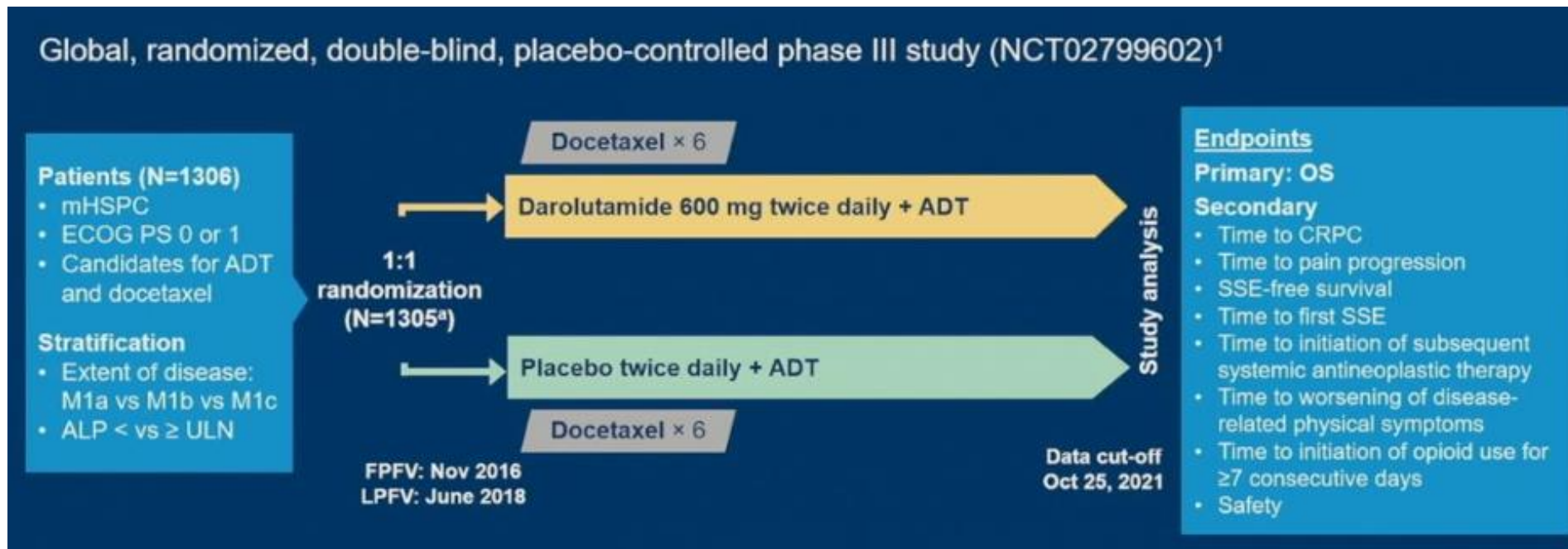


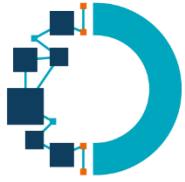




# Etude ARASENS

## Design de l'étude

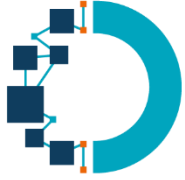




# Etude ARASENS

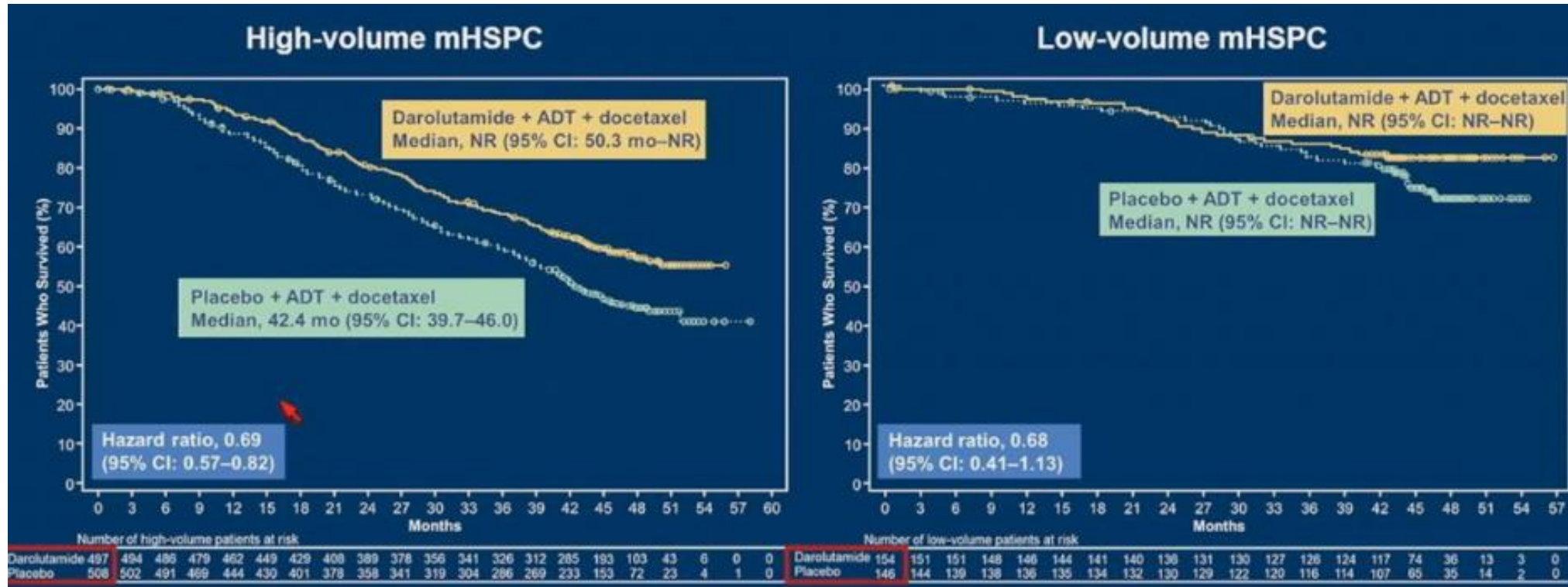
## Population de l'étude

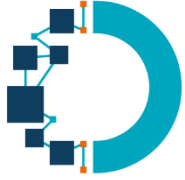
Characteristic at Baseline	High Volume		Low Volume	
	Darolutamide (n=497)	Placebo (n=508)	Darolutamide (n=154)	Placebo (n=146)
Age, median (range), y	67.0 (41–89)	67.0 (44–86)	67.0 (41–84)	67.5 (42–81)
Gleason score at initial diagnosis $\geq 8$ , n (%)	381 (76.7)	403 (79.3)	124 (80.5)	113 (77.4)
Metastasis stage at initial diagnosis, n (%) <sup>a</sup>				
De novo	432 (86.9)	445 (87.6)	126 (81.8)	121 (82.9)
Recurrent	58 (11.7)	59 (11.6)	28 (18.2)	23 (15.8)
Metastasis stage at screening, n (%)				
M1a (nonregional LN only)	0	0	23 (14.9)	15 (10.3)
M1b (bone $\pm$ LN)	386 (77.7)	390 (76.8) <sup>b</sup>	131 (85.1)	131 (89.7)
M1c (visceral $\pm$ LN or bone)	111 (22.3)	118 (23.2)	0	0
Serum PSA, median (range), ng/mL <sup>c</sup>	38.7 (0–9219.0)	27.9 (0–11,947.0)	11.7 (0–3771.0)	14.5 (0–3372.9)



# Etude ARASENS

## Survie globale





# Etude ARASENS

Secondary endpoint	Patient subgroups	Number of events/ Number of patients		Median (95% CI), months		Forest plot	HR (95% CI) <sup>a</sup>
		DARO	PBO	DARO	PBO		
Time to pain progression	All patients <sup>b</sup>	222/651	248/654	NE (30.5–NE)	27.5 (22.0–36.1)		0.79 (0.66–0.95)
	High volume	161/497	192/508	NE (26.7–NE)	24.4 (16.8–33.3)		0.75 (0.61–0.93)
	Low volume	61/154	56/146	48.1 (25.0–NE)	39.5 (24.6–NE)		0.94 (0.66–1.36)
	High risk	155/452	173/460	35.4 (25.0–NE)	25.0 (18.2–35.9)		0.81 (0.65–1.01)
	Low risk	67/199	75/194	NE (39.2–NE)	28.8 (19.3–NE)		0.76 (0.55–1.06)
Time to first symptomatic skeletal event	All patients <sup>b</sup>	95/651	108/654	NE (NE–NE)	NE (NE–NE)		0.71 (0.54–0.94)
	High volume	82/497	96/508	NE (NE–NE)	NE (NE–NE)		0.71 (0.53–0.96)
	Low volume	13/154	12/146	NE (NE–NE)	NE (NE–NE)		0.89 (0.40–1.95)
	High risk	78/452	79/460	NE (NE–NE)	NE (NE–NE)		0.84 (0.61–1.15)
	Low risk	17/199	29/194	NE (51.2–NE)	NE (NE–NE)		0.46 (0.25–0.84)
Time to initiation of subsequent systemic antineoplastic therapy	All patients <sup>b</sup>	219/651	395/654	NE (NE–NE)	25.3 (23.1–28.8)		0.39 (0.33–0.46)
	High volume	187/497	324/508	NE (49.6–NE)	22.7 (19.6–25.1)		0.40 (0.34–0.49)
	Low volume	32/154	71/146	NE (NE–NE)	42.5 (34.0–NE)		0.34 (0.22–0.52)
	High risk	173/452	299/460	NE (49.6–NE)	21.3 (19.2–24.0)		0.40 (0.33–0.48)
	Low risk	46/199	96/194	NE (NE–NE)	39.0 (31.8–NE)		0.36 (0.26–0.52)

<sup>a</sup>Based on unstratified Cox regression model.

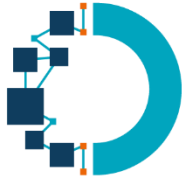
<sup>b</sup>Includes all randomized patients according to planned treatment.





- **Altérations HRR, place des inhibiteurs de PARP**





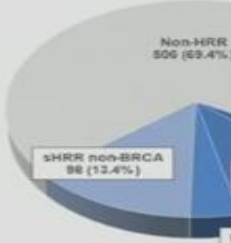
# Etude CAPTURE

## Prevalence and type of HRR alterations Summary of outcomes by subgroup

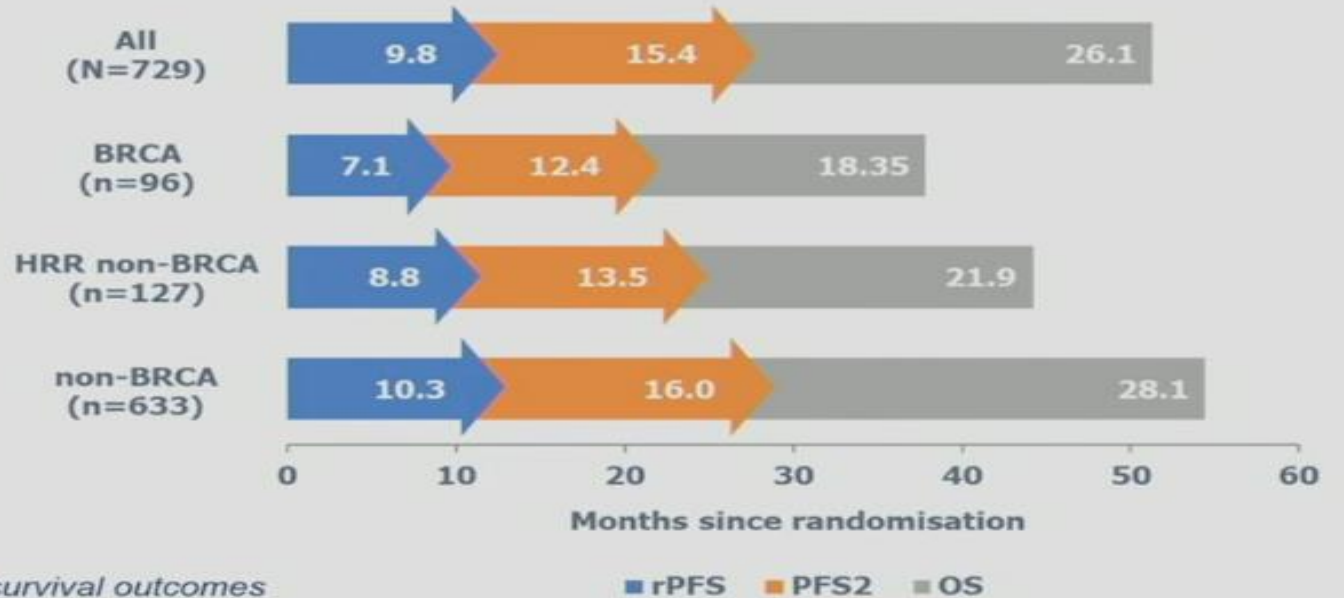
**BRCA < HRR non-BRCA < All < non-BRCA**

**BRCA1/2**  
96 (13.2%)

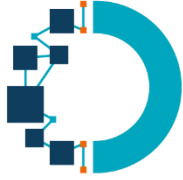
Germline vs



1L mCRPC

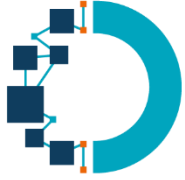


NOTE: naive, non-adjusted, median survival outcomes



## **TALAPRO-2: Phase 3 study of talazoparib plus enzalutamide versus placebo plus enzalutamide as first-line treatment for patients with metastatic castration-resistant prostate cancer harboring homologous recombination repair gene alterations (HRR-deficient population)**

Karim Fizazi,<sup>1</sup> Arun A. Azad,<sup>2</sup> Nobuaki Matsubara,<sup>3</sup> Joan Carles,<sup>4</sup> Andre P. Fay,<sup>5</sup> Ugo De Giorgi,<sup>6</sup> Jae Young Joung,<sup>7</sup> Peter C. C. Fong,<sup>8</sup> Eric Voog,<sup>9</sup> Robert J. Jones,<sup>10</sup> Neal D. Shore,<sup>11</sup> Curtis Dunshee,<sup>12</sup> Stefanie Zschäbitz,<sup>13</sup> Jan Oldenburg,<sup>14</sup> Xun Lin,<sup>15</sup> Cynthia G. Healy,<sup>16</sup> Nicola Di Santo,<sup>17</sup> Fabian Zohren,<sup>18</sup> Neeraj Agarwal<sup>19</sup>

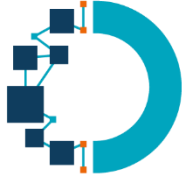


# Etude TALAPRO 2

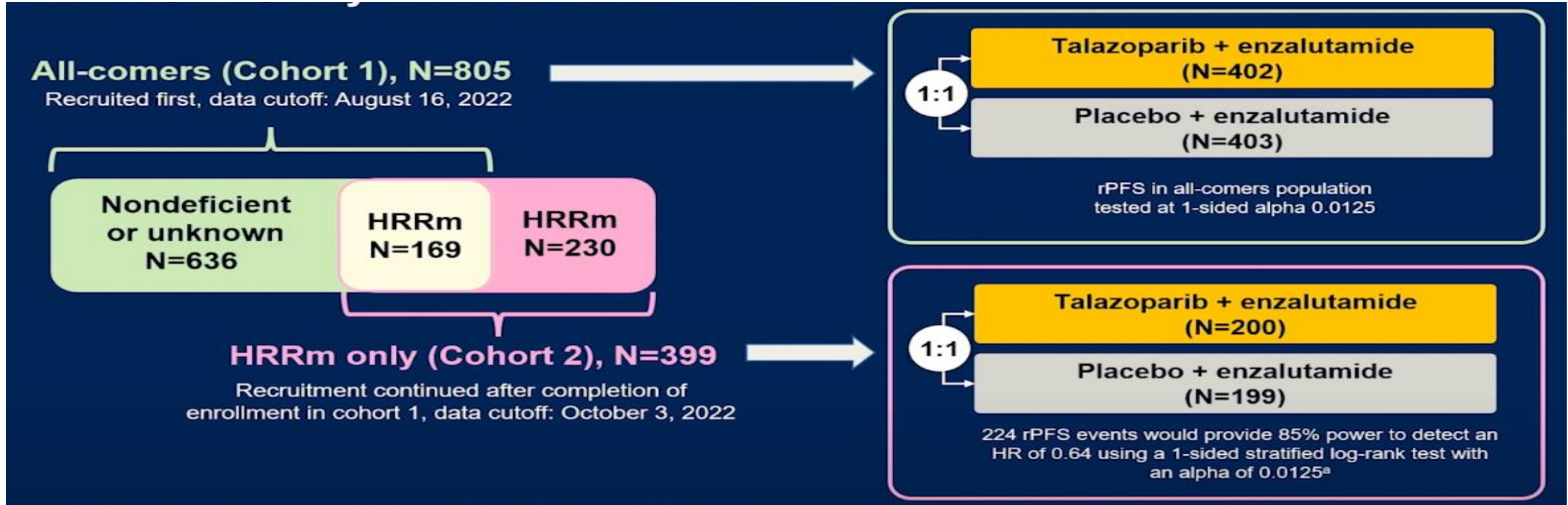
## Design de l'étude

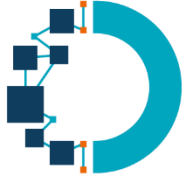






# Etude TALAPRO 2





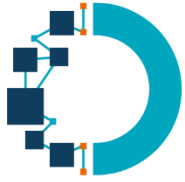
# Etude TALAPRO 2

## Caractéristiques de la population HRR-déficent

These were well-balanced between treatment arms

	Talazoparib + Enzalutamide (N=200)	Placebo + Enzalutamide (N=199)
<b>Age, median (range), years</b>	70 (41–90)	71 (44–90)
<b>Prostate-specific antigen (PSA), median (range), ng/mL</b>	19.6 (0.2–3412.0)	18.0 (0.0–1055.0)
<b>Disease site, n (%)</b>		
Bone	175 (87.5)	158 (79.4)
Lymph node	82 (41.0)	94 (47.2)
Visceral (lung/liver)	23 (11.5)/9 (4.5)	26 (13.1)/6 (3.0)
<b>ECOG PS 0/1, n (%)</b>	128 (64.0)/72 (36.0)	118 (59.3)/81 (40.7)
<b>Prior abiraterone<sup>a</sup> or docetaxel, n (%)</b>	75 (37.5)	74 (37.2)
Abiraterone	16 (8.0)	16 (8.0)
Docetaxel	57 (28.5)	60 (30.2)
<b>Tissue source for prospective HRR gene alteration testing, n (%)</b>		
Tumor tissue only	76 (38.0)	80 (40.2)
Tumor tissue and blood (circulating tumor DNA)	121 (60.5)	115 (57.8)
Blood (circulating tumor DNA) only	3 (1.5)	4 (2.0)

<sup>a</sup>One patient in each treatment arm received prior orteronel.



# Etude TALAPRO 2

Critère principal : rPFS

Treatment with talazoparib plus enzalutamide resulted in a 55% reduced risk of progression or death



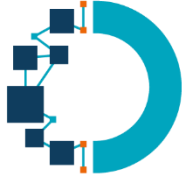
	TALA + ENZA (N=200)	PBO + ENZA (N=199)
Events, n	66	104
Median (95% CI), months	Not reached (NR) (21.9–NR)	13.8 (11.0–16.7)
HR (95% CI)	0.45 (0.33–0.61); <i>P</i> < 0.0001	

Median follow-up for rPFS was 17.5 and 16.8 months, respectively

No. at risk	Months																					
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
TALA + ENZA	200	191	180	168	163	131	107	86	82	60	49	45	34	26	21	19	9	4	2	1	0	0
PBO + ENZA	199	171	149	131	126	96	67	51	47	38	29	25	21	11	7	7	4	0	0	0	0	0

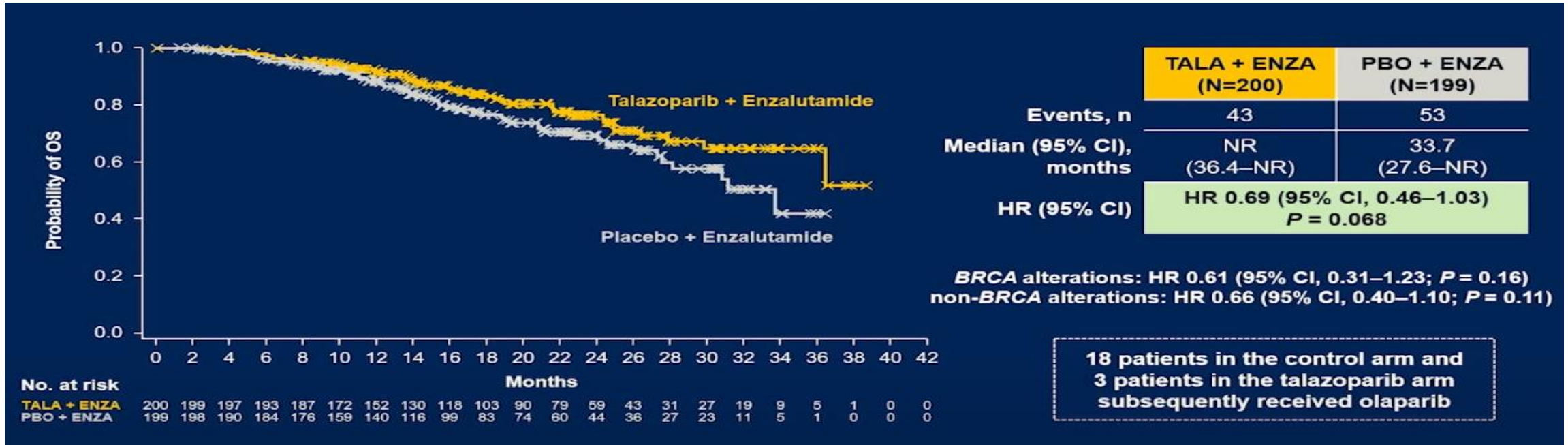
A consistent treatment effect was seen for investigator-assessed rPFS: HR 0.48 (95% CI, 0.33–0.67); *P* < 0.0001

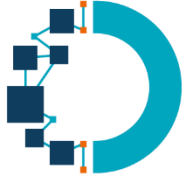




# Etude TALAPRO 2

## Survie globale

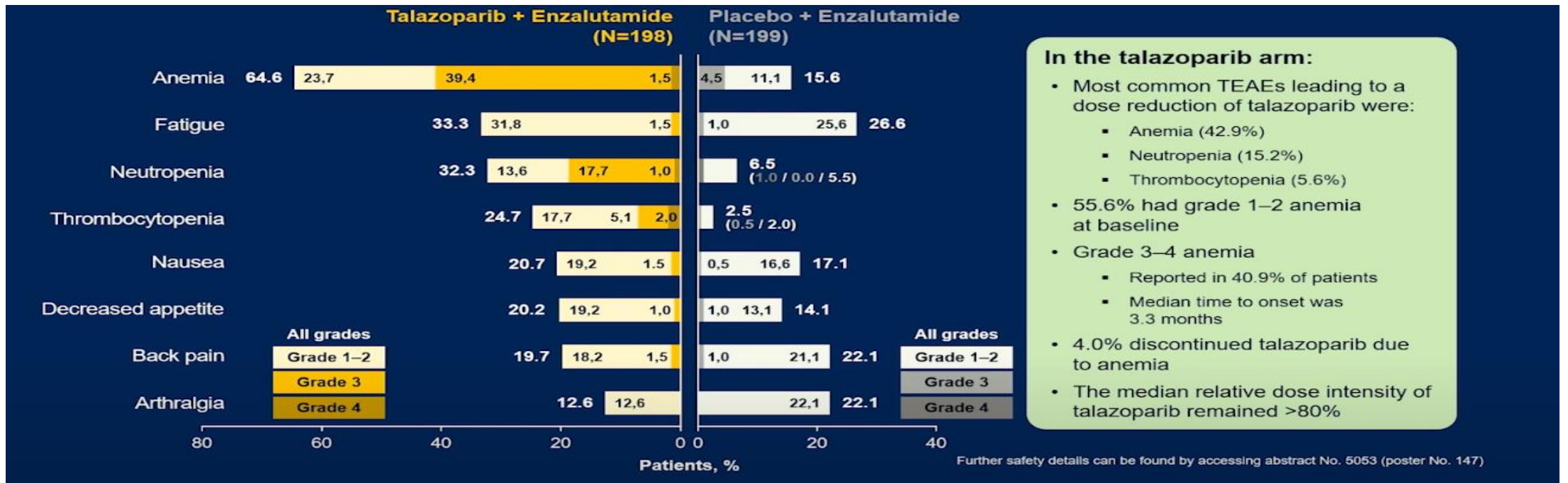


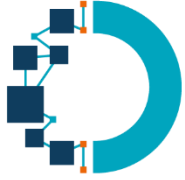


# Etude TALAPRO 2

## Tolérance

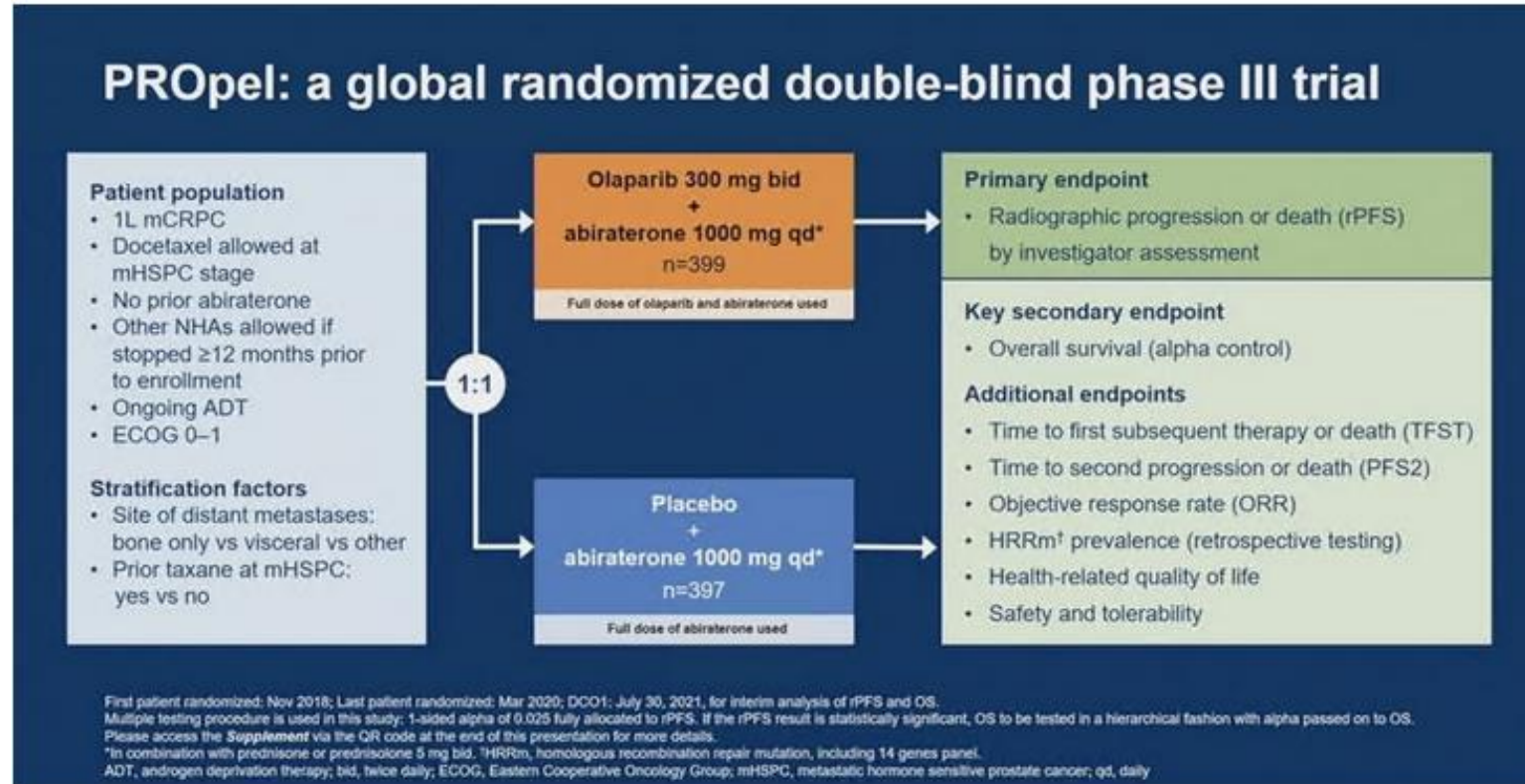
	TALA + ENZA (N=198)	PBO + ENZA (N=199)
Dose interruption of talazoparib or placebo due to AE	133 (67.2)	39 (19.6)
Dose reduction of talazoparib or placebo due to AE <sup>a</sup>	110 (55.6)	12 (6.0)
Discontinuation of talazoparib or placebo due to AE	20 (10.1)	14 (7.0)

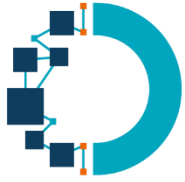




# Etude PROPEL

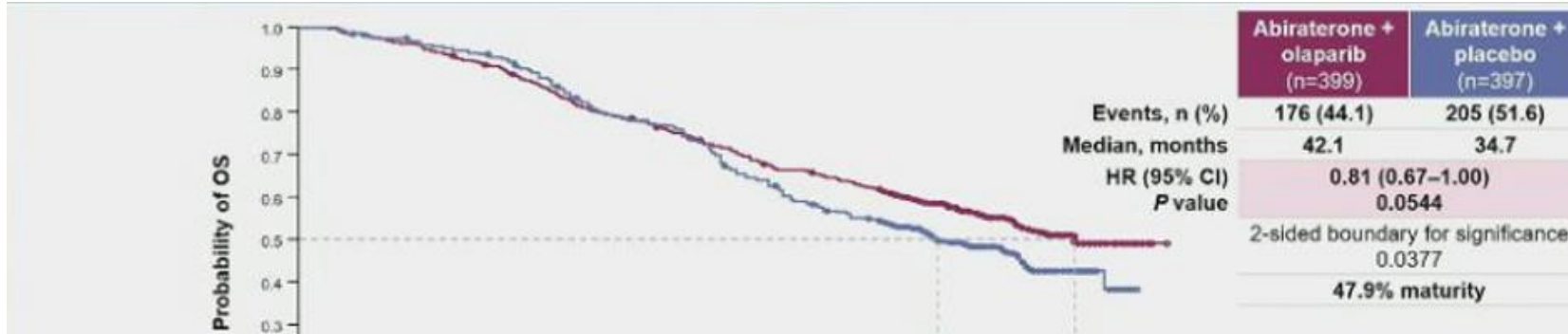
## Design étude



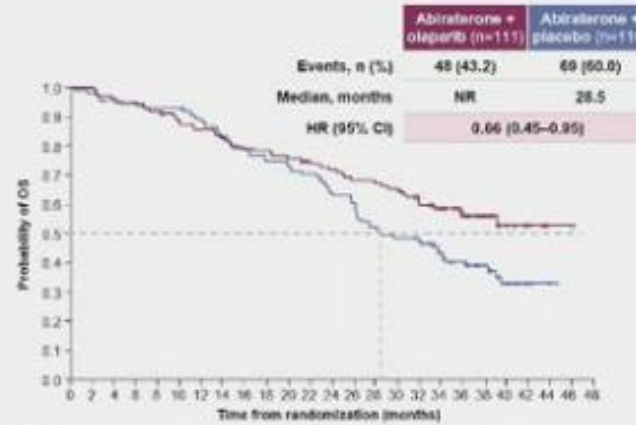


# Etude PROPEL

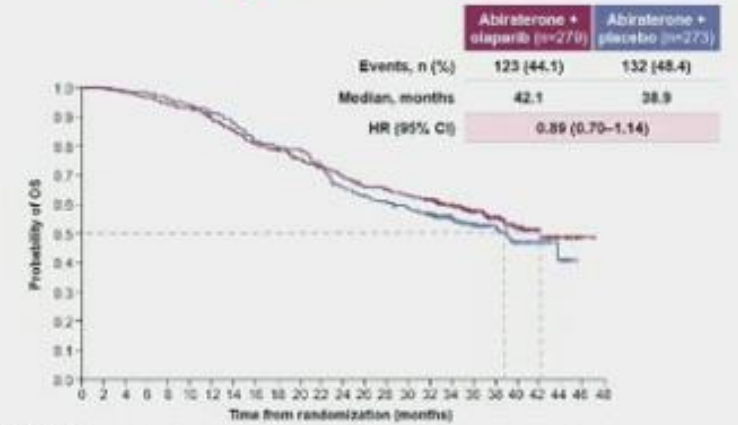
## Survie globale



HRRm (28.4% of ITT population)



Non-HRRm (69.3% of ITT population)



Number of patients at risk:

Time from randomization (months)	0	2	4	6	8	10	12	14	16	18	20	22	24
Abiraterone + olaparib	399	399	391	385	374	364	349	334	318	312	298	283	273
Abiraterone + placebo	397	395	388	383	376	370	356	337	316	305	301	282	254

Number of patients at risk:

Time from randomization (months)	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
Abiraterone + olaparib	111	111	107	105	102	96	84	75	67	54	41	27	20	14	7	1	1	1	1	1	1	1	1	1	1
Abiraterone + placebo	110	110	109	107	105	98	82	68	57	41	27	16	10	5	1	1	1	1	1	1	1	1	1	1	1

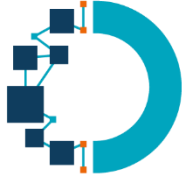
Number of patients at risk:

Time from randomization (months)	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	
Abiraterone + olaparib	270	270	270	271	263	248	247	238	223	210	207	190	169	150	135	119	100	84	67	51	34	20	11	5	1	0
Abiraterone + placebo	273	273	270	267	262	254	247	237	223	214	204	190	177	166	150	135	114	94	71	48	25	14	8	4	0	

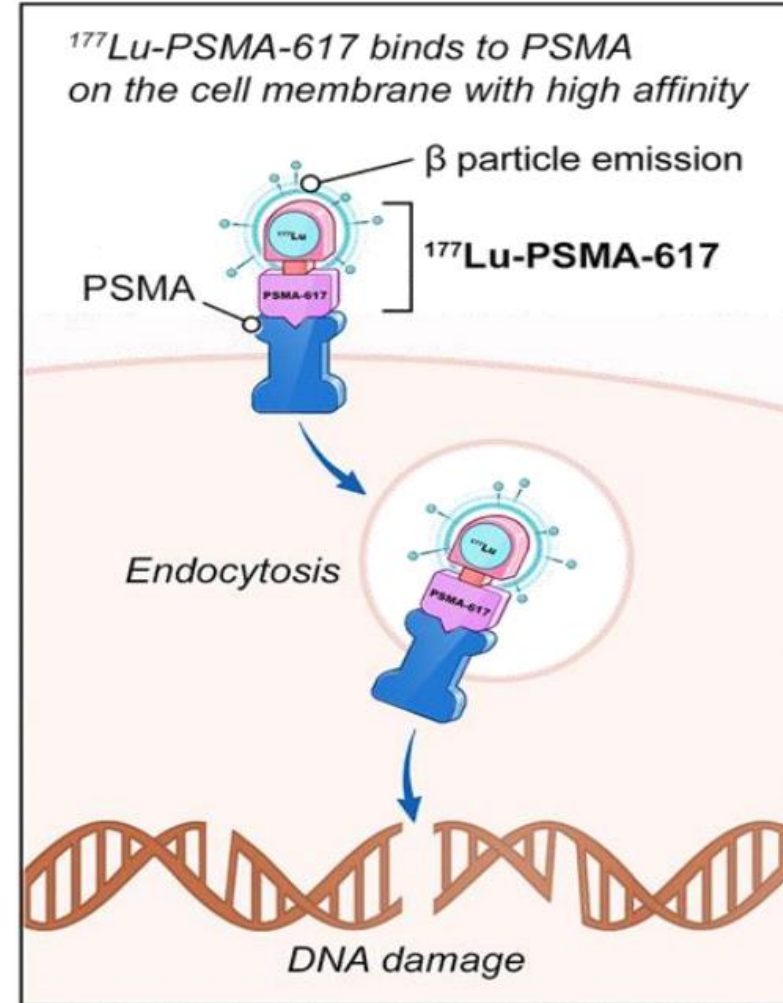


- **Lu – PSMA, radiothérapie interne vectorisée**





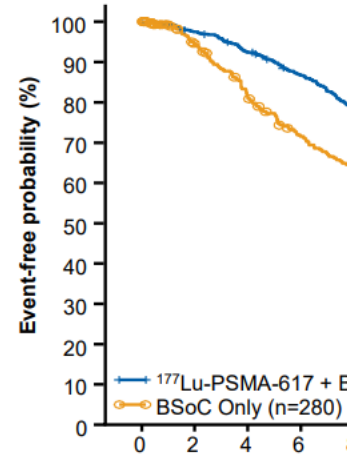
# Place du Lu-PSMA





# Etude VISION

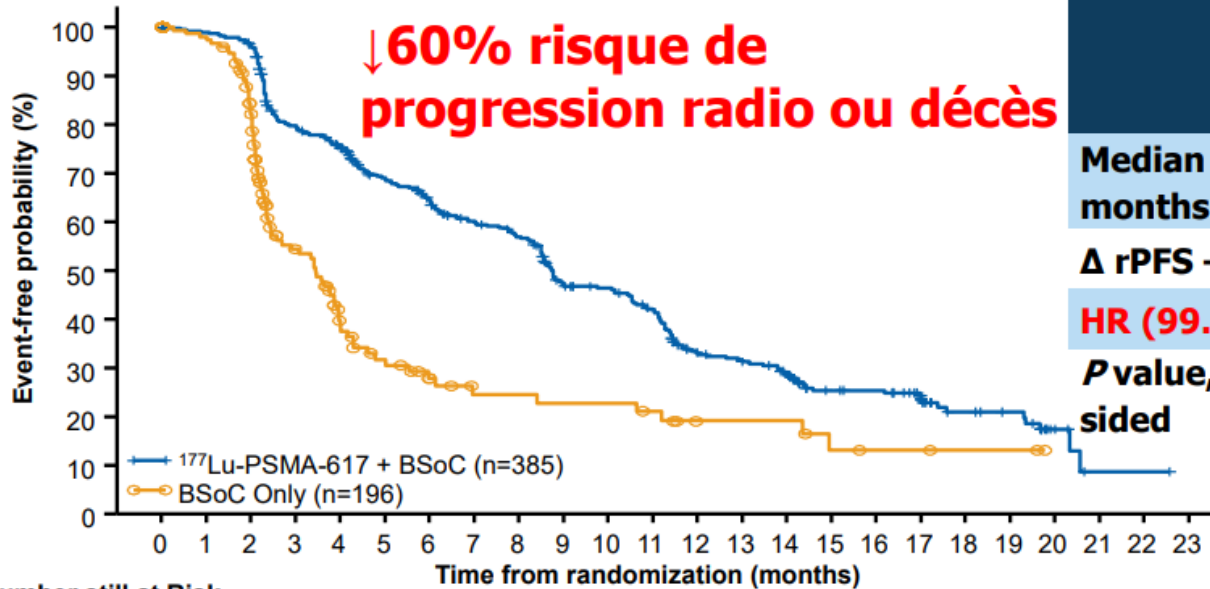
Résultat -> survie



Number still at Risk

	0	2	4	6	8
<sup>177</sup> Lu-PSMA-617 + BSoC	551	535	506	470	441
BSoC Only	280	238	203	173	151

## Résultats -> survie sans progression radiologique



Number still at Risk

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
<sup>177</sup> Lu-PSMA-617 + BSoC	385	373	362	292	272	235	215	194	182	146	137	121	88	83	71	51	49	37	21	18	6	1	1	0
BSoC Only	196	146	119	58	36	26	19	14	14	13	13	11	7	7	7	4	3	3	2	2	0	0	0	0

	<sup>177</sup> Lu-PSMA-617 + BSoC (n=385)	BSoC only (n=196)
Median rPFS – months	8.7	3.4
Δ rPFS – months	5.3	
HR (99.2% CI)	<b>0.40 (0.29–0.57)</b>	
P value, one-sided	<0.001	

SG significativement

**SSPr significativement prolongée dans le bras <sup>177</sup>Lu-PSMA-617 + meilleur traitement standard versus meilleur traitement standard seul**

# Etude PSMAfore

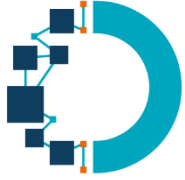
MADRID 2023 **ESMO** congress

**Phase 3 trial of [<sup>177</sup>Lu]Lu-PSMA-617  
in taxane-naïve patients with  
metastatic castration-resistant  
prostate cancer (PSMAfore)**

**Presenter:** Oliver Sartor,\*  
Mayo Clinic, Rochester, MN, USA

**Co-authors:** D Castellano, K Herrmann, J de Bono,  
ND Shore, KN Chi, M Crosby, JM Piulats, A Flechon,  
XX Wei, H Mahammedi, G Roubaud, H Studentova,  
S Ghebremariam, E Kpamegan, TN Kreisl,  
N Delgoshai, K Lehnhoff, MJ Morris,\* K Fizazi,\*  
**on behalf of the PSMAfore investigators**



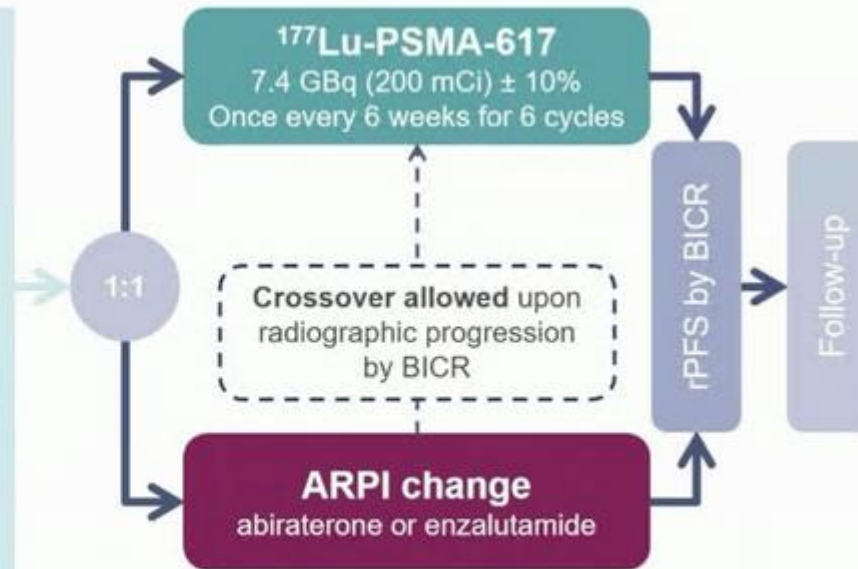


# Etude PSMAfore

## Design étude

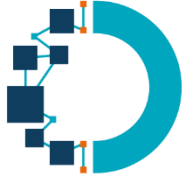
### Eligible adults

- Confirmed progressive mCRPC
- $\geq 1$  PSMA-positive metastatic lesion on [ $^{68}\text{Ga}$ ]Ga-PSMA-11 PET/CT and no exclusionary PSMA-negative lesions
- Progressed once on prior second-generation ARPI
  - Candidates for change in ARPI
- Taxane-naïve (except [neo]adjuvant > 12 months ago)
  - Not candidates for PARPi
- ECOG performance status 0–1



### Stratification factors

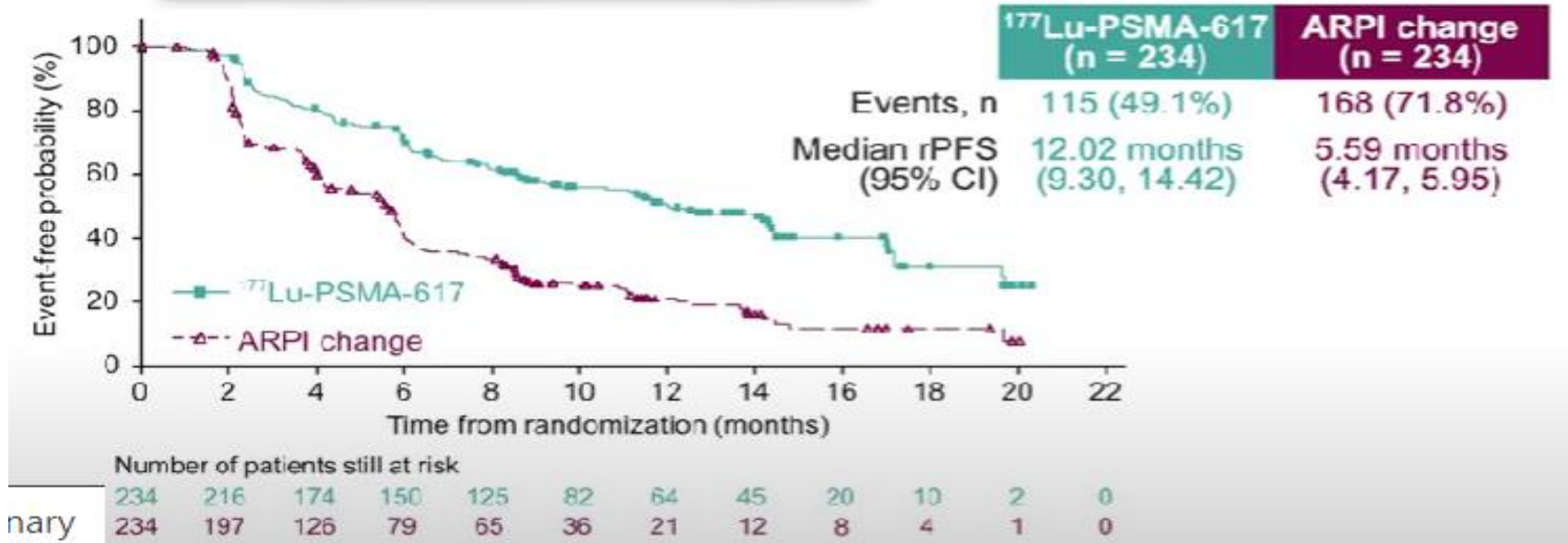
- Prior ARPI setting (castration-resistant vs hormone-sensitive)
- BPI-SF worst pain intensity score (0–3 vs > 3)



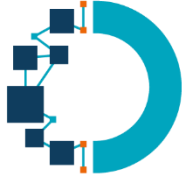
# Etude PSMAfore

Primary endpoint : rPFS

**HR: 0.43 (95% CI: 0.33, 0.54)**

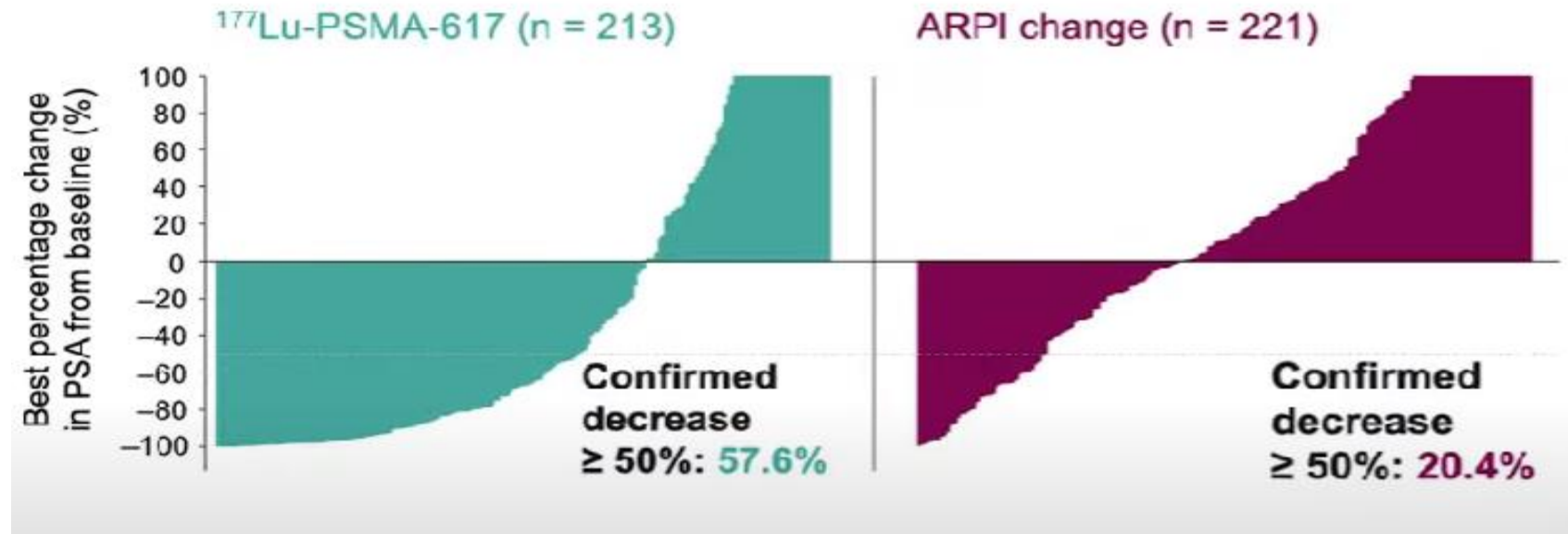


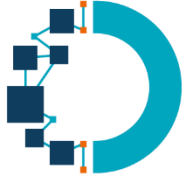




# Etude PSMAfore

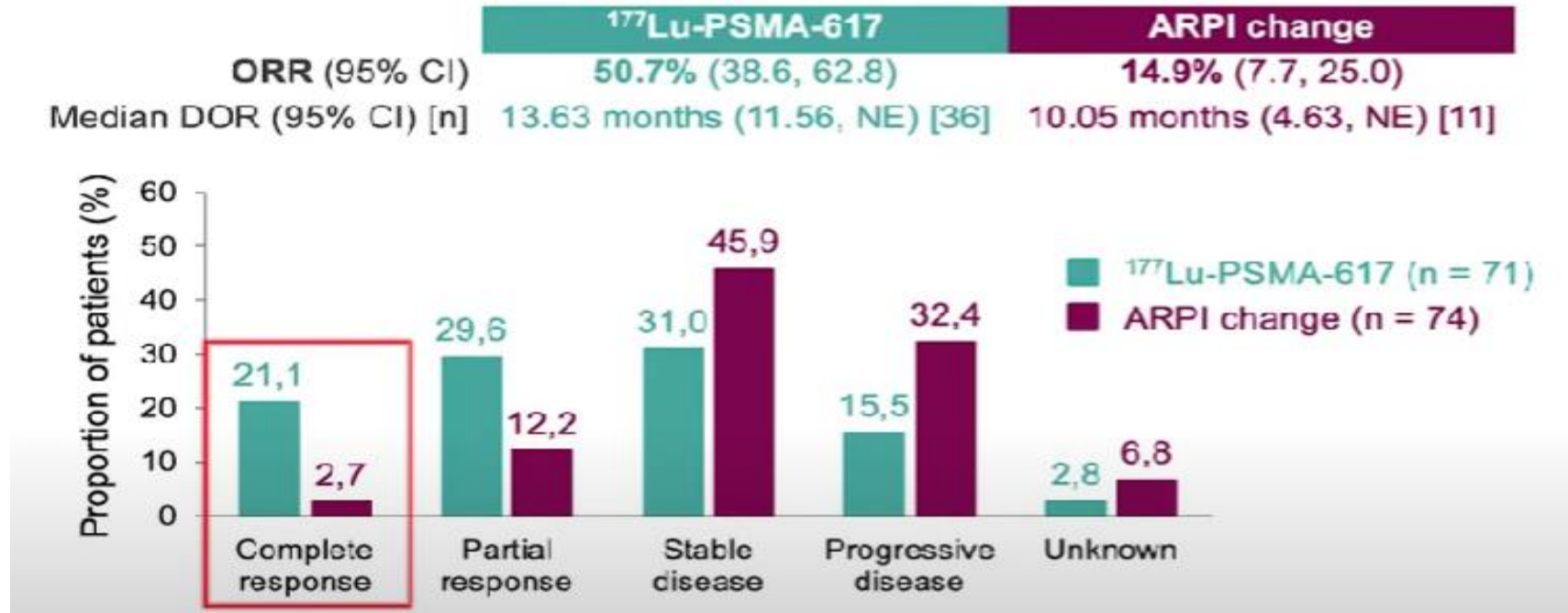
Critère secondaire : décroissance PSA

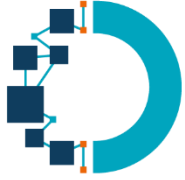




# Etude PSMAfore

## Critère secondaire : taux de réponse

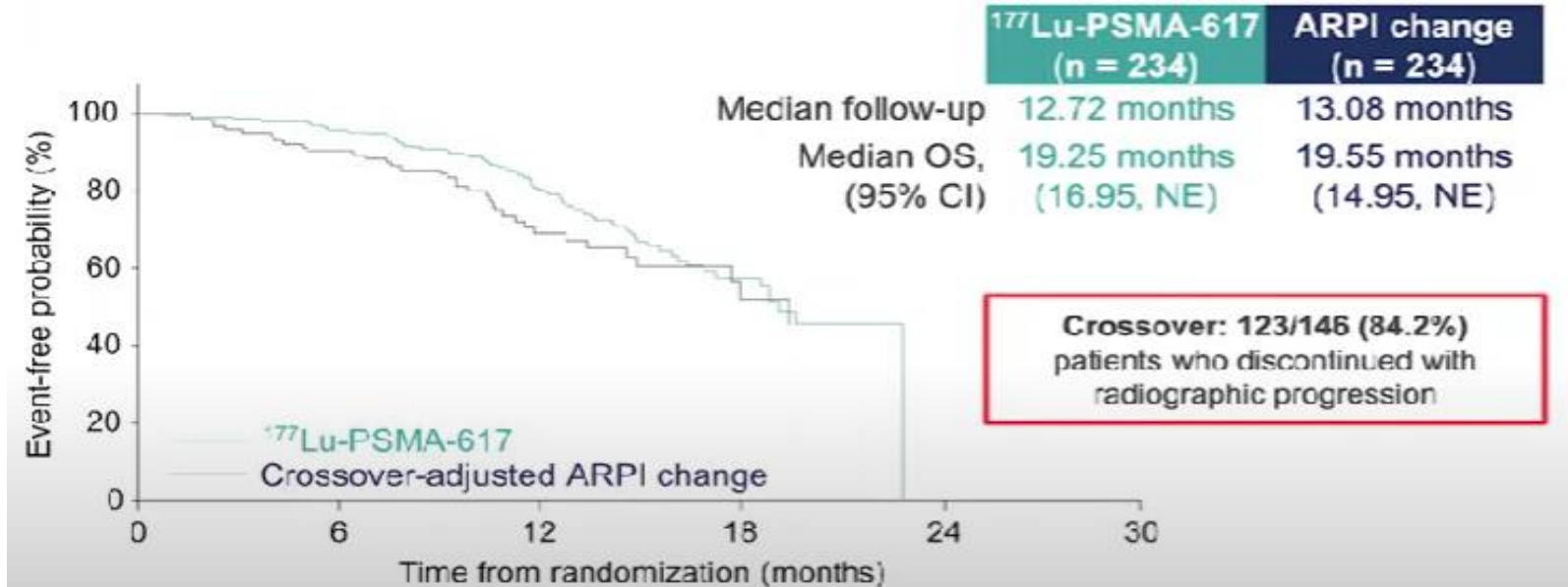




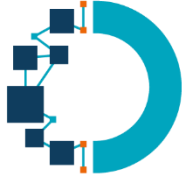
# Etude PSMAfore

## Critère secondaire : survie globale

HR: 0.80 (95% CI: 0.48, 1.33)



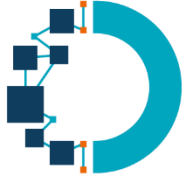




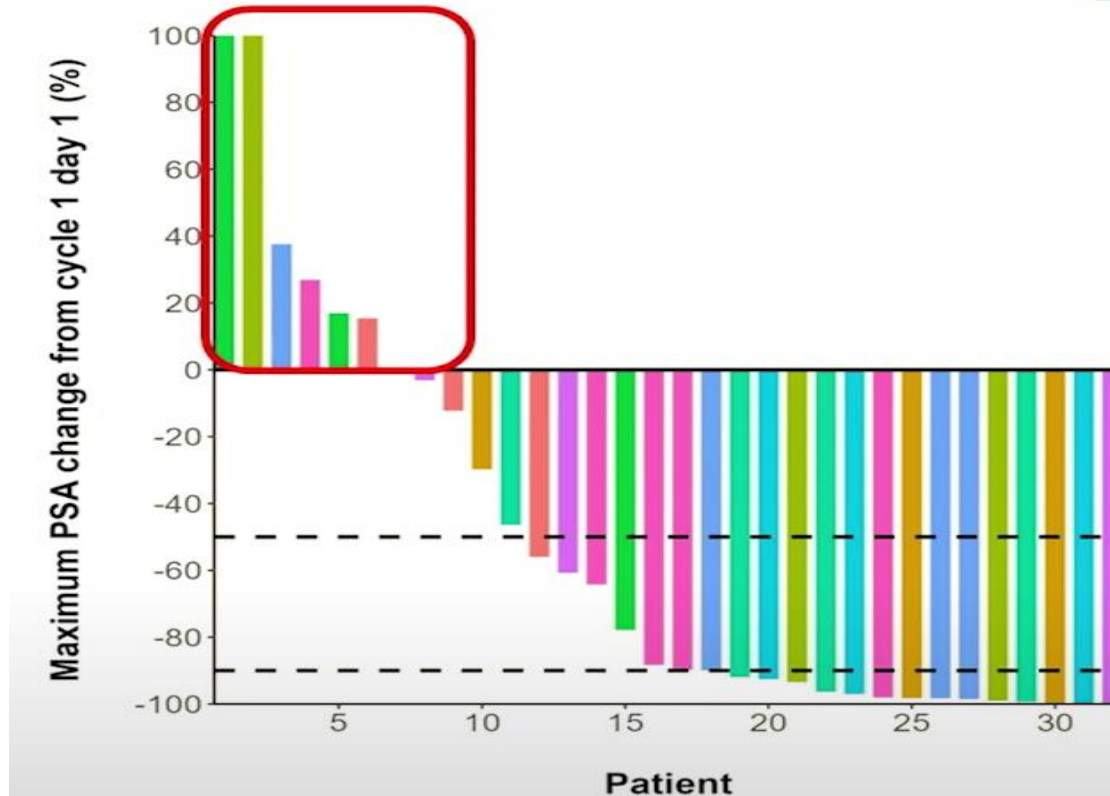
# Etude PSMAfore

## Tolérance

AEs, n (%)	All grades		Grades 3–5	
	<sup>177</sup> Lu-PSMA-617 (n = 227)	ARPI change (n = 232)	<sup>177</sup> Lu-PSMA-617 (n = 227)	ARPI change (n = 232)
Dry mouth	130 (57.3)	5 (2.2)	3 (1.3)	0
Asthenia	72 (31.7)	67 (28.9)	1 (0.4)	8 (3.4)
Nausea	71 (31.3)	28 (12.1)	0	1 (0.4)
Anaemia	55 (24.2)	39 (16.8)	14 (6.2)	14 (6.0)
Fatigue	52 (22.9)	59 (25.4)	0	4 (1.7)
Constipation	50 (22.0)	31 (13.4)	1 (0.4)	0
Decreased appetite	48 (21.1)	42 (18.1)	0	1 (0.4)
Arthralgia	43 (18.9)	48 (20.7)	0	1 (0.4)
COVID-19	37 (16.3)	26 (11.2)	1 (0.4)	1 (0.4)
Diarrhoea	37 (16.3)	20 (8.6)	0	1 (0.4)
Back pain	28 (12.3)	38 (16.4)	2 (0.9)	5 (2.2)
Vomiting	26 (11.5)	11 (4.7)	0	0
Peripheral oedema	19 (8.4)	26 (11.2)	0	0
Weight loss	15 (6.6)	28 (12.1)	2 (0.9)	5 (2.2)



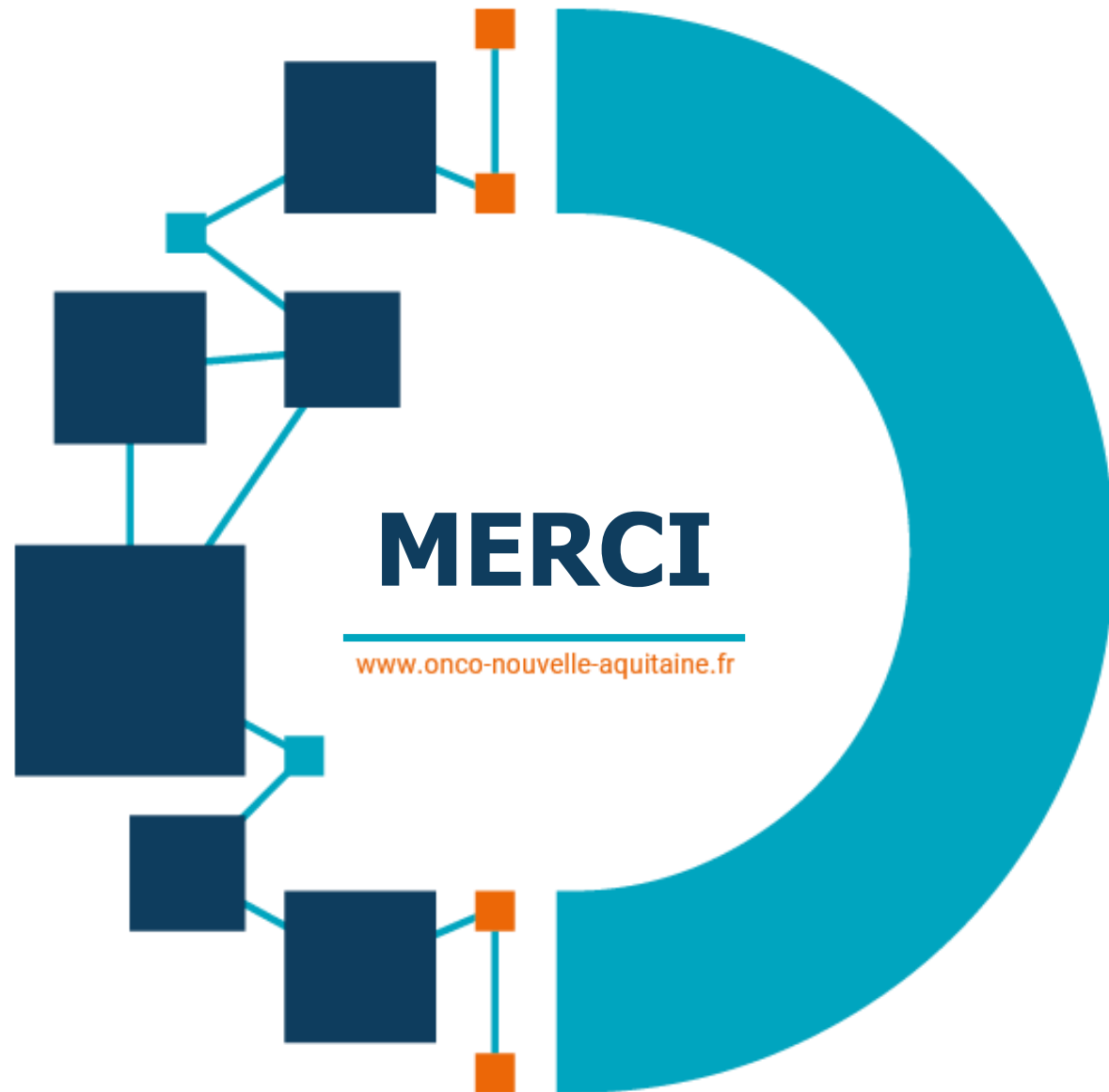
# Avenir Lu PSMA



- Cohort 1: 50mg Day 2-15
- Cohort 2: 100mg Day 2-15
- Cohort 3: 150mg Day 2-15
- Cohort 4: 200mg Day 2-15
- Cohort 5: 250mg Day 2-15
- Cohort 6: 300mg Day 2-15
- Cohort 7: 200mg Day -4-14
- Cohort 8: 300mg Day -4-14
- Cohort 9: 300mg Day -4-18

PSA  $\geq$  50% response = 66% (21/32)  
PSA  $\geq$  90% response = 44% (14/32)  
ORR by RECIST 1.1 = 78% (7/9)

\*Patients in cohorts 8 & 9 are early in treatment cycles



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