

Investor Update

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President and Chief Executive Officer

June 27, 2016
(updated July 08, 2016)



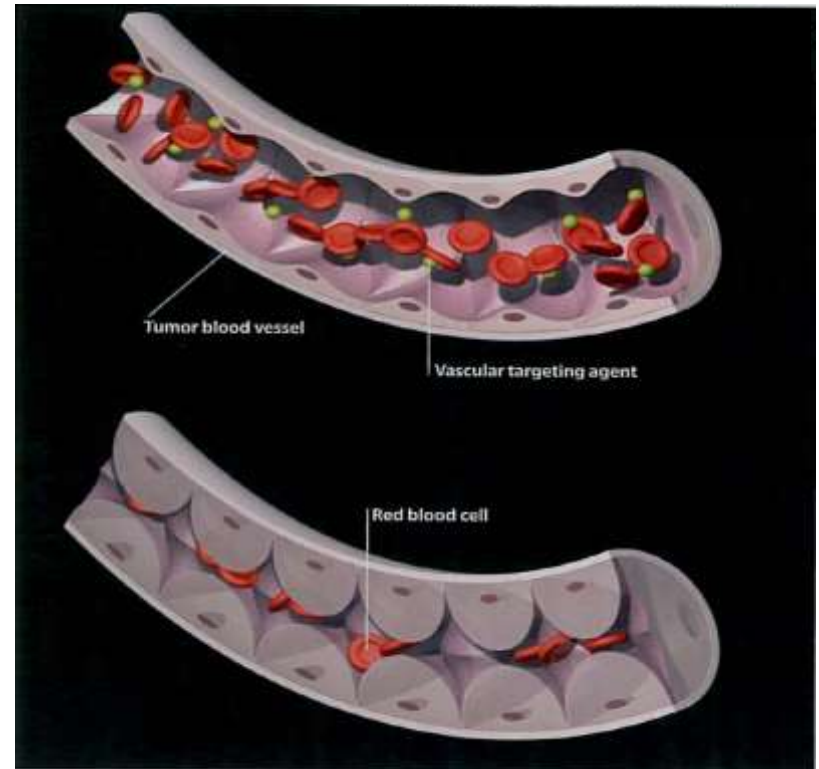
Safe Harbor Statement

This presentation contains forward-looking statements under the meaning of the Private Securities Litigation Reform Act of 1995. These statements give our current expectations or forecasts and use words such as “anticipate,” “estimate,” “expect,” “believe,” and other words of similar meaning. Any or all of the forward-looking statements in this presentation may turn out to be wrong. They can be affected by inaccurate assumptions we might make or by known or unknown risks and uncertainties including but not limited to, the efficacy of our product candidates, their efficacy at acceptable dosage levels, the ability to raise capital when needed and on reasonable terms, projections of potential commercial sales of company products, the results and progress of clinical trials, developing the necessary manufacturing processes and gaining all necessary regulatory approvals, both in the United States and internationally. Consequently, no forward-looking statement can be guaranteed and actual results may differ materially. Additional information concerning factors that could cause actual results to materially differ from those in the forward-looking statements are contained in our most recent reports to the Securities and Exchange Commission including our Form 10-Q, 8-K and 10-K reports. However, we undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise. We note these factors for investors as permitted by the Private Securities Litigation Reform Act of 1995.

VDAs: Mechanism of Action

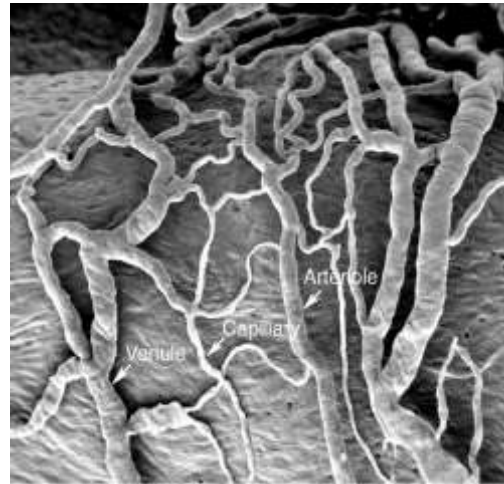
Direct anti-vascular effect

- Reversibly binds tubulin
- Changes endothelial cell structure
- Occludes tumor blood supply

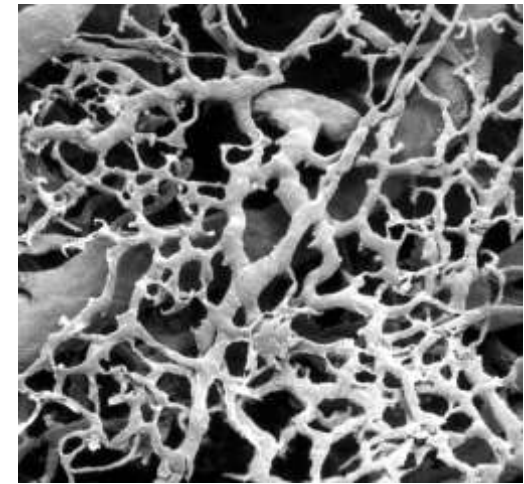


VDAs: Selectively Target Tumor Vasculature

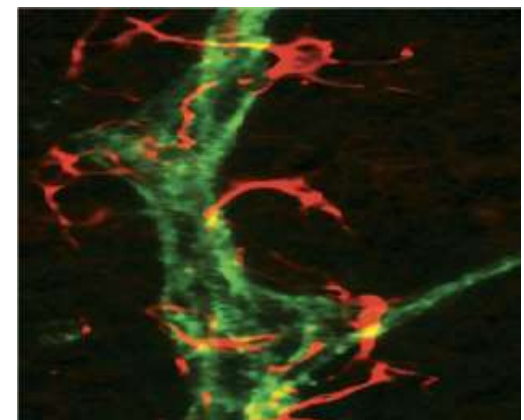
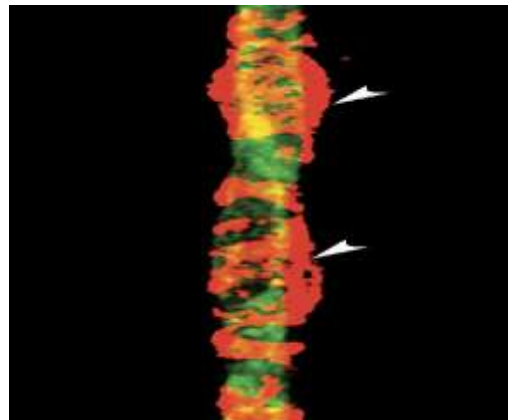
Normal
Pericyte support



Tumor
No pericyte support

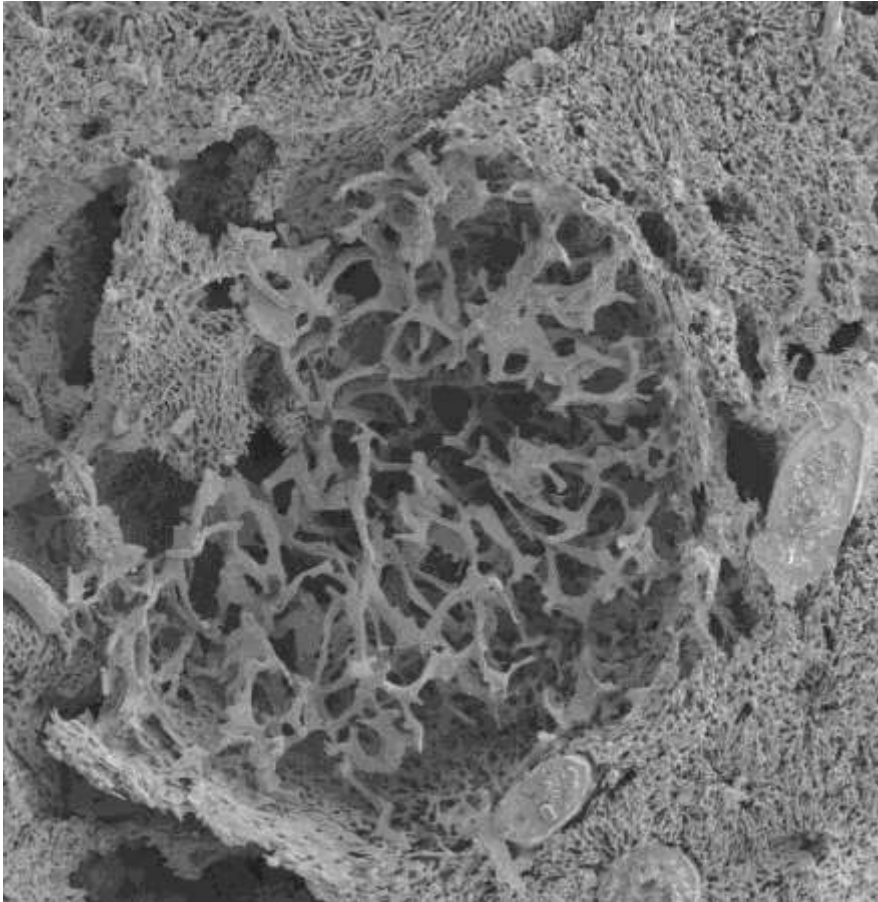


Vascular Cast

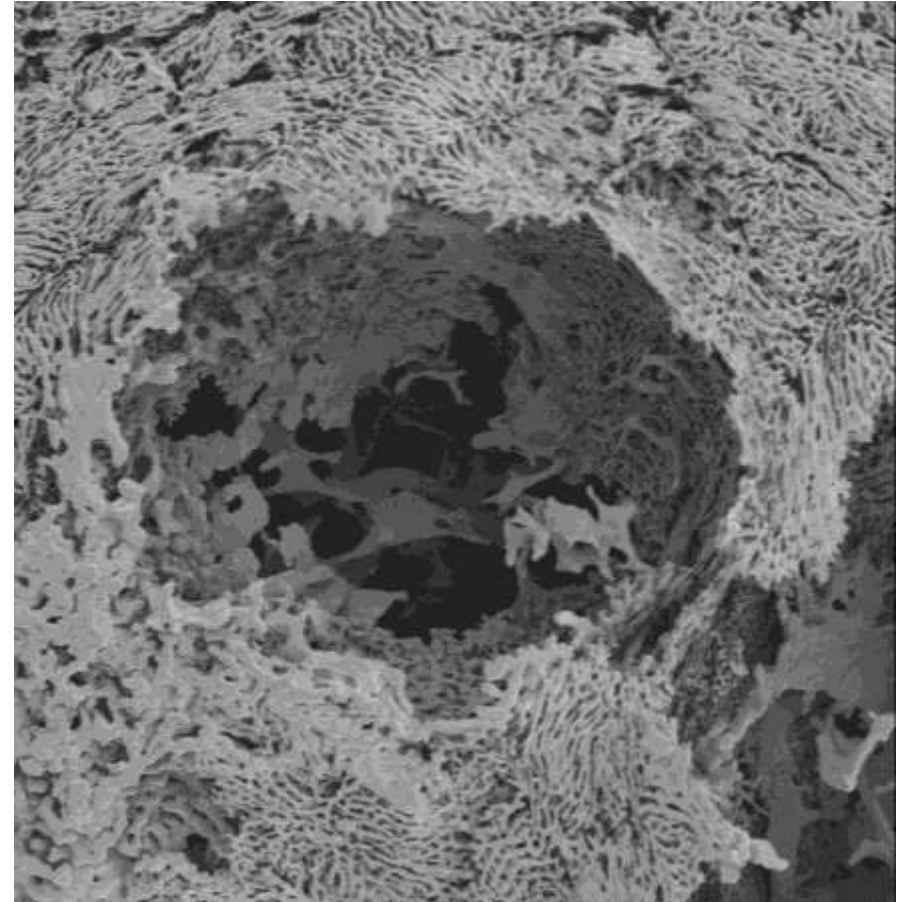


Pericyte Immuno-
fluorescence

CA4P: Eliminates Tumor Vasculature



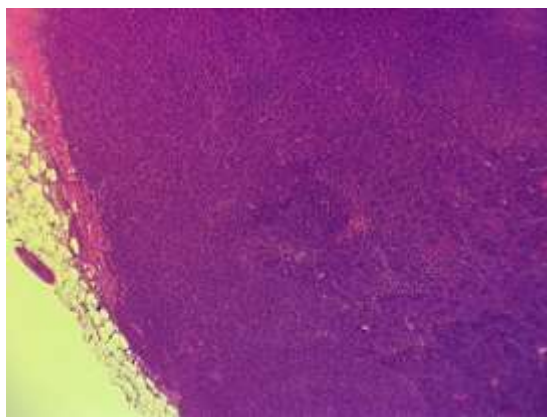
Untreated



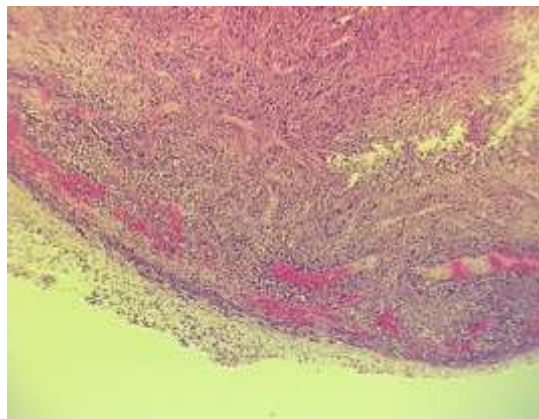
After CA4P

VDA Monotherapy

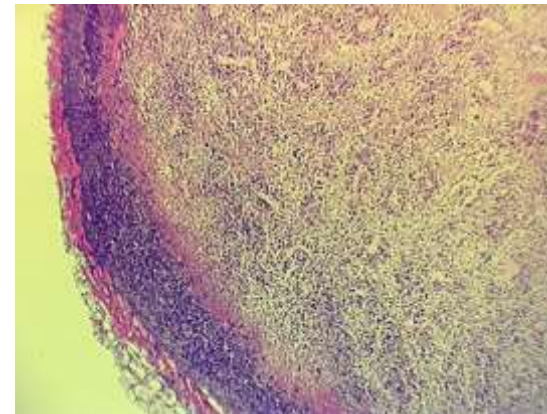
Murine Adenocarcinoma CaNT Model



Untreated



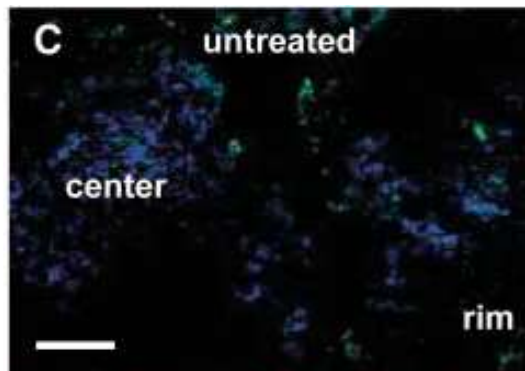
1 day post CA4P



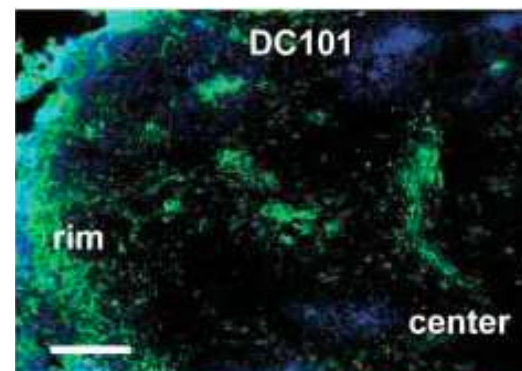
3 days post CA4P

- VDA treatment leads to significant central tumor necrosis
- Tumor rim cells rely on surrounding blood vessels
- After treatment necrotic area can be re-vascularized by angiogenesis

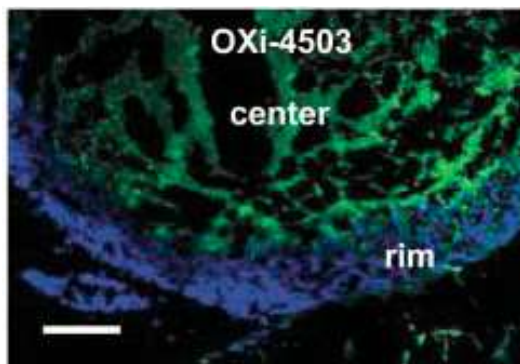
VDA + Anti-angiogenic Therapy Enhances Anti-vascular Effect



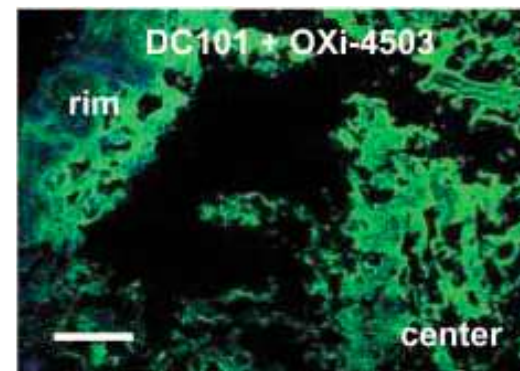
Untreated



VEGFR Ab Monotherapy



VDA Monotherapy



Combination

Green = Hypoxia; Blue = Perfusion

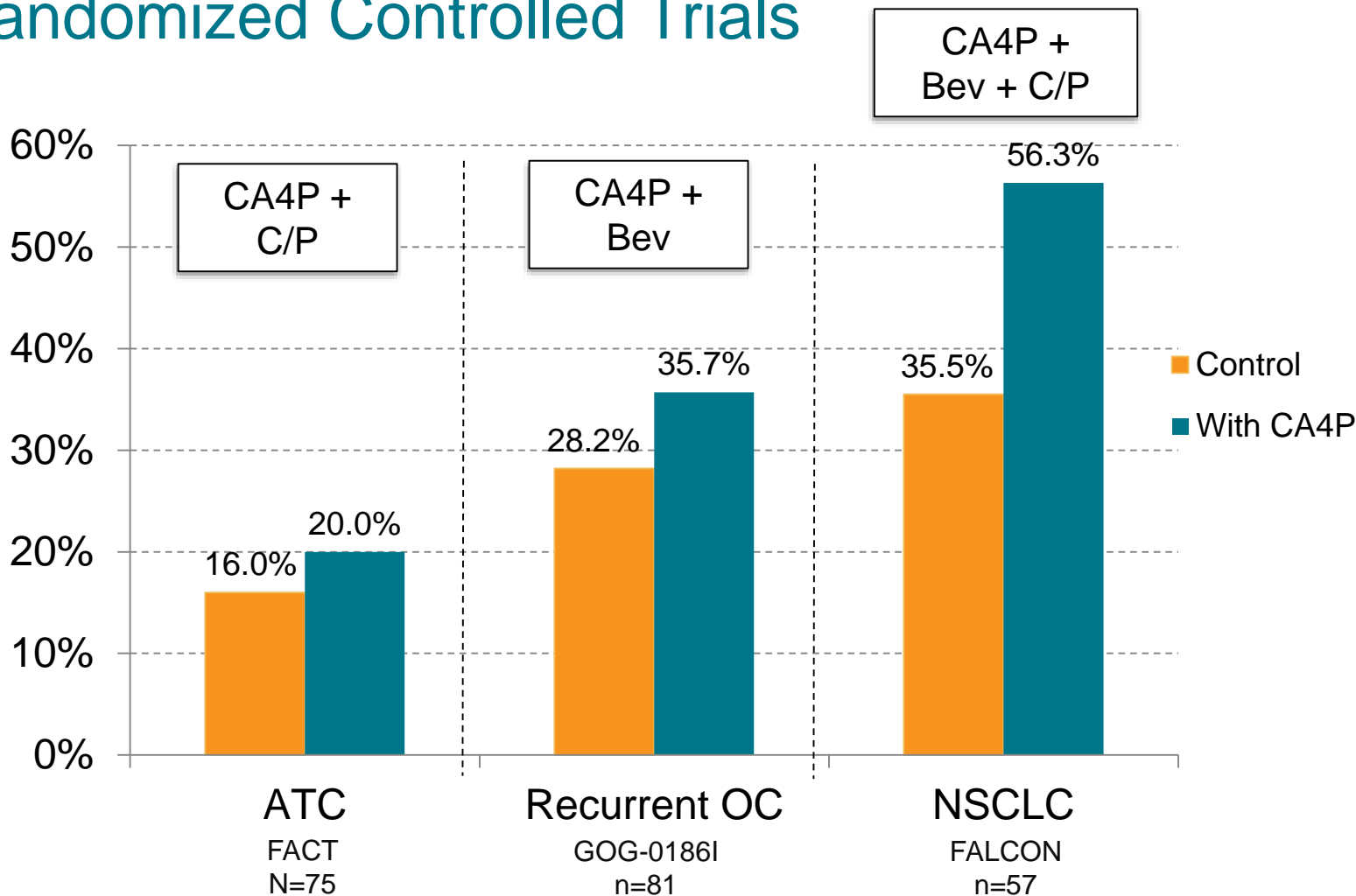
Indirect anti-vascular mechanism of anti-angiogenic therapy complements the direct anti-vascular mechanism of VDAs

CA4P: Summary of Completed Studies

Study #	N	Completed	Phase	Design	Indication	Results
CA4P-101	25	2001	1	OL, dose escalation	Advanced solid tumors	CR: n=1 (4%); SD: n=11 (44%)
CA4P-102	37	2001	1	OL, dose escalation	Advanced solid tumors	CR: n= 1 (3%); SD: n=16 (43%)
BMS-186527	9	2001	1	OL, dose escalation with carbo	Advanced solid tumors	Terminated
PH1/066	34	2001	1	OL, dose escalation	Advanced solid tumors	SD: n=4 (12%)
CA4P-103	16	2003	1	OL, dose escalation with carbo	Advanced solid tumors	SD: n=4 (25%)
UKR-104	23	2006	1	OL, dose escalation with radiotherapy	Advanced NSCLC, head & neck, or prostate	PR: n=6 (26%); SD: n=5 (22%)
UKCTC-207	46	2005	1b	OL, dose escalation with C/P	Advanced solid tumors	Overall Response Rate: 10 (22%)
UKCTC-207	44	2008	2	OL with C/P	prOC	Overall Response Rate: n=13 (29%)
ICC-2302	26	2007	2	OL	ATC	23% 1-year survival; SD: n= 7 (27%)
CA4P-212	13	2007	2	OL, dose escalation with C/P	Advanced, measurable dx	PR: n=1 (8.3%); SD: n=8 (66.7%)
PH1/092	12	2007	1/2	OL, dose escalation with anti-CEA antibody	Advanced GI carcinoma	SD: n=3 (25%)
CWRU-3302	4	2007	2	OL with doxorubicin, cisplatin, radiotherapy	ATC	Terminated
DKC-203	7	2007	1	OL, dose escalation with cisplatin	Advanced or recurrent cervical cancer	Not analyzed
OXC4P1-105	15	2008	1	OL, dose escalation with Bev	Advanced solid tumors	SD: n=9/14 (60%) DCE-MRI positive results
FALCON	63	2010	2	OL, RCT with Bev + C/P	Chemotherapy naïve Stage IIIB/IV NSCLC	No difference in PFS (HR 1.04 [NS]) or OS (HR 1.06 [NS]). Improved ORR 56.3% vs 35.5%
FACT	75	2011	2/3	OL, RCT with C/P	ATC	Improved median OS from 4.0 to 5.2 months (NS)
GOG-0186I	107	2014	2	OL, RCT with Bev	Recurrent OC	Improved median PFS from 4.8 to 7.3 months (p=0.049)

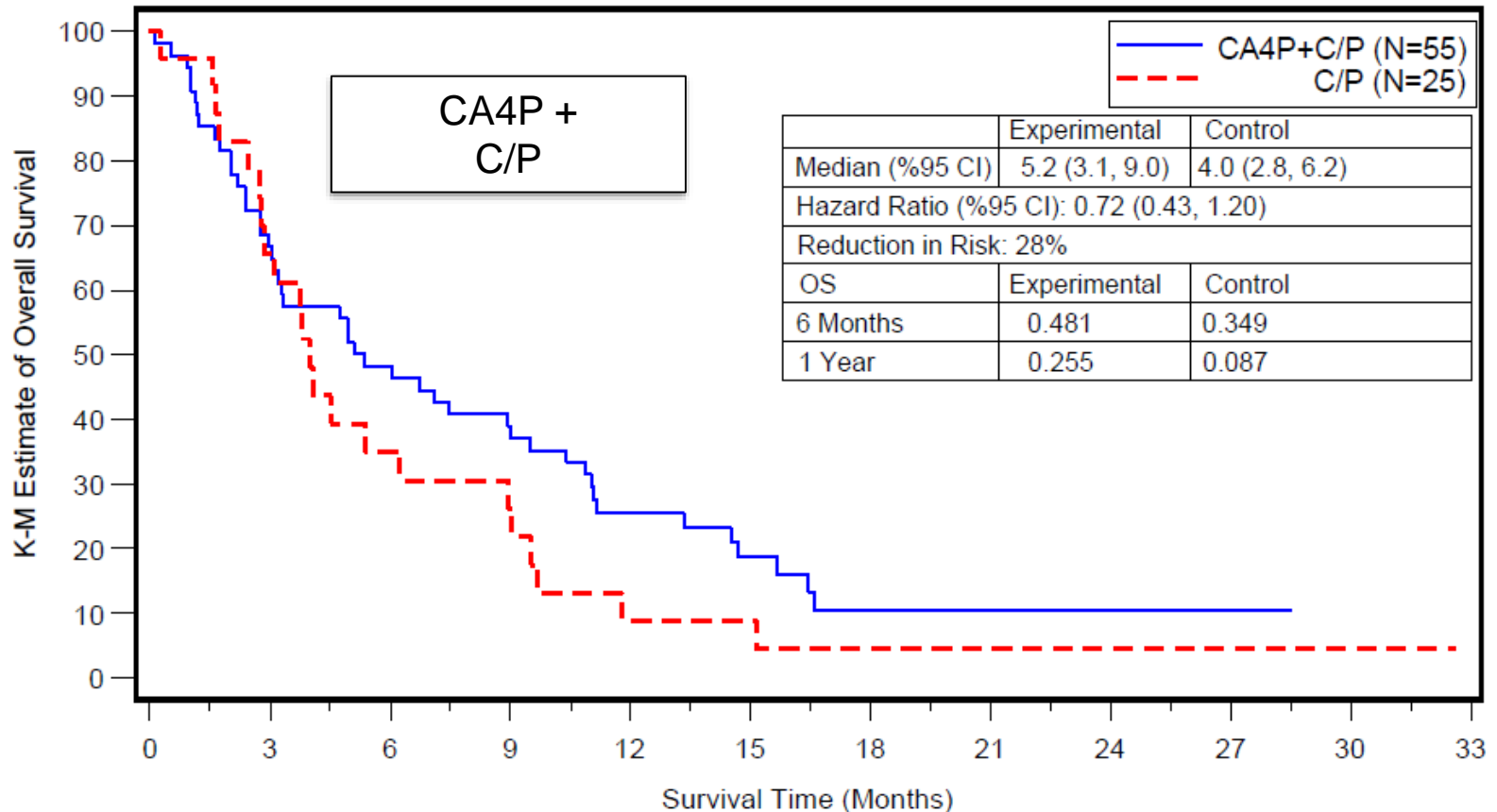
Response Rates

Randomized Controlled Trials



Recurrent OC and NSCLC studies are rates in patients with measurable disease/confirmed response.

ATC (FACT): Overall Survival Intent-to-Treat Population



Patients at Risk:

	N=55	36	26	21	13	8	4	3	2	1	-
Experimental	N=55	36	26	21	13	8	4	3	2	1	-
Control	N=25	15	8	6	2	2	1	1	1	1	1



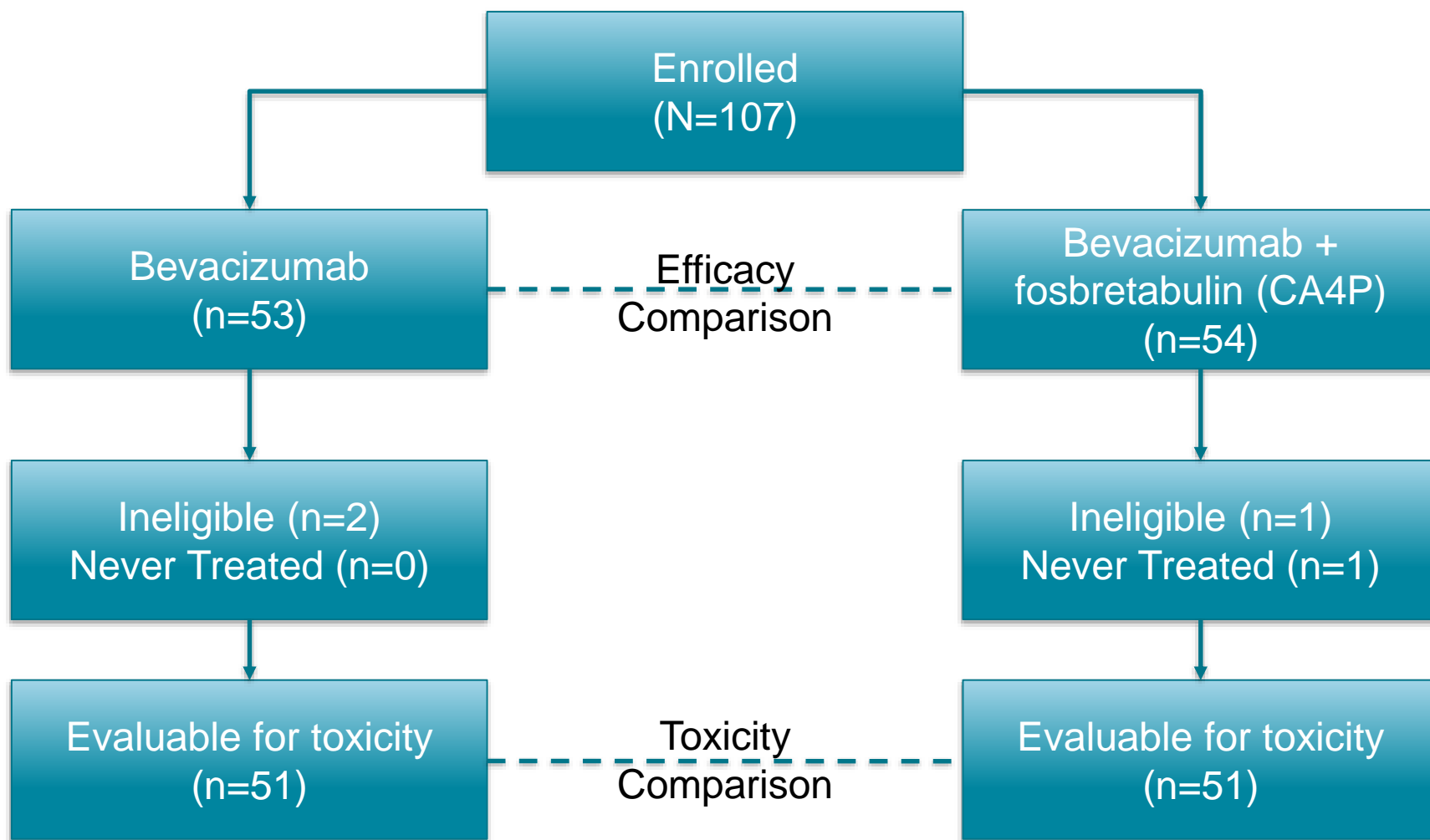
Recurrent Ovarian Cancer

Study GOG-0186I

GOG-0186I Study Design

- Randomized, controlled, multicenter, open-label Phase 2 study
 - Primary endpoint: Progression free survival (PFS)
 - Secondary endpoints: Overall response rate (ORR), Overall survival (OS)
- Patient Population: recurrent ovarian cancer
 - Minimum of 1, maximum of 3 prior therapies
 - Both platinum-sensitive and platinum-resistant
- Treatment Regimens
 - Bevacizumab (Avastin) 15 mg/kg IV q3 weeks (n=53)
 - Bevacizumab 15 mg/kg+CA4P 60 mg/m² IV q3 weeks (n=54)
- N=107 (67 sites)

GOG-0186I: Disposition



GOG-0186I: Demographics

	CA4P + Bev n (%)	Bev n (%)
Total Number of Patients	54	53
Age		
<60	17 (31.5%)	17 (32.1%)
≥60	37 (68.5%)	36 (67.9%)
ECOG Performance Status		
0	44 (81.5%)	36 (67.9%)
1	9 (16.7%)	17 (32.1%)
2	1 (1.9%)	0
# of Prior treatment regimens		
1	22 (40.7%)	30 (56.6%)
2	22 (40.7%)	14 (26.4%)
3	10 (18.5%)	9 (17.0%)
Prior Bevacizumab		
No	49 (90.7%)	48 (90.6%)
Yes	5 (9.3%)	5 (9.4%)
Measurable Disease		
No	12 (22.2%)	14 (26.4%)
Yes	42 (77.8%)	39 (73.6%)
Platinum Response		
Platinum Resistant (<6 months)	13 (24.1%)	14 (26.4%)
Platinum Intermediate (6-12 months)	22 (40.7%)	21 (39.6%)
Platinum Sensitive (>12 months)	19 (35.2%)	18 (34.0%)



Efficacy

March 2014 Primary Analysis

April 2015 Survival Data

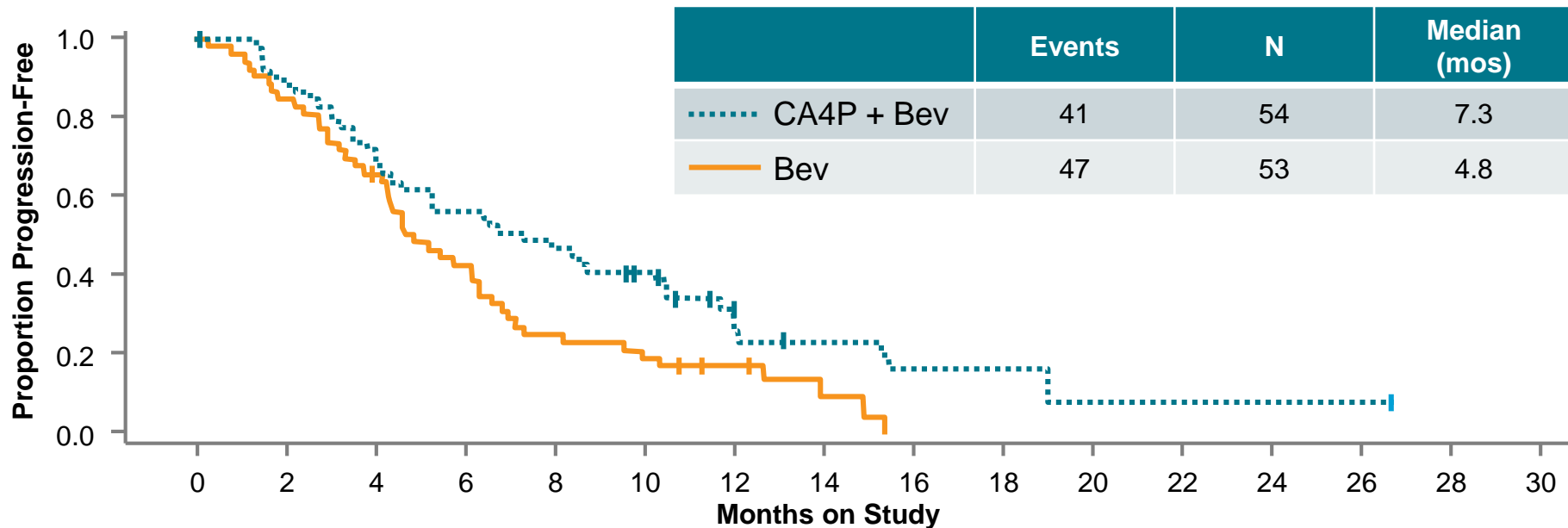
Monk BJ, Sill MW, Walker JL, Darus CJ, Sutton G, Tewari KS, et al. Randomized phase II evaluation of bevacizumab versus bevacizumab plus fosbretabulin in recurrent ovarian, tubal, or peritoneal carcinoma: an NRG oncology/gynecologic oncology group study. *J Clin Oncol*. Epub 2016 May 23.

GOG-0186I: Response Rates

	CA4P + Bev n (%)	Bev n (%)
Total Number of Patients	54	53
Response Rate		
Complete Response	0	0
Partial Response	15 (27.8)	11 (20.8)
Stable Disease	20 (37.0)	24 (45.2)
Progressive Disease	4 (7.4)	4 (7.5)
Indeterminate/Not Evaluable	15 (27.8)	14 (26.4)
Patients with Measurable Disease	42	39
Partial Response	15 (35.7)	11 (28.2)
90% CI	23.5 – 49.5	16.7 – 42.3

Progression-free Survival (ITT)

Study GOG-0186I Primary Endpoint Analysis



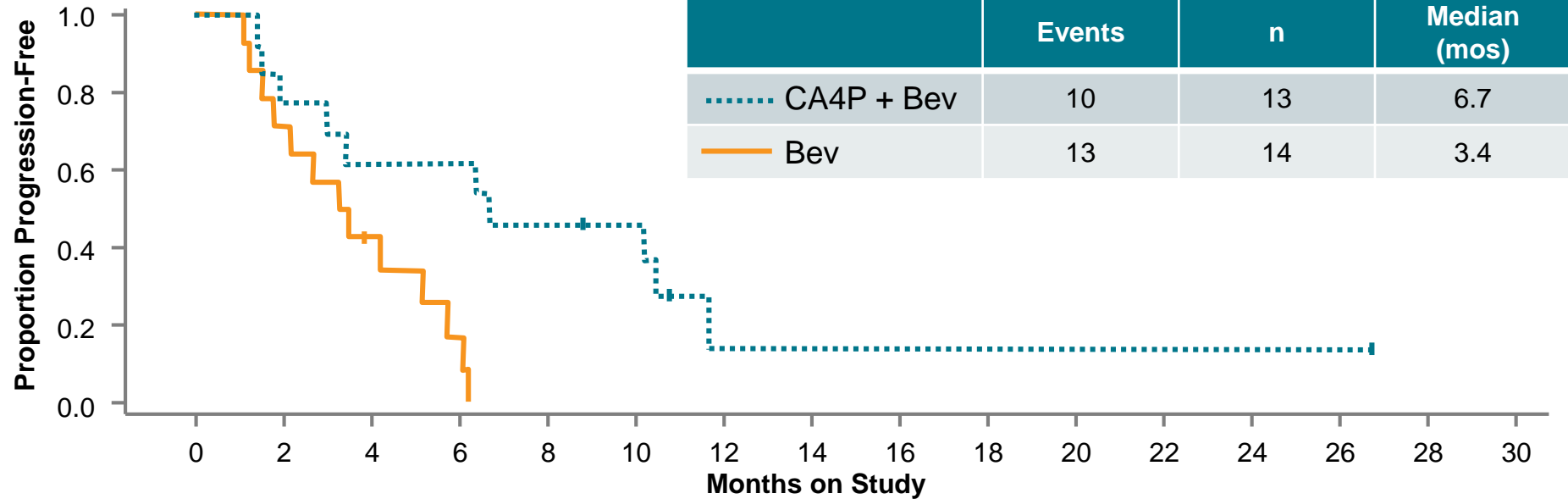
at Risk

Active	54	37	25	9	5	1	1
Control	53	34	13	6	0	0	0

Treatment Comparison	HR*	90% CI	1-sided P Value
Active vs Control	0.69	[0.47, 1.00]	0.049

*Hazard Ratios of the experimental level to the reference level of the treatment comparison were stratified by measurable disease status (Yes/No), prior bevacizumab use (Yes/No), and platinum sensitivity (>12 months/≤ 12 months) using a Cox proportional hazards model.

Progression-free Survival (Platinum Resistant) Study GOG-0186I



at Risk

Active	13
Control	14

1
0

1
0

Treatment Comparison

HR*

Log-rank P Value

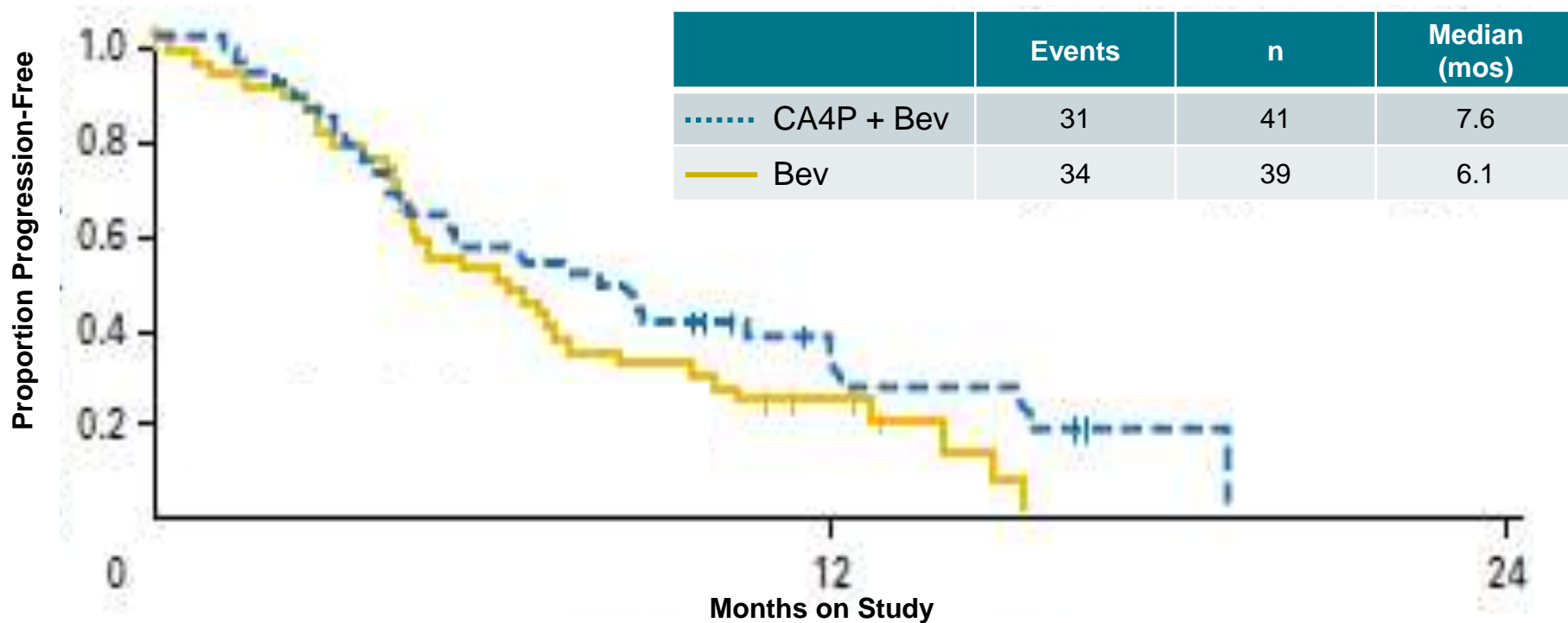
Active vs Control

0.57

0.01

*Hazard Ratio of the experimental level to the reference level of the treatment comparison were stratified by measurable disease status (Yes/No) and prior bevacizumab use (Yes/No), using a Cox proportional hazards model. The CI is questionable and therefore not available, which may be due to the small number of patients within some strata.

Progression-free Survival (Platinum Sensitive) Study GOG-0186I

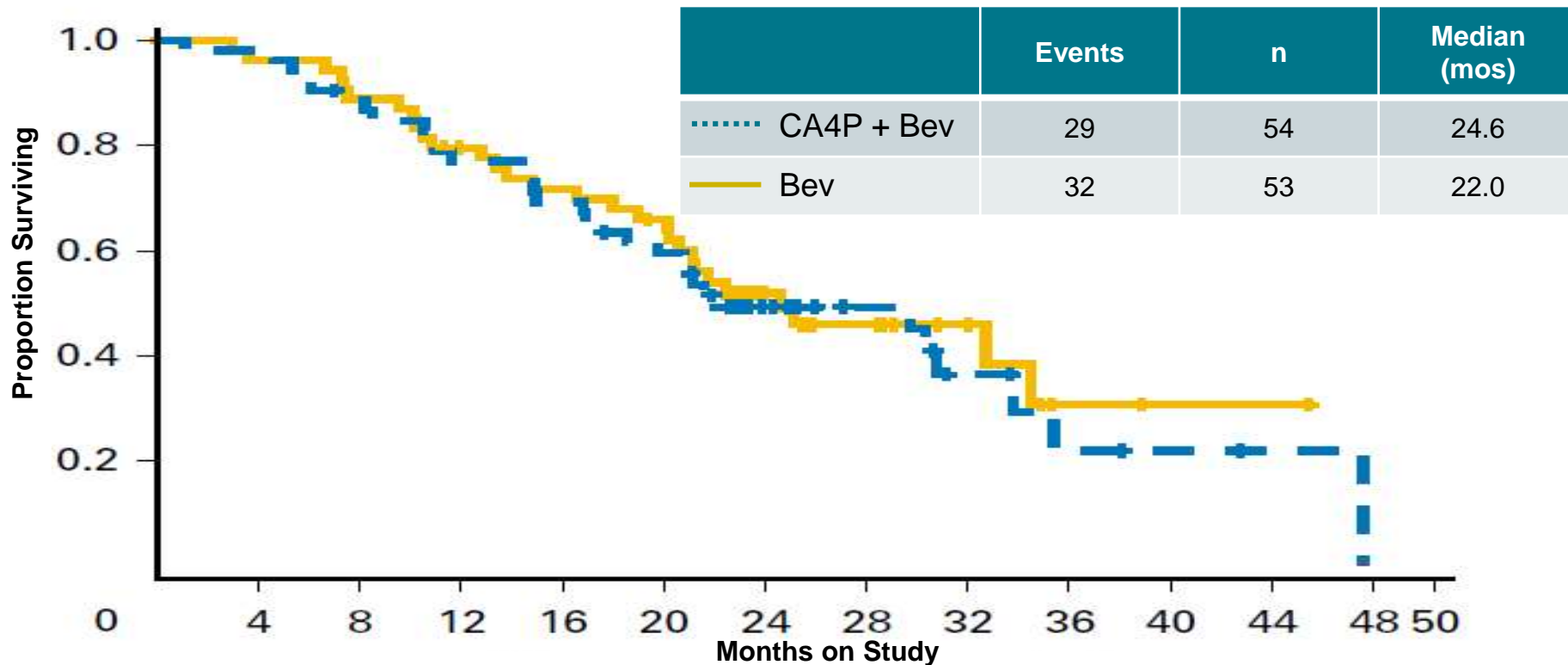


at Risk

Active	41	8	0
Control	39	6	0

Treatment Comparison	HR*	90% CI	Log-rank P Value
Active vs Control	0.67	[0.43, 1.03]	0.139

Overall Survival (ITT) Study GOG-0186I



at Risk

Active	54	9	1
Control	53	6	0

Treatment Comparison	HR	90% CI	Log-rank P Value
Active vs Control	0.85	[0.54, 1.34]	Not done



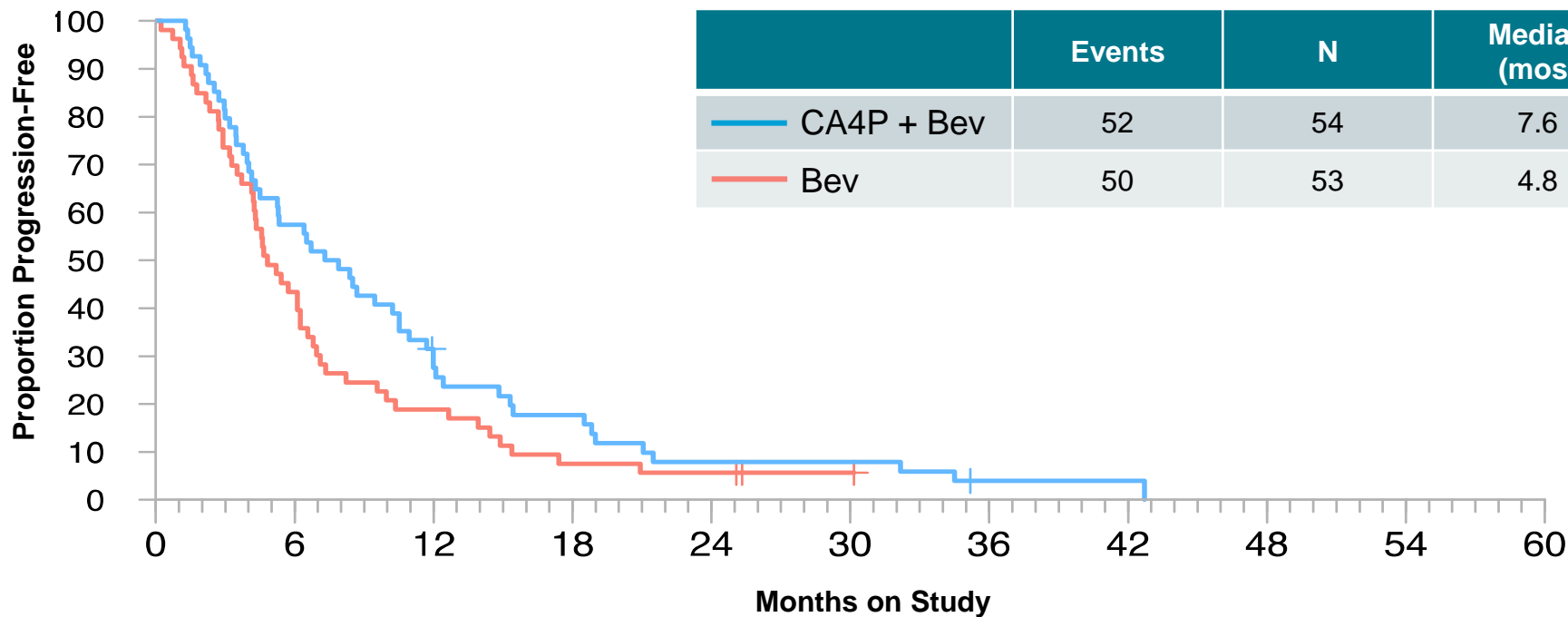
Efficacy

November 2015 Data

Additional Analyses by Mateon Therapeutics

Progression-free Survival (ITT)

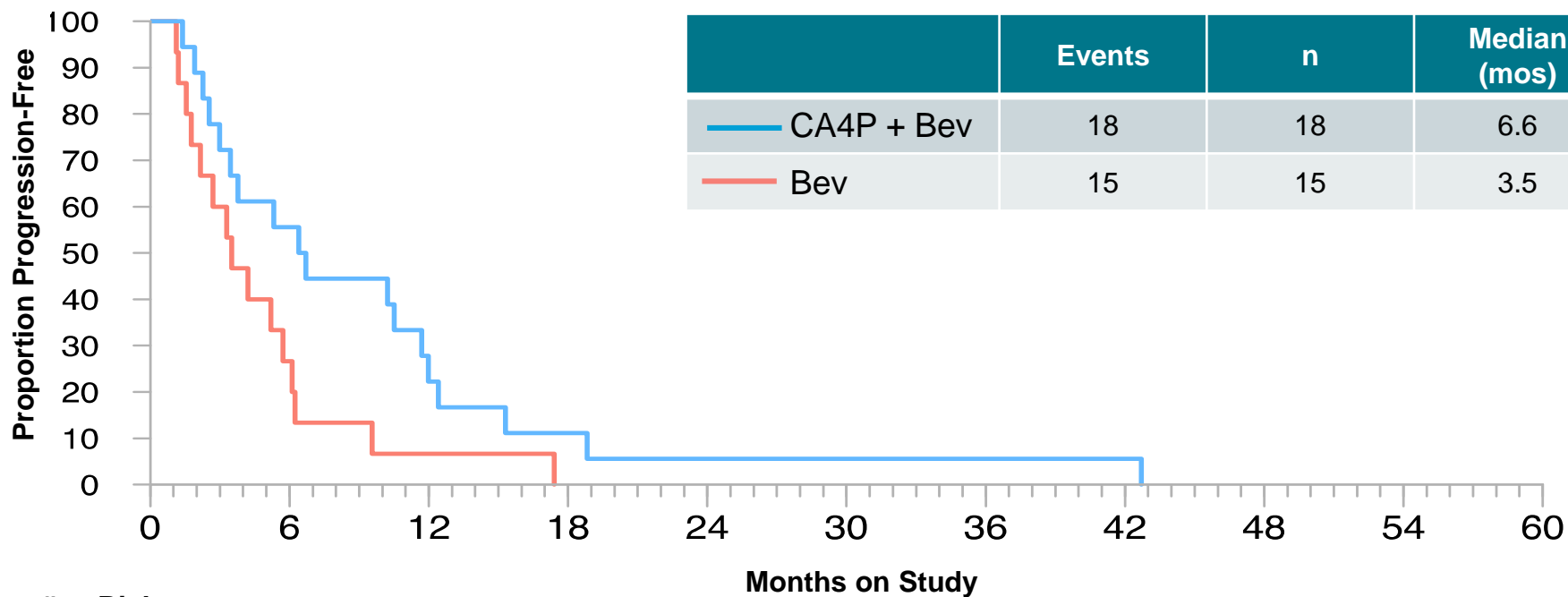
Study GOG-0186I Nov2015



# at Risk					
Active	54	22	6	4	1
Control	53	11	4	1	0

Treatment Comparison	HR	95% CI	P Value
Active vs Control	0.719	[0.48, 1.07]	0.103

Progression-free Survival (Platinum Resistant) Study GOG-0186I Nov2015

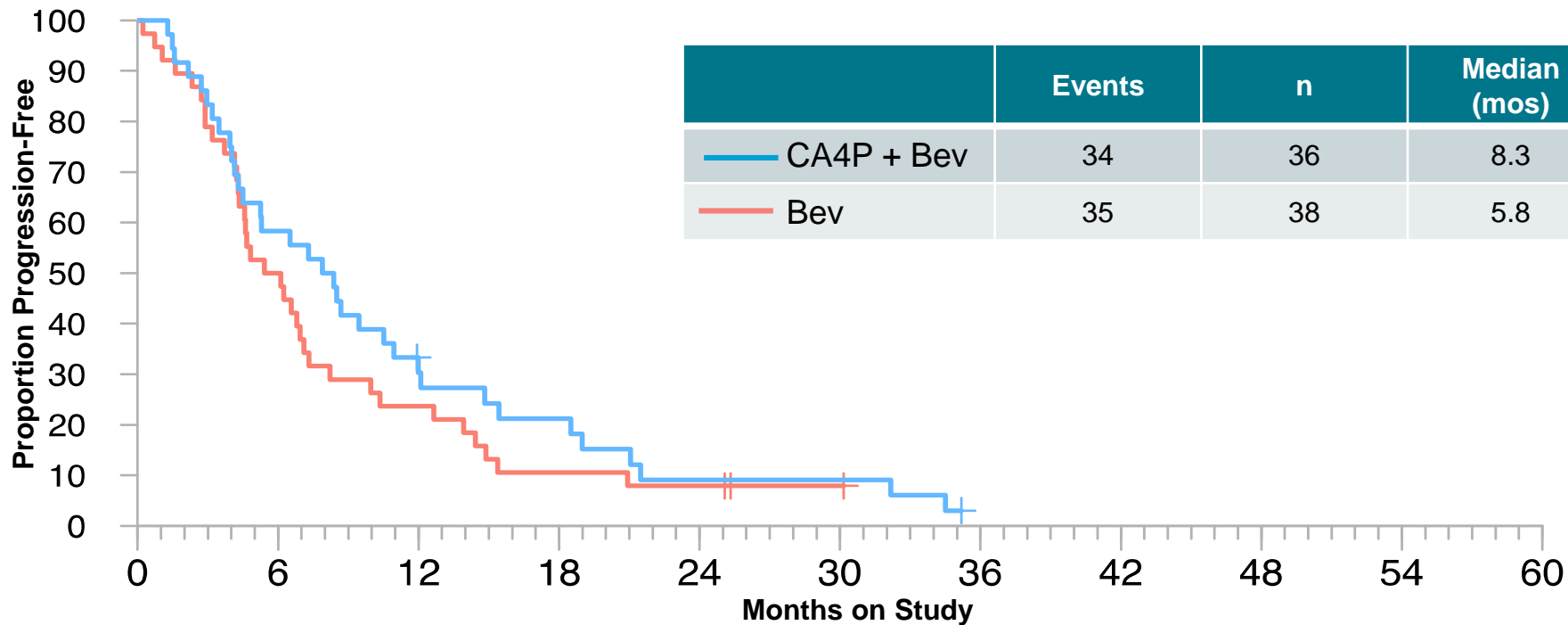


# at Risk		Months on Study				
Active	18	8	1	1	1	
Control	15	1	0	0	0	

Treatment Comparison	HR	95% CI	Log-rank P Value
Active vs Control	0.478	[0.23, 0.99]	0.043

Note: Mateon statistics include patients who were platinum resistant on any previous therapy (n=33) while GOG statistics include patients who were platinum resistant on the last line of therapy (n=27)

Progression-free Survival (Platinum Sensitive) Study GOG-0186I Nov2015



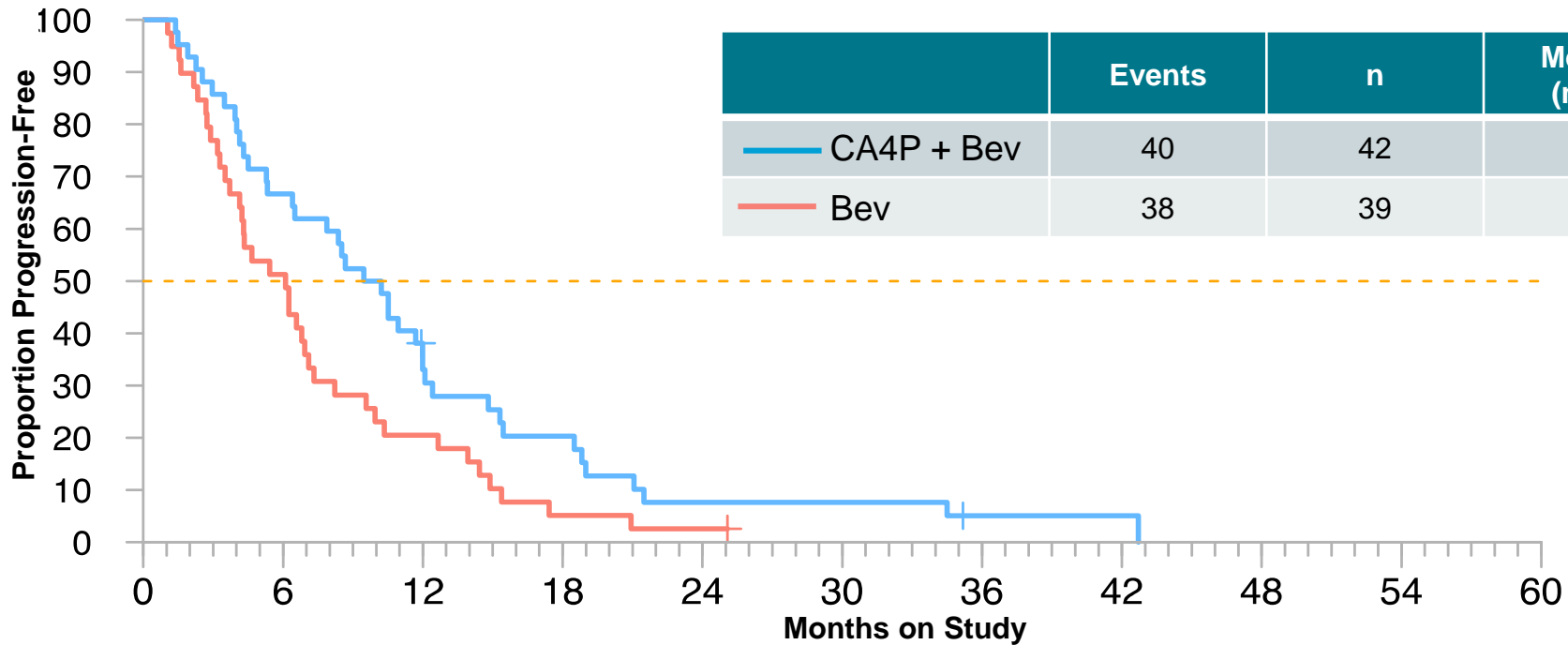
at Risk

Active	36	14	5	3
Control	38	10	4	1

Treatment Comparison	HR	95% CI	Log-rank P Value
Active vs Control	0.783	[0.48, 1.27]	0.319

Note: Mateon statistics exclude patients who were platinum resistant on any previous therapy (n=33) while GOG statistics exclude patients who were platinum resistant on the last line of therapy (n=27)

Progression-free Survival (Measurable Disease) Study GOG-0186I Nov2015



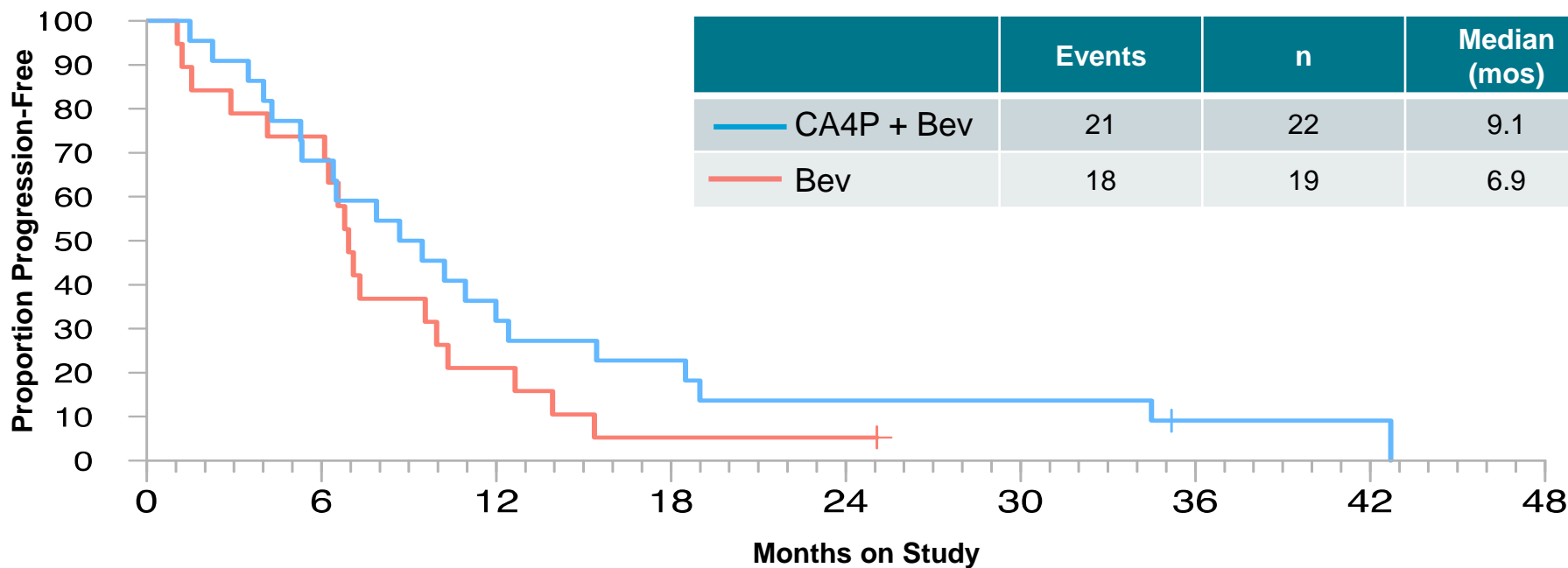
# at Risk					
Active	42	21	5	3	1
Control	39	9	2	0	0

Treatment Comparison	HR	95% CI	Log-rank P Value
Active vs Control	0.600	[0.38, 0.95]	0.027



Progression-free Survival (Tumor ≤Median Size)

Study GOG-0186I Nov2015



at Risk

Active	22	10	3	3	1
Control	19	5	1	0	0

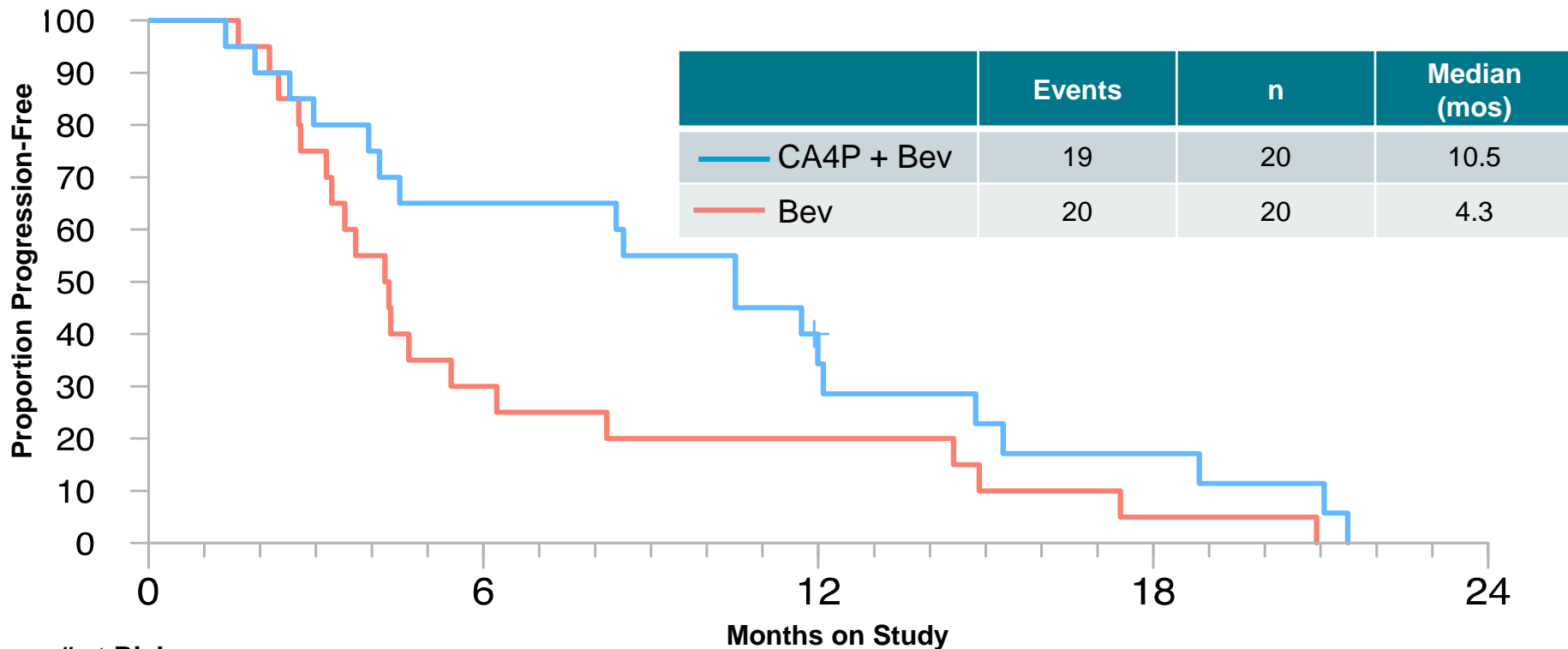
Treatment Comparison	HR	95% CI	Log-rank P Value
Active vs Control	0.667	[0.35, 1.29]	0.225

Sum of longest diameters (SLD) at baseline was used to analyze the groups of patients above and below the median baseline SLD for the population with measurable disease at baseline, 5.7 cm.



Progression-free Survival (Tumor >Median Size)

Study GOG-0186I Nov2015



at Risk

Active	20	13	11	4	2
Control	20	7	4	2	1

Treatment Comparison	HR	95% CI	Log-rank P Value
Active vs Control	0.554	[0.29, 1.06]	0.071

Sum of longest diameters (SLD) at baseline was used to analyze the groups of patients above and below the median baseline SLD for the population with measurable disease at baseline, 5.7 cm.



Comparison of PFS Analyses

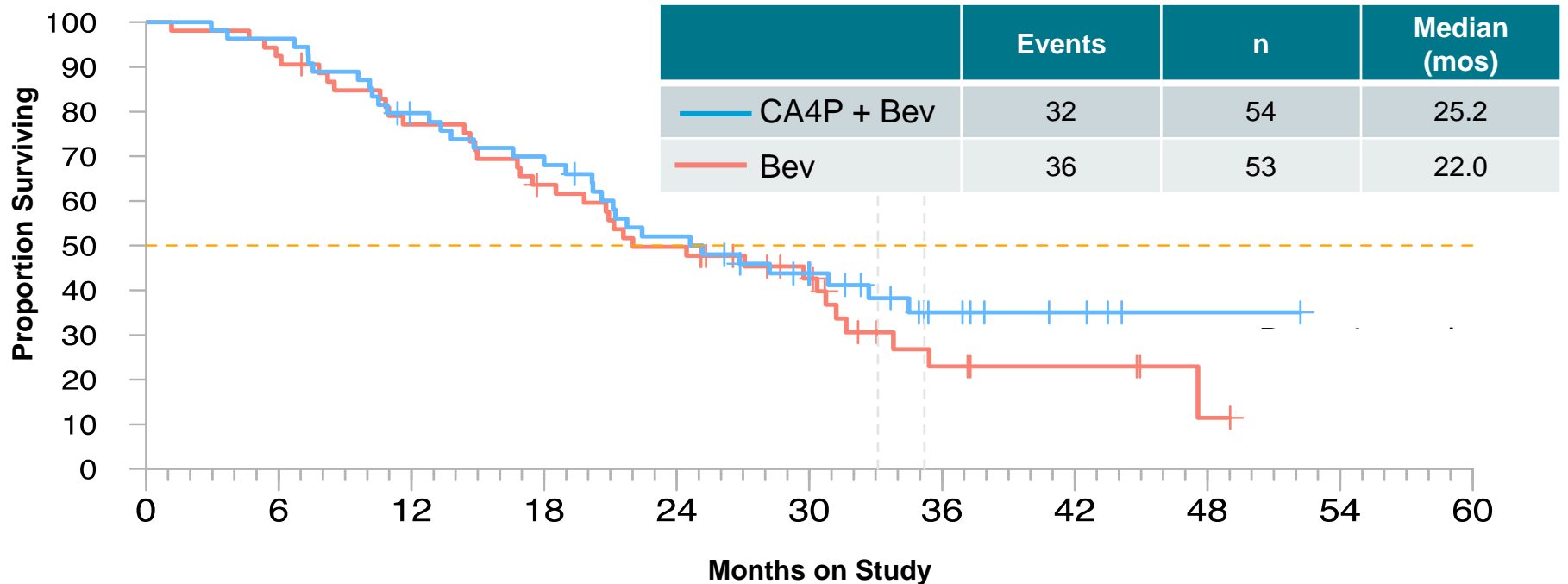
	N	ΔMedian	HR	P-value
ITT Mar 2014	107	2.5	0.685	0.098**
psOC Mar 2014	81*	1.5	0.67	0.139
prOC Mar 2014	27*	3.3	0.57	0.01
ITT Nov 2015	107	2.8	0.719	0.103
psOC Nov 2015	74*	2.5	0.783	0.319
prOC Nov 2015	33*	3.0	0.478	0.043
Measurable Disease Nov 2015	81	3.7	0.600	0.027
Tumor Size ≤ Median (5.7 cm SLD)	41	2.2	0.670	0.225
Tumor Size > Median (5.7 cm SLD)	40	6.2	0.554	0.071

* Mateon statistics classify patients who were platinum resistant on any previous therapy (n=33) as platinum resistant, while GOG statistics only classify patients who were platinum resistant on the last line of therapy (n=27) as platinum resistant

** GOG conducted the study with a pre-specified 1-sided analysis. A 2-sided p-value is shown here for cross-analysis comparison

Overall Survival (ITT)

Study GOG-0186I Nov2015



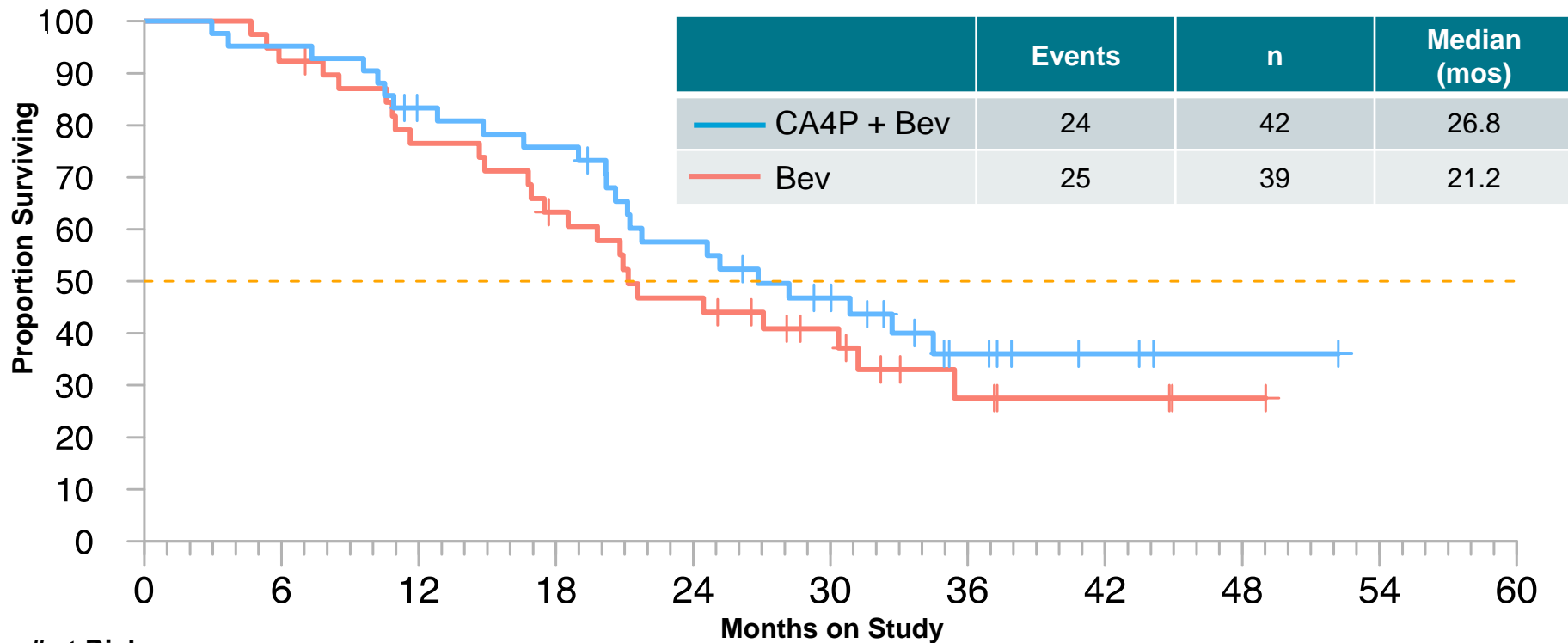
# at Risk	0	6	12	18	24	30	36	42	48	54	60
Active	54	47	33	18	5	1					
Control	53	44	30	16	4	0					

Treatment Comparison	HR	95% CI	Log-rank P Value
Active vs Control	0.827	[0.51, 1.33]	0.437



Overall Survival (Measurable Disease)

Study GOG-0186I Nov2015



at Risk

Active	42	38	28	16	4	1
Control	39	33	21	11	3	0

Treatment Comparison	HR	95% CI	Log-rank P Value
Active vs Control	0.777	[0.44, 1.36]	0.377

Comparison of OS Analyses

	N	ΔMedian	HR	P-value
ITT April 2015	107	2.6	0.85	N/A
ITT Nov 2015	107	3.2	0.827	0.437
psOC Nov 2015	74*	-1.9	0.826	0.532
prOC Nov 2015	33*	1.2	0.802	0.581
Measurable Disease Nov 2015	81	5.6	0.777	0.377
Tumor Size ≤ Median (5.7 cm SLD)	40	-10.8	1.245	0.626
Tumor Size > Median (5.7 cm SLD)	41	10.1	0.521	0.095

* Mateon statistics classify patients who were platinum resistant on any previous therapy (n=33) as platinum resistant, while GOG statistics only classify patients who were platinum resistant on the last line of therapy (n=27) as platinum resistant

Safety

Safety Summary

Study GOG-0186I

System Organ Class	CA4P + Bev (# of Events)	Bev (# of Events)
Blood/lymphatics	4	7
Gastrointestinal	23	16
General/administration site	20	15
Infections/infestations	21	22
Investigations	11	15
Metabolism/nutrition	18	19
Musculoskeletal/connective tissue	8	16
Nervous system	10	7
Renal/urinary	6	5
Respiratory/thoracic/mediastinal	6	12
Vascular disorders	32	23

Note: Sum of Grade 2-5 AEs

Adverse Events of Interest

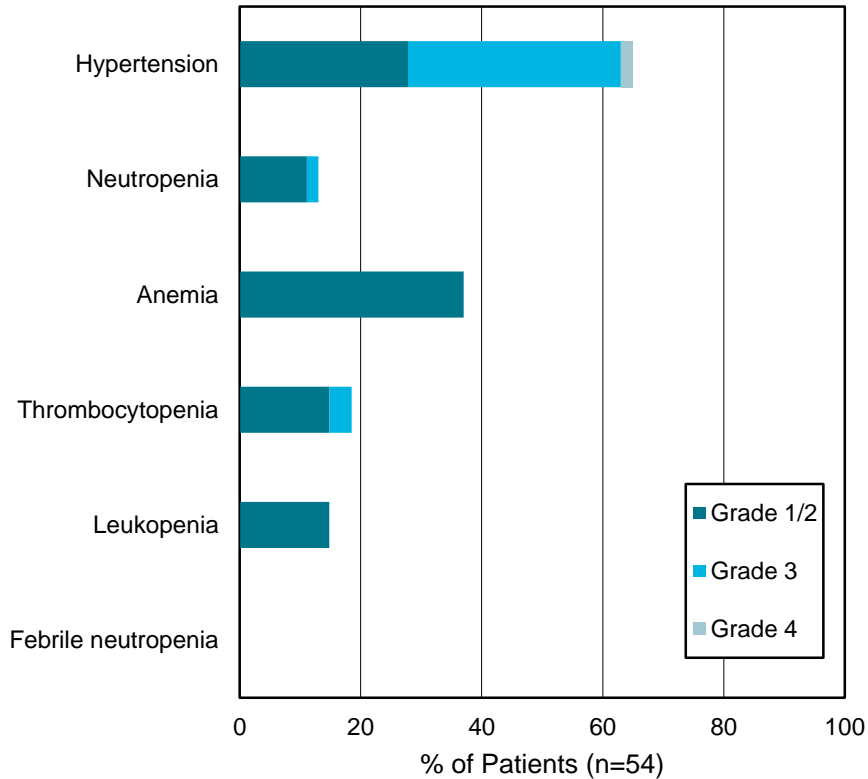
Study GOG-0186I

Adverse Event of Note	CA4P + Bev (# of Events)	Bev (# of Events)
Grade 5 – GI obstruction (not considered treatment-related)	1	0
Grade 4 – Metabolism/nutrition	0	1
Grade 4 – Hypertension	1	0
Grade 3 – Hypertension	17	10
Grade 2 or 3 – Bowel perforation	0	1

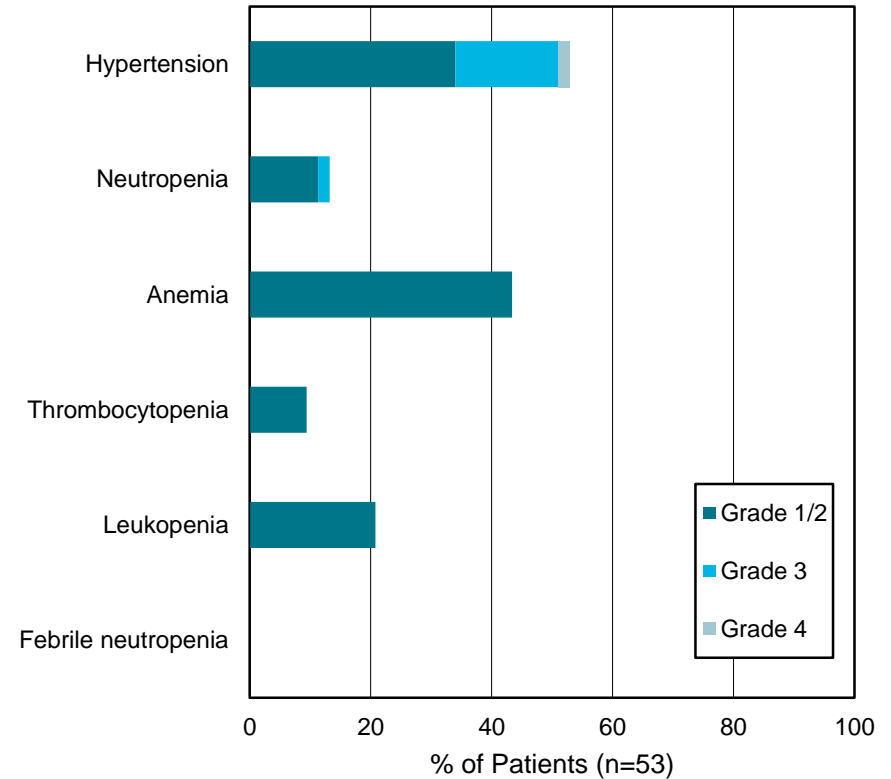
Adverse Events of Interest (cont.)

Worst Grade per Patient

CA4P + Bev



Bev



GOG-0186I Conclusions

- CA4P plus bevacizumab was superior to bevacizumab alone
 - Improved PFS, ORR, OS
- Greater response in patients with measurable disease
 - Most pronounced in patients with platinum resistant disease or larger tumors
- CA4P was well tolerated
 - Few hematological AEs seen when there is no chemotherapy
 - Increased incidence and severity of short term hypertension; manageable with use of anti-hypertensive medications



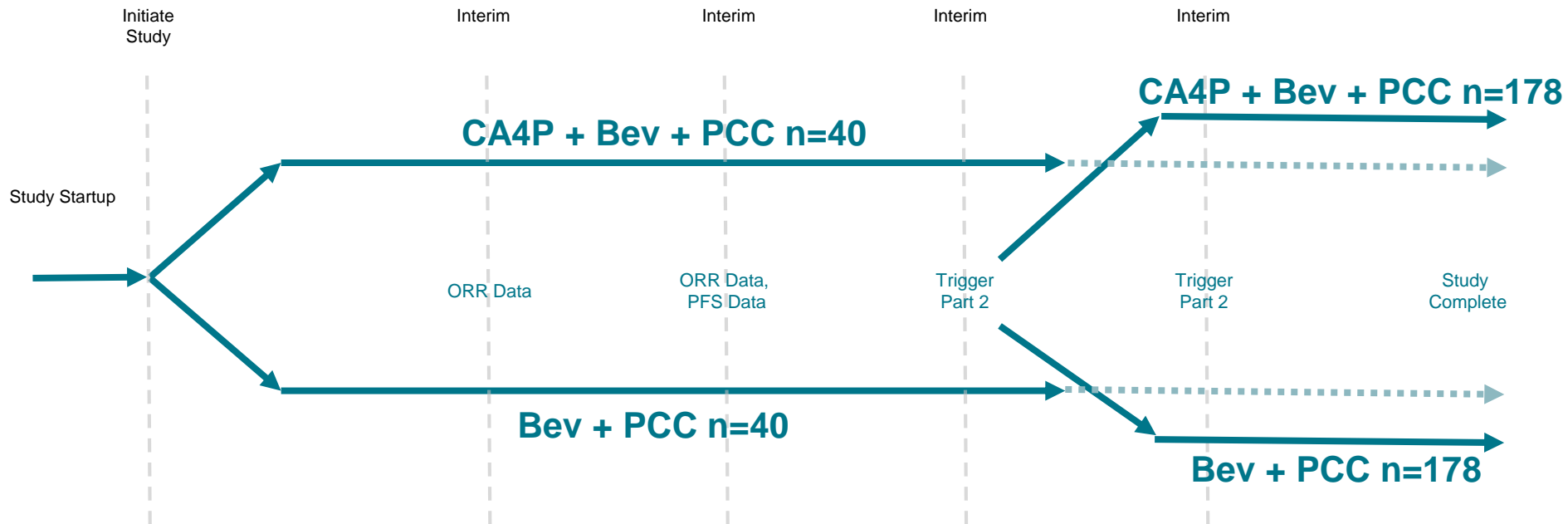
Recurrent Ovarian Cancer

FOCUS

FOCUS Study: Overview

- Multicenter, multinational, randomized, double-blind, 2-arm, parallel-group, Phase 2/3 study in patients with prOC
- 80 patients will be randomized into Part 1
- ~350 patients will be randomized into Part 2
- Patients will be randomized 1:1 to receive PCC (paclitaxel or PLD) + bevacizumab + CA4P or PCC + bevacizumab + placebo
- Patients will be stratified by:
 - Prior use of anti-angiogenic agent therapy (yes or no)
 - PCC regimen (paclitaxel or PLD)
 - Line of treatment during which platinum resistance occurred (e.g. first-line, second-line, third-line)

prOC (FOCUS) Phase 2/3 Study Design



- Regular interim analyses to detect efficacy and test powering assumptions
- Part 2 triggered based on interim analyses

Key Milestones

- 2H2016
 - PAZOFOS study – Phase 2 begins enrolling
 - Phase 2 NET study – final data
 - Phase 1 OXi4503 AML monotherapy study – final data
 - Phase 1 OXi4503 AML combination study – interim data
- 1H2017
 - Phase 2/3 FOCUS study – initial interim analysis (1Q2017)
 - Phase 1 OXi4503 AML combination study completed
 - Phase 2/3 FOCUS study – second interim analysis (2Q2017)
- 2H2017
 - Phase 2/3 FOCUS study – third and fourth interim analyses
 - Phase 2/3 FOCUS study – transition to Part 2

Summary

- Orphan oncology focused biopharmaceutical company
- Treated over 475 patients with CA4P
 - Greatest activity in combination with anti-angiogenic agents
- New management team with a targeted clinical development strategy
 - Concentration in prOC and AML
- Resources fund trials through expected meaningful data
- Multiple attractive indications can be pursued after increasing shareholder value



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