
SGO 50TH ANNUAL MEETING
ON WOMEN'S CANCER®
HAWAII
FIVE-0
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Dendritic Cell Vaccine Combined with Second Line of Chemotherapy in Patients With Epithelial Ovarian Carcinoma

Final Analysis of a Phase II, Open Label, Randomized, Multicentre Trial

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HAWAII FIVE-O SGO 50TH ANNUAL MEETING ON WOMEN'S CANCER

SGO Society of Gynecologic Oncology

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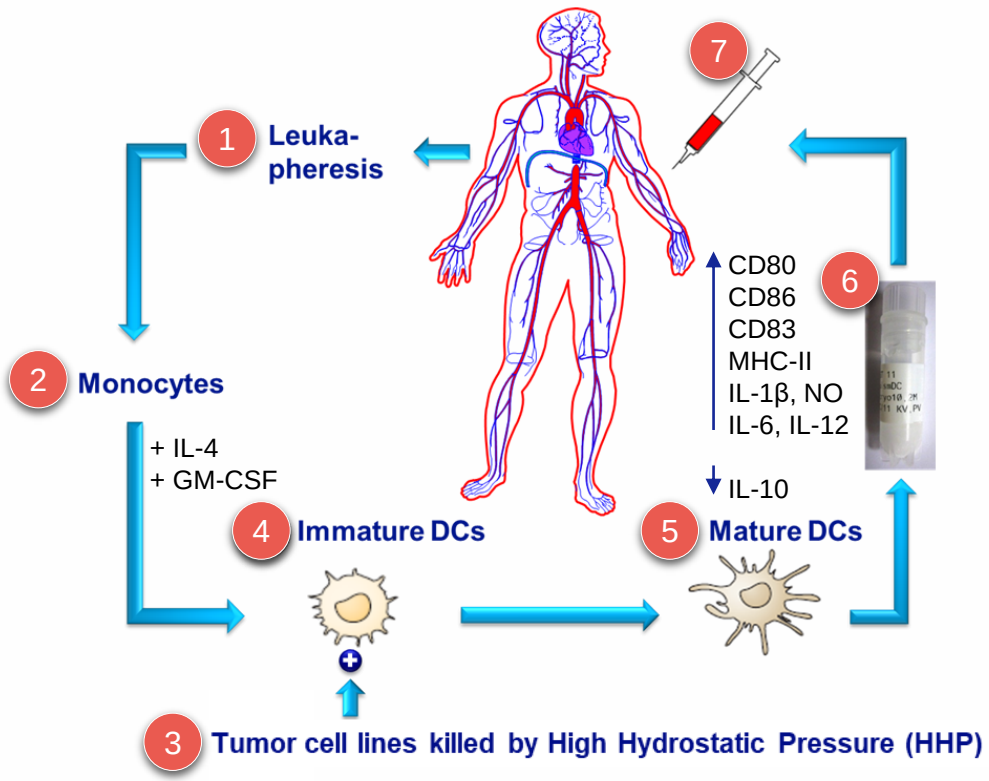
DCVAC Cellular Immunotherapy Platform



DCVAC manufacturing and treatment cycle

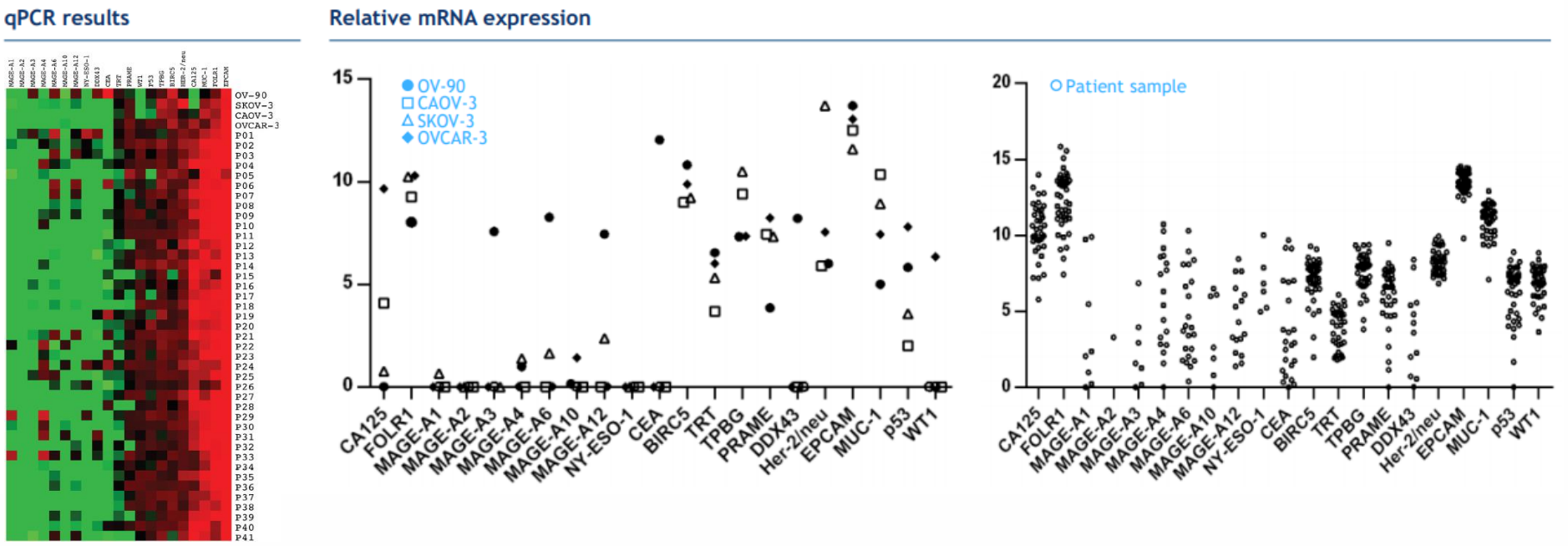
1. **Single leukapheresis** at qualified centers
2. **Monocytes** are enriched and grown *ex vivo* into **immature dendritic cells (DCs)**
3. **Tumor cell lines** (different for each indication) are killed by **HHP inducing immunogenic cell death**
4. **DC Maturation:** Immature DCs are pulsed with HHP-killed tumor cells
5. **Mature DCs** express on the surface antigens from selected tumor cells
6. **≥15 doses** of DCVAC are **produced and frozen**
7. **Patient receives DCVAC** on an ongoing basis

GMP manufacturing & logistics established in-house
Reliable supply for clinical trials in US, Europe and China

Kloudova et al., Oncotarget, 2016 Jul 19;7(29):46120-46126 | Fucikova et al., J Transl Med., 2011 Dec 30;9:223 | Urbanova et al., Immunology Letters, 2017, 187: 27–34

Tumor Cell Lines Were Selected To Match The Antigen Profile in Primary Tumors

RELATIVE mRNA EXPRESSION OF 21 TAAS IN CANCER CELL LINES, PRIMARY TUMOR CELLS AND CONTROL OVCA TISSUE



Tumor antigens expressed by selected ovarian cancer cell lines (OV-90, SKOV-3) for DCVAC/OvCa manufacturing provide a good match with primary tumor samples

Kloudova et al., Oncotarget, 2016 Jul 19;7(29):46120-46126

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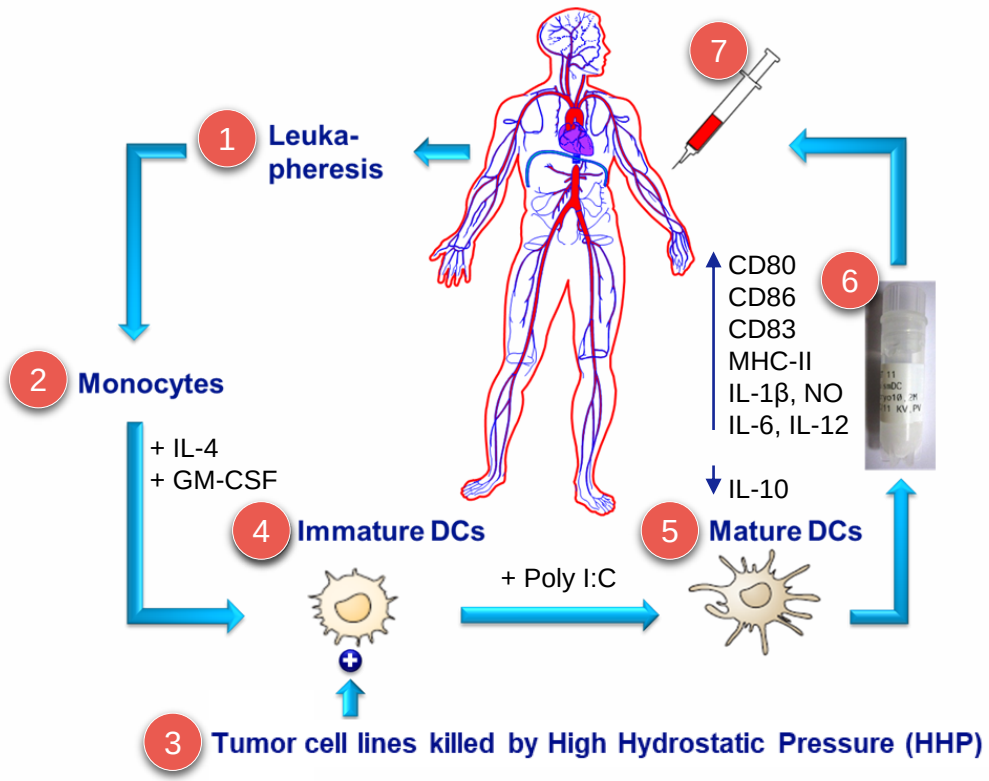

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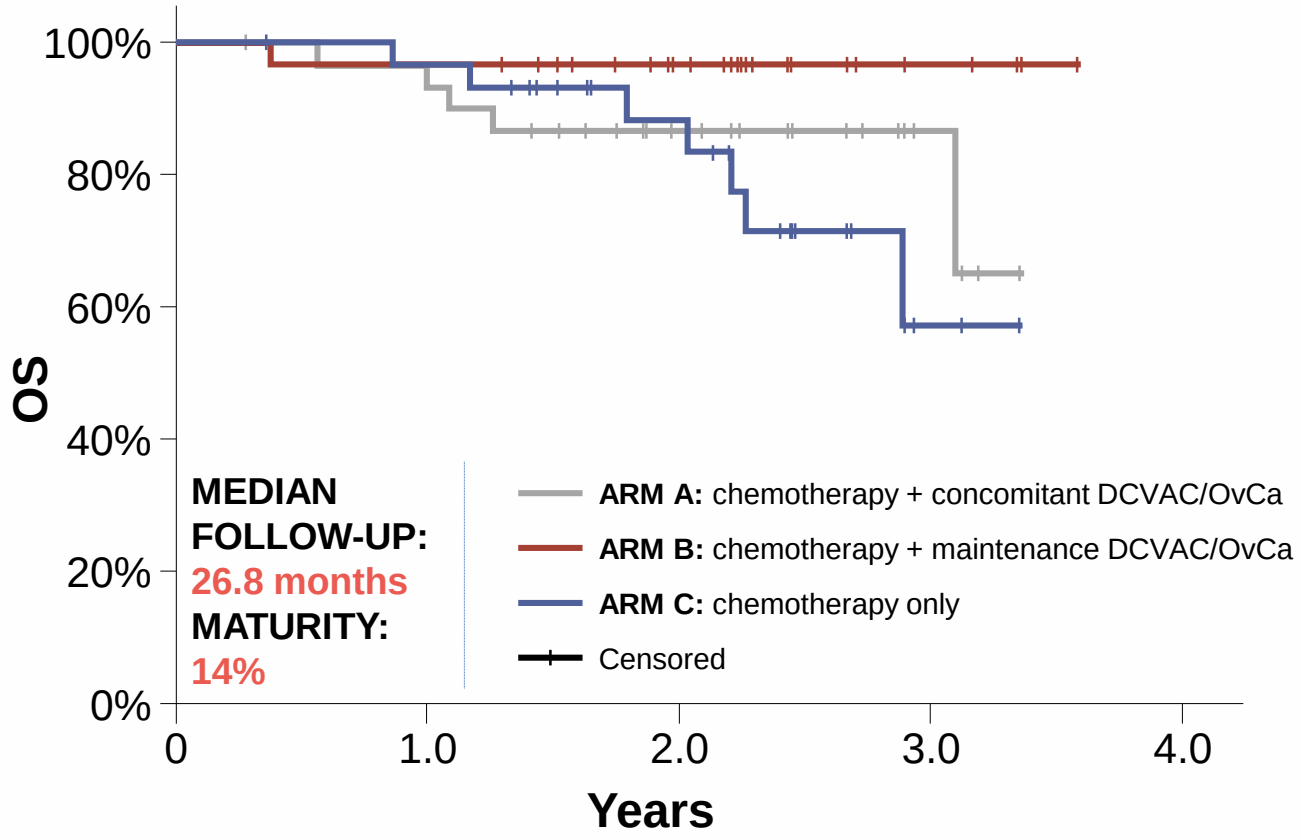
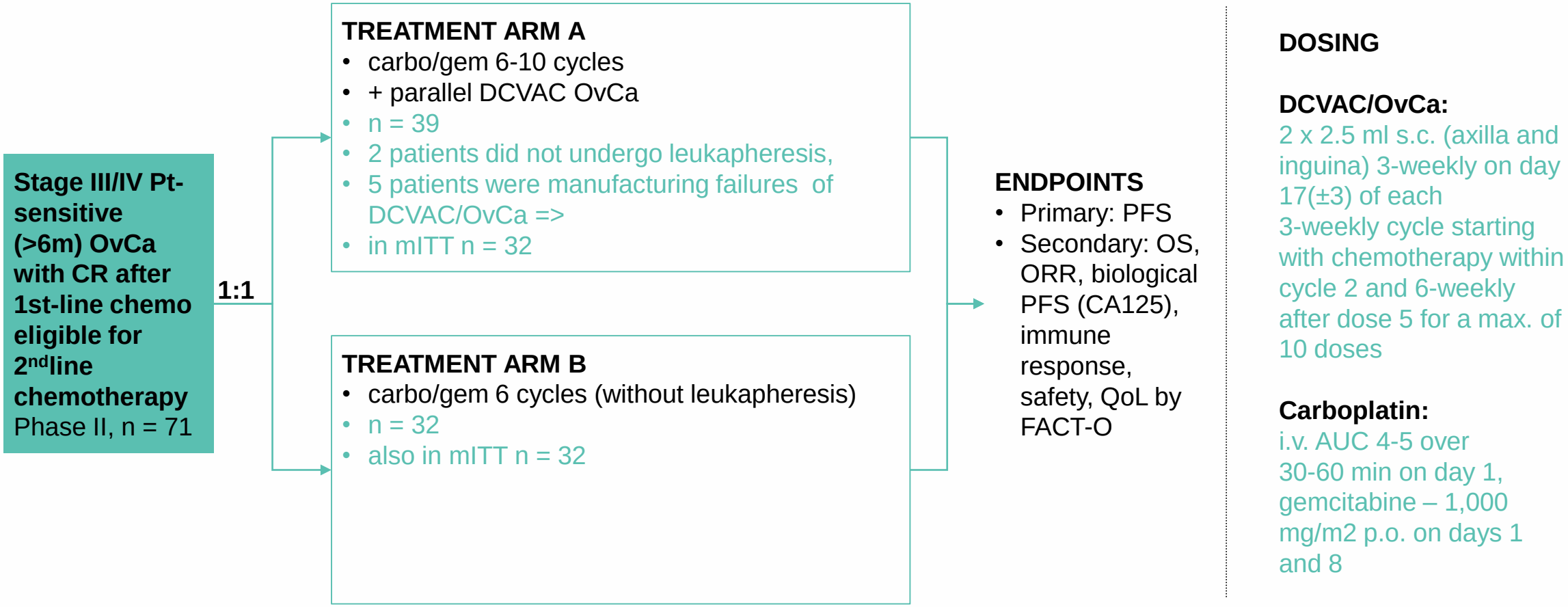
ASCO 2018: SOV01– 1st line: Trend Towards an Improved OS



OS	ARM A	ARM B	ARM C
Patient count			
• mITT	31	30	31
• PP	29	28	30
Events			
• mITT	5	**1**	7
• PP	4	**0**	7
Median (months)			
• mITT	NE	NE	NE
• PP	NE	NE	NE
INDICATOR	**HR**	**95% CI**	**p-value**
B vs. C			
• mITT	0.13	0.02-1.08	0.03
• PP	0	0-NE	0.01
A vs. C			
• mITT	0.64	0.20-2.04	0.45
• PP	0.51	0.15-1.76	0.28

SOV02 study design

Phase II, 2nd-line, open label, randomized trial



DOSING

DCVAC/OvCa:
2 x 2.5 ml s.c. (axilla and inguina) 3-weekly on day 17(±3) of each 3-weekly cycle starting with chemotherapy within cycle 2 and 6-weekly after dose 5 for a max. of 10 doses

Carboplatin:
i.v. AUC 4-5 over 30-60 min on day 1, gemcitabine – 1,000 mg/m2 p.o. on days 1 and 8

R=randomization; PFI=progression-free interval

Analysis Population

ITT	mITT	PP
All patients **randomized**	Patients who received **≥1 dose** of DCVAC/OvCa	Patients who received **≥8 doses** of DCVAC/OvCa and/or **≥3 cycles** of chemotherapy
n = 71	n = 64	n = 58
39 DCVAC + 32 control	32 DCVAC + 32 control	31 DCVAC + 27 control

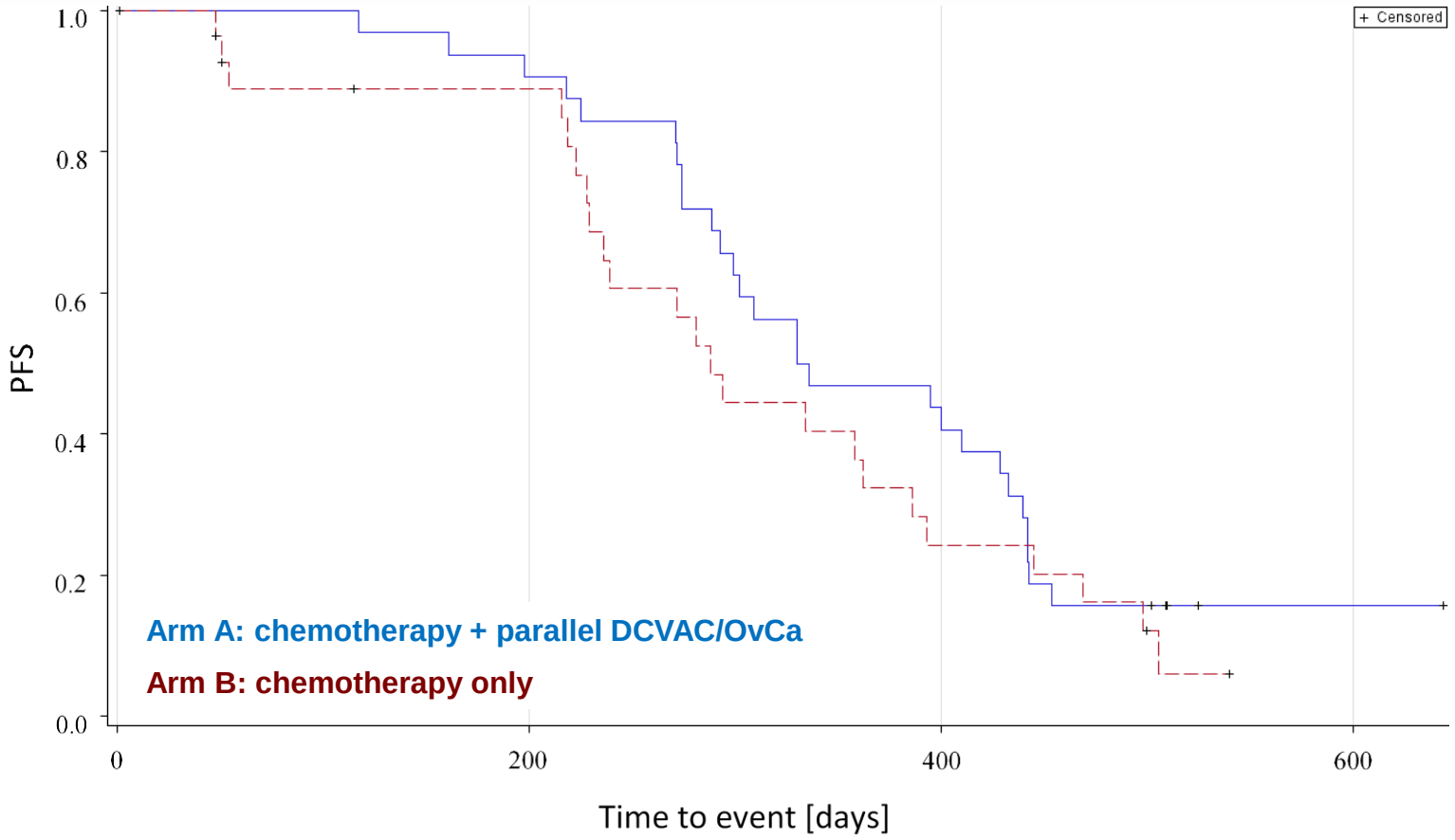
SOV02: Patients' Baseline characteristics

Known prognostic factors balanced between arms

		Arm A n = 32	Arm B n = 32
Age	Age (median) [years]	58.5	60.5
Histology type	Endometroid (n, %)	2 (6%)	2 (6%)
	Serous or mucinous (n, %)	30 (94%)	30 (94%)
Platinum-free interval	6-12 months (n, %)	12 (38%)	14 (44%)
	≥12 months (n, %)	20 (62%)	18 (56%)
ECOG PS	0 (n, %)	22 (69%)	20 (63%)
	1-2 (n, %)	10 (31%)	12 (37%)

PFS (mITT)

Trend in favour of DCVAC/OvCa



Metric	Value
HR	0.77
p-value	0.3515

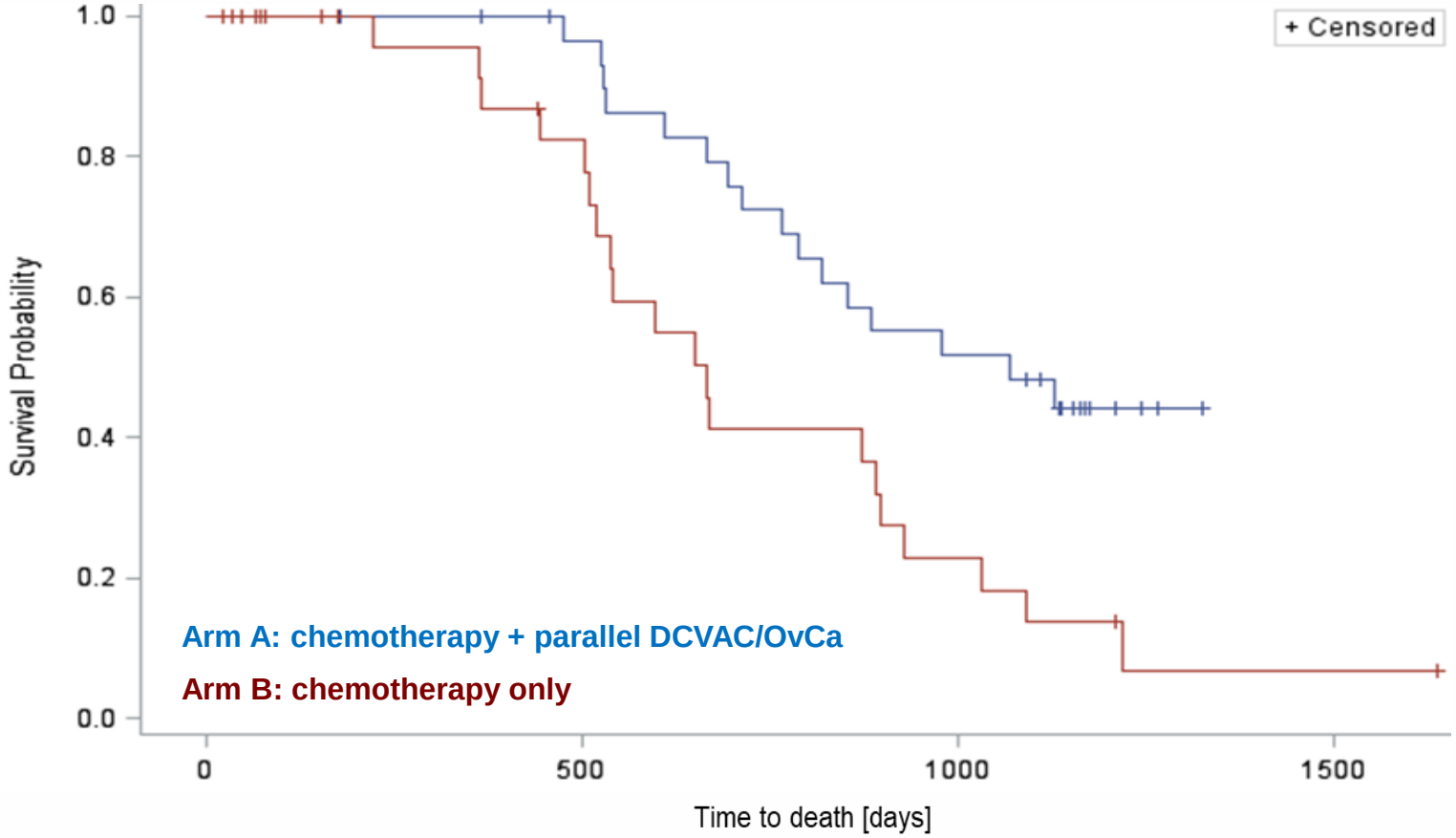
Metric	Arm A	Arm B
n	32	32
PFS events	27	22
Median PFS [months]	11.3	10.1

Note: Maturity 77%

* Modified ITT population: patients receiving < 1 dose of therapy or having no post-baseline endpoint assessment were excluded from analysis (reason was failed leukaferesis in all 7 excluded patients)

OS (mITT)

Significant benefit favouring DCVAC/OvCa



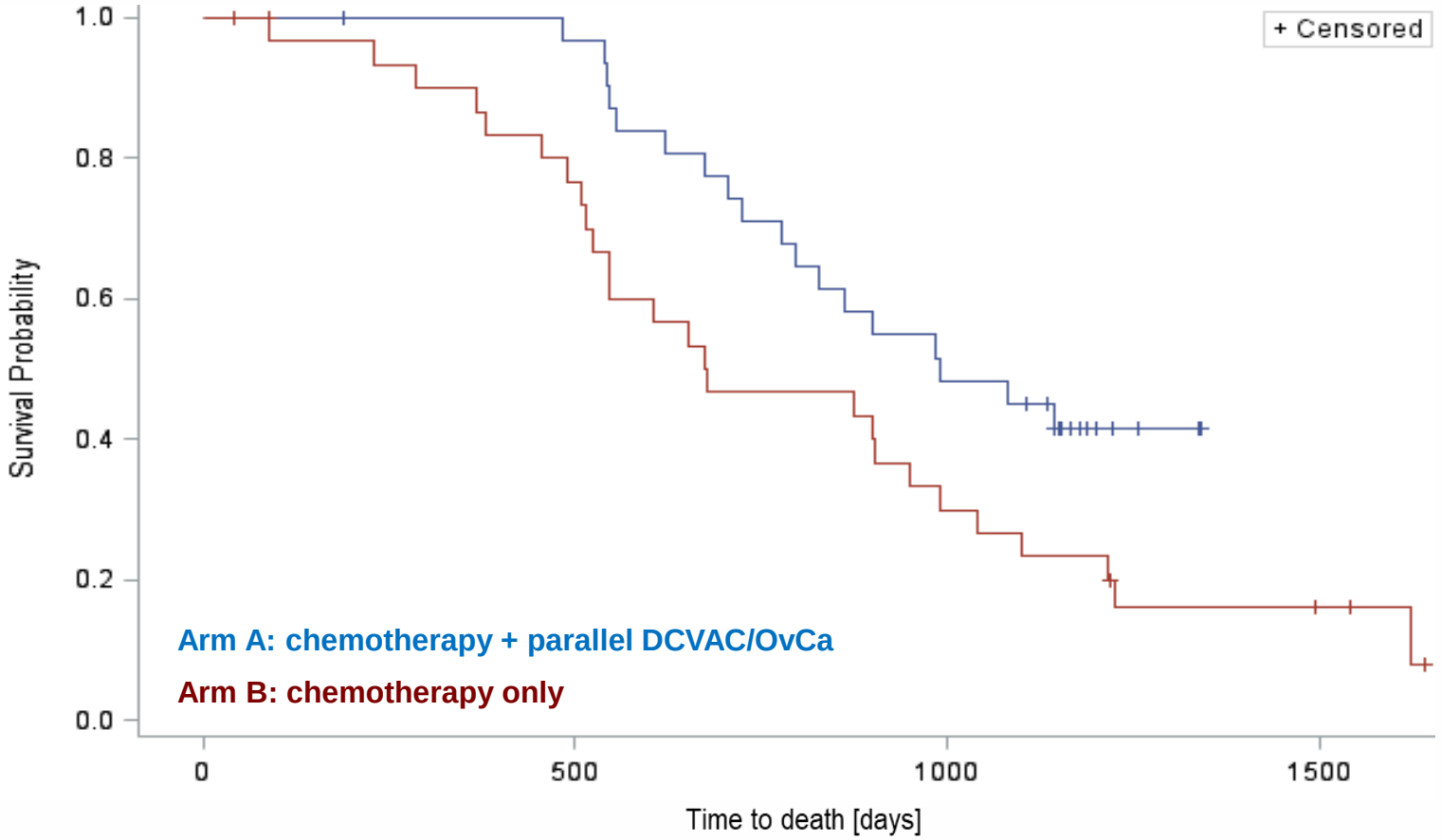
Metric	Value
HR	0.38
p-value	0.0032

Metric	Arm A	Arm B
n	32	32
Deaths	16	20
Median OS [months]	35.5	22.1

Metric	Value
Maturity	56%
2 year survival	72.4% (A) / 40.9% (B)
Median OS prolongation	13.4 months

OS (mITT)

Sensitivity analysis including survival data of early withdrawn patients

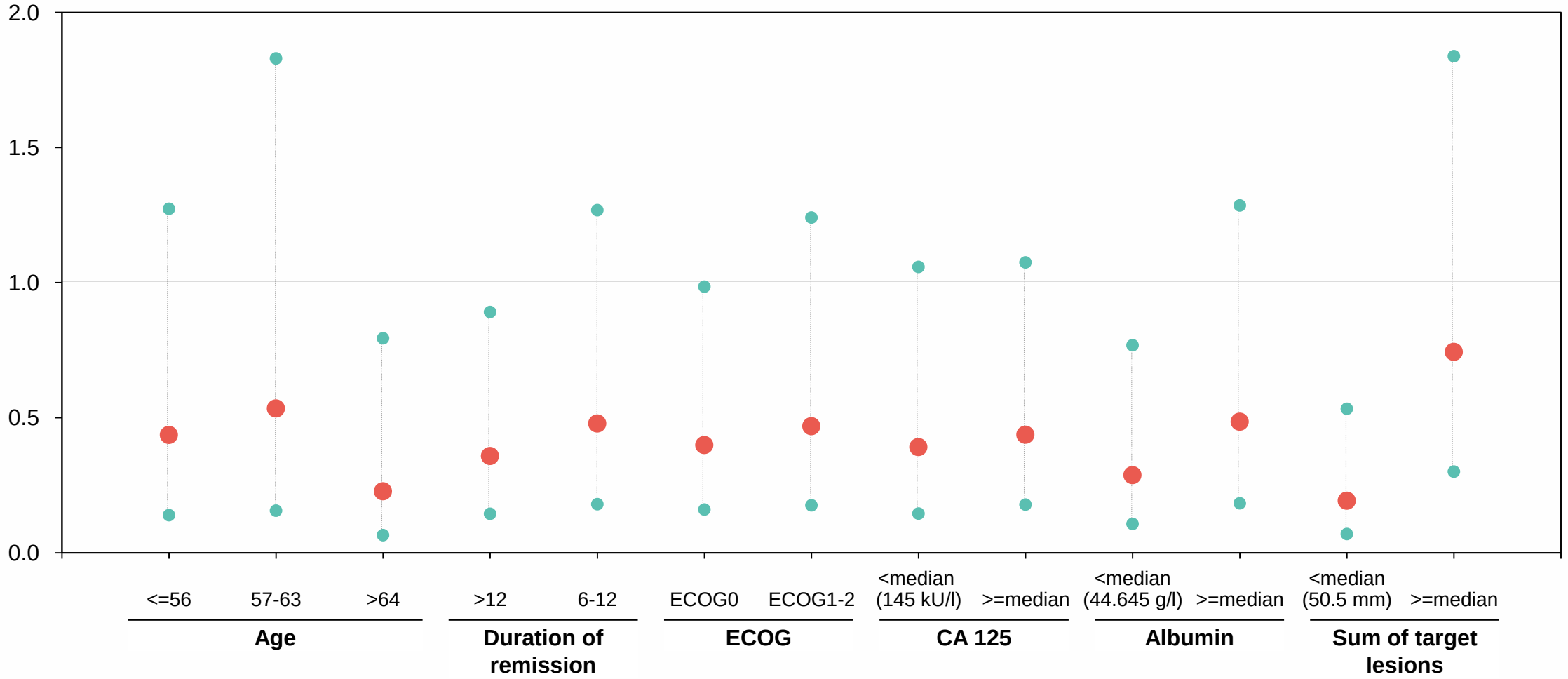


Metric	Value
HR	0.52
p-value	0.0308

Metric	Arm A	Arm B
n	32	32
Deaths	18	26
Median OS [months]	32.5	22.2

Metric	Value
Maturity	69%
2 year survival	71.0% (A) / 46.7% (B)
Median OS prolongation	10.3 months

OS (mITT) – subgroup analysis



Favourable safety profile

Most frequent treatment-related AEs (>5%)

Preferred Term	TREATMENT GROUP A chemo + concomitant DCVAC/OvCa (n = 37)	TREATMENT GROUP B chemo only (n = 31)
Thrombocytopenia	24 (65%)	25 (81%)
Anaemia	24 (65%)	21 (68%)
Neutropenia	22 (59%)	21 (68%)
Leukopenia	17 (46%)	10 (32%)
Fatigue	10 (27%)	4 (13%)
Nausea	9 (24%)	7 (23%)
Drug hypersensitivity	9 (24%)	5 (16%)
Vomiting	7 (19%)	5 (16%)
Diarrhoea	5 (14%)	5 (16%)
Dyspnoea	4 (11%)	2 (6%)
Arthralgia	4 (11%)	1 (3%)
Asthenia	4 (11%)	1 (3%)
Pain in extremity	4 (11%)	1 (3%)
Upper respiratory tract infection	4 (11%)	1 (3%)
Hypokalaemia	3 (8%)	5 (16%)
Constipation	2 (5%)	5 (16%)

Only these two AEs potentially related to DCVAC administration

Summary

01	Concomitant DCVAC/OvCa in second line treatment increased **PFS by 1.2 months**
02	Concomitant DCVAC/OvCa in second line treatment **significantly increased OS by 13.4 months**
03	Favorable **adverse events** profile
04	Results warrant further development in a **Phase III** study