



06-09 AGOSTO 2022

Viena, Austria



A silhouette of the Vienna skyline against a red and white background. The city's recognizable buildings, including the Stephansdom, are visible. Below the skyline, the word "VIENNA" is written in a white, sans-serif font.

Immunotherapy in advanced NSCLC

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Iniciativa científica de:
GECP
lung cancer
research



06-09 AGOSTO 2022

Viena, Austria



VIENNA

A silhouette of the Vienna city skyline, featuring recognizable buildings like the Stephansdom and the Rathaus, set against a background of red and white smoke or powder.

Metastatic NSCLC

Iniciativa científica de:
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1st Line:

- **Avelumab** vs chemotherapy in advanced PDL1+ NSCLC.
(JAVELIN Lung 100)
- Asociation between KRAS/STK1/KEAP1 mutations and outcomes in POSEIDON: **Durvalumab +/- Tremelimumab + Chemo** in mNSCLC.

2nd Line:

- Hudson: Multidrug **biomarker - directed** study in NSCLC pts progressed on anti-PDL1.
- Outcomes with second – course **pembrolizumab** in NSCLC.

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Avelumab vs chemotherapy for first-line treatment of advanced PD-L1+ NSCLC: primary analysis from JAVELIN Lung 100

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*Affiliation at the time the trial was conducted.

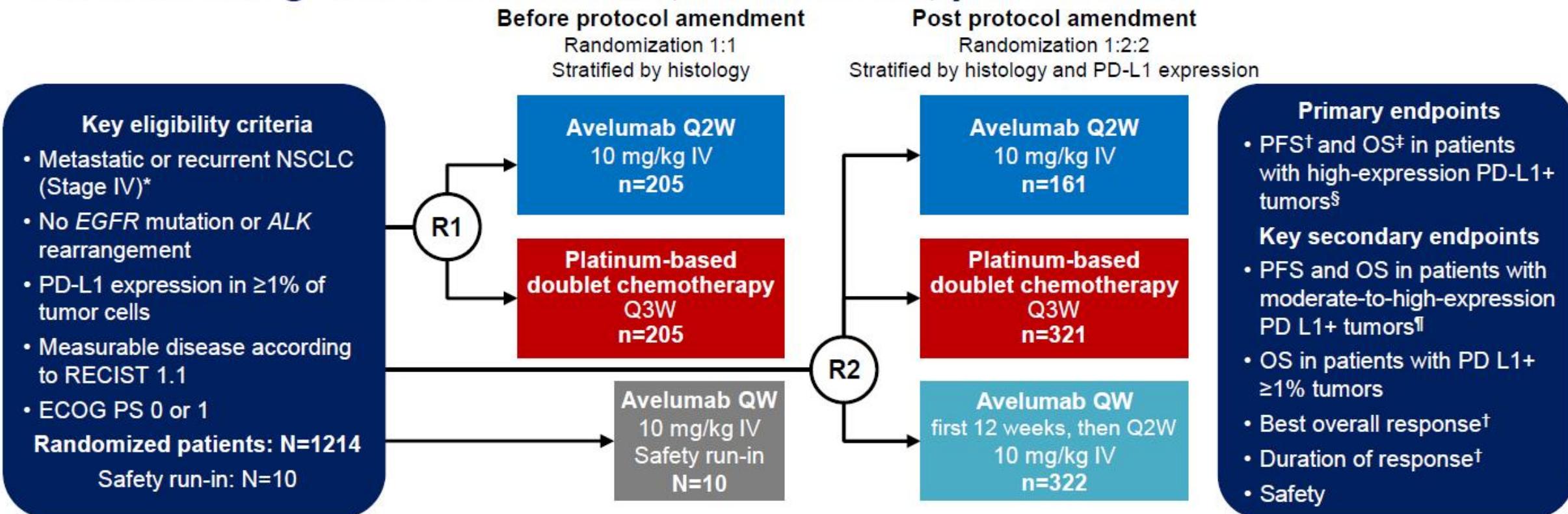


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JAVELIN Lung 100: a multicenter, randomized, phase 3 trial



*Patients with pretreated and stable brain metastases were eligible for enrollment. [†]Per independent review committee. [‡]OS was changed to a primary endpoint in the protocol amendment that added the avelumab QW arm. [§]PD-L1 expression on $\geq 80\%$ of tumor cells determined by Dako PD-L1 IHC 73-10 pharmDx assay, which is comparable to the TPS $\geq 50\%$ cutoff for the PD-L1 IHC 22C3 pharmDx (pembrolizumab) assay. [¶]PD-L1 expression on $\geq 50\%$ of tumor cells determined by Dako PD-L1 IHC 73-10 pharmDx assay.

Grote HJ, et al. J Thorac Oncol. 2020;15(8):1306-1316.

ECOG PS, Eastern Cooperative Oncology Group performance status; **IHC**, immunohistochemistry; **IV**, intravenous; **NSCLC**, non-small cell lung cancer; **OS**, overall survival; **PFS**, progression-free survival; **QW**, once weekly; **Q2W**, every 2 weeks; **Q3W**, every 3 weeks; **R1**, randomization before protocol amendment; **R2**, randomization after protocol amendment; **TPS**, tumor proportion score.

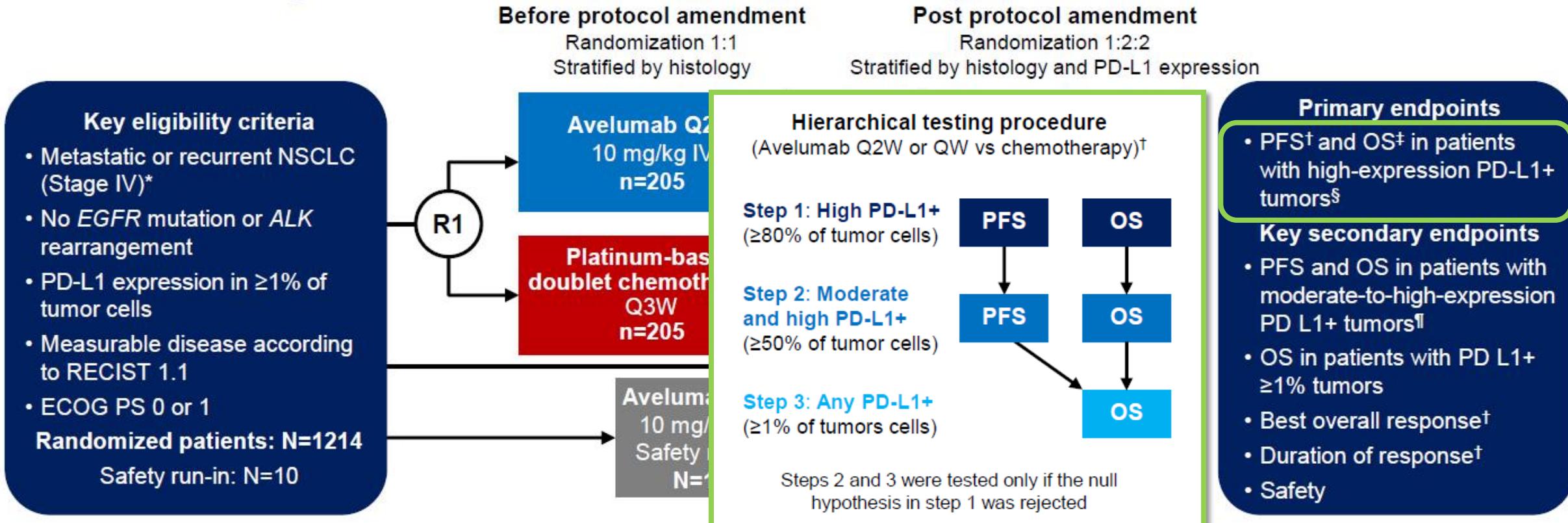


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Baseline characteristics in the high PD-L1+ populations*

	Avelumab Q2W (n=151)	Chemotherapy (n=216)	Avelumab QW (n=130)	Chemotherapy (n=129)
Male, n (%)	112 (74.2)	158 (73.1)	100 (76.9)	93 (72.1)
Median age, years (range)	64.0 (35-82)	63.0 (29-85)	64.0 (25-80)	64.0 (36-81)
ECOG PS, n (%) [†]				
0	47 (31.1)	70 (32.4)	44 (33.8)	45 (34.9)
≥1	104 (68.9)	145 (67.1)	86 (66.2)	83 (64.3)
Race, n (%)				
Asian	38 (25.2)	48 (22.2)	28 (21.5)	29 (22.5)
Black or African American	0	1 (0.5)	1 (0.8)	0
White	98 (64.9)	154 (71.3)	96 (73.8)	92 (71.3)
Other	6 (4.0)	6 (2.8)	4 (3.1)	4 (3.1)
Stage at study entry, n (%) [‡]				
IV	150 (99.3)	215 (99.5)	130 (100.0)	129 (100.0)
History of smoking, n (%)	134 (88.7)	186 (86.1)	112 (86.2)	109 (84.5)
Non-squamous tumor histology, n (%)	104 (68.9)	150 (69.4)	84 (64.6)	86 (66.7)
Metastatic sites, n (%)				
Brain [§]	10 (6.6)	21 (9.7)	9 (6.9)	12 (9.3)
Visceral	59 (39.1)	70 (32.4)	55 (42.3)	44 (34.1)
Bone	28 (18.5)	49 (22.7)	40 (30.8)	30 (23.3)
Pleural effusion	41 (27.2)	61 (28.2)	34 (26.2)	41 (31.8)

Patients with missing data are not shown.

*High-expression PD-L1+ (≥80% of tumor cells) determined by Dako PD-L1 IHC 73-10 pharmDx assay (avelumab QW vs chemotherapy: in patients randomized post protocol amendment).

[†]Patients had ECOG PS 0 or 1, except for one 1 patient in the avelumab QW arm with ECOG PS 2 (PS of this patient worsened from 1 at screening to 2 at the Week 1 Day 1 visit). [‡]One patient in the chemotherapy arm had stage IIIB disease. [§]Patients with pretreated and stable brain metastases were eligible for enrollment.



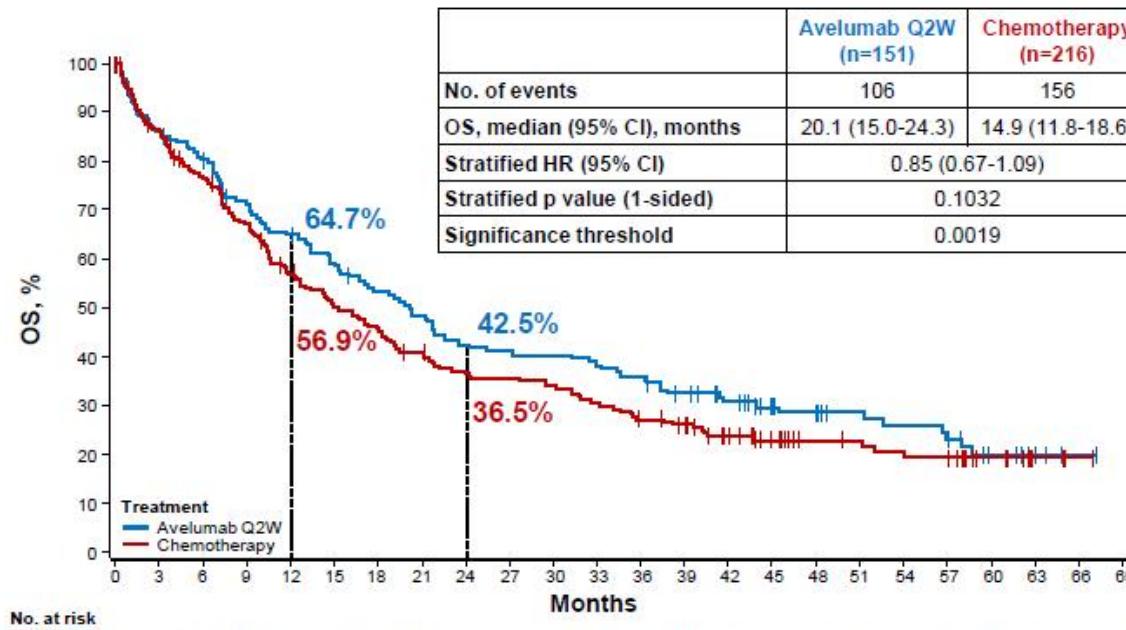
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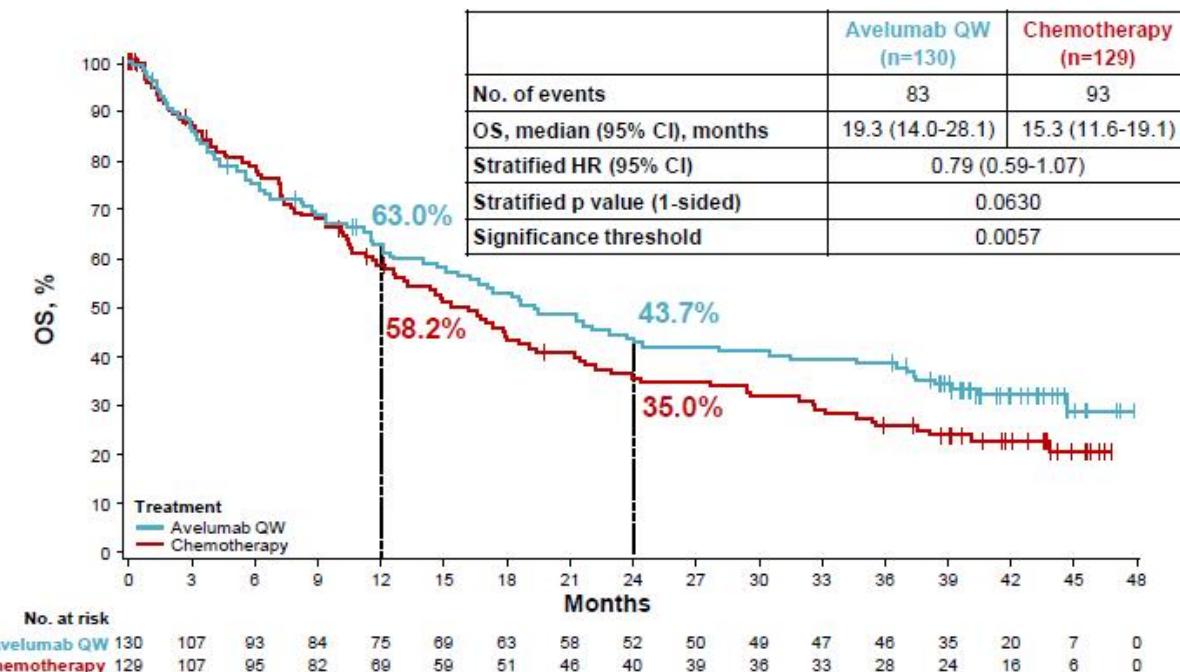


Primary endpoint: OS in the high PD-L1+ populations*

Avelumab Q2W vs chemotherapy



Avelumab QW vs chemotherapy



OS analyses favored avelumab vs chemotherapy but differences were not statistically significant

Median follow up in primary analysis populations across all arms was 41.7-48.8 months (data cutoff: October 15, 2021)

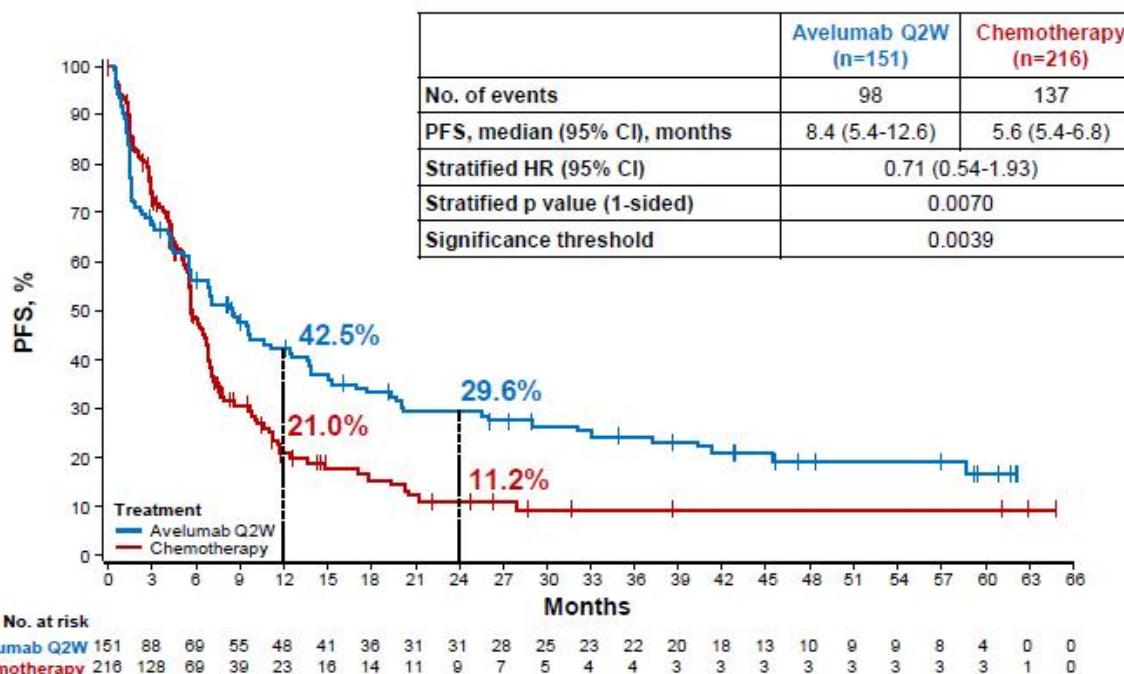
*High-expression PD-L1+ ($\geq 80\%$ of tumor cells) determined by Dako PD-L1 IHC 73-10 pharmDx assay (avelumab QW vs chemotherapy: in patients randomized post protocol amendment).

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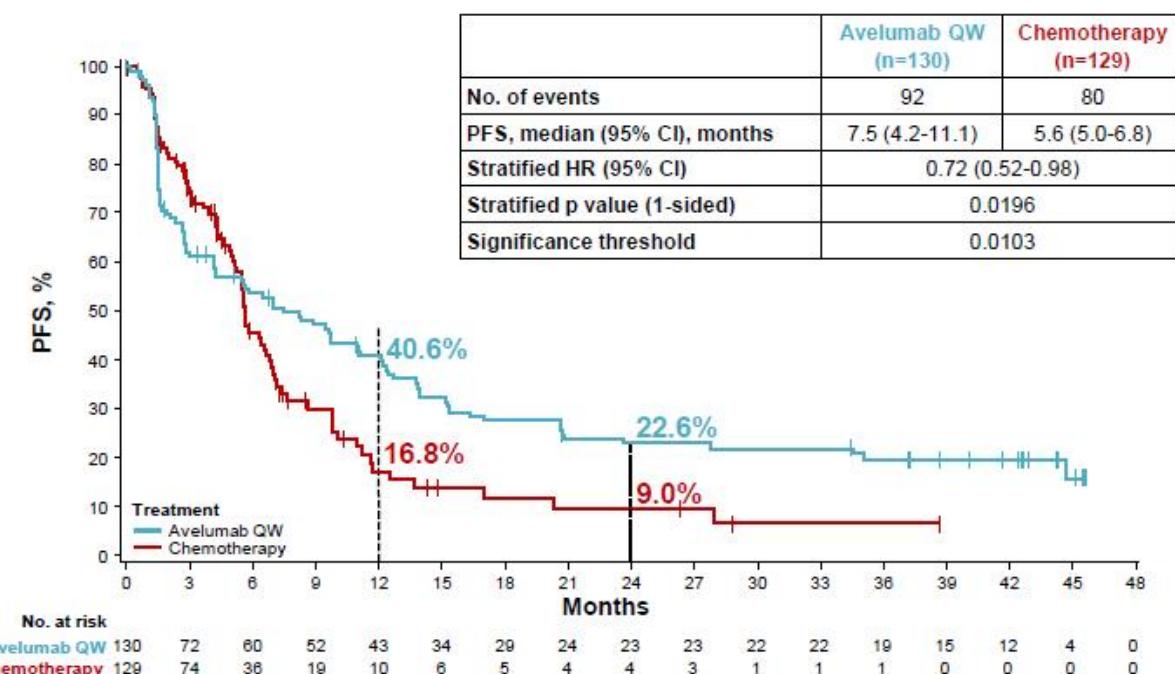


Primary endpoint: PFS by IRC in the high PD-L1+ populations*

Avelumab Q2W vs chemotherapy



Avelumab QW vs chemotherapy



PFS analyses also favored avelumab vs chemotherapy but differences were not statistically significant

*High-expression PD-L1+ ($\geq 80\%$ of tumor cells) determined by Dako PD-L1 IHC 73-10 pharmDx assay (avelumab QW vs chemotherapy: in patients randomized post protocol amendment).



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Tumor responses in the high PD-L1+ populations*

	Avelumab Q2W (n=151)	Chemotherapy (n=216)	Avelumab QW (n=130)	Chemotherapy (n=129)
ORR by IRC (95% CI), %	37.7 (30.0-46.0)	30.1 (24.1-36.7)	34.6 (26.5-43.5)	30.2 (22.5-38.9)
Confirmed best overall response, n (%)				
CR	5 (3.3)	1 (0.5)	4 (3.1)	1 (0.8)
PR	52 (34.4)	64 (29.6)	41 (31.5)	38 (29.5)
SD	36 (23.8)	89 (41.2)	30 (23.1)	54 (41.9)
PD	27 (17.9)	19 (8.8)	29 (22.3)	11 (8.5)
NE†	31 (20.5)	43 (19.9)	26 (20.0)	25 (19.4)
Median duration of response (95% CI), months	35.9 (14.6-NR)	8.4 (5.0-15.1)	19.4 (10.8-NR)	8.4 (4.4-11.1)

- ORR and median duration of response favored avelumab vs chemotherapy

*High-expression PD-L1+ ($\geq 80\%$ of tumor cells) determined by Dako PD-L1 IHC 73-10 pharmDx assay (avelumab QW vs chemotherapy: in patients randomized post protocol amendment).

†Includes patients with non-CR/non-PD, patients whose tumors were not measurable per IRC and who did not have CR or PD.



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Overview of safety in all treated patients*

	Avelumab Q2W (n=361)	Avelumab QW (n=318)	Chemotherapy (n=500)
AE, n (%)			
Any grade	346 (95.8)	308 (96.9)	484 (96.8)
Grade ≥ 3	217 (60.1)	181 (56.9)	324 (64.8)
Treatment-related AE, n (%)			
Any grade	243 (67.3)	224 (70.4)	430 (86.0)
Grade ≥ 3	60 (16.6)	44 (13.8)	230 (46.0)
Serious AE, n (%)	181 (50.1)	143 (45.0)	195 (39.0)
Serious treatment-related AE, n (%)	50 (13.9)	31 (9.7)	88 (17.6)
Immune-related AE, n (%)[†]	70 (19.4)	51 (16.0)	—
Grade ≥ 3	19 (5.3)	6 (1.9)	—
Infusion-related reaction, n (%)	104 (28.8)	81 (25.5)	6 (1.2)
AE leading to treatment discontinuation, n (%)	100 (27.7)	58 (18.2)	122 (24.4)
Treatment-related AE leading to treatment discontinuation, n (%)	44 (12.2)	27 (8.5)	76 (15.2)
AE leading to death, n (%)	63 (17.5)	51 (16.0)	63 (12.6)
Treatment-related AE leading to death, n (%)[‡]	3 (0.8)	1 (0.3)	6 (1.2)

*Patients who received ≥ 1 dose of study treatment. [†]Immune-related AEs assessed only for the avelumab treatment arms. [‡]Avelumab Q2W, cytokine release syndrome, pneumonia, and pneumonitis (all n=1); avelumab QW, dyspnea; chemotherapy, febrile neutropenia (n=2), gastric hemorrhage/ulcer, hepatic cytolysis, pneumonia, and renal failure.



Association Between KRAS/STK11/KEAP1 Mutations and Outcomes in POSEIDON: Durvalumab ± Tremelimumab + Chemotherapy in mNSCLC

Solange Peters,¹ Byoung Chul Cho,² Alexander Luft,³ Jorge Alatorre-Alexander,⁴ Sarayut Lucien Geater,⁵ Sang-We Kim,⁶ Grygorii Ursol,⁷ Maen Hussein,⁸ Farah Louise Lim,⁹ Cheng-Ta Yang,¹⁰ Luiz Henrique Araujo,¹¹ Haruhiro Saito,¹² Niels Reinmuth,¹³ Ross Stewart,¹⁴ Zhongwu Lai,¹⁵ Ruth Doake,¹⁴ Lee Krug,¹⁶ Edward B. Garon,¹⁷ Tony Mok,¹⁸ Melissa L. Johnson¹⁹

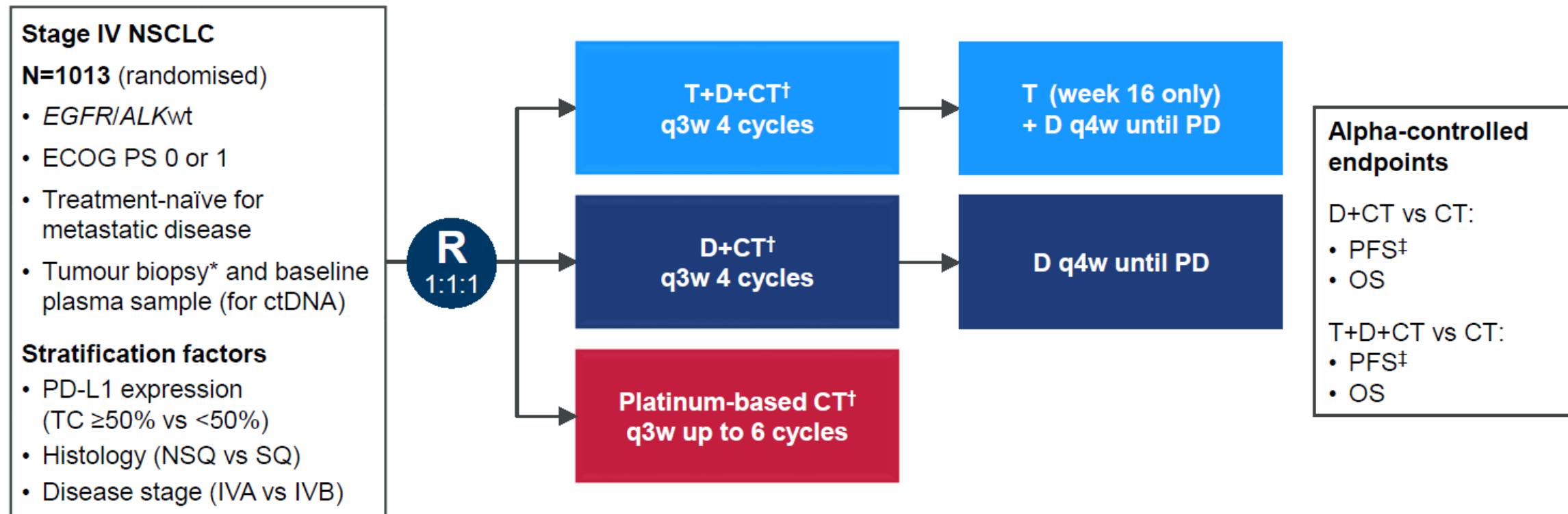
¹Centre Hospitalier Universitaire Vaudois, Lausanne University, Lausanne, Switzerland; ²Yonsei Cancer Center, Seoul, Korea; ³Leningrad Regional Clinical Hospital, St Petersburg, Russia; ⁴Health Pharma Professional Research, Mexico City, Mexico; ⁵Prince of Songkla University, Songkhla, Thailand; ⁶Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of

Korea; ⁷Acinus, Kropyvnytskyi, Ukraine; ⁸Florida Cancer Specialists – Sarah Cannon Research Institute, Leesburg, FL, USA; ⁹Queen Mary University of London, London, United Kingdom;

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POSEIDON Study Design

Phase 3, global, randomised, open-label, multicentre study in 1L mNSCLC



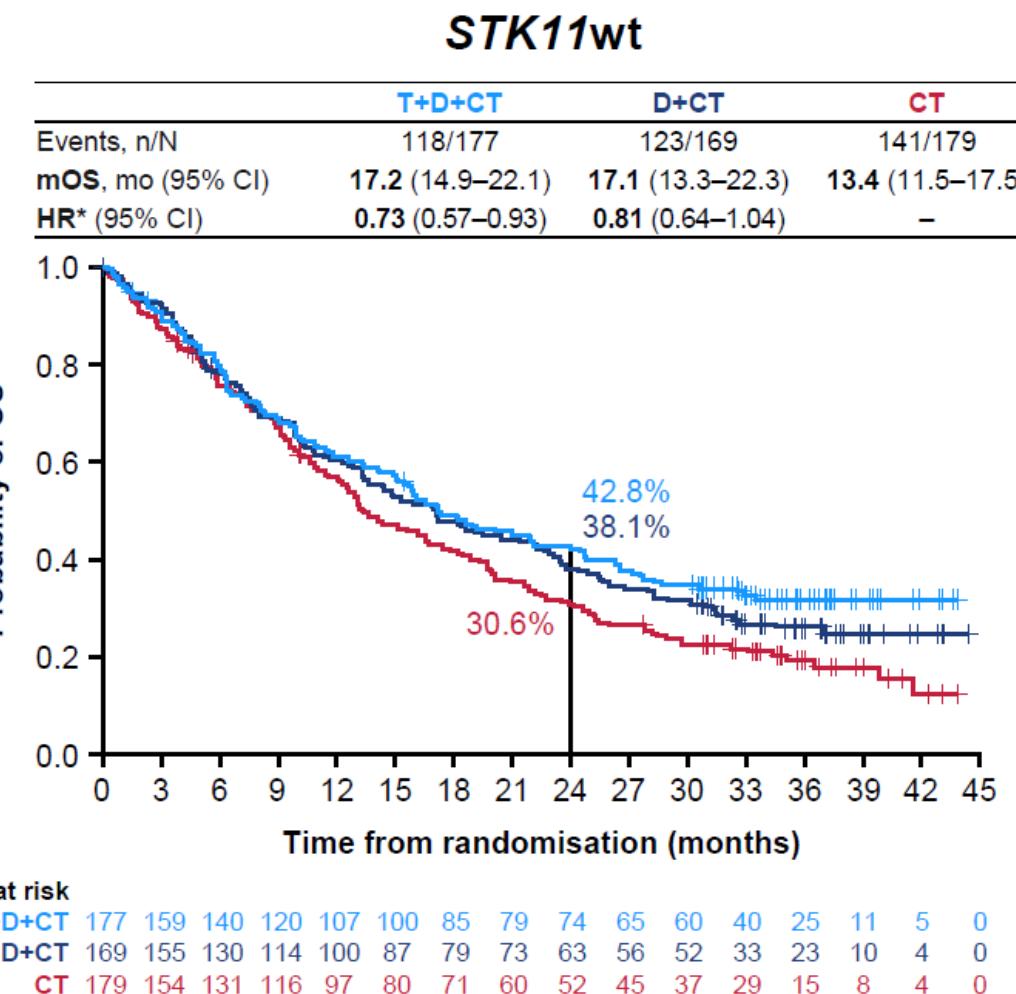
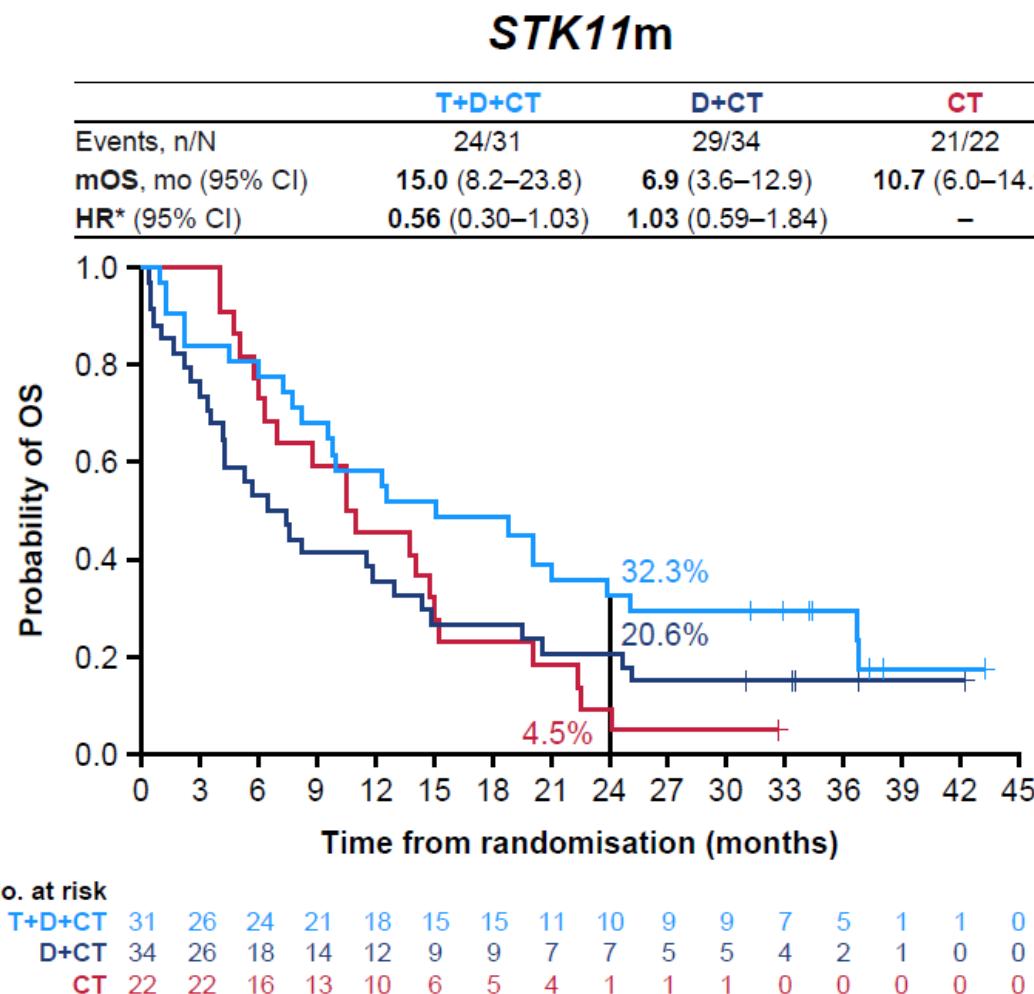
- Durvalumab 1500mg ± limited-course tremelimumab 75mg + CT q3w for 4 cycles**
 - One additional dose of tremelimumab post-CT (week 16; 5th dose)
- Followed by **durvalumab q4w maintenance until PD, and optional pemetrexed q4w[§]**

*Newly acquired or archival (<3 months); [†]CT options: gemcitabine + carboplatin/cisplatin (SQ), pemetrexed + carboplatin/cisplatin (NSQ) or nab-paclitaxel + carboplatin (either histology);

[‡]By BICR (RECIST v1.1); [§]Patients with NSQ histology who initially received pemetrexed only (if eligible); pemetrexed q3w also permitted in the CT arm

OS by STK11 Mutation Status

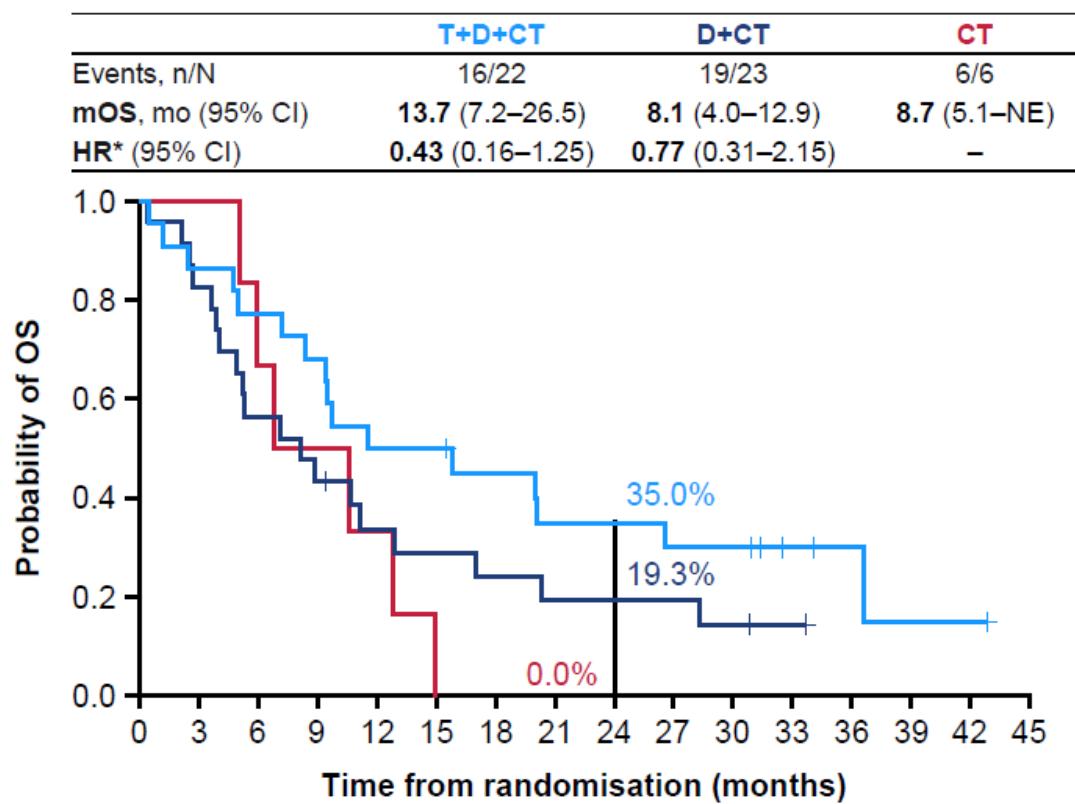
OS benefit observed for T+D+CT vs CT in STK11m with HR 0.56 and estimated 32.3% alive at 2 yrs vs 4.5%



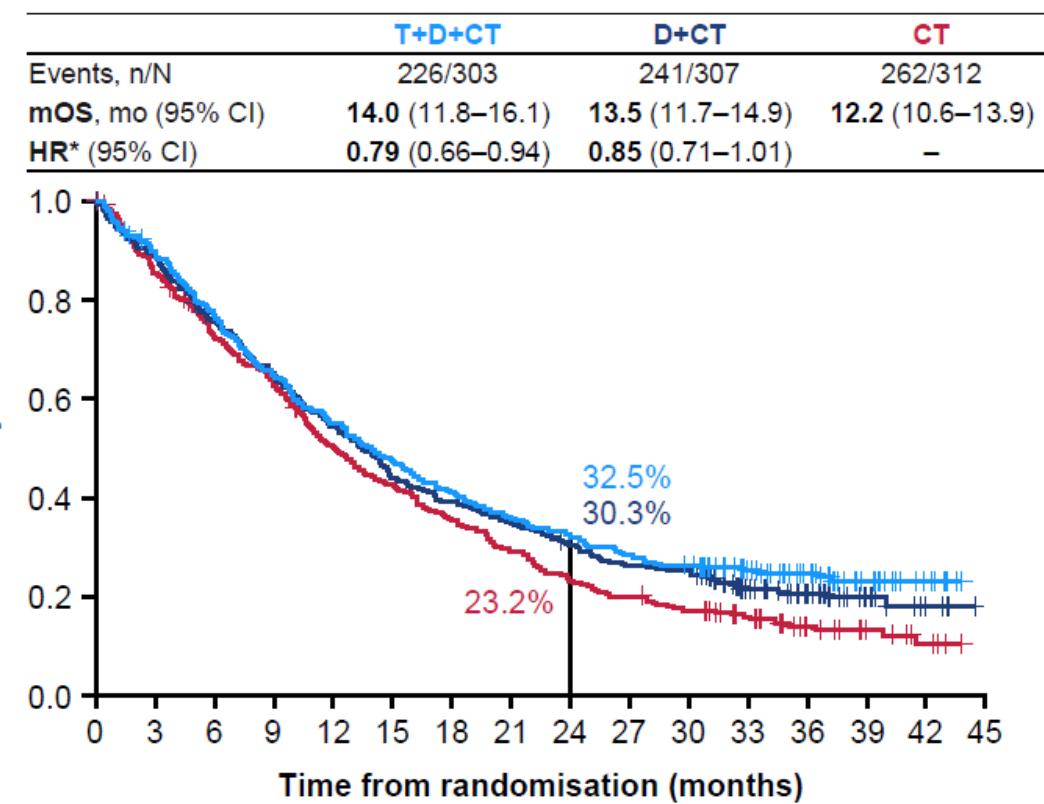
OS by KEAP1 Mutation Status

OS benefit observed for T+D+CT vs CT in KEAP1m with HR 0.43 (small sample size)

KEAP1m



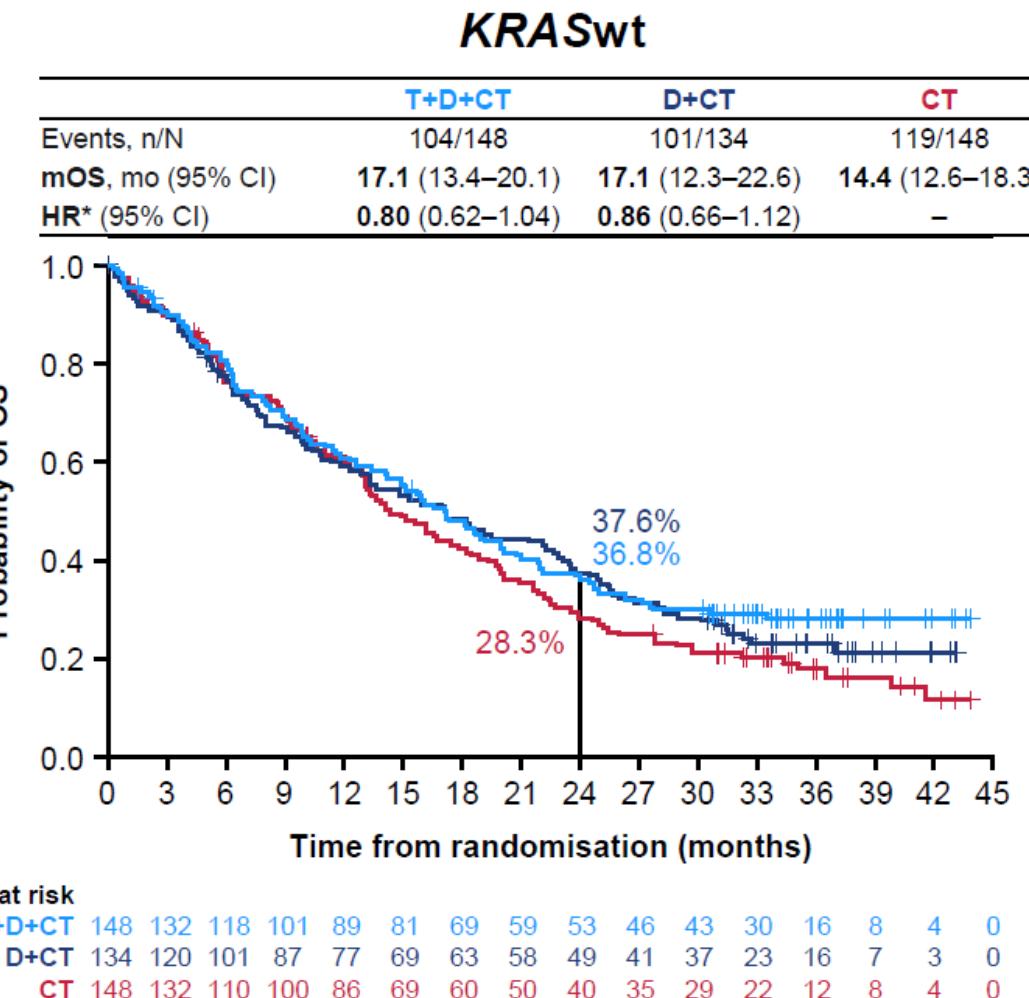
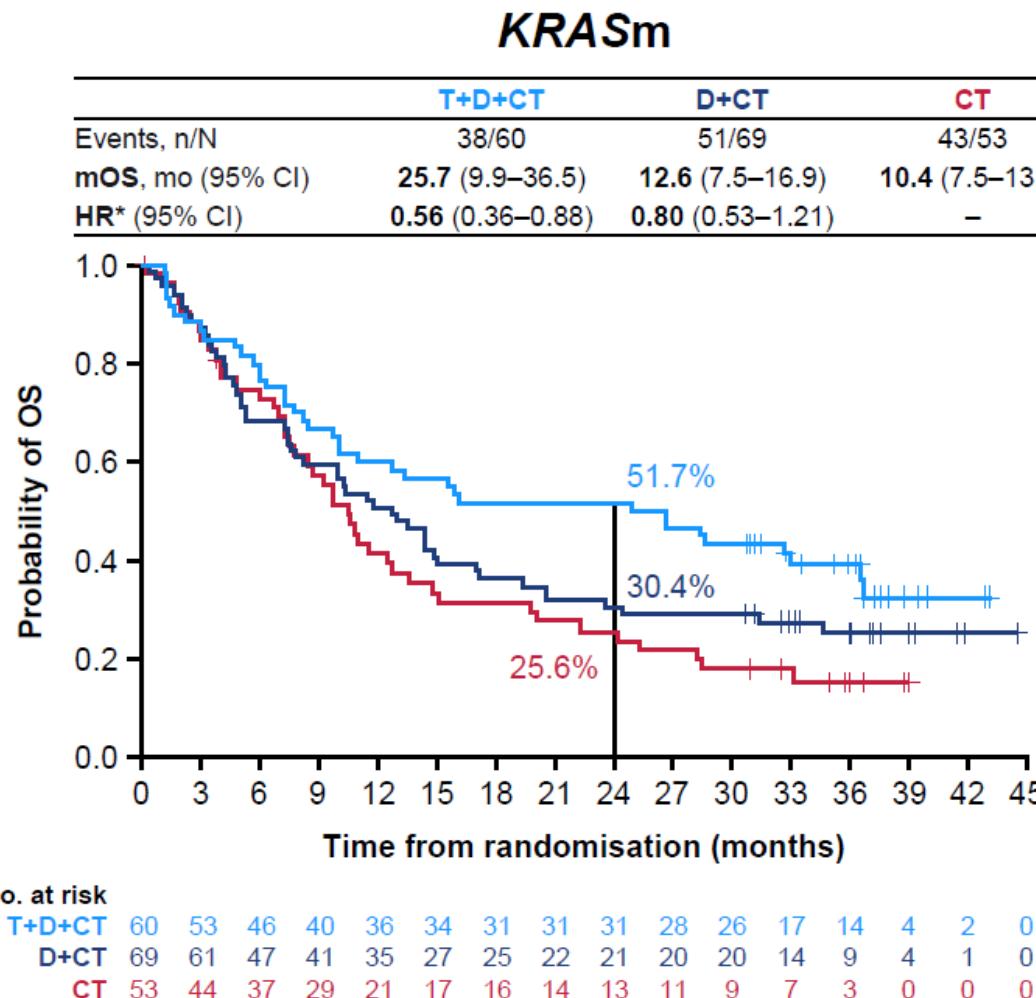
KEAP1wt



HR (95% CI) vs CT in NSQ KEAP1m was 0.33 (0.10–1.15) with T+D+CT and 0.67 (0.23–2.17) with D+CT

OS by KRAS Mutation Status

OS benefit observed for T+D+CT vs CT in KRASm with HR 0.56 and estimated 51.7% alive at 2 yrs vs 25.6%



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	PFS	T + D + CT	D + CT	CT
STK11 mutant	Events, n/N	22/31	27/34	17/22
	mPFS, mo (95%CI)	6.4 (4.7, 13.8)	2.9 (1.4, 4.7)	4.6 (2.9, 6.4)
	HR (95%CI)	0.47 (0.23, 0.93)	1.02 (0.55, 1.93)	-
KEAP1 mutant	Events, n/N	16/22	17/23	4/6
	mPFS, mo (95%CI)	5.0 (3.0, 13.7)	2.8 (2.6, 4.9)	5.1 (4.6, NE)
	HR (95%CI)	0.94 (0.33, 3.35)	1.51 (0.55, 5.25)	-
KRAS mutant	Events, n/N	34/60	48/69	34/53
	mPFS, mo (95%CI)	8.5 (6.0, NE)	6.4 (4.6, 8.6)	4.7 (4.4, 6.5)
	HR (95%CI)	0.57 (0.35, 0.92)	0.82 (0.53, 1.29)	-

The ORR was 45.2%, 45.5% and 55.0% in the *STK11m*, *KEAP1m* and *KRASm* subgroups, respectively



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HUDSON: AN OPEN-LABEL, MULTI-DRUG, BIOMARKER-DIRECTED PHASE 2 STUDY IN NSCLC PATIENTS WHO PROGRESSED ON ANTI-PD-(L)1 THERAPY

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³Johns Hopkins University School of Medicine, Baltimore, MD, USA; ⁴Thoraxklinik am Universitätsklinikum Heidelberg, Translational Lung Research Center Heidelberg (TLRC-H), Heidelberg, Germany; ⁵The Ottawa Hospital Research Institute, Ottawa, Ontario, Canada;

⁶AstraZeneca, Gaithersburg, MD, USA; ⁷AstraZeneca, Cambridge, UK; ⁸AstraZeneca, Boston, MA, USA;

⁹MD Anderson Cancer Center, Houston, TX, USA



HUDSON: Phase II multi-arm umbrella study

- Locally advanced or metastatic NSCLC
- Previous platinum-based chemotherapy
- Failure of prior anti-PD-(L)1 immunotherapy
- Suitable for new tumor biopsy / biopsy post-progression on anti-PD-(L)1 therapy
- No targetable alterations in *EGFR*, *ALK*, *ROS1*, *BRAF*, *MET*, or *RET*

Central molecular screen,[‡] *n* = 255 (Jan 26, 2018–Apr 14, 2021)

Primary endpoint: ORR
Secondary endpoints:
DCR, PFS, OS, safety and tolerability

Group A: biomarker-matched, *n* = 86

HRRm Durvalumab + olaparib (PARPi), *n* = 21

LKB1 Durvalumab + olaparib (PARPi), *n* = 21

ATM Durvalumab + ceralasertib (ATRi), *n* = 21*

ATM Single-agent ceralasertib (ATRi)*

CD73h Durvalumab + oleclumab (CD73 mAb), *n* = 23

HER2e Durvalumab plus trastuzumab deruxtecan (HER2i)[†]

HER2m

Group B: biomarker-non-matched, *n* = 169

Primary resistance (disease progression ≤24 weeks)[§]

Durvalumab + olaparib (PARPi), *n* = 22

Durvalumab + danvatirsen (STAT3i), *n* = 23

Durvalumab + ceralasertib (ATRi), *n* = 20

Durvalumab + oleclumab (CD73 mAb), *n* = 9

Acquired resistance (disease progression >24 weeks)[#]

Durvalumab + olaparib (PARPi), *n* = 23

Durvalumab + danvatirsen (STAT3i), *n* = 22

Durvalumab + ceralasertib (ATRi), *n* = 25

Durvalumab + oleclumab (CD73 mAb), *n* = 25

Durvalumab + cediranib (VEGFi)[†]

*Ongoing. [†]Data not mature. [‡]Immunohistochemistry was also performed. [§]/[#]Progression on prior anti-PD-(L)1 therapy within 24 weeks / after > 24 weeks.

ATM, ataxia telangiectasia mutated; ATRi, ataxia telangiectasia receptor inhibitor; CD73(h), (high expression of) cluster of differentiation 73; DCR, disease control rate; HER2e/i/m, human epidermal growth factor receptor 2 expression/inhibitor/mutated; HRRm, homologous recombination repair mutated; LKB1, LKB1/STK11 aberration; mAb, monoclonal antibody; NSCLC, non-small cell lung cancer; ORR, objective response rate; OS, overall survival; PARPi, poly ADP ribose polymerase inhibitor; PD-(L)1, programmed death (ligand)-1; PFS, progression-free survival; STAT3i, signal transducer and activator of transcription 3 inhibitor; VEGFi, vascular endothelial growth factor inhibitor.



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Baseline characteristics by regimen (Group A + Group B)

	Durvalumab + ceralasertib n=66	Durvalumab + olaparib n=87	Durvalumab + danvatirsen n=45	Durvalumab + oleclumab n=57
Median age (range), years	64.0 (45–80)	63.0 (35–85)	65.0 (39–80)	64.0 (37–79)
Male, n (%)	43 (65.2)	50 (57.5)	23 (51.1)	30 (52.6)
Histology, n (%)				
Adenocarcinoma	44 (66.7)	62 (71.3)	31 (68.9)	38 (66.7)
Squamous cell carcinoma	17 (25.8)	18 (20.7)	12 (26.7)	13 (22.8)
Other	5 (7.5)	7 (8.0)	2 (4.4)	6 (10.5)
Metastatic sites, n (%)				
0	2 (3.0)	1 (1.1)	2 (4.4)	3 (5.3)
1–2	28 (42.4)	40 (46.0)	37 (82.2)	31 (54.4)
≥3	36 (54.5)	46 (52.9)	6 (13.3)	23 (40.4)
PD-L1 status, n (%)				
Positive (TC ≥1%)	26 (39.4)	22 (25.3)	21 (46.7)	31 (54.4)
Negative	22 (33.3)	27 (31.0)	11 (24.4)	13 (22.8)
Unknown	18 (27.3)	38 (43.7)	13 (28.9)	13 (22.8)
Prior regimens, n (%)				
1–2	33 (50.0)	51 (58.6)	25 (55.6)	32 (56.1)
≥3	33 (50.0)	36 (41.4)	20 (44.4)	25 (43.9)
Current/former smoker, n (%)	58 (87.9)	69 (79.3)	40 (88.9)	52 (91.2)



Treatment efficacy by regimen

	Durvalumab + ceralasertib n=66	Durvalumab + olaparib n=87	Durvalumab + danvatirsen n=45	Durvalumab + oleclumab n=57
Median treatment duration, months				
Durvalumab*	7.3	3.7	2.8	2.9
Other agent†	6.3	3.2	2.8	2.9
12-week disease control rate, %	60.6	36.8	26.7	29.8
24-week disease control rate, %	42.4	17.2	13.3	15.8
ORR, %	16.7%	4.6%	0%	1.8%

ORR, objective response rate.

*Treatment duration for durvalumab calculated as (the earliest of (last infusion date + 27, date of death, date of cut-off) – first infusion date + 1) / (365.25/12).

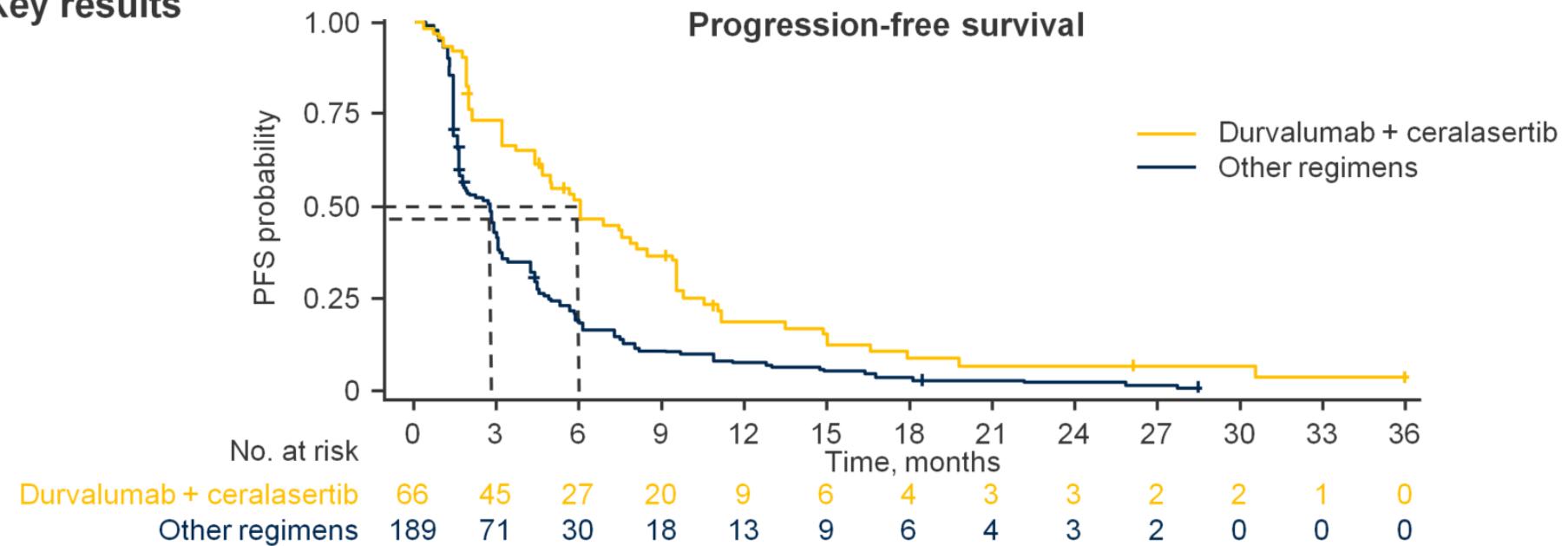
†Treatment duration for:

- Olaparib calculated as (Last dose date – first dose date + 1) / (365.25/12)
- Danvatirsen calculated as (Last infusion date – first infusion date + 1) / (365.25/12), if the last cycle is Cycle 0 and there were less than 3 doses, or (the earliest of (last infusion date + 6, death date, date of cut-off) – first infusion date + 1) / (365.25/12) for all other cases
- Ceralasertib calculated as (Last dose date – first dose date + 1) / (365.25/12)
- Oleclumab calculated as (the earliest of (last infusion date + 13, death date, date of cut-off) – first infusion date + 1) / (365.25/12) if the last cycle is Cycle 1 or 2, or as (the earliest of (last infusion date + 27, death date, date of cut-off) – first infusion date + 1) / (365.25/12), for all other cases.



PFS

Key results



	Durvalumab + cerasertib (n=66)	Other regimens (n=189)
Durvalumab + cerasertib	66 45 27 20 9 6 4 3 3 2 2 1 0	189 71 30 18 13 9 6 4 3 2 0 0 0
Other regimens		

	Durvalumab + cerasertib (n=66)	Other regimens (n=189)	Durvalumab + olaparib (n=87)	Durvalumab + danvatirsen (n=45)	Durvalumab + oleclumab (n=57)
mPFS, mo (80%CI)	6.0 (4.6, 7.5)	2.7 (1.8, 2.8)	2.7 (1.6, 3.0)	2.9 (1.7, 3.1)	1.8 (1.6, 2.7)
6-mo PFS, % (80%CI)	46.3 (37.9, 54.2)	18.0 (14.5, 21.9)	18.7 (13.5, 24.5)	18.8 (11.5, 27.6)	16.6 (10.8, 23.6)

IASLC



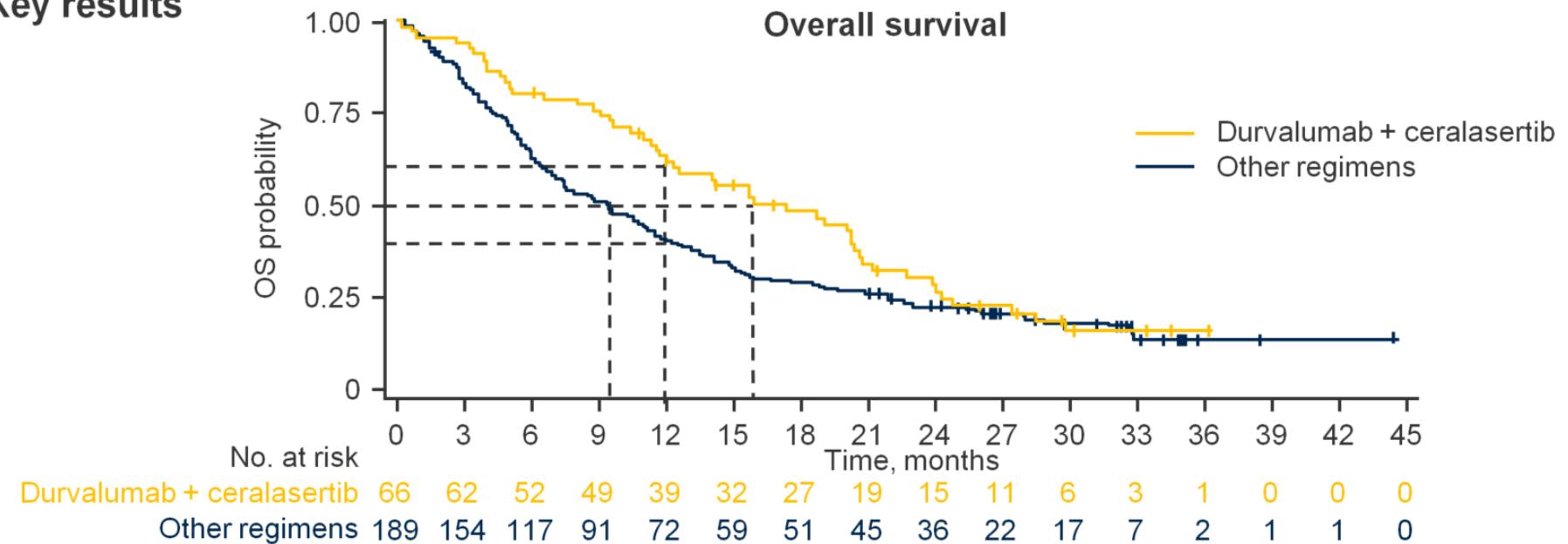
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OS

Key results



	Durvalumab + ceralasertib (n=66)	Other regimens (n=189)	Durvalumab + olaparib (n=87)	Durvalumab + danvatirsen (n=45)	Durvalumab + oleclumab (n=57)
mOS, mo (80%CI)	15.9 (14.1, 20.3)	9.4 (7.5, 10.6)	9.4 (6.9, 10.8)	7.9 (6.0, 10.6)	11.0 (7.6, 13.5)
6-mo OS, % (80%CI)	61.6 (53.4, 68.8)	39.7 (35.1, 44.3)	40.8 (34.0, 47.5)	28.8 (20.2, 38.0)	46.2 (37.5, 54.5)

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Safety by regimen

AE category, n (%)	Durvalumab + cerasertib n=66	Durvalumab + olaparib n=87	Durvalumab + danvatirsen n=45	Durvalumab + oleclumab n=57
Median treatment duration, months				
Durvalumab	7.3	3.7	2.8	2.9
Other agent	6.3	3.2	2.8	2.9
Any TEAE	64 (97.0)	80 (92.0)	43 (95.6)	48 (84.2)
Related to any treatment	52 (78.8)	67 (77.0)	33 (73.3)	34 (59.6)
Any grade ≥3 TEAE	33 (50.0)	47 (54.0)	28 (62.2)	23 (40.4)
Related to any treatment	15 (22.7)	30 (34.5)	17 (37.8)	9 (15.8)
Any TEAE with an outcome of death	2 (3.0)	1 (1.1)	3 (6.7)	1 (1.8)
Any SAE	28 (42.4)	33 (37.9)	20 (44.4)	16 (28.1)
Related to any treatment	8 (12.1)	9 (10.3)	3 (6.7)	4 (7.0)
Any TEAE leading to discontinuation	8 (12.1)	9 (10.3)	10 (22.2)	7 (12.3)
Related to any treatment	5 (7.6)	8 (9.2)	7 (15.6)	3 (5.3)
Most common TRAEs (≥15%*)				
Nausea	34 (51.5)	37 (42.5)	1 (2.2)	4 (7.0)
Vomiting	19 (28.8)	18 (20.7)	2 (4.4)	1 (1.8)
Decreased appetite	15 (22.7)	8 (9.2)	2 (4.4)	4 (7.0)
Anemia	14 (21.2)	22 (25.3)	4 (8.9)	2 (3.5)
Fatigue	11 (16.7)	18 (20.7)	6 (13.3)	8 (14.0)
Diarrhea	10 (15.2)	11 (12.6)	5 (11.1)	7 (12.3)

*In the durvalumab + cerasertib group. AE, adverse event; SAE, serious adverse event; TEAE, treatment-emergent adverse event; TRAE, treatment-related adverse event.

Pooled Analysis of Outcomes With Second-Course Pembrolizumab Across Five Phase 3 Studies of Non-Small-Cell Lung Cancer

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¹Complejo Hospitalario Universitario Insular Materno-Infantil de Gran Canaria, Universidad de Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain; ²Guangdong Lung Cancer Institute, Guangdong Provincial People's Hospital & Guangdong Academy of Medical Sciences, Guangzhou, China ; ³Chris O'Brien Lifehouse, Camperdown, NSW, Australia; ⁴University of Chicago , Chicago, IL, USA; ⁵State Key Laboratory of Translation Oncology, Chinese University of Hong Kong, Hong Kong, China; ⁶Jilin Cancer Hospital, Changchun, People's Republic of China ; ⁷Westmead Hospital and University of Sydney, Sydney, NSW, Australia; ⁸Maria Skłodowska -Curie National Research Institute of Oncology, Warsaw, Poland; ⁹Cancer Centre of Southeastern Ontario at Kingston General Hospital, Kingston, ON, Canada; ¹⁰Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD, USA; ¹¹Carbone Cancer Center, University of Wisconsin, Madison, WI, USA; Winship Cancer Institute, Emory University, Atlanta, GA, USA (current affiliation); ¹²Sylvester Comprehensive Cancer Center at the University of Miami, Miami, FL, USA; ¹³Yonsei Cancer Center, Seoul, South Korea; ¹⁴National Hospital Organization Shikoku Cancer Center, Matsuyama, Japan; ¹⁵AOU San Luigi Orbassano, University of Turin, Orbassano, Italy; ¹⁶Shaare Zedek Medical Center, Jerusalem, Israel; ¹⁷Instituto do Câncer do Estado de São Paulo, São Paulo, Brazil; ¹⁸Merck & Co., Inc., Rahway, NJ, USA; ¹⁹LungenClinic, Airway Research Center North, German Center for Lung Research, Grosshansdorf, Germany



Phase 3 Studies Included in Pooled Analysis

Cohort 1

- **First course:** pembrolizumab monotherapy (200 mg Q3W for up to 35 cycles)
- **Patients:** previously untreated stage IV^a squamous or nonsquamous NSCLC with no sensitizing *EGFR*/*ALK* alterations
- **Studies included:** KEYNOTE-024,¹ KEYNOTE-042,^{2,3} KEYNOTE-598^{4b}
- **PD-L1 TPS:** ≥1% (KEYNOTE-042), ≥50% (KEYNOTE-024, KEYNOTE-598)

Cohort 2

- **First course:** pembrolizumab (200 mg Q3W for up to 35 cycles) + chemotherapy^c
- **Patients:** previously untreated stage IV squamous (KEYNOTE-407) or nonsquamous (KEYNOTE-189) NSCLC with no sensitizing *EGFR*/*ALK* alterations
- **Studies included:** KEYNOTE-189,^{5,6} KEYNOTE-407^{7,8}
- **PD-L1 TPS:** any

^aKEYNOTE-042 included patients with locally advanced or metastatic NSCLC.

^bOnly patients from the pembrolizumab plus placebo arm were included in this analysis.

^cChemotherapy included cisplatin or carboplatin plus pemetrexed in KEYNOTE-189, and carboplatin plus paclitaxel or nab-paclitaxel in KEYNOTE-407.

1. Reck M, et al. *N Engl J Med.* 2016;375(19):1823-1833. 2. Mok TSK, et al. *Lancet.* 2019;393(10183):1819-1830. 3. Wu YL, et al. *Int J Cancer.* 2021;148(9):2313-2320. 4. Boyer M, et al. *J Clin Oncol.* 2021;39(21):2327-2338. 5. Gandhi L, et al. *N Engl J Med.* 2018;378(22):2078-2092. 6. Horinouchi H, et al. *Cancer Sci.* 2021;112(8):3255-3265. 7. Paz-Ares L, et al. *N Engl J Med.* 2018;379(21):2040-2051. 8. Cheng Y, et al. *Ann Oncol.* 2019;30:ix201-ix202.

Second-Course Pembrolizumab

- Dose and schedule
 - Monotherapy with 200 mg Q3W for up to 17 cycles (~1 year)
- Eligibility criteria
 - Completed 35 cycles or ~2 years of first-course pembrolizumab with SD or better
OR
 - Stopped first-course pembrolizumab following confirmed CR after receiving pembrolizumab for ≥6 months (or ≥8 cycles) and for ≥2 cycles after CR assessment
- Additional eligibility criteria
 - Life expectancy ≥3 months
 - ECOG performance status of 0 or 1
 - Adequate organ function
 - No intervening anticancer treatment since the last dose of pembrolizumab

Baseline Characteristics at Time of Initial Study Randomization^a

Characteristic	Cohort 1 (pembro monotherapy) N = 57	Cohort 2 (pembro + chemo) N = 14
Age, median (range), y	62 (43–82)	62 (49–75)
Men	41 (72)	11 (79)
Enrolled in East Asia	18 (32)	2 (14)
ECOG performance status 1	33 (58)	6 (43)
Current or former smoker	49 (86)	12 (86)
Squamous histology	18 (32)	7 (50)
PD-L1 TPS ≥50% ^b	46 (81)	5 (36)
Liver metastasis at baseline	5 (9)	3 (21)
Brain metastasis at baseline	6 (11)	0

Values are n (%) unless noted otherwise.

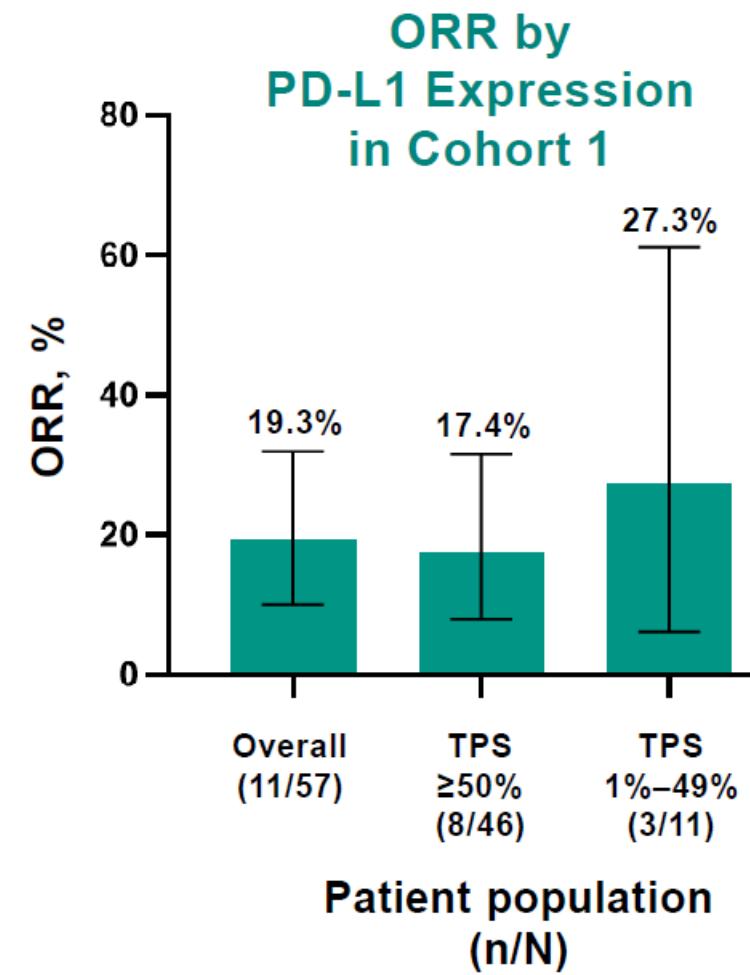
^aAssessment at the start of second course: Median (range) age, 65 y (46–84 y) in cohort 1 and 65 y (51–79 y) in cohort 2; ECOG performance status 1: 33 (58%) in cohort 1 and 6 (43%) in cohort 2.

^bPD-L1 expression was centrally assessed using PD-L1 IHC 22C3 pharmDx (Agilent Technologies, Carpinteria, CA).

Database cutoff dates: Jun 1, 2020 (KN024); Apr 28, 2021 (KN042); Oct 1, 2021 (KN598); Aug 28, 2020 (KN189); Sep 30, 2020 (KN407).

Tumor Response and Survival During Second-Course Pembrolizumab

	Cohort 1 (pembro monotherapy) N = 57	Cohort 2 (pembro + chemo) N = 14
ORR ^a (95% CI), %	19.3 (10.0–31.9)	0 (0.0–23.2)
DCR ^a (95% CI), %	73.7 (60.3–84.5)	50.0 (23.0–77.0)
Best overall response, ^a n (%)		
CR	0	0
PR	11 (19.3)	0
SD	31 (54.4)	7 (50.0)
PD	8 (14.0)	2 (14.3)
NA ^b	7 (12.3)	5 (35.7)
DOR, ^a median (range), mo	NR (0.0+ to 20.0+)	–
DOR ≥6 mo, %	78.8	–
OS, ^c median (95% CI), mo	27.5 (21.7–NR)	NR (NR–NR)
6-mo rate (95% CI), %	85.1 (72.4–92.3)	85.1 (52.3–96.1)
PFS, ^{a,c} median (95% CI), mo	10.3 (5.6–14.0)	7.7 (1.8–NR)
6-mo rate (95% CI), %	60.8 (46.0–72.7)	54.5 (22.9–78.0)



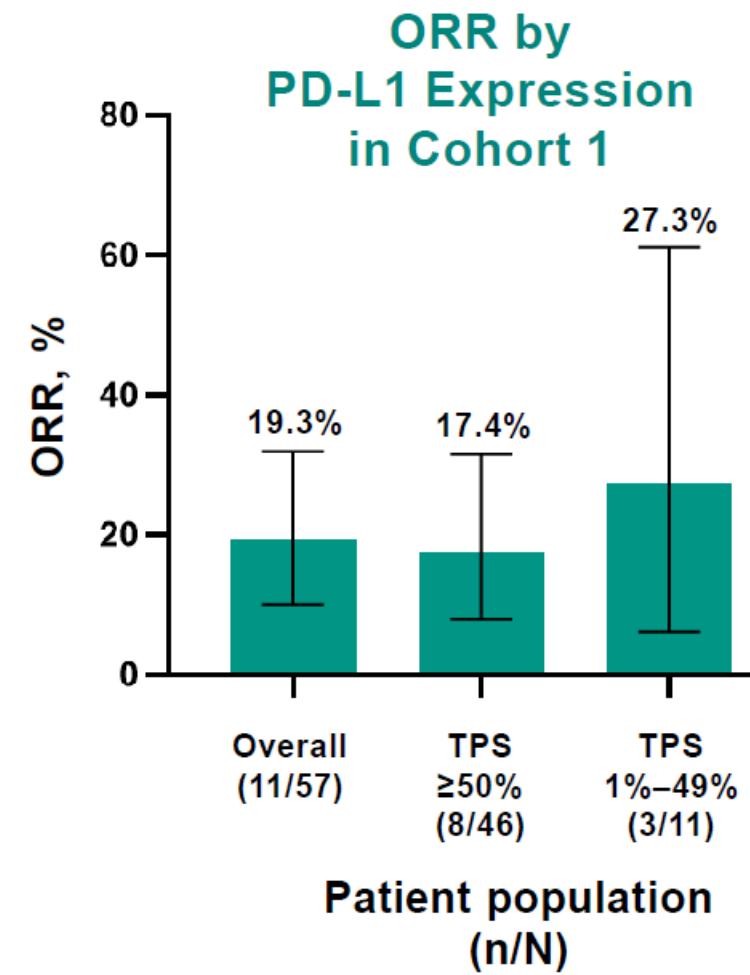
^a "+" indicates no PD at the time of last disease assessment.

^b Per RECIST v1.1 by investigator review. ^c No postbaseline assessment available for response evaluation.

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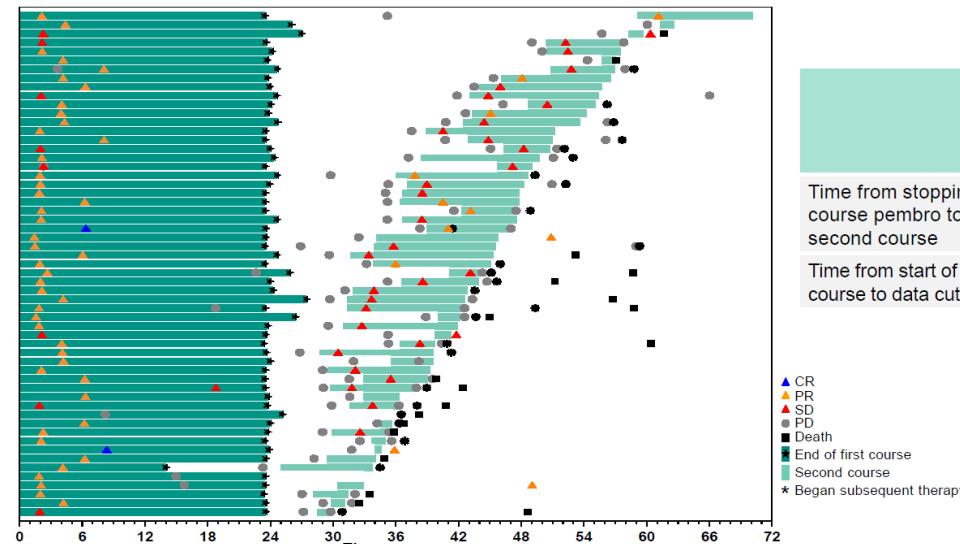


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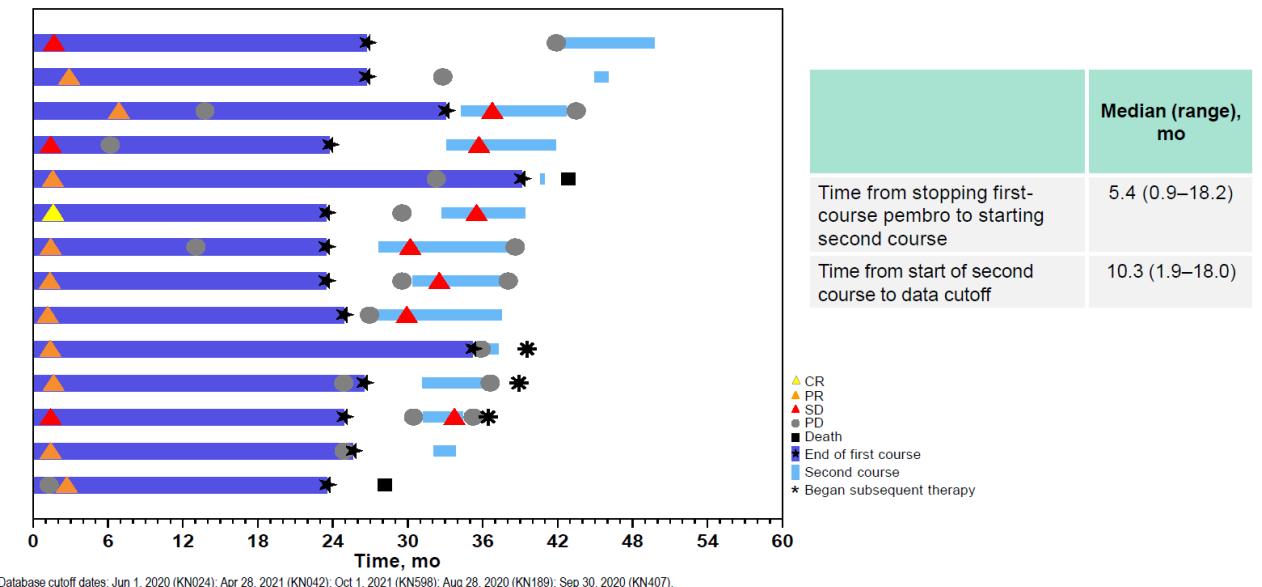
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Individual Patient Profiles: Cohort 1



Individual Patient Profiles: Cohort 2



Adverse Events During Second-Course Pembrolizumab

AE, n (%)	Cohort 1 (pembro monotherapy) N = 57	Cohort 2 (pembro + chemo) N = 14		
Treatment-related AEs	14 (25)	4 (29)		
Grade 3/4 AEs	3 (5)	1 (7)		
Led to discontinuation	1 (2)	0		
Led to death	0	0		
	Grade 1/2	Grade 3 ^a	Grade 1/2	Grade 3 ^a
Immune-mediated AEs ^b	5 (9)	1 (2)	0	0
Hyperthyroidism	1 (2)	0	0	0
Hypothyroidism	3 (5)	0	0	0
Severe skin reactions	1 (2)	1 (2)	0	0
Thyroiditis	1 (2)	0	0	0

^aThere were no grade 4 or 5 immune-mediated AEs.

^bEvents were based on a list of terms specified at the time of analysis and were included regardless of attribution to study treatment or immune relatedness by the investigator. Related terms were included.

Database cutoff dates: Jun 1, 2020 (KN024); Apr 28, 2021 (KN042); Oct 1, 2021 (KN598); Aug 28, 2020 (KN189); Sep 30, 2020 (KN407).



Lung Cancer
UPDATES
IASLC HIGHLIGHTS

06-09 AGOSTO 2022

Viena, Austria



Iniciativa científica de:
GECP
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