

**19 GIUGNO
2023**

ore 15.00 - 18.00

LE NOVITA' DA CHICAGO 2023:

l'evoluzione delle conoscenze in oncologia.

Melanomi e altri tumori cutanei

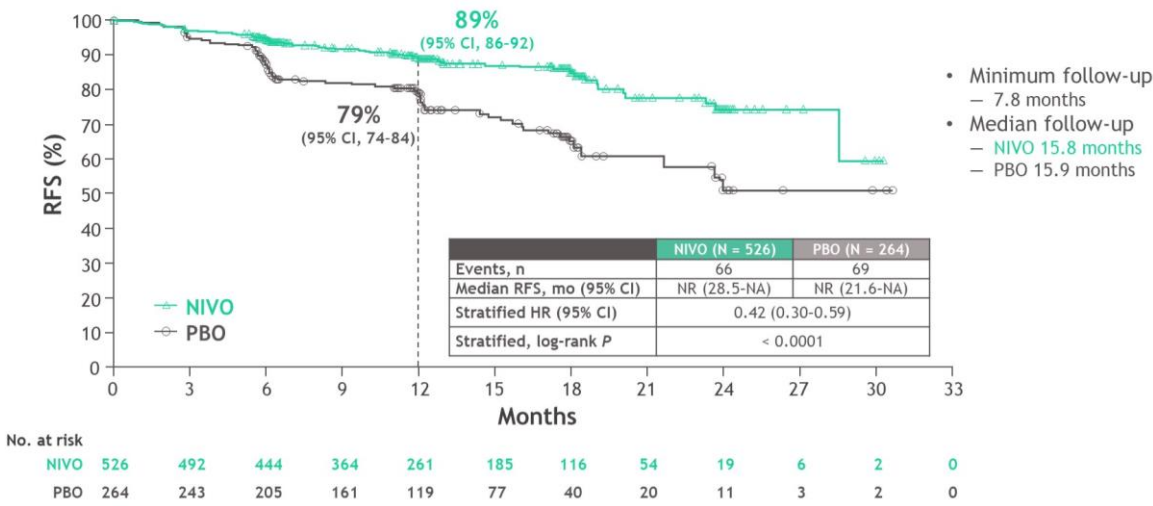
VANNA CHIARION SILENI



My Agenda

- Adjuvant stage IIB & IIC
- Neoadjuvant melanoma
- New combinations knocking at the door
- Neoadjuvant in Lad-CuSCC could become a new standard ?
- Neoadjuvant in Merkel carcinoma lights and shadows

CheckMate 76K primary endpoint: RFS^{1,2}



- Adjuvant NIVO significantly prolonged RFS and had a manageable safety profile¹

Association between biomarkers and RFS within NIVO and PBO treatment arms: higher vs lower^a biomarker levels

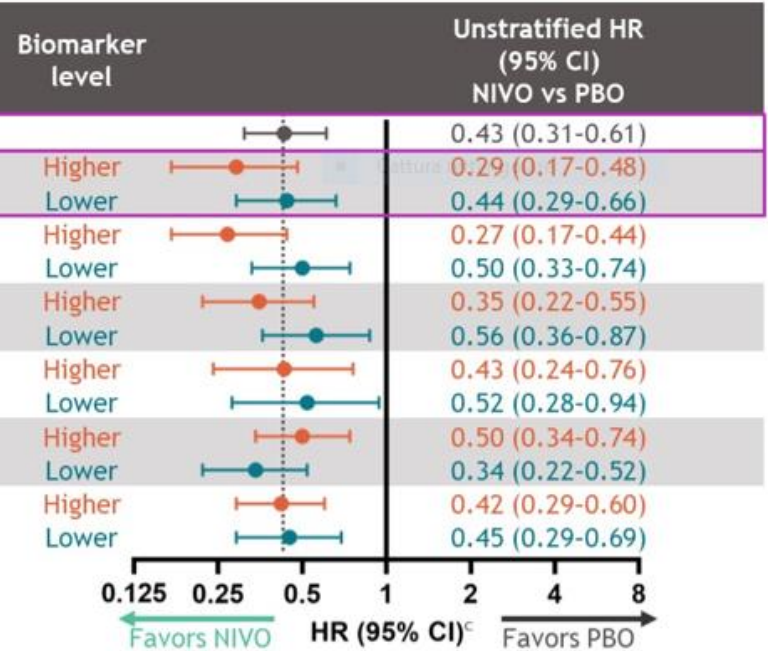
Biomarker	Events, n (patients, N)	Treatment	Events, n (patients, N)	Unstratified HR ^b (95% CI) higher vs lower ^a
IFNγ-sig	105 (638)	NIVO	48 (425)	0.59 (0.41-0.86)
		PBO	57 (213)	0.91 (0.65-1.27)
TMB (log ₁₀ , mut/exome) ^c	112 (658)	NIVO	54 (441)	0.66 (0.49-0.90)
		PBO	58 (217)	1.20 (0.89-1.61)
CD8 IHC (%)	117 (707)	NIVO	57 (464)	0.60 (0.39-0.90)
		PBO	60 (243)	0.97 (0.71-1.33)
CRP (log ₂ , μg/mL)	125 (739)	NIVO	60 (493)	1.37 (1.00-1.88)
		PBO	65 (246)	0.92 (0.69-1.24)
Tumor PD-L1 (%)	51 (300)	NIVO	22 (189)	0.82 (0.60-1.12)
		PBO	29 (111)	0.99 (0.87-1.12)
Mitotic rate (mitoses/mm ²)	123 (711)	NIVO	59 (470)	1.11 (0.87-1.41)
		PBO	64 (241)	1.19 (0.94-1.51)

↑ IFNγ-sig
↑ TMB
↑ CD8 IHC
↓ CRP

Are associated with improved RFS in NIVO arm

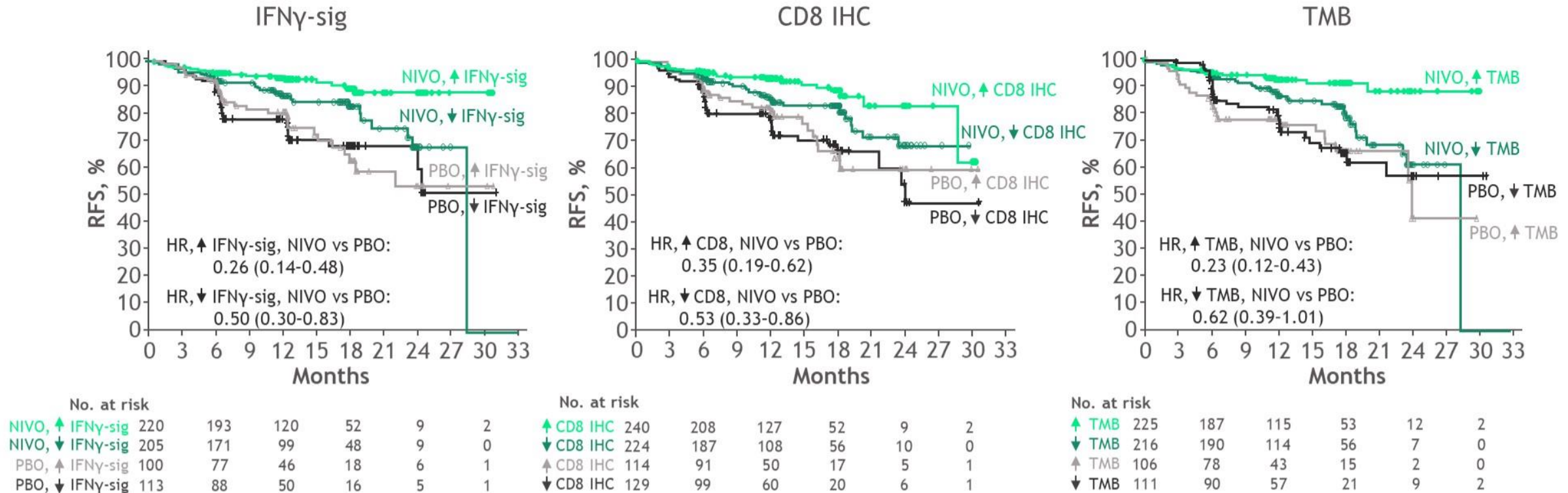
Biomarker evaluable population

Biomarker assessed	N (% of 790)
CRP levels (log ₂ , μg/mL)	739 (94%)
Tumor mitotic rate (mitoses/mm ²)	711 (90%)
CD8 IHC (%)	707 (89%)
TMB (log ₁₀ , mut/exome) ^a	658 (83%)
BRAF ^{V600} status (WT vs MUT)	658 (83%)
IFNγ-sig ^b	638 (81%)
% PD-L1 expression on tumor cells	300 (38%)



• Patients treated with NIVO had prolonged RFS compared with those treated with PBO across all subgroups

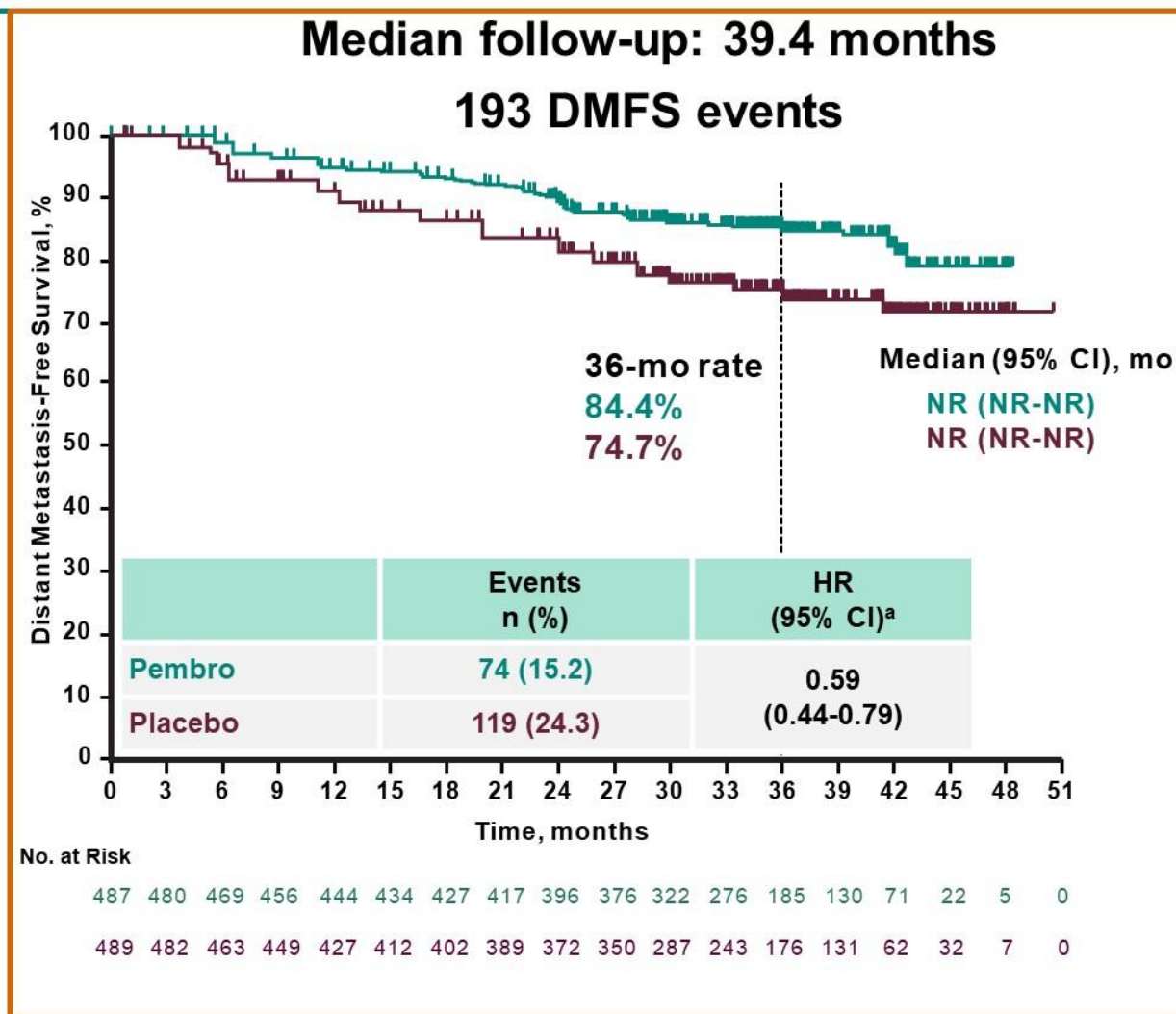
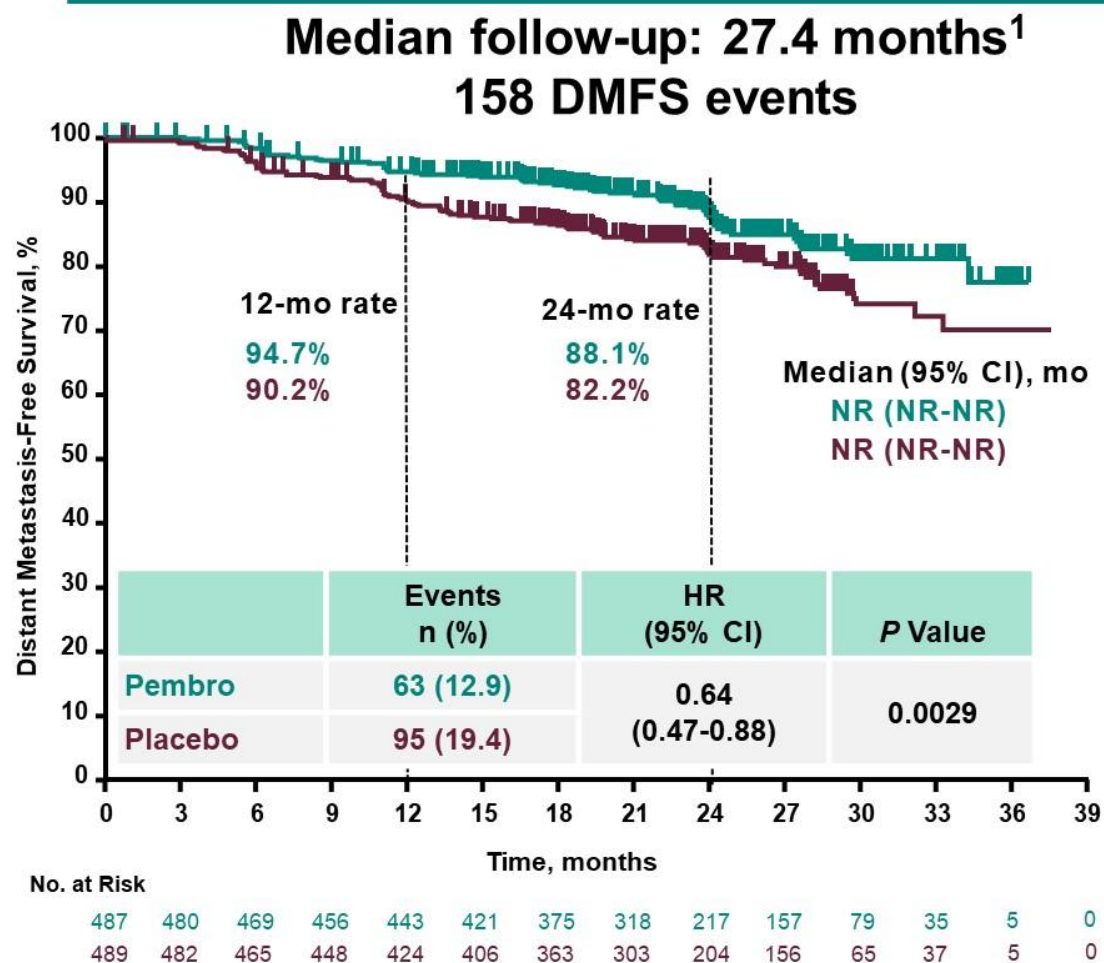
RFS outcomes based on IFN γ -sig, CD8 IHC, and TMB: median cutoff^a



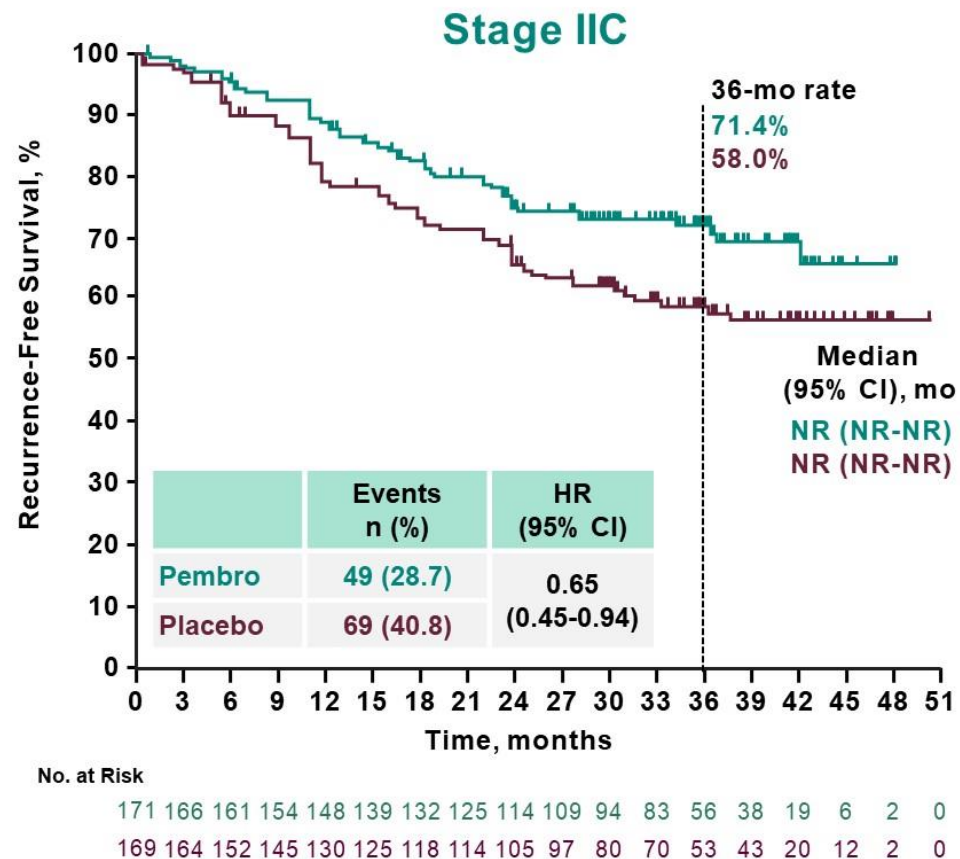
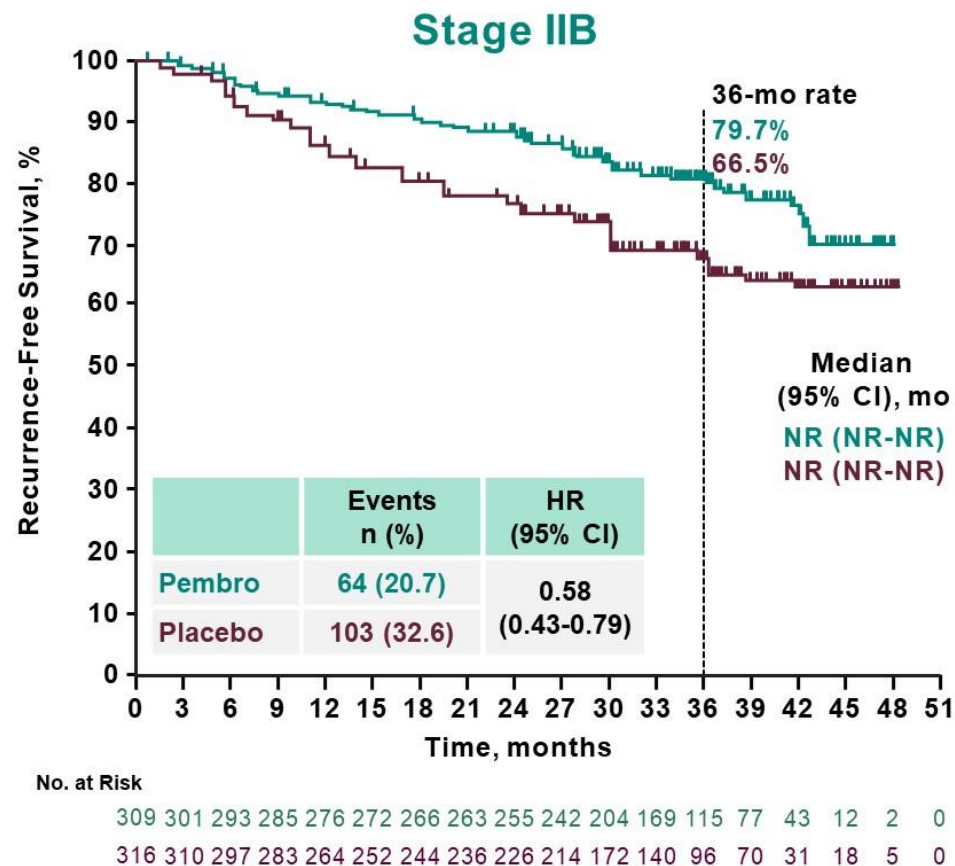
- Adjuvant NIVO prolonged RFS over PBO across all biomarker subgroups
- High CD8 IHC, IFN γ -sig, and TMB were associated with prolonged RFS within the NIVO arm

^aMedian cutoffs: CD8 IHC, 10.88; IFN γ -sig, 0.04; TMB, 322 mut/exome.

DMFS: ITT Population



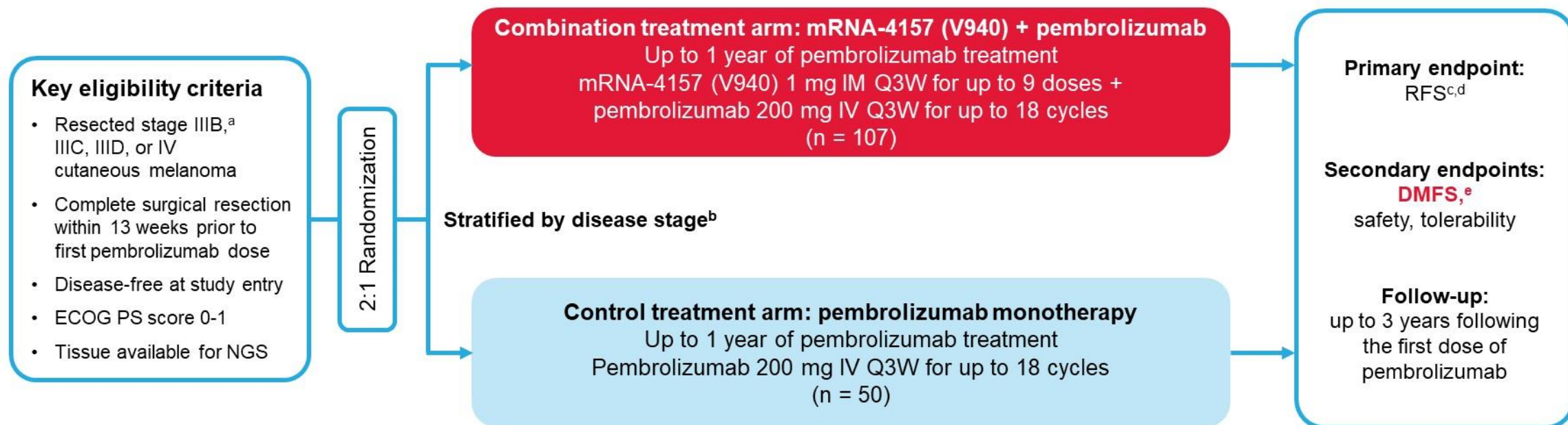
RFS by Stage



Data cutoff: January 4, 2023.

mRNA-4157-P201/KEYNOTE-942 (NCT03897881) Study Design

Randomized, phase 2, open-label study in adjuvant resected melanoma patients at high risk of recurrence



Designed with 80% power to detect an HR of 0.5 with ≥ 40 RFS events (with a 1-sided alpha of 0.1)

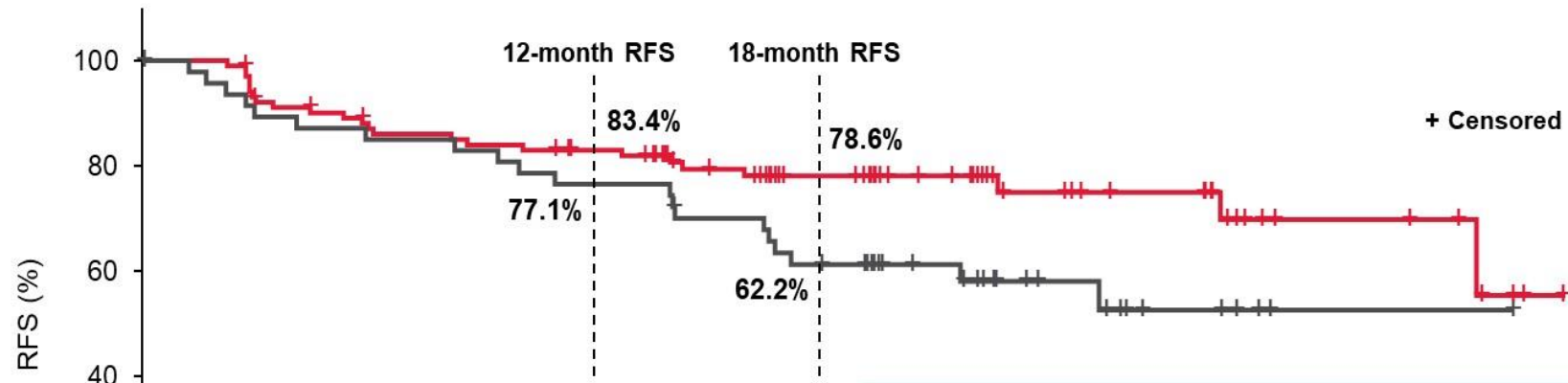
DMFS analysis was prespecified for testing following positive RFS in the ITT population^f

Median follow-up^g: 23 months for mRNA-4157 (V940) + pembrolizumab

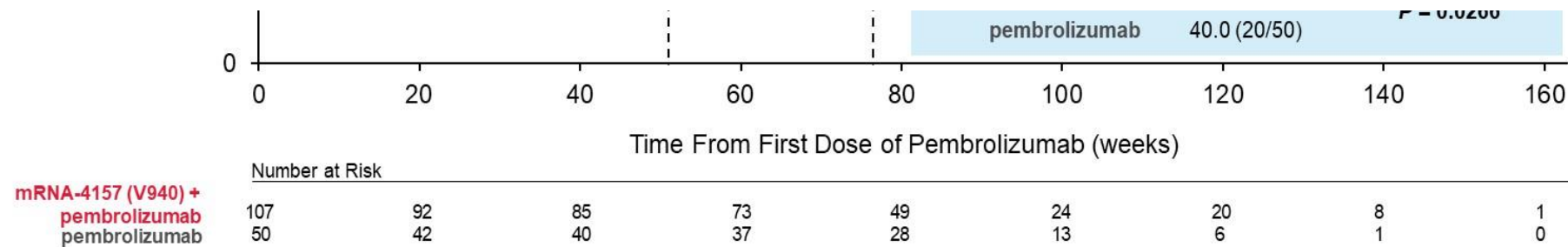
24 months for pembrolizumab monotherapy

mRNA-4157 (V940) is an individualized neoantigen therapy designed to target an individual patient's unique tumor mutations and encodes up to 34 neoantigens

mRNA-4157-P201/KEYNOTE-942 Met the Primary Efficacy Endpoint: RFS¹



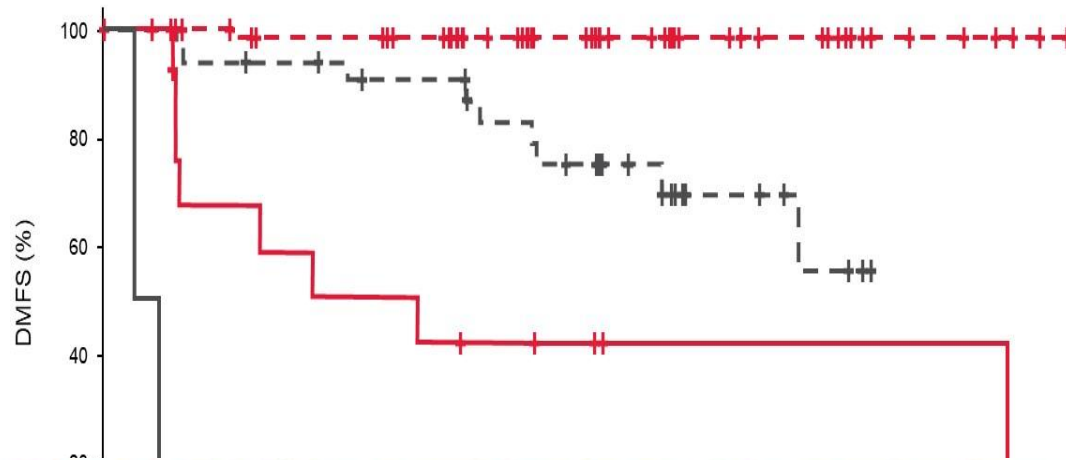
mRNA-4157 (V940) in combination with pembrolizumab was **well-tolerated without an increase in immune-mediated AEs** compared with pembrolizumab monotherapy



The primary endpoint was investigator-assessed RFS (defined as the time from first dose of pembrolizumab until the date of first recurrence [local, regional, or distant metastasis], a new primary melanoma, or death from any cause) in the intention-to-treat population. The primary analysis for RFS was specified to occur after all patients completed ≥ 12 months on study and ≥ 40 RFS events were observed. Descriptive analysis specified to occur when ≥ 51 RFS events observed. *The hazard ratio and 95% CI for mRNA-4157 (V940) plus pembrolizumab versus pembrolizumab is estimated using a Cox proportional hazards model with treatment group as a covariate, stratified by disease stage (stages IIIB or IIIC or IIID vs stage IV) used for randomization. The P value is based on a 1-sided log-rank test stratified by disease stage (stages IIIB or IIIC or IIID vs stage IV) used for randomization.

1. Khattak A, et al. Presented at the American Association for Cancer Research® (AACR) Annual Meeting; April 14-19, 2023; Orlando, FL, USA. Oral presentation CT001.

DMFS by ctDNA Status at Baseline



mRNA-4157 (V940) in combination with pembrolizumab was **well-tolerated without an increase in immune-mediated AEs** compared with pembrolizumab monotherapy

	Number at Risk								
ctDNA-neg: mRNA-4157 (V940) + pembrolizumab	77	73	69	57	38	18	15	6	1
ctDNA-neg: pembrolizumab	33	30	28	26	18	7	4	0	0
ctDNA-pos: mRNA-4157 (V940) + pembrolizumab	13	8	6	5	3	1	1	1	0
ctDNA-pos: pembrolizumab	2	0	0	0	0	0	0	0	0

	mRNA-4157 (V940) + pembro vs pembro HR (95% CI) ^a	mRNA-4157 (V940) + pembro Events, % (n/N)	pembro Events, % (n/N)
ctDNA-neg	0.048 (0.006, 0.380)	1.3 (1/77)	27.3 (9/33)
ctDNA-pos	NE	61.5 (8/13)	100 (2/2)

See LBA9515 presented by Matteo S. Carlino on 03Jun

Minimal residual disease by circulating tumor DNA as a biomarker of recurrence free survival in resected high-risk melanoma patients treated with mRNA-4157 (V940), a personalized cancer vaccine, and pembrolizumab.

ctDNA was NE at baseline for 20.4% (32/157) patients from this study due to unavailability of the sample at baseline (mRNA-4157 (V940) + pembrolizumab, n = 15; pembrolizumab monotherapy, n = 14) or insufficient number of RaDaR® variants identified by WES (quality control flag: mRNA-4157 (V940) + pembrolizumab, n = 2; pembrolizumab monotherapy, n = 1). Results limited by small sample size and event number. ctDNA, circulating tumor DNA.

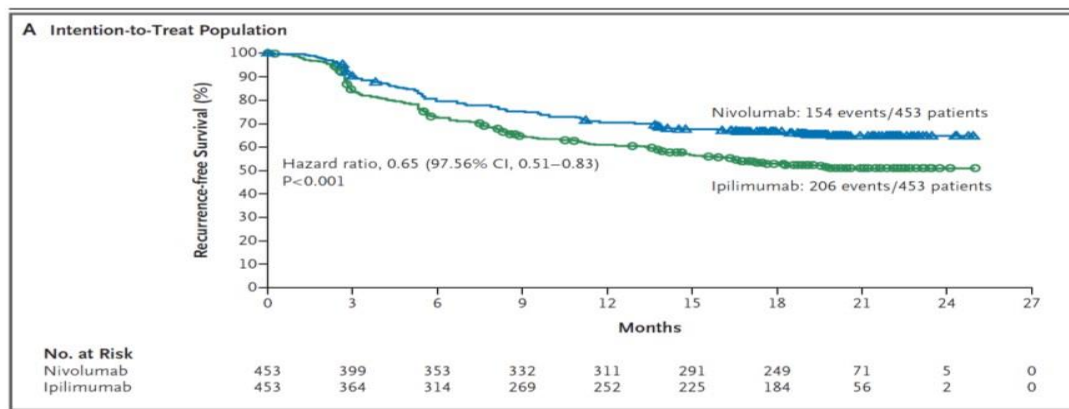
- ctDNA positive in 15%; unbalanced between 2 arms
- ctDNA has prognostic value
HR neg vs pos : 0.149; 95% CI: 0.263-0.862
- Early separation of 2 arms among neg- ctDNA pts, HR: 0.225
- Unbalanced TMB in the 2 arms:
HR 0.254 (95% CI: 0.106, 0.607) with adjustment by TMB

Key Takeaways

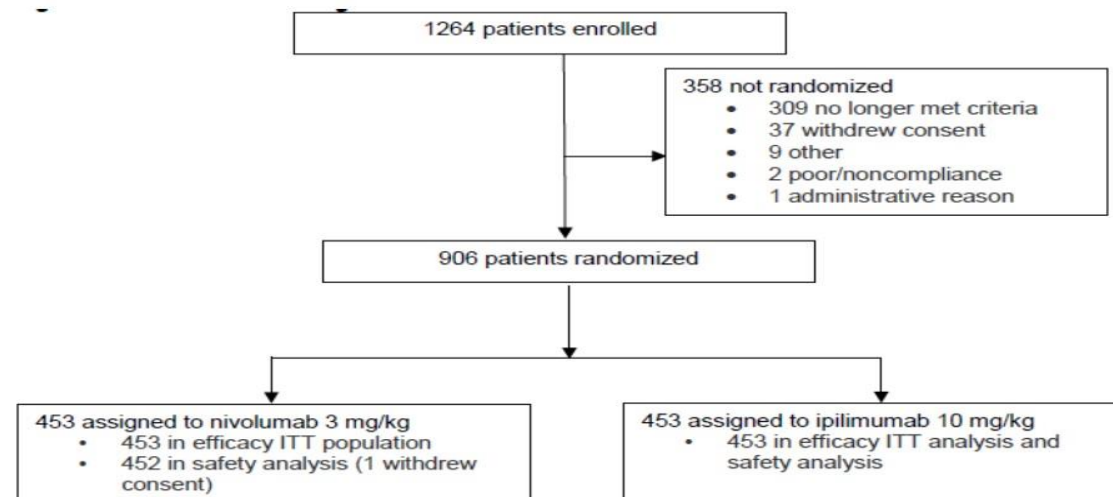
- 1st randomized trial to show improvement in DMFS (and RFS) with a personalized neoantigen therapy approach
- mRNA-4157 (V940) + pembrolizumab showed significant improvement in RFS and DMFS compared to standard of care pembrolizumab in high-risk resected melanoma
- Well-tolerated; no increase in irAEs in combination arm
- Received Breakthrough Therapy Designation from FDA in February 2023, and PRIME Designation from EMA in April 2023

Who should receive neoadjuvant therapy?

- Clinical Stage III Melanoma
 - RECIST measurable lymph node disease
 - +/- resectable in transit metastases



Weber et al. N Engl J Med 2017; 377: 1824-35



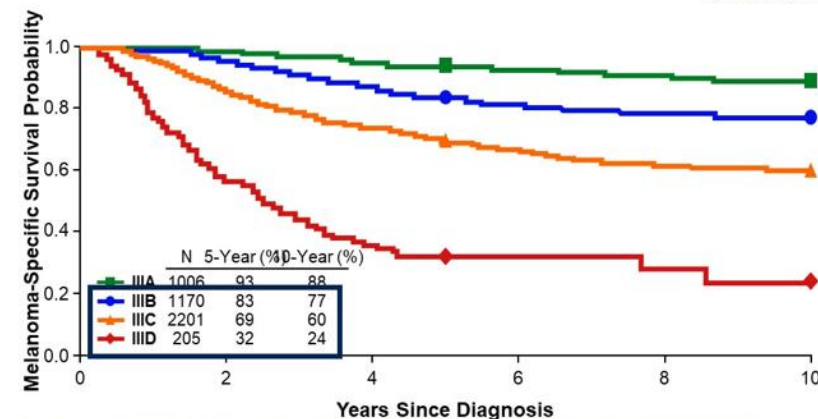
2023 ASCO[®]
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PRESENTED BY: RN Amaria, MD

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CONQUERS CANCER



Gershenwald et al. CA Cancer J Clin. 2017; Balch et al. J Clin Oncol. 2009;27(36):6199-6206

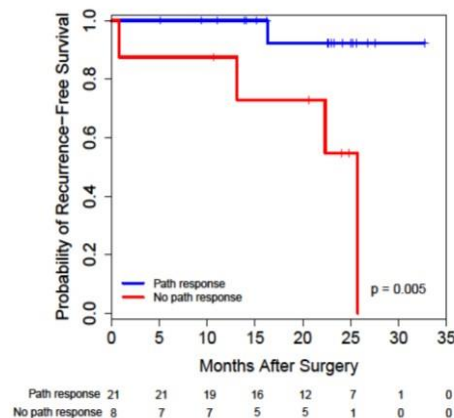
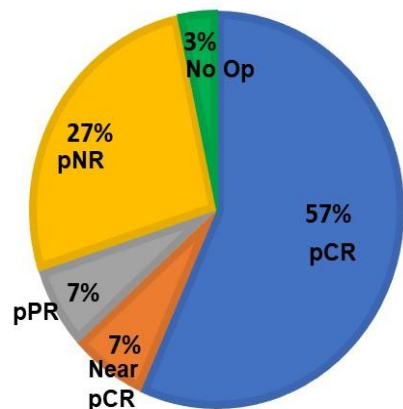
What neoadjuvant immunotherapy data exists so far?

Nivolumab + Relatlimab

Clinical
Stage III /IV
Melanoma
N=30



2 doses neoadjuvant nivo + rela →
surgery → 10 doses adjuvant nivo +
rela



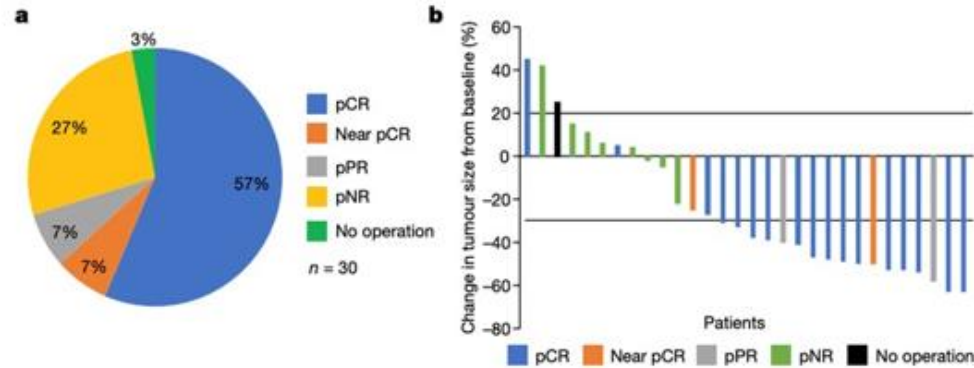
0% Grade 3 /4 toxicity in neoadjuvant setting
26% Grade 3 /4 toxicity in adjuvant Setting

Grade 3 / 4 Toxicity	N (%)
Adrenal Insufficiency	4 (13%)
Transaminitis	2 (8%)
Hyponatremia	2 (8%)
Myalgia	1 (4%)
CPK increase	1 (4%)

Amaria et al. Nature 2022; 611: 155-60

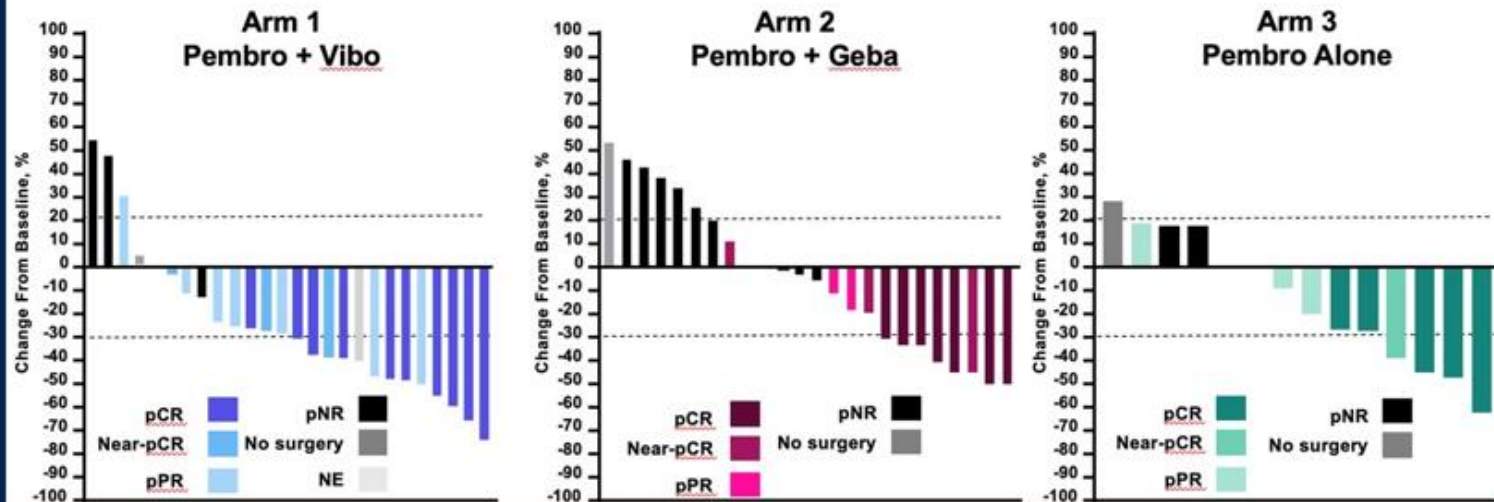
Other combinations to explore

10



Relatlimab + nivolumab:
Amaria et al., *Nature*, 2022

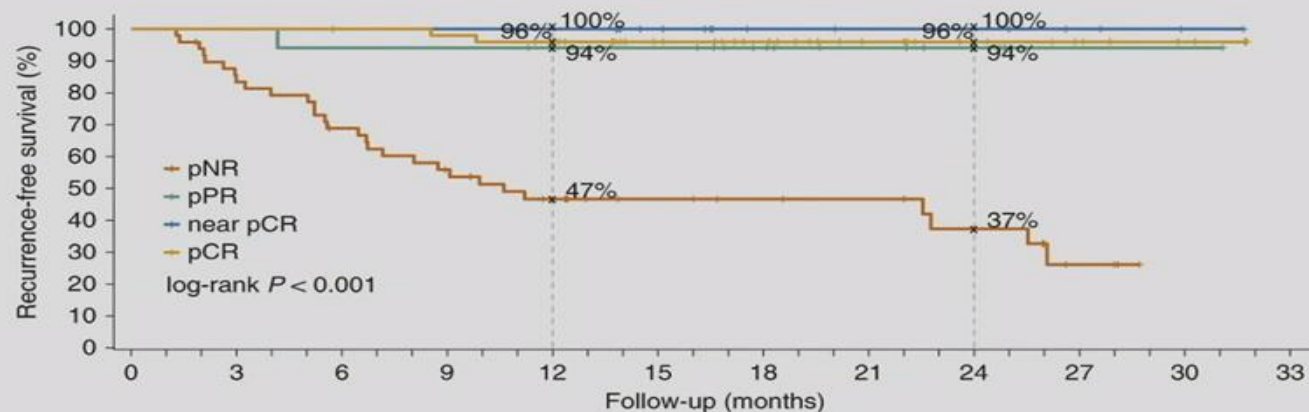
• Cattura rettangolare



Pembrolizumab + vibostolimab:
Dummer et al., AACR, 2023

Depth of pathologic response

Pooled analysis of patients with melanoma treated with neoadjuvant IO



tenzies et al, Nat Med 2021

2023 ASCO
ANNUAL MEETING

#ASCO23

PRESENTED BY: Myriam Chalabi, MD PhD

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Take Away

- Neoadjuvant immunotherapy leads to high rates of MPR and pCR in a variety of solid tumors
- MPR and pCR after neoadjuvant IO are associated with excellent outcome
- De-escalation of systemic therapy, less extensive surgery and omission of surgery realistic options to consider
- Need for predictive biomarkers

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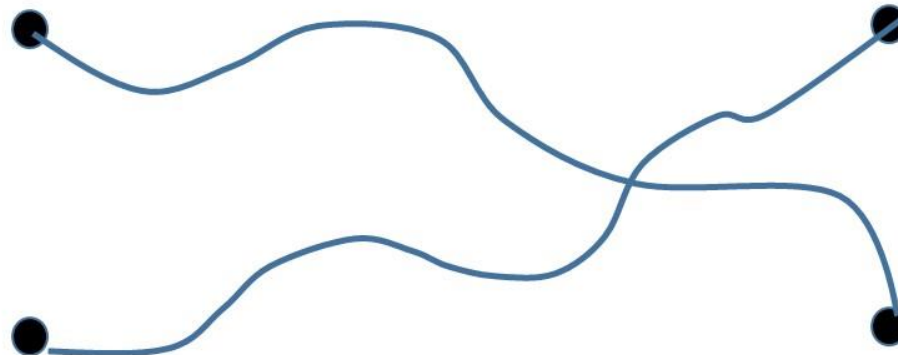
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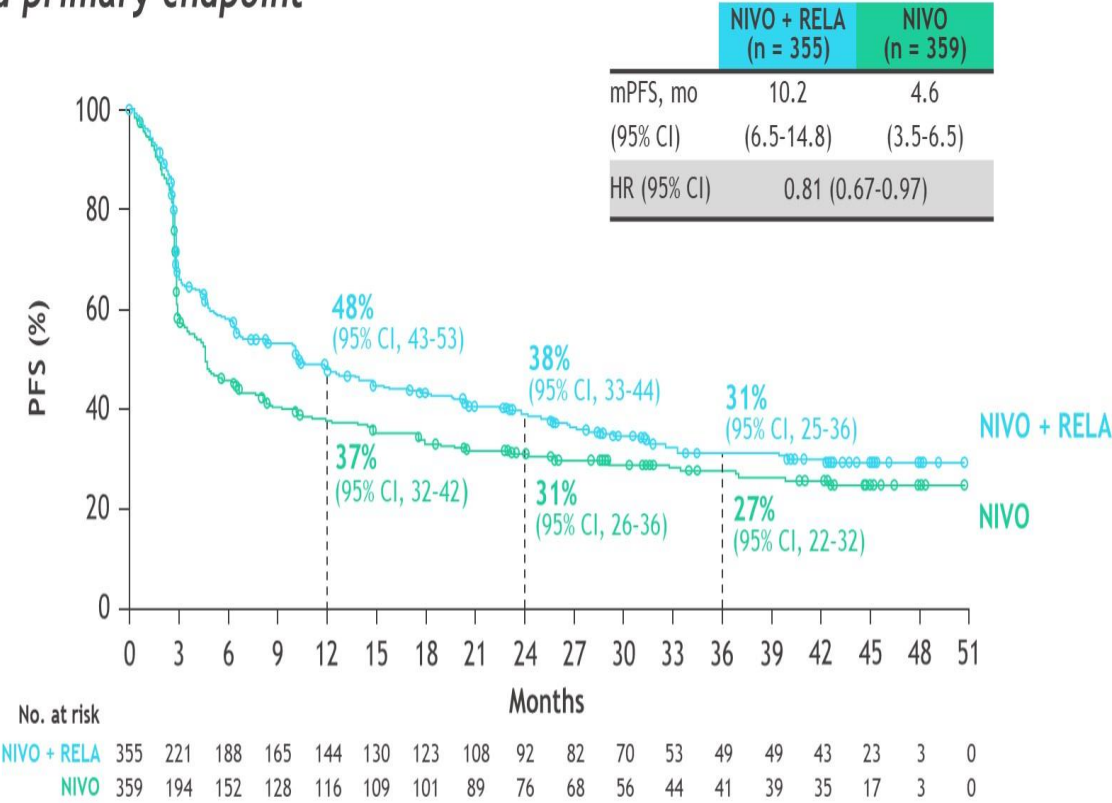
Optimizing the use of our immunotherapies:

- De escalating duration of IPI/NIVO therapy in metastatic patients with FATE
 - could we reduce to one injection?
- Optimizing adjuvant and neoadjuvant treatments
 - Neoadjuvant anti-PD1 monotherapy for high IFN γ score
 - Neoadjuvant combination IPI3/nivo1 for low IFN γ score and/or positive ctDNA
 - Adjuvant IFN γ /NIVO for low IFN γ score and/or positive ctDNA



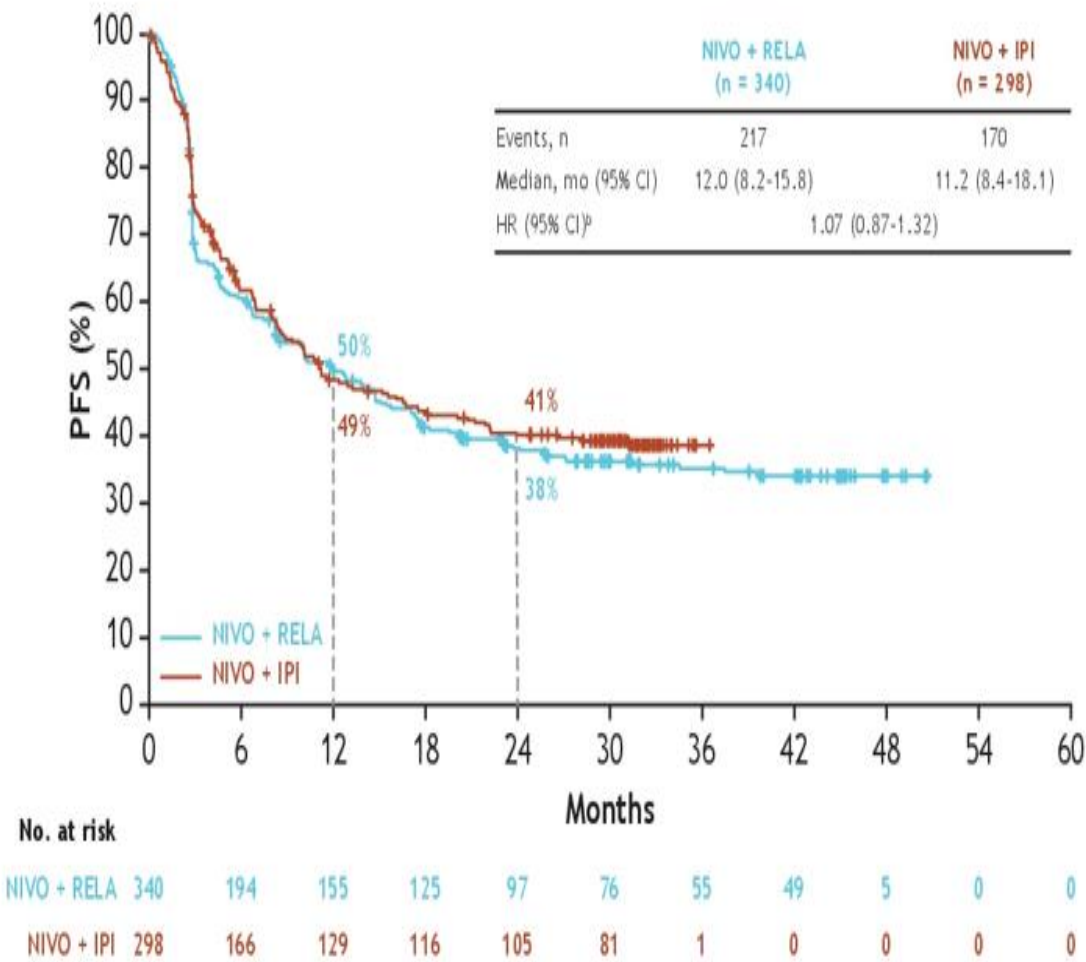
PFS by BICR

Updated primary endpoint



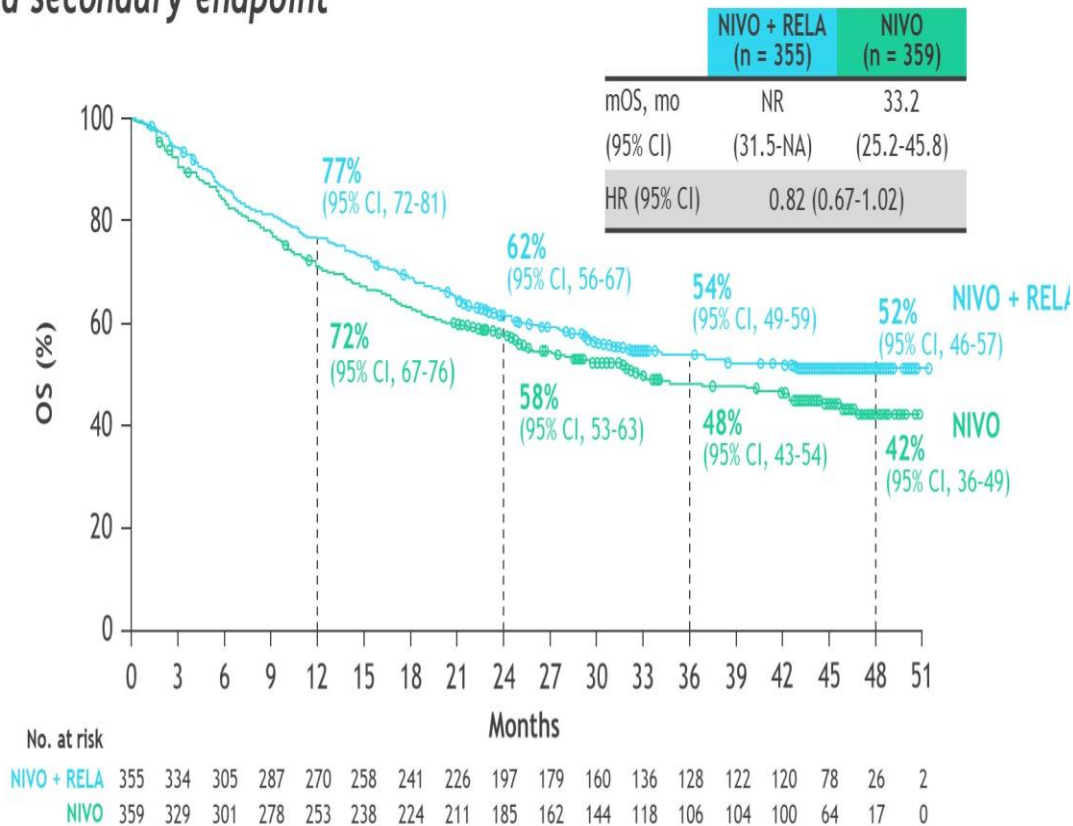
RELATIVITY-047 (NCT03470922). Median follow-up: 25.3 months.
Descriptive analysis. Statistical model for HR: stratified Cox proportional hazard model. Stratified by LAG-3, BRAF mutation status, and AJCC M stage. PD-L1 was removed from stratification because it led to subgroups with < 10 patients.

PFS per investigator



OS

Updated secondary endpoint



RELATIVITY-047 (NCT03470922). Median follow-up: 25.3 months.
Descriptive analysis. Statistical model for HR: stratified Cox proportional hazard model. Stratified by LAG-3, BRAF mutation status, and AJCC M stage. PD-L1 was removed from stratification because it led to subgroups with < 10 patients.

OS

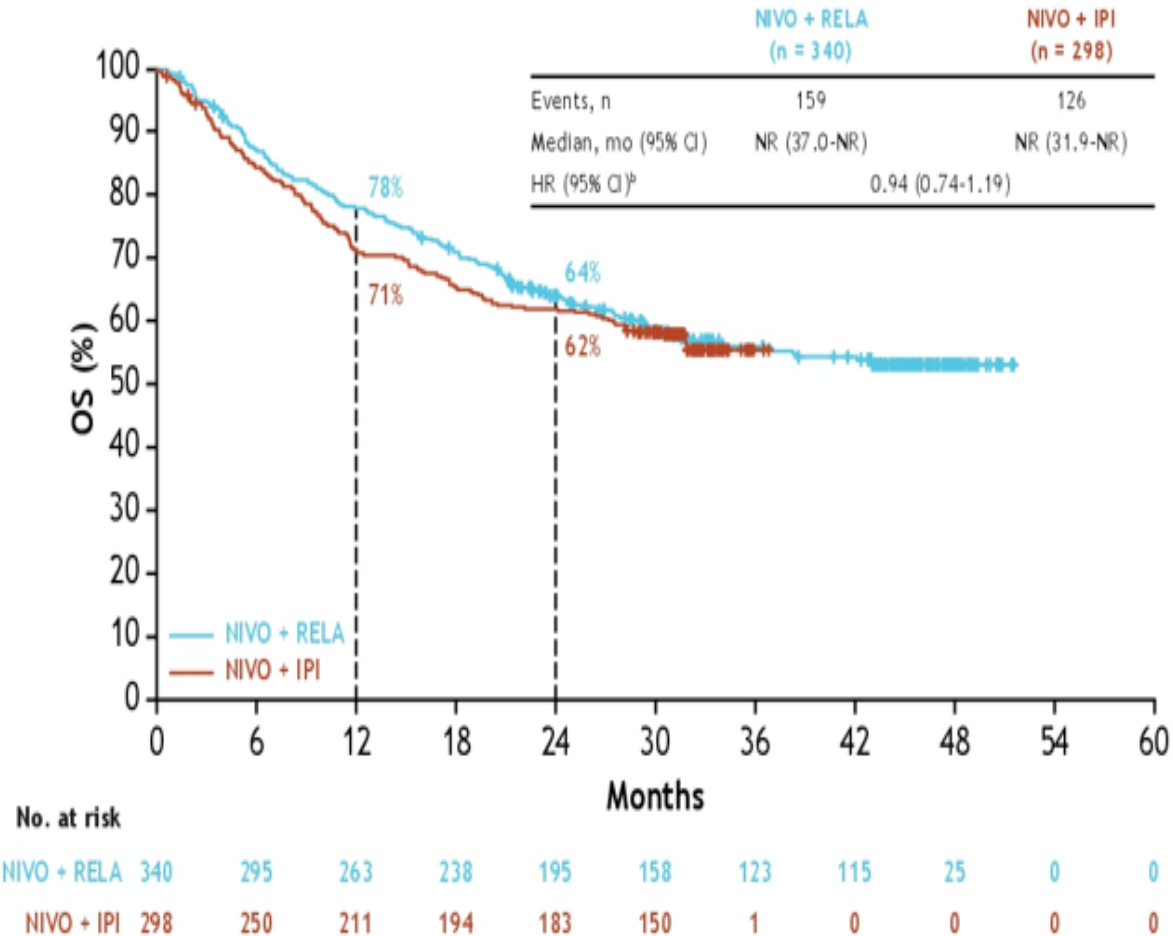
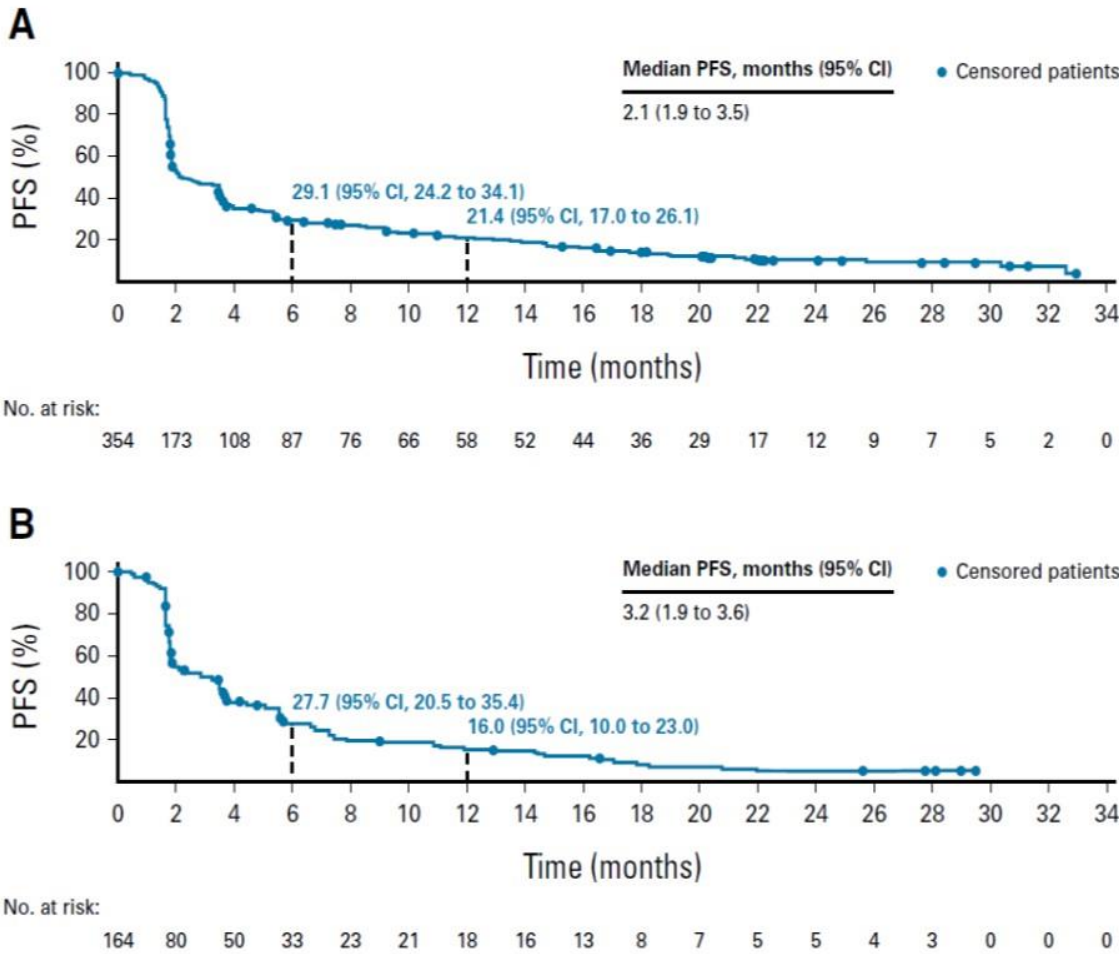


TABLE 1. Patient Demographics and Baseline Characteristics

Characteristic	D1 Pooled ^a (n = 354)	D2 ^b (n = 164)
Melanoma subtype, No. (%)		
Mucosal	35 (9.9)	11 (6.7)
Cutaneous	240 (67.8)	122 (74.4)
Acral	50 (14.1)	18 (11.0)
Others	28 (7.9)	11 (6.7)
Unknown	1 (0.3)	2 (1.2)
LDH, No. (%)		
Normal	183 (51.7)	85 (51.8)
Normal to < 2 × ULN	124 (35.0)	55 (33.5)
≥ 2 × ULN	45 (12.7)	23 (14.0)
Unknown	2 (0.6)	1 (0.6)
Liver metastases, No. (%)		
Yes	121 (34.2)	49 (29.9)
No	233 (65.8)	115 (70.1)
Disease stage at entry, No. (%)		
III	22 (6.2)	15 (9.1)
IV	332 (93.8)	149 (90.9)
M status at entry, ^c No. (%)		
M1a	39 (11.0)	27 (16.5)
M1b	59 (16.7)	17 (10.4)
M1c with brain metastases	36 (10.2)	23 (14.0)
M1c without brain metastases	198 (55.9)	81 (49.4)
Unknown	22 (6.2)	16 (9.8)

Nivo + relatlimab in anti-PD-1 failed melanoma



Study design: three serial expansion cohorts in advanced melanoma setting

3

Treatment:

Fianlimab 1600 mg + cemiplimab 350 mg IV every 3 weeks, for up to 51 weeks*

Initial cohort MM1# (n=40)

1L or 2L advanced melanoma patients who have never received anti-PD-(L)1

Confirmatory cohort MM2# (n=40)

1L advanced melanoma patients who have never received anti-PD-(L)1

PD-1 experienced cohort MM3# (n=18)

1L advanced melanoma patients with prior (neo)adjuvant systemic therapy†, including 13/18 patients who received anti-PD-1

Primary endpoint

- ORR per RECIST 1.1 criteria

Secondary endpoints

- PFS
- DoR
- DCR
- Safety
- PK

Key inclusion criteria

- Metastatic or inoperable locally advanced non-veal melanoma
- ≥18 years of age
- ECOG PS of 0 or 1
- At least one lesion measurable by RECIST 1.1

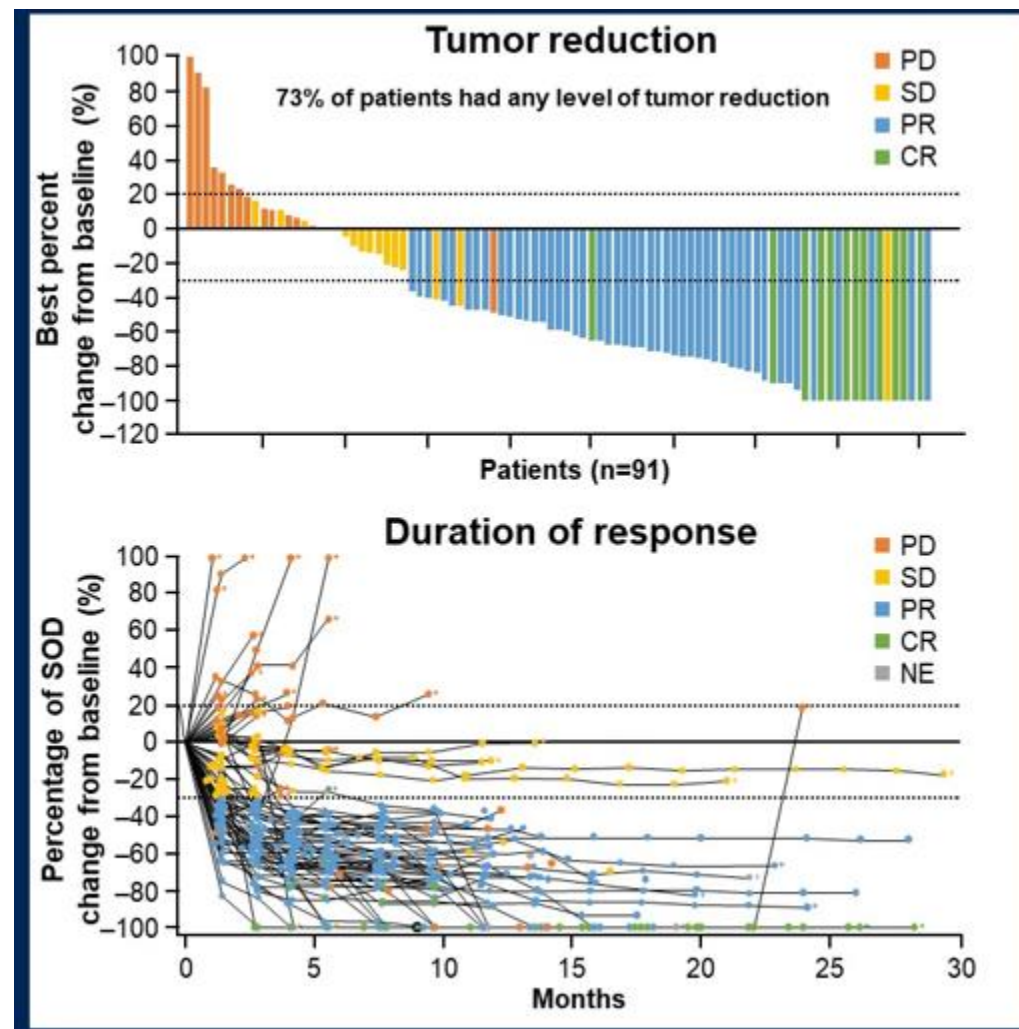
Key exclusion criteria

- Uveal melanoma
- Prior treatment with a LAG-3 targeting agent
- Radiation therapy within 2 weeks prior to enrollment

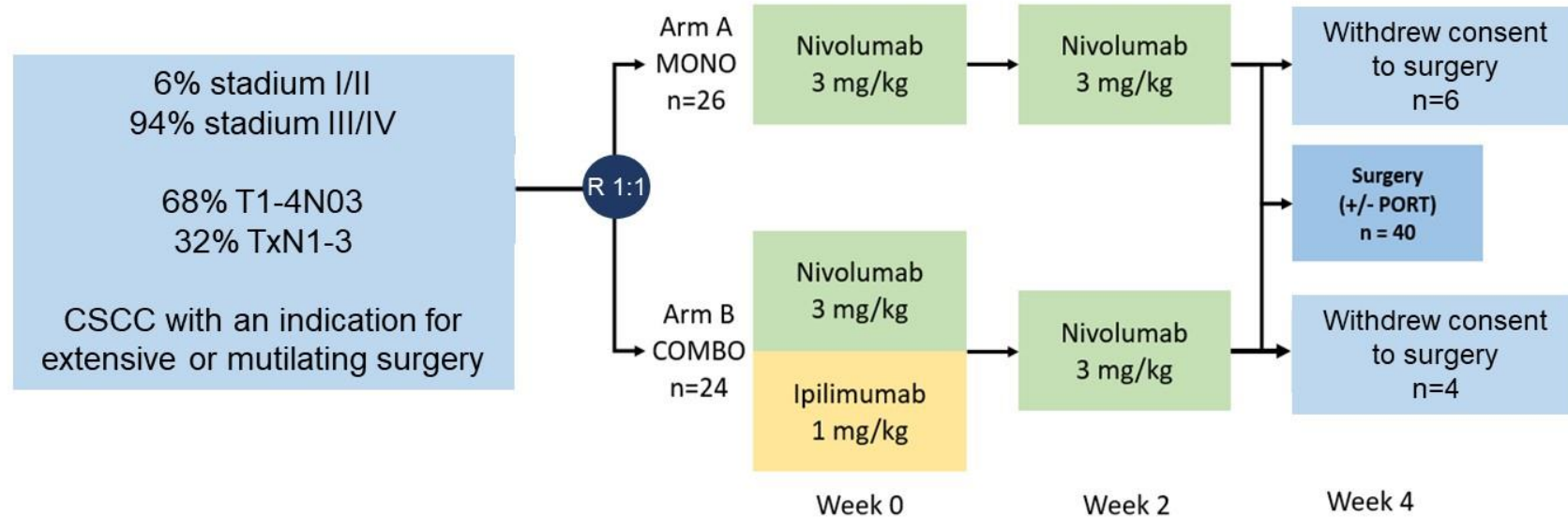
MM1#, Cohort 6; MM2#, Cohort 15; MM3#, Cohort 16. *With an option for an additional 51 weeks; †Prior exposure to (neo)adjuvant systemic treatment (including anti-PD-1) with recurrence >6 months after adjuvant therapy. 1L, first line; 2L, second line; DCR, disease control rate; DoR, duration of response; ECOG PS, Eastern Cooperative Oncology Group performance score; IV, intravenous; LAG-3, lymphocyte activation gene-3; MM, metastatic melanoma; NHL, non-Hodgkin lymphoma; ORR, objective response rate; PD-(L)1, programmed cell death-(ligand)1; PFS, progression-free survival; PK, pharmacokinetics; RECIST 1.1, Response Evaluation Criteria in Solid Tumors version 1.1.

Significant durable response with fianlimab (anti-LAG-3) and cemiplimab (anti-PD-1) in advanced melanoma: post adjuvant PD-1 analysis

Response endpoints	Initial cohort MM1# (n=40)	Confirmatory cohort MM2# (n=40)	PD-1 experienced cohort MM3# (n=18)*
Median follow-up (IQR), months	20.8 (11.2–30.8)	11.5 (8.9–13.9)	9.7 (4.8–14.1)
Treatment exposure, median (IQR), weeks	37 (20–81)	35 (15–51)	23 (12–37)
ORR, (n)	63% (25)	63% (25)	56% (10)
95% CI for ORR	(46–77)	(46–77)	(31–79)
DoR, median (95% CI), months	NR (12–NE)	NR (NE–NE)	NR (6–NE)
DCR, (n)	80% (32)	80% (32)	67% (12)
95% CI for DCR	(64–91)	(64–91)	(41–87)
Best overall response, (n)			
CR	15% (6)	13% (5)	6% (1)
PR	48% (19)	50% (20)	50% (9)
SD	18% (7)	18% (7)	11% (2)
PD	15% (6)	15% (6)	28% (5)
NE	5% (2)	5% (2)	6% (1)
KM-estimated PFS, median (95% CI), months	24 (4–NE)	15 (7–NE)	12 (1–NE)



MATISSE: Included patients

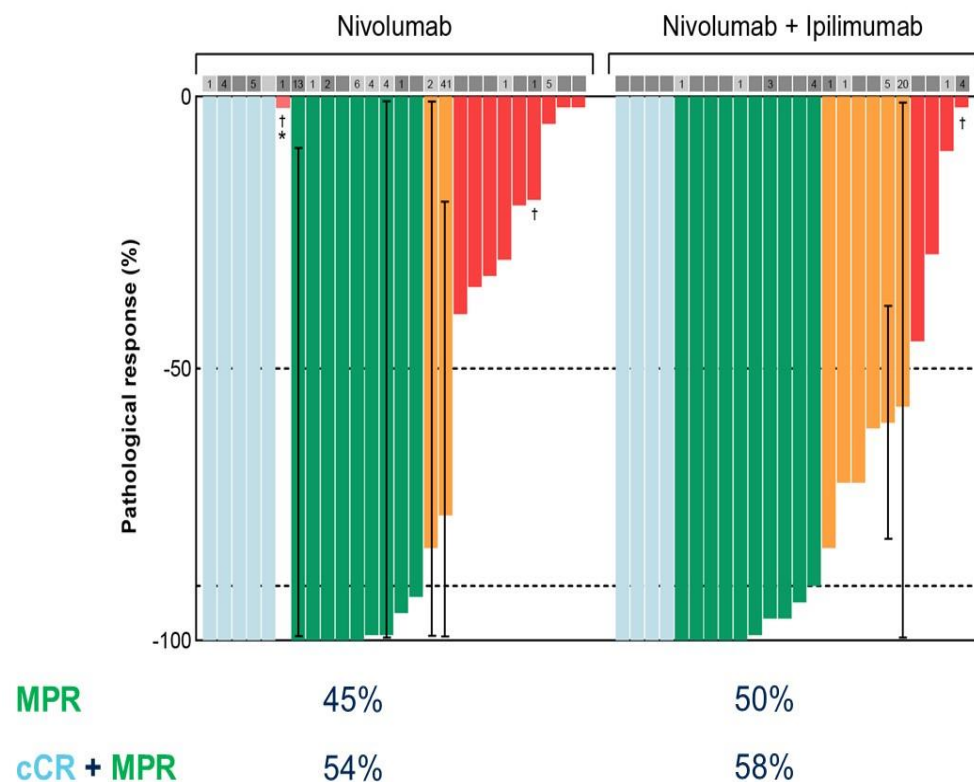


10 patients withdrew consent to surgery w/wo adjuvant RT and were 'not evaluable' according to the primary endpoint of the trial >> accrual of 10 extra patients

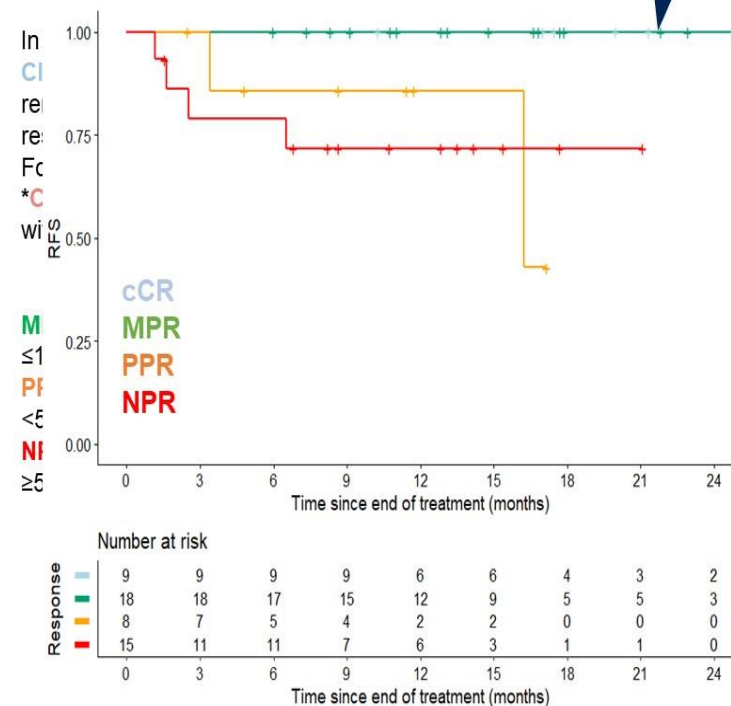
9/10 patients refused surgery w/wo RT as they themselves noticed remission of their cancer upon 2 infusions of immunotherapy only.

ABSTRACT #9507: The MATISSE trial; Zuur *et al.*

≤ 10% viable tumor cells



Recurrence-free survival



Median FU of 13 mo



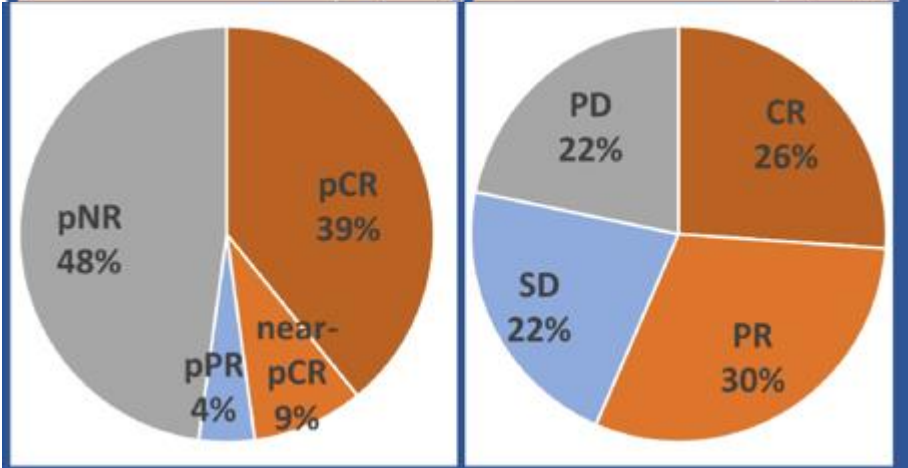
NEO-CESQ study: Neoadjuvant plus Adjuvant Treatment with Cemiplimab in Surgically resectable, High-Risk Stage III/IV (M0) Cutaneous Squamous Cell Carcinoma

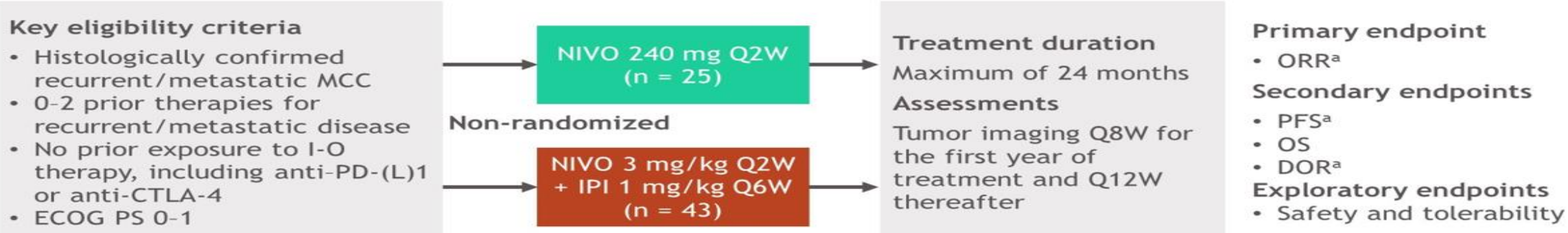
Authors: Paolo Antonio Ascierto¹, Paolo Bossi², Mario Mandala³, Paola Queirolo⁴, Francesco Spagnolo⁵, Franco Bassetto⁶, Vittorio Rampinelli⁷, Francesco Giovacchini⁸, Elisabetta Pennacchioli⁹, Corrado Caracò¹⁰, Giampiero Parrinello¹¹, Domenico Mallardo¹, Diana Giannarelli¹², Claudia Trojaniello¹, Daniela Massi^{13*}, Vanna Chiarion^{14*}

Patient characteristics	N = 25
Median age (years)	82 (range 45-92)
Gender: female/male, n (%)	22/3 (88/12)
Tumor stage at baseline	
Stage III	12 (48)
Stage IV	13 (52)
Sum of diameter target lesions, mm (median, IQR)	36 (15-80)
Neoadjuvant treatment	25 (100)
Adjuvant treatment	17 (68)
ECOG PS 0/1	17 (68) / 8 (32)

Conclusions: Neoadjuvant cemiplimab induced a pathological response in 52% of stage III/IV (M0) cSCC patients with a MPR in 48%. No any G3/G4 AE were observed.

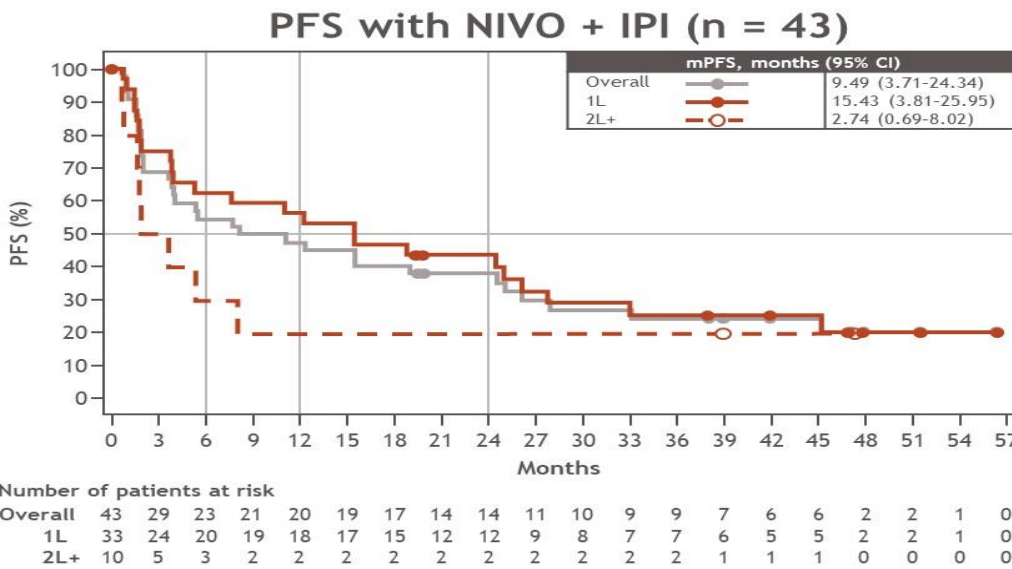
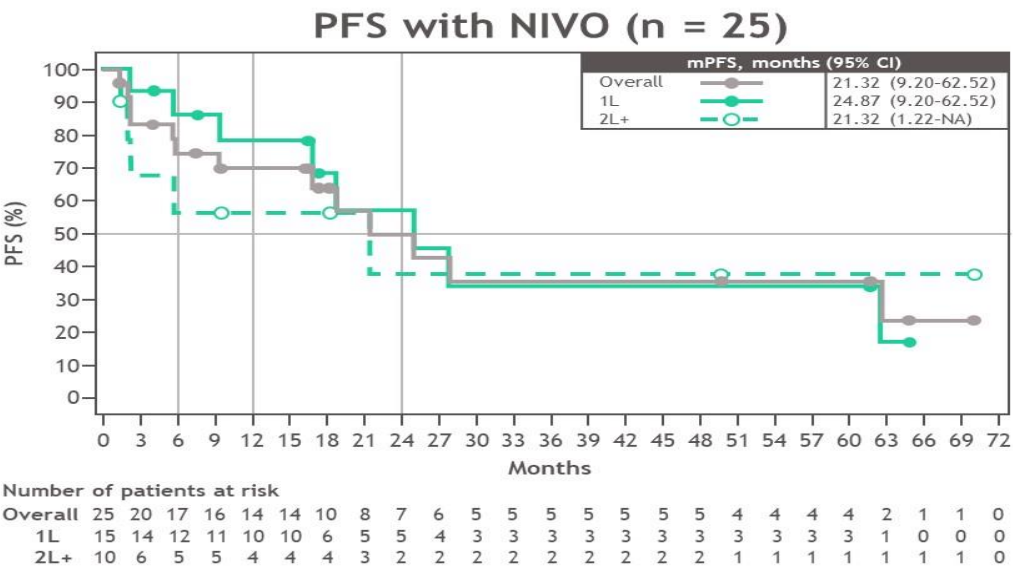
Pathological response, n (%)	N=23	RECIST Response, n (%)	N=23
Any Pathological Response	12 (52%)	Objective Response Rate	13 (56%)
pCR	9 (39%)	CR	6 (26%)
near-pCR	2 (9%)	PR	7 (30%)
pPR	1 (4%)	SD	5 (22%)
pNR	11 (48%)	PD	5 (22%)





Efficacy: investigator-assessed PFS by line of therapy

- In the NIVO cohort, mPFS was similar between patients treated in the 1L and the 2L+ setting
- Although subgroup sizes were limited in the NIVO + IPI cohort, mPFS appeared to be longer in patients treated in the 1L setting than in the 2L+ setting



Efficacy: OS by line of therapy

- Although subgroup sizes were limited in both cohorts, mOS appeared to be longer in patients treated in the 1L setting than in the 2L+ setting

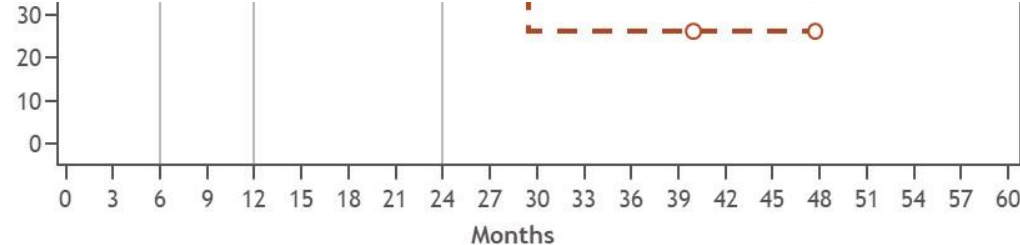
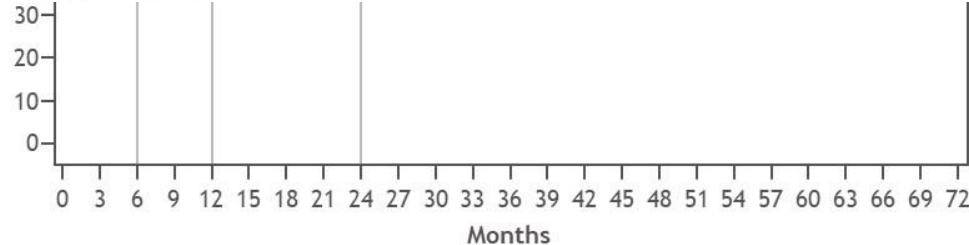
OS with NIVO (n = 25)



OS with NIVO + IPI (n = 43)



- While the non-randomized trial design limits comparisons between cohorts, our results do not suggest additional efficacy (ORR, PFS, OS) with the addition of IPI to NIVO



Number of patients at risk

Overall	25	23	20	20	20	19	19	18	17	17	17	17	17	16	16	15	14	14	14	13	13	12	10	5	0
1L	15	15	15	15	15	14	14	14	13	13	13	13	13	12	12	12	11	11	11	10	10	9	7	3	0
2L+	10	8	5	5	5	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	2	0

Number of patients at risk

Overall	43	36	31	28	26	26	23	23	22	21	19	18	15	15	14	11	6	6	2	2	0
1L	33	29	25	23	22	22	19	19	19	18	17	16	13	13	13	10	6	6	2	2	0
2L+	10	7	6	5	4	4	4	4	3	3	2	2	2	2	1	1	0	0	0	0	0

Database lock: December 13, 2021. Median follow-up (range) was 65.52 months (1.2-70.2) in the NIVO cohort and 24.44 months (0.8-57.3) in the NIVO + IPI cohort. 1L, first line; 2L+ second or later line; IPI, ipilimumab; mOS, median overall survival; NA, not applicable; NIVO, nivolumab; OS, overall survival.

Take away key points

- Adjuvant stage IIB & IIC: confirmed efficacy, select pts with higher risk to improve efficacy
- Neoadjuvant melanoma: we should move on quickly, no debate on the efficacy. Best regimen, duration, de-escalation of S and post-surgery therapy do not justify more delay
- New combinations knocking at the door: Lag3i (relatlimab or Fialnimab) plus PD1i, confirmed activity, efficacy comparable to ipi/nivo and a better safety profile.
- Neoadjuvant in Lad-CuSCC could become a new standard ?
- Neoadjuvant in Merkel carcinoma lights and shadows. Anti PD1 treatment confirms its efficacy in the neoadjuvant setting, no clear benefit from IPI/Nivo, better selection needed