



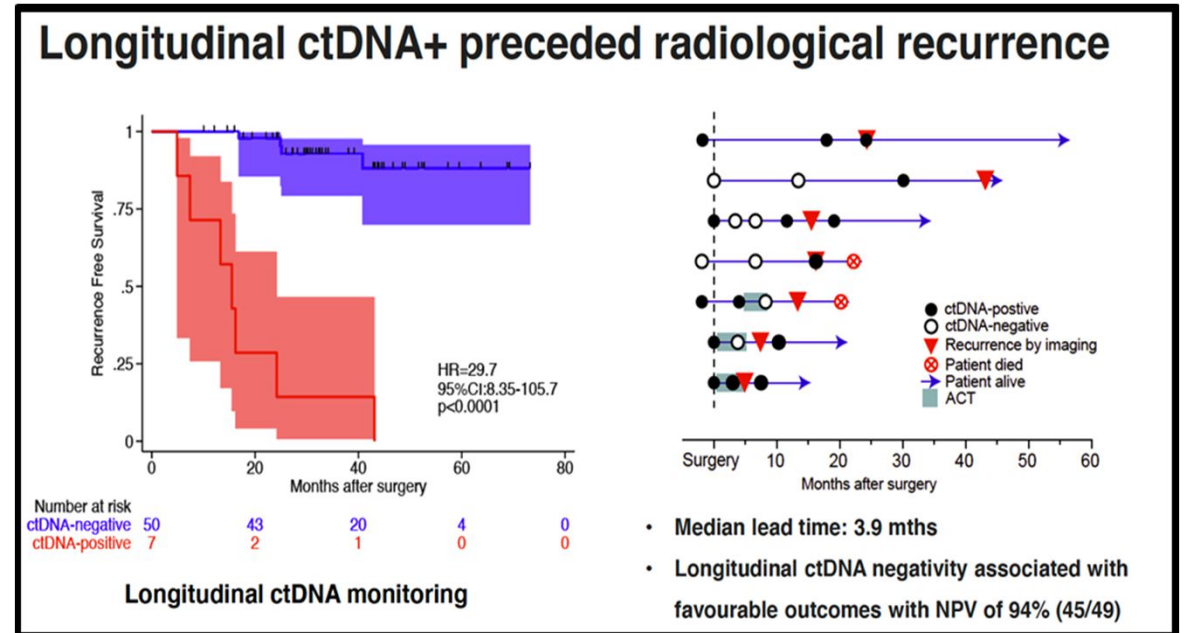
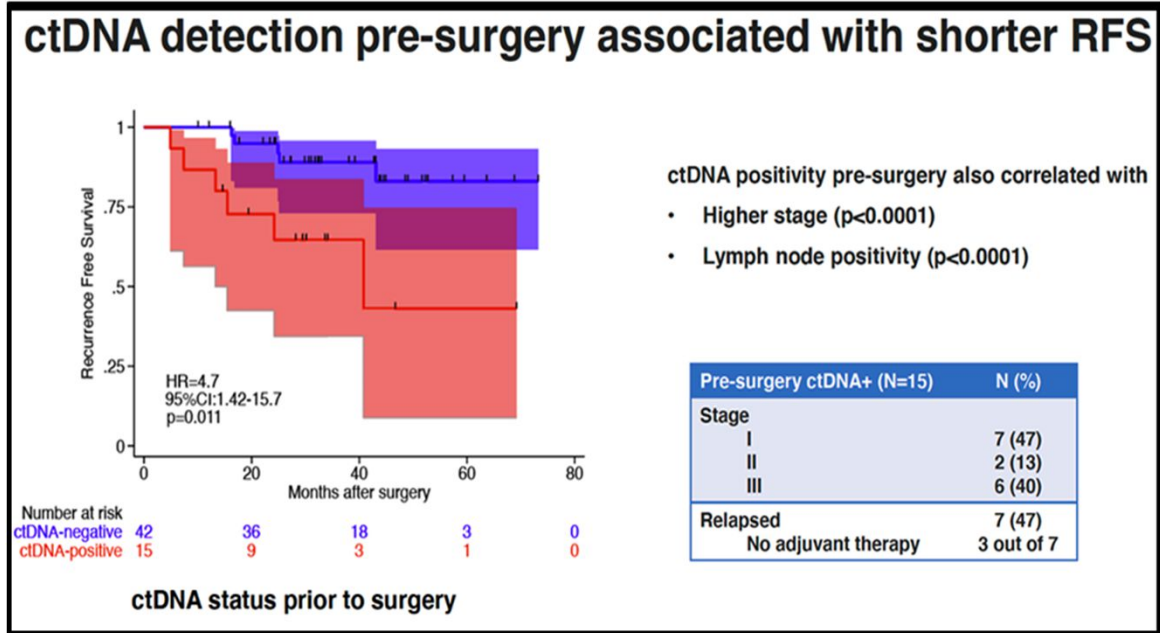
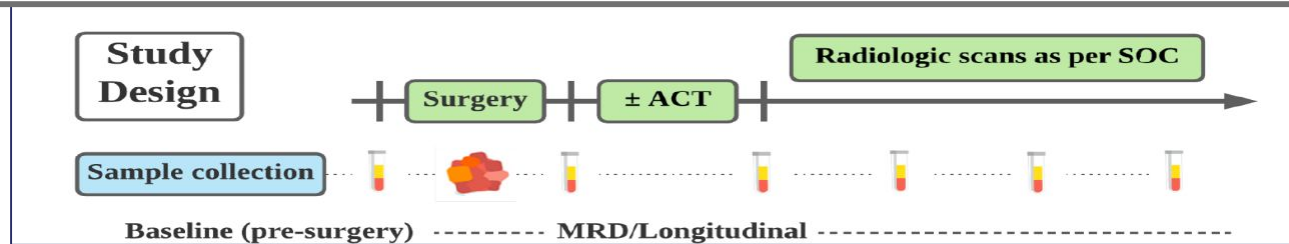
Early & locally advanced NSCLC 2021

J.M. Sánchez Torres
H.U. Princesa, Madrid

Organizado por:



Circulating tumor DNA



In resected early-stage patients:

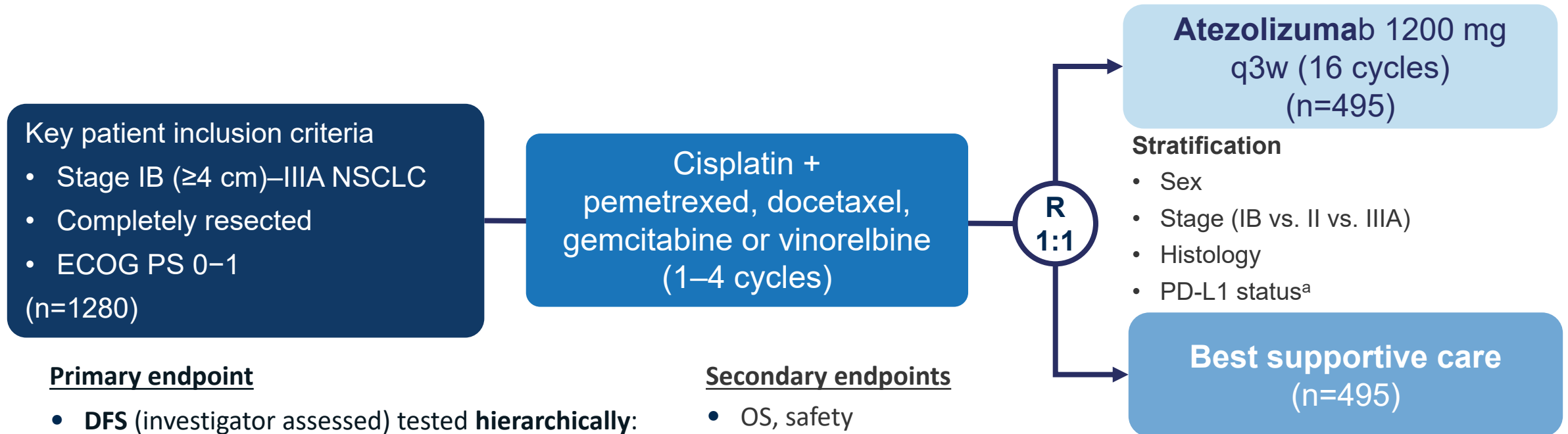
- baseline ctDNA positivity associated with early relapse
- ctDNA detection preceded radiological recurrence

Organizado por:



IMpower010: Phase III global study of atezolizumab versus BSC after adjuvant CT in resected stage IB-IIIA NSCLC (interim analysis)

- **Study objective:** To evaluate the efficacy and safety of atezolizumab after adjuvant chemotherapy in patients with early stage resected NSCLC in IMpower010



Primary endpoint

- **DFS** (investigator assessed) tested **hierarchically**:

- 1º Stage II-III PD-L1 ≥1%
- 2º Stage II-III
- 3º ITT, stage IB-IIA
- 4º OS ITT

Secondary endpoints

- OS, safety

^aTC2/3 and any IC vs. TC0/1 and IC2/3 vs. TC0/1 and IC0/1

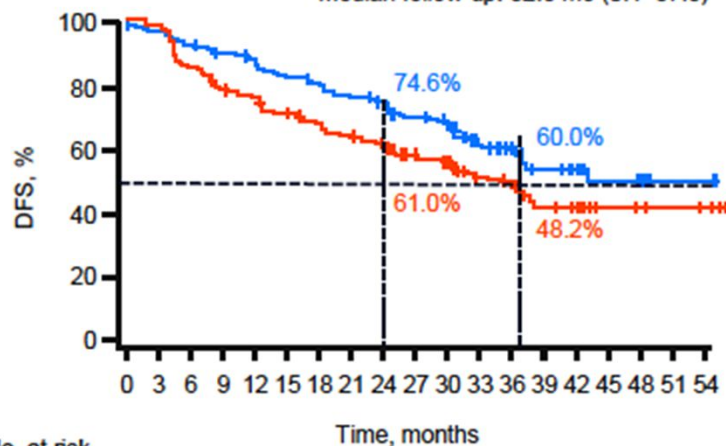
IMpower010: Phase III global study of atezolizumab versus BSC after adjuvant CT in resected stage IB-IIIA NSCLC (interim analysis)

Disease-free survival

PD-L1 $\geq 1\%$
stage II-IIIa population

	Atezolizumab (n=248)	BSC (n=228)
mDFS, mo (95%CI)	NE (36.1, NE)	35.3 (29.0, NE)
Stratified HR (95%CI)	0.66 (0.50, 0.88)	
p-value	0.004	

Median follow-up: 32.8 mo (0.1-57.5)



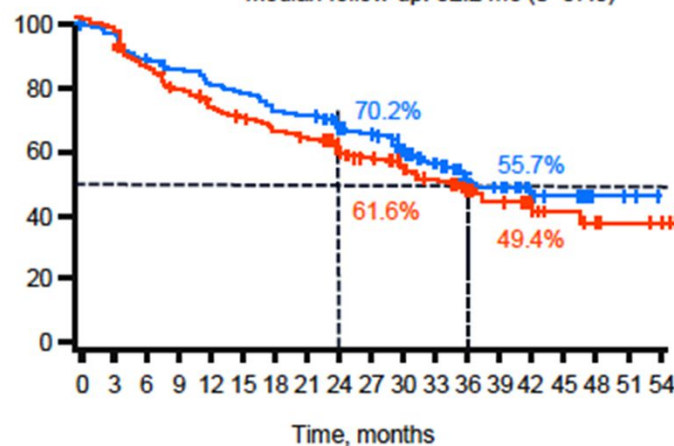
No. at risk

Time (months)	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54
Atezo	248	235	225	217	208	198	190	181	159	134	111	78	54	31	22	12	8	3	3
BSC	228	212	186	169	160	151	142	135	117	97	80	59	38	21	14	7	6	4	3

All-randomized
stage II-IIIa population

	Atezolizumab (n=442)	BSC (n=440)
mDFS, mo (95%CI)	42.3 (36.0, NE)	35.3 (30.4, 46.4)
Stratified HR (95%CI)	0.79 (0.64, 0.96)	
p-value	0.02	

Median follow-up: 32.2 mo (0-57.5)

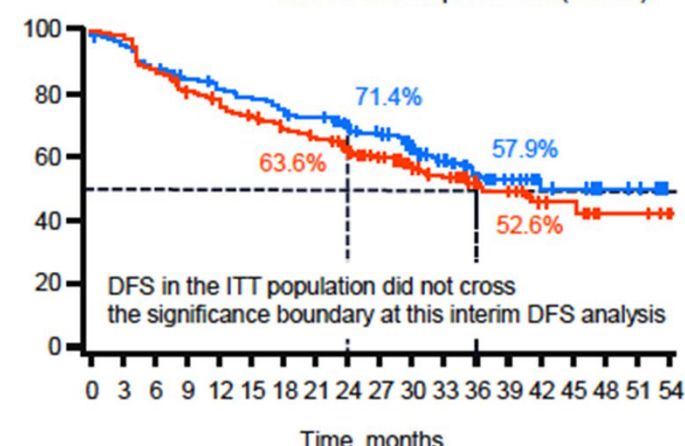


Time (months)	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54
Atezo	442	418	384	367	352	337	319	305	269	225	185	120	84	48	34	16	11	5	3
BSC	440	412	366	331	314	292	277	263	230	182	146	102	71	35	22	10	8	4	3

ITT population
stage IB-IIIa population

	Atezolizumab (n=507)	BSC (n=498)
mDFS, mo (95%CI)	NE (36.1, NE)	37.2 (31.6, NE)
Stratified HR (95%CI)	0.81 (0.67, 0.99)	
p-value	0.04	

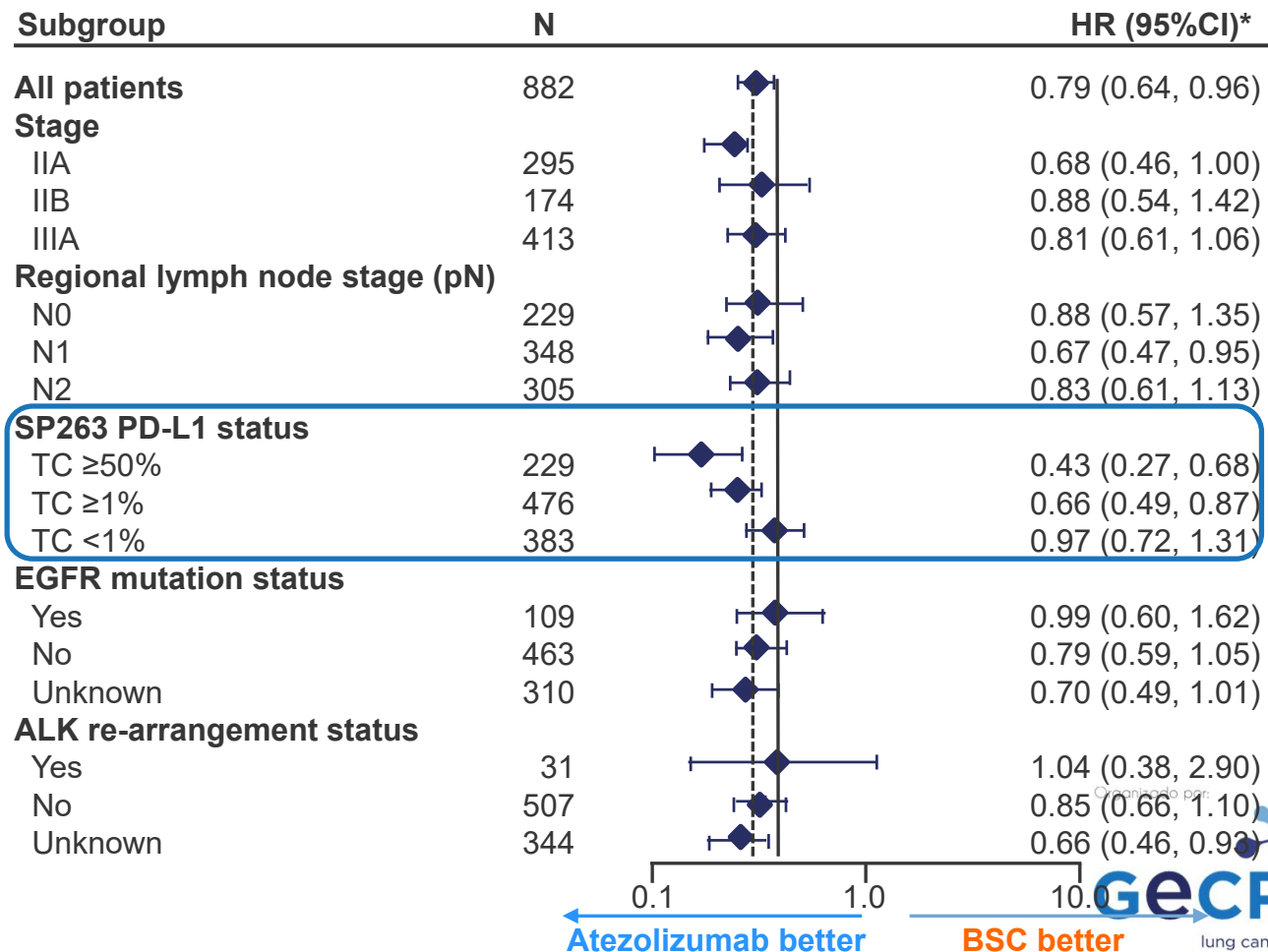
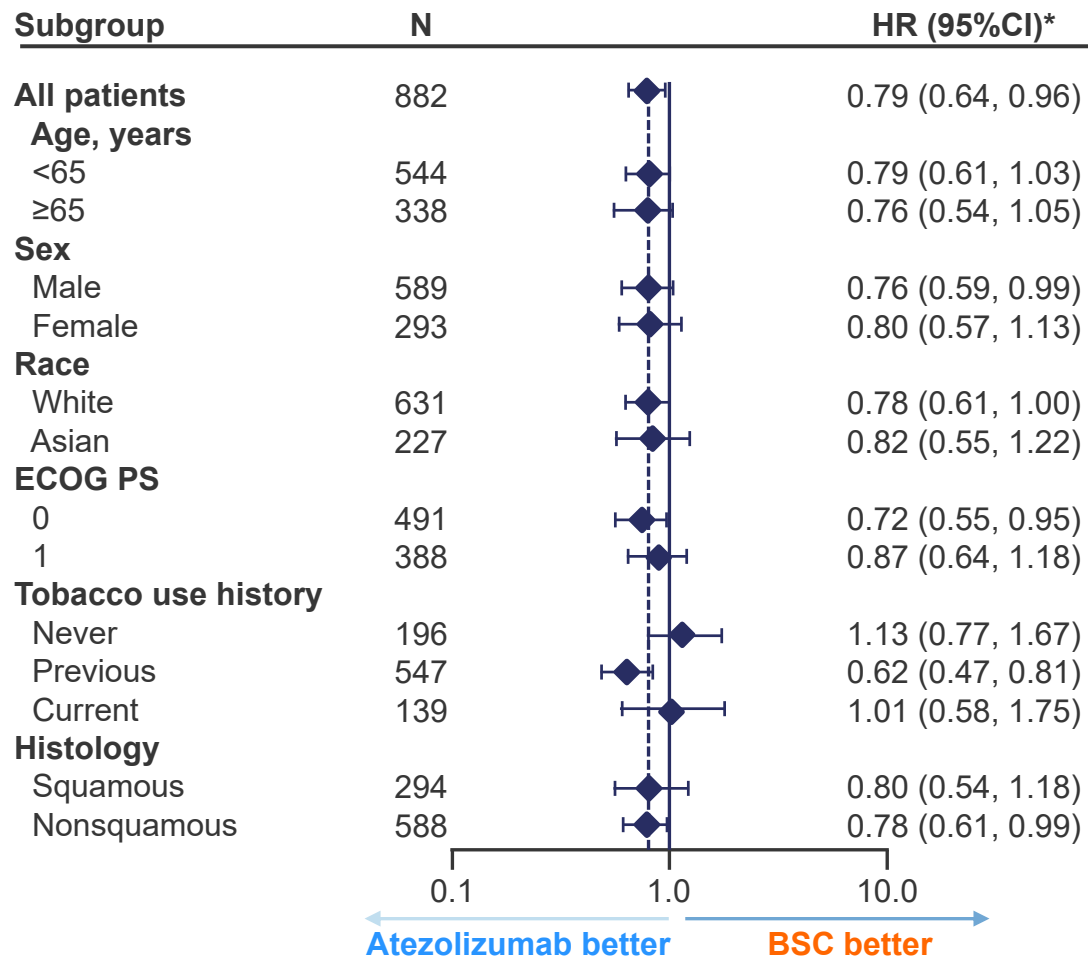
Median follow-up: 32.2 mo (0-58.8)



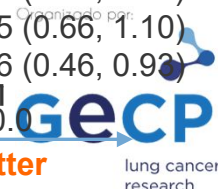
Time (months)	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54
Atezo	507	478	437	418	403	387	367	353	308	257	212	139	97	53	38	19	14	8	4
BSC	498	467	418	383	365	342	324	309	269	219	173	122	90	46	30	13	10	5	4

IMpower010: Phase III global study of atezolizumab versus BSC after adjuvant CT in resected stage IB-IIIA NSCLC (interim analysis)

Disease-free survival in all-randomized stage II–IIIA population subgroups

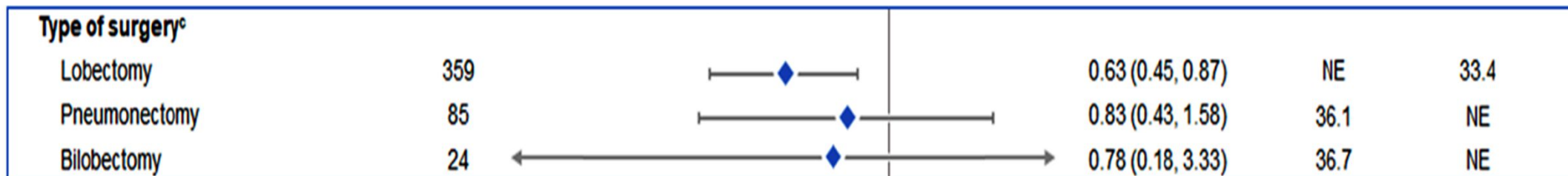


Cut-off date: Jan 21, 2021. *Stratified for all patients, unstratified for all other subgroups

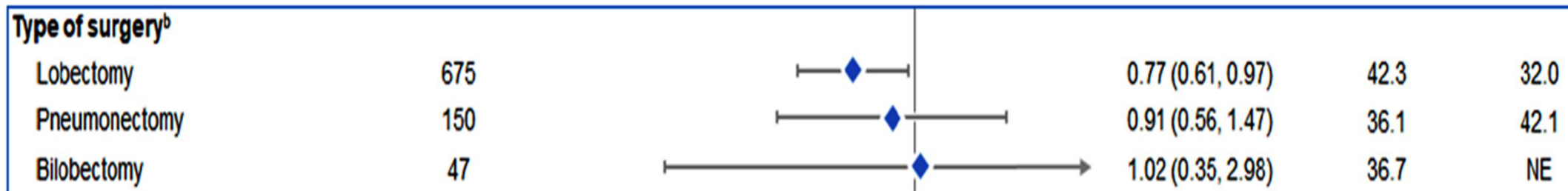


IMpower010: Phase III global study of atezolizumab versus BSC after adjuvant CT in resected stage IB-IIIA NSCLC (interim analysis)

PD-L1 TC ≥1%
stage II-III A



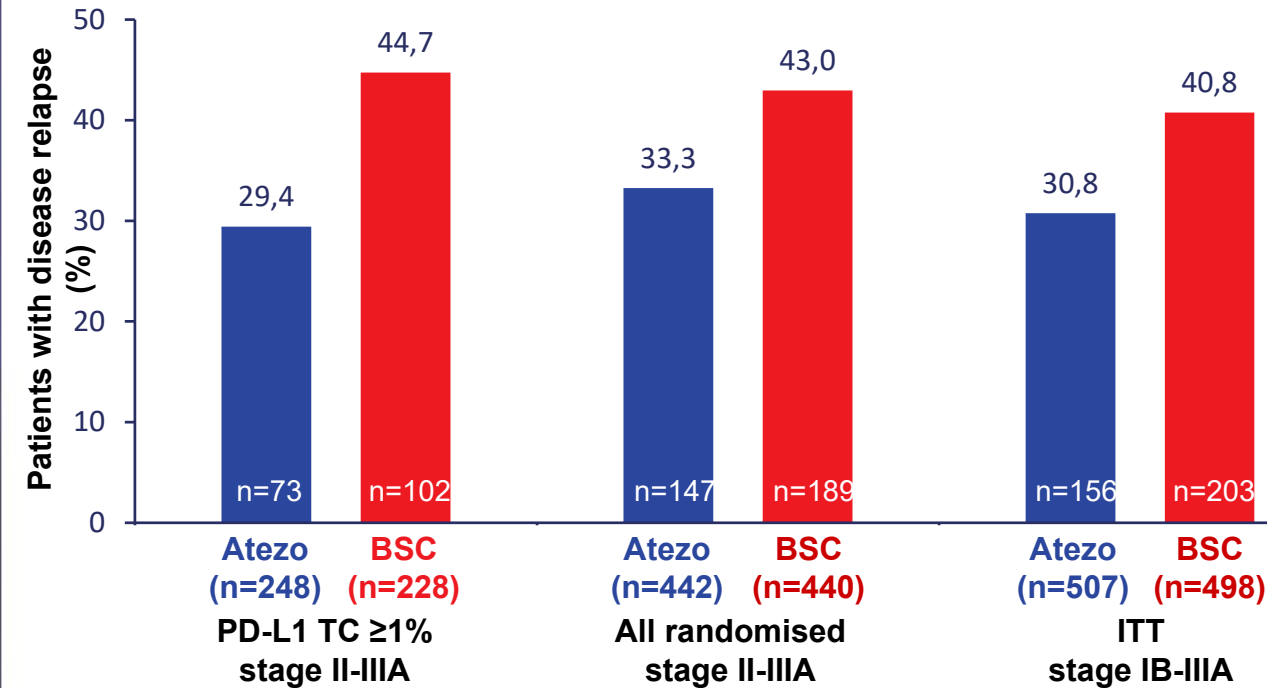
All randomized
stage II-III A



Organizado por:



IMpower010: Relapse patterns



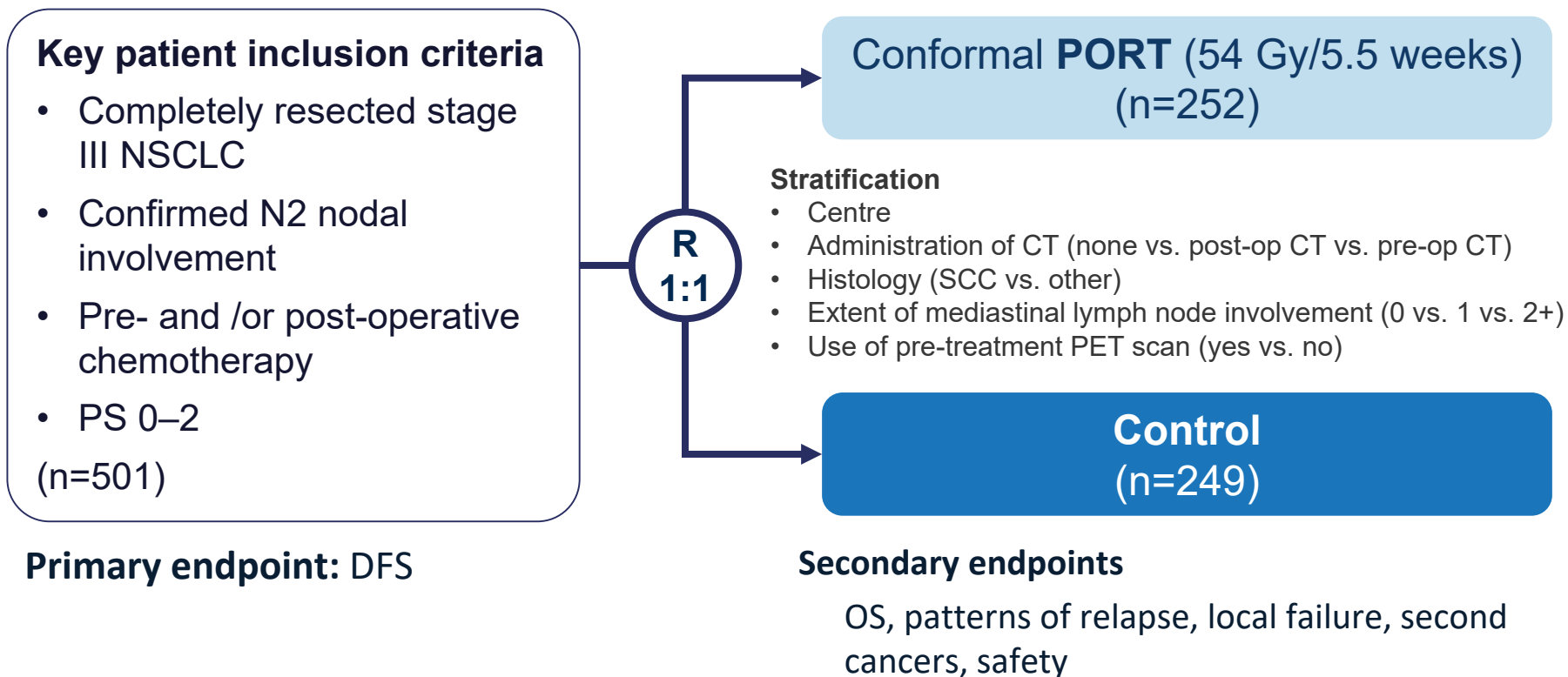
Site of relapse, n (%)	Atezolizumab (n=156)	BSC (n=203)
Locoregional only^a	59 (37.8)	75 (36.9)
Distant only^b	67 (42.9)	82 (40.4)
CNS	16 (10.3)	29 (14.3)
Bone/bone marrow	14 (9.0)	14 (6.9)
Contralateral lung	10 (6.4)	16 (7.9)
Liver	10 (6.4)	8 (3.9)
Lymph node	8 (5.1)	11 (5.4)
Ipsilateral lung	6 (3.8)	8 (3.9)
Subcutaneous tissue	1 (0.6)	2 (1.0)
Other	16 (10.3)	15 (7.4)
Locoregional and distant	27 (17.3)	38 (18.7)
Bone/bone marrow	11 (7.1)	8 (3.9%)
Contralateral lung	7 (4.5)	10 (4.9)
Liver	6 (3.8)	4 (2.0)
Lymph node	5 (3.2)	9 (4.4)
Ipsilateral lung	5 (3.2)	1 (0.5)
CNS	3 (1.9)	6 (3.0)
Subcutaneous tissue	1 (0.6)	0
Other	6 (3.8)	13 (6.4)

Organizado por:



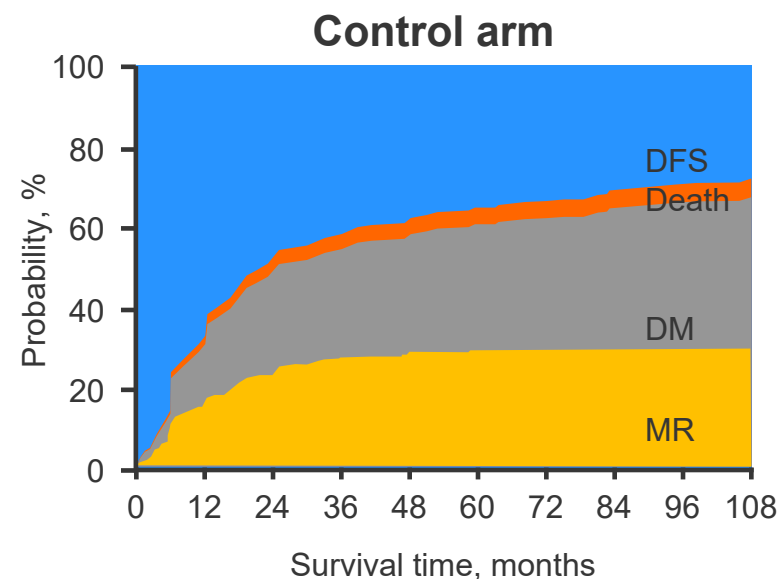
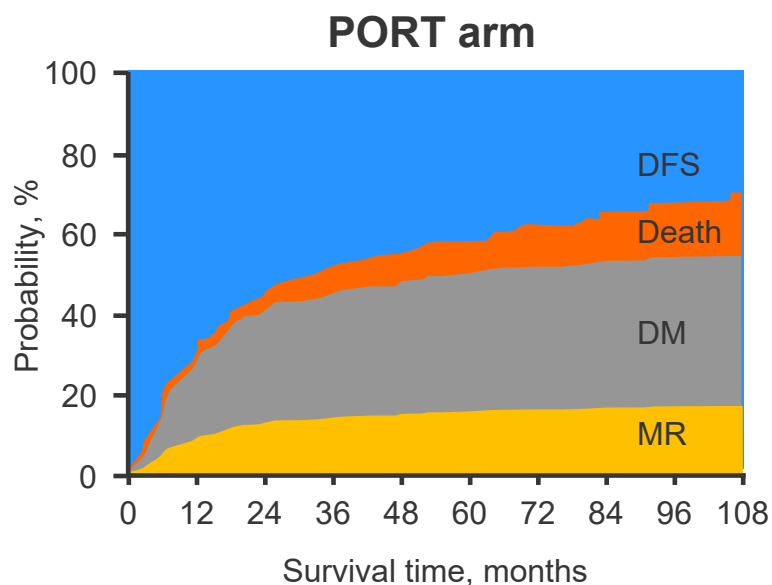
Lung ART: Phase 3 randomized trial, comparing post-operative conformal radiotherapy (PORT) to no PORT, in patients with completely resected NSCLC and mediastinal N2 involvement

- **Study objective:** To investigate the survival benefit of post-operative radiotherapy in patients with mediastinal lymph node-positive NSCLC in the Lung ART study



Lung ART: Phase 3 randomized trial, comparing post-operative conformal radiotherapy (PORT) to no PORT, in patients with completely resected NSCLC and mediastinal N2 involvement

Primary analysis



3-year DFS:
47.1% vs 43.8%, HR 0.86

Grade 3-4 AEs:
23.7% vs 15.0%

Event, n (%)	PORT (n=144)	Control (n=152)	Total (n=296)	HR (95%CI) ^a
Mediastinal relapse (MR)	36 (25)	70 (46)	106 (36)	0.45 (0.30, 0.69)
All distant metastases (DM)	87 (60)	74 (49)	161 (54)	1.17 (0.86, 1.60)
Including brain metastases (BM)	34 (24)	27 (18)	61 (21)	1.33 (0.78, 2.26)
Death	21 (15)	8 (5)	29 (10)	2.63 (1.18, 5.84)

^aFine-Gray sub-distribution hazard model

Lung ART: An international randomized trial, comparing post-operative conformal radiotherapy (PORT) to no PORT, in patients with completely resected NSCLC and mediastinal N2 involvement

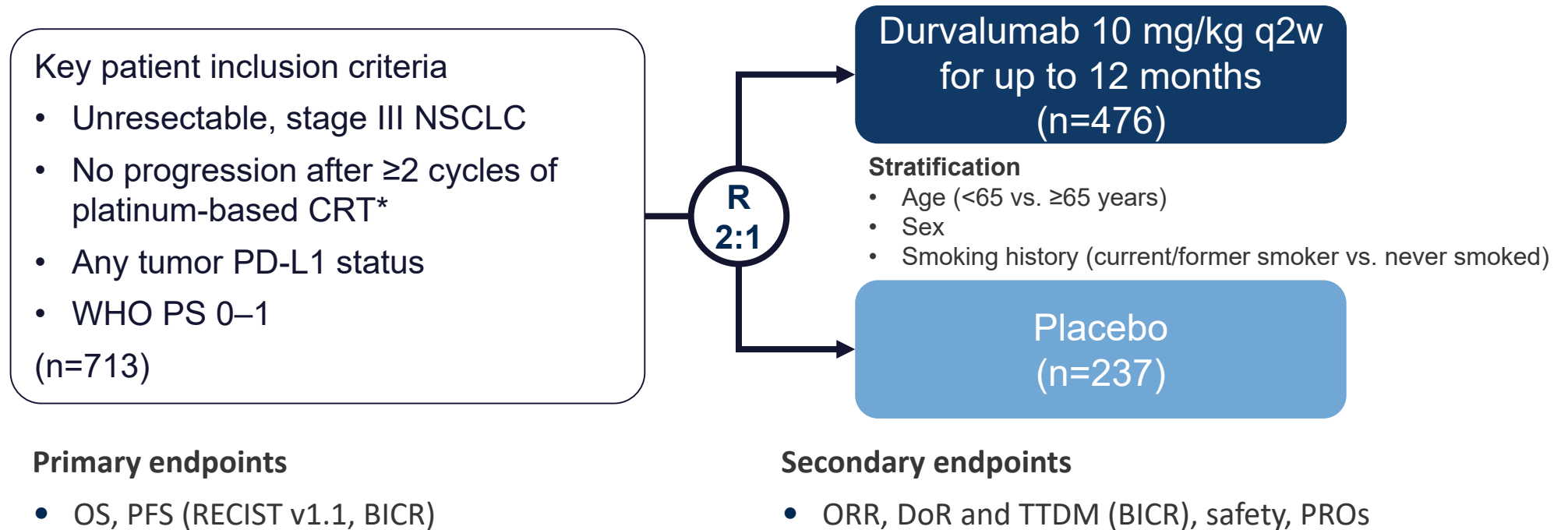
Prognostic factors for DFS	HR	p-value
Treatment arm radiotherapy (vs. control)	0.89	0.33
Gender female (vs. male)	0.73	0.02
Histology squamous cell carcinoma (vs. other)	0.71	0.03
N2 involvement with N1 involvement (left or right) (vs. without)	1.50	<0.01
Number of mediastinal nodes stations involved (vs. 1)		0.01
None	0.99	
≥2	1.46	
Quality of resection (vs. R0)		<0.001
R (uncertain)	1.29	
R1 (extra-capsular extension)	1.31	
R2 ^a	1.95	

- In patients with completely resected NSCLC and mediastinal N2 involvement, use of post-operative radiotherapy reduced the risk of mediastinal recurrence, but had no significant impact on survival rate
- Prognostic factors associated with different DFS included quality of resection, extent of mediastinal involvement and lymph node ratio (involved/explored)

^bTwo patients should not have been included

Five-year survival outcomes with durvalumab after chemoradiotherapy in unresectable stage III NSCLC: An update from the PACIFIC trial

- **Study objective:** To evaluate the longer term efficacy and safety of durvalumab in patients with unresectable stage III NSCLC in PACIFIC



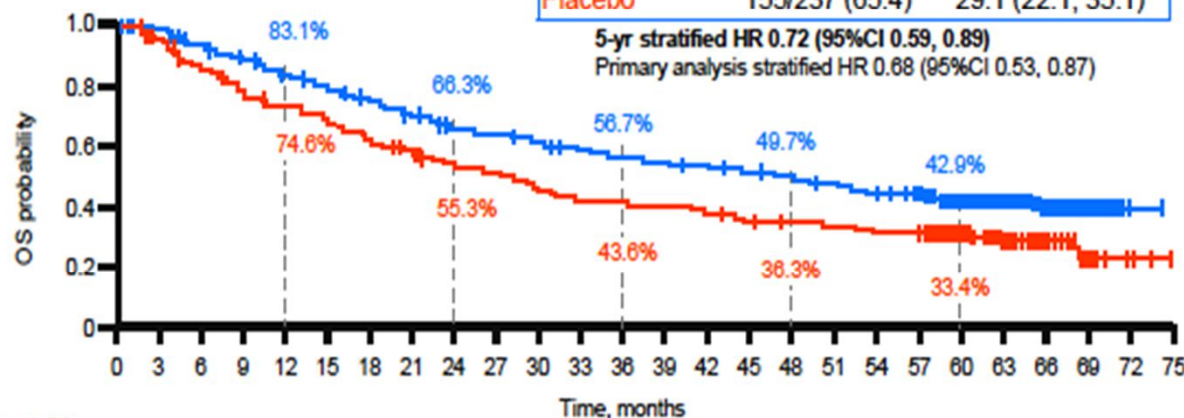
*60–66 Gy in 30–33 fractions

Five-year survival outcomes with durvalumab after chemoradiotherapy in unresectable stage III NSCLC: An update from the PACIFIC trial

Overall survival

	No. events/total patients, %	mOS, mo (95%CI)
Durvalumab	264/476 (55.5)	47.5 (38.1, 52.9)
Placebo	155/237 (65.4)	29.1 (22.1, 35.1)

5-yr stratified HR 0.72 (95%CI 0.59, 0.89)
 Primary analysis stratified HR 0.68 (95%CI 0.53, 0.87)

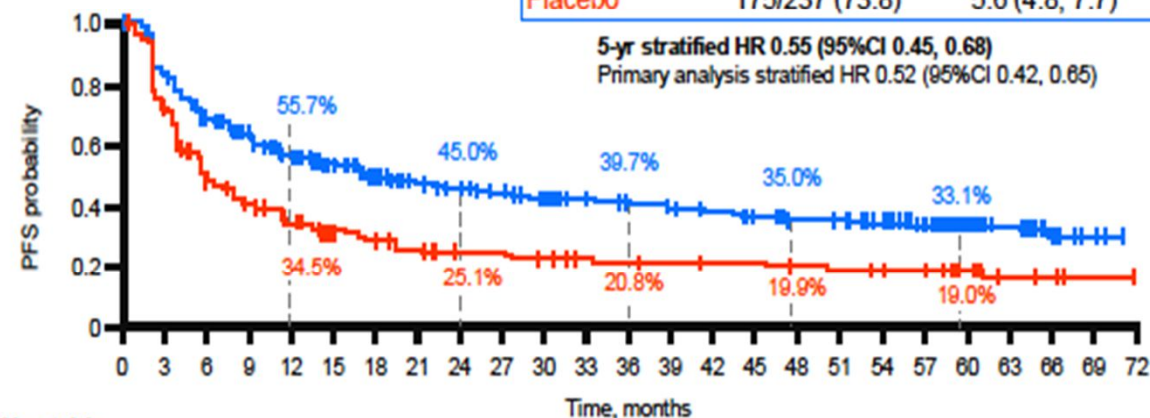


No. at risk	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75
Durvalumab	476	464	431	414	385	364	343	319	298	289	273	264	252	241	236	227	218	207	196	183	134	91	40	18	2	0
Placebo	237	220	199	179	171	156	143	133	123	116	107	99	97	93	91	83	78	77	74	72	56	33	16	7	2	0

Progression-free survival

	No. events/total patients, %	mPFS, mo (95%CI)
Durvalumab	268/476 (56.3)	16.9 (13.0, 23.9)
Placebo	175/237 (73.8)	5.6 (4.8, 7.7)

5-yr stratified HR 0.55 (95%CI 0.45, 0.68)
 Primary analysis stratified HR 0.52 (95%CI 0.42, 0.65)

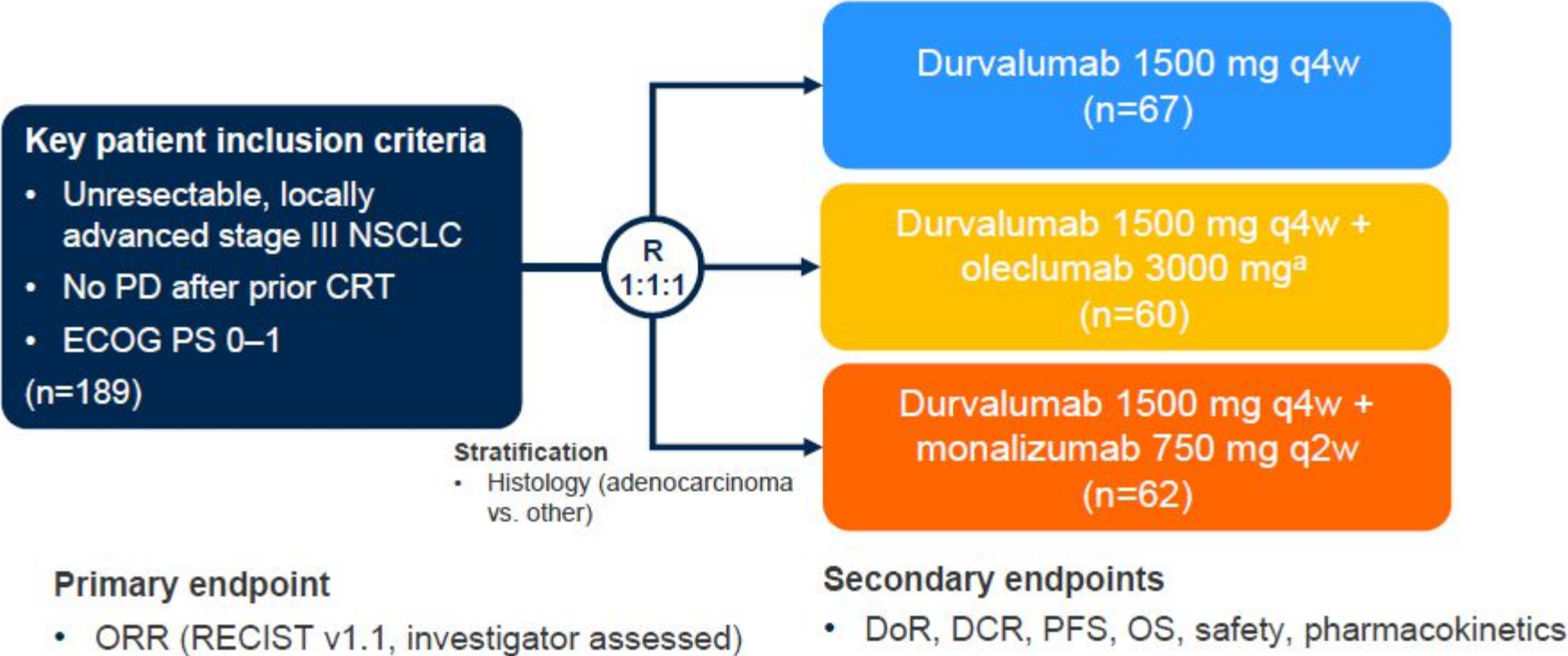


No. at risk	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75
Durvalumab	476	377	301	267	215	190	165	147	137	128	119	110	103	97	92	85	81	78	67	57	34	22	11	5	0	
Placebo	237	164	105	87	68	56	48	41	37	36	30	27	26	25	24	24	22	21	19	19	14	6	4	1	0	

Organizado por:



COAST: an open-label, randomised, phase 2 platform study of durvalumab alone or in combination with novel agents in patients with locally advanced, unresectable, stage III NSCLC

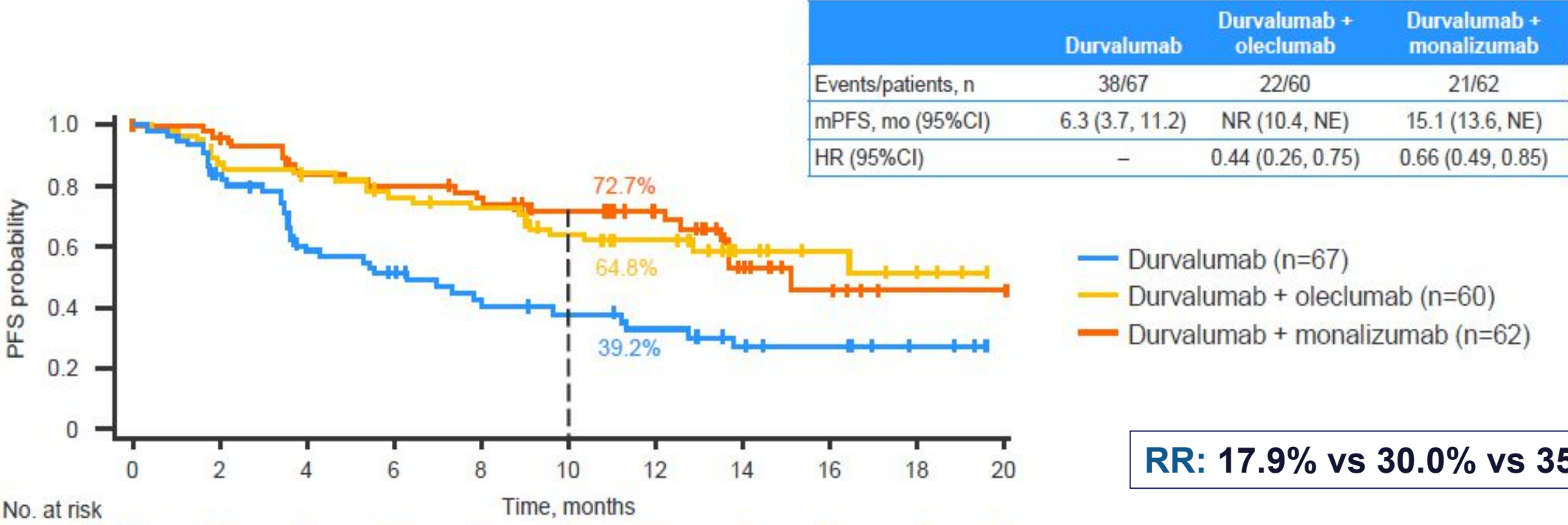


^aOleclumab q2w for cycle 1 or 2, then q4w starting cycle 3

COAST: an open-label, randomised, phase 2 platform study of durvalumab alone or in combination with novel agents in patients with locally advanced, unresectable, stage III NSCLC

(Interim analysis; ITT population)

PFS by investigator assessment

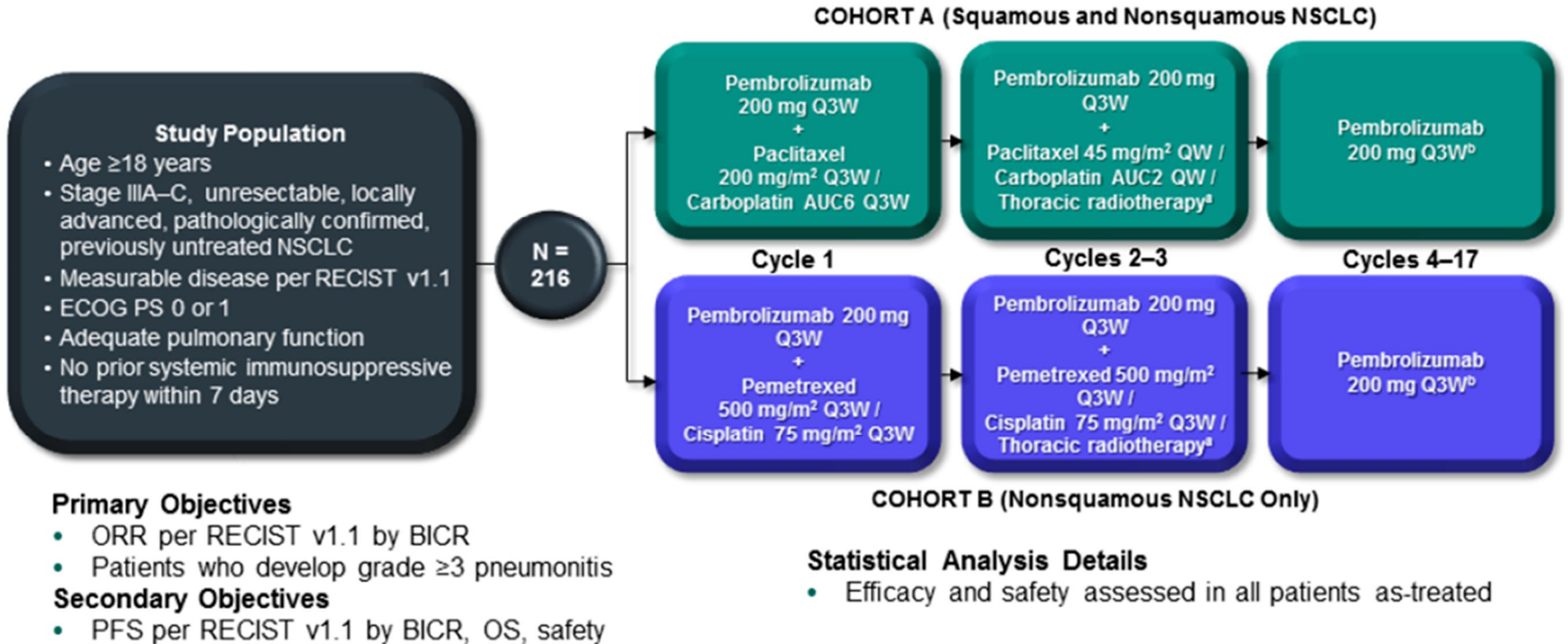


RR: 17.9% vs 30.0% vs 35.5%

In patients with stage III NSCLC, combined immunomodulation therapy including durvalumab provided additional ORR and PFS benefit over durvalumab monotherapy, with no new safety signals reported



KEYNOTE-799: Phase 2 trial, nonrandomized, open-label of Pembrolizumab plus platinum CT and RT for unresectable, LA, stage III NSCLC

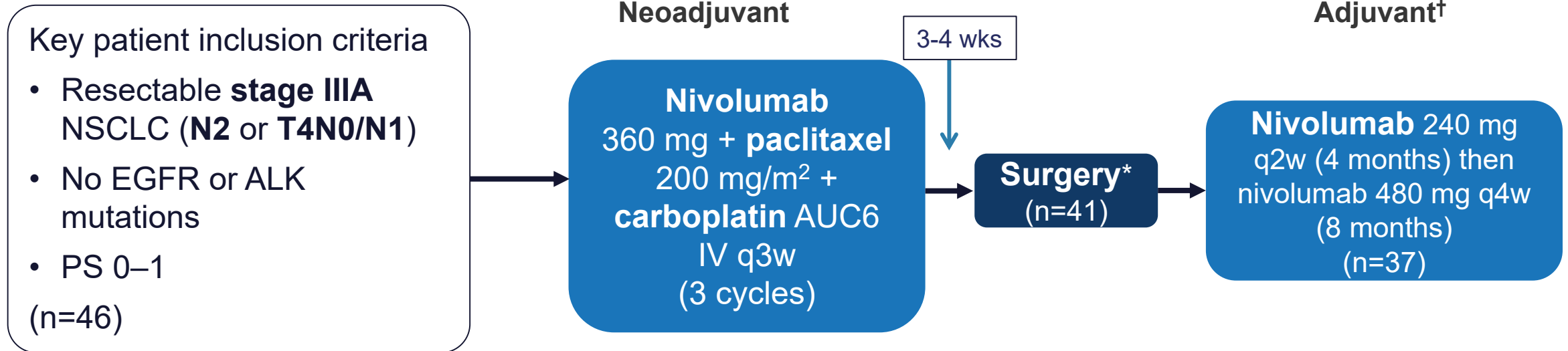


KEYNOTE-799: Phase 2 trial, nonrandomized, open-label of Pembrolizumab plus platinum CT and RT for unresectable, LA stage III NSCLC

Total Population	Cohort A (Squamous and Nonsquamous) n = 112		Cohort B (Nonsquamous) n = 102	
	ORR, % (95% CI)	70.5 (61.2–78.8)		70.6 (60.7–79.2)
CR	4 (3.6)		5 (4.9)	
PR	75 (67.0)		67 (65.7)	
SD	20 (17.9)		23 (22.5)	
PD	1 (0.9)		0	
Not evaluable ^a /No assessment ^b	2 (1.8) / 10 (8.9)		0 / 7 (6.9)	
DOR, median (range), ^c mo	NR (1.7+ to 19.7+)		NR (1.8+ to 21.4+)	
DOR ≥12 mo, ^c %	79.7		75.6	
PFS, ^c median (95% CI), mo	NR (16.6–NR)		NR (NR–NR)	
12-mo PFS rate, %	67.1		71.6	
OS, ^c median (95% CI), mo	NR (NR–NR)		NR (21.9–NR)	
12-mo OS rate, %	81.3		87.0	
PD-L1 Status	TPS <1% (n = 21)	TPS ≥1% (n = 66)	TPS <1% (n = 28)	TPS ≥1% (n = 40)
ORR, n (%)	14 (66.7)	50 (75.8)	20 (71.4)	29 (72.5)
Histology	Nonsquamous (n = 39)	Squamous (n = 73)	Nonsquamous (n = 102)	Squamous (n = 0)
ORR, n (%)	27 (69.2)	52 (71.2)	72 (70.6)	NA

Phase 2 NADIM Study: Neoadjuvant Nivolumab + CT

- **Study objective:** To investigate the **efficacy** and **safety** of neoadjuvant nivolumab + paclitaxel-carboplatin followed by adjuvant nivolumab in patients with stage **IIIA** NSCLC



Primary endpoint

- 24-month PFS

Secondary endpoints

- OS, ORR, OS, TTP, cPR, MPR, downstaging rate, safety

Exploratory endpoints

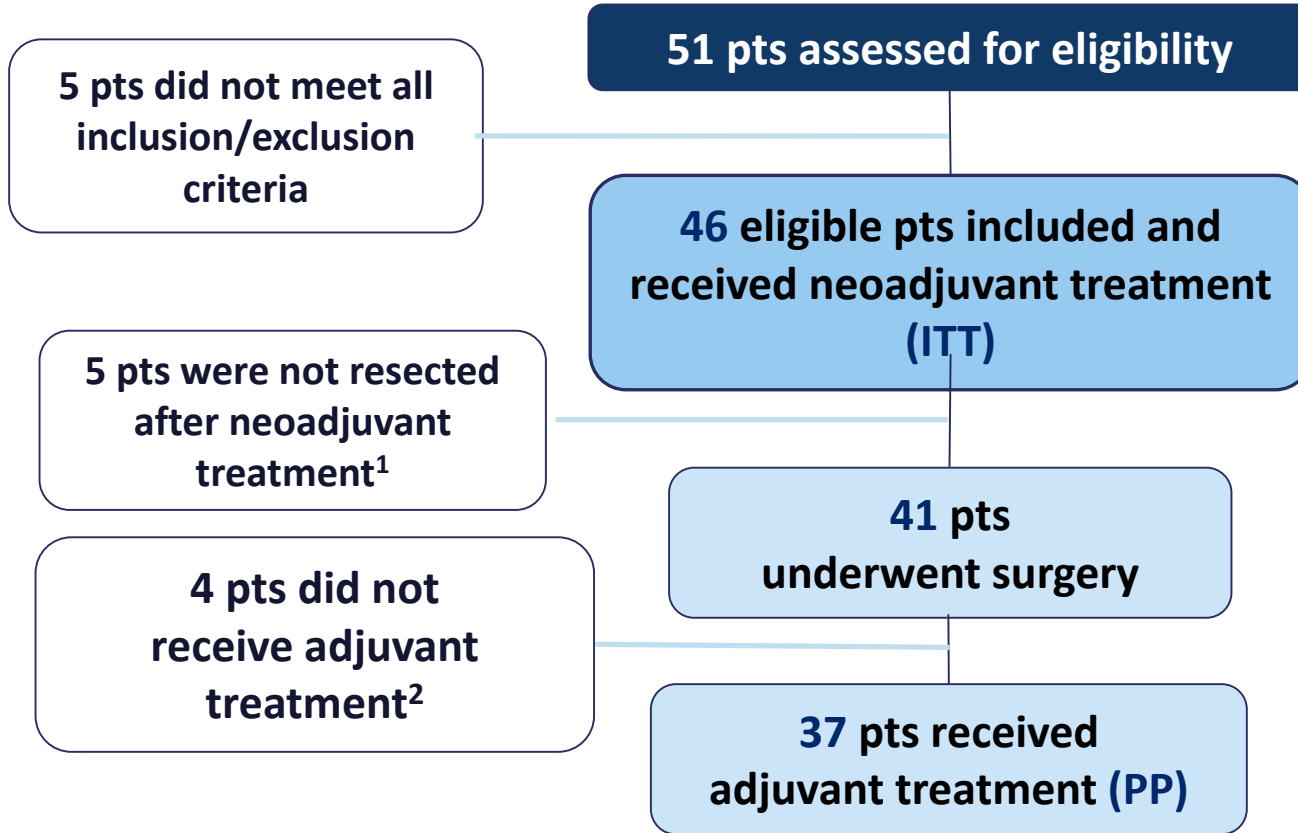
- Translational biomarkers, PD-L1, TMB, TILs, ctDNA

*In weeks 3 or 4 from D21 of cycle 3;

†within 3–8 weeks after surgical resection

Phase 2 NADIM Study

Patient Disposition



¹ Two patients were not resected due to their own decision, 3 patients did not fulfill resectability criteria according to the surgeons' opinion

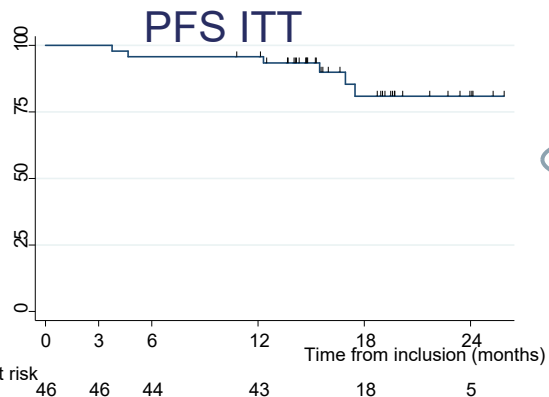
² Three patients did not receive adjuvant treatment due to toxicity, 1 patient exceeded the time per protocol to start adjuvant treatment

Patient baseline characteristics	N=46 (ITT)
Age (median, range)	63(41-77)
Male, N (%)	34 (74 %)
ECOG PS	
0 N (%)	25 (54%)
1 N (%)	21 (46%)
Smoking status, N (%)	
Former/current	46 (100%)
Adenocarcinoma, N (%)	28 (61)
Co-morbidities, N (%)	43 (93,5)
N2	33 (89.2)
Multiple station	25 (75.8)

Phase 2 NADIM Study: Results

Response	n=41 (89%)
ORR, n (%)	35 (76)
CR	2 (4)
PR	33 (72)
SD	11 (24)
Pathological response, n (%) [95%CI]	
MPR	34 (83) [68, 93]
CR	24 (63) [62, 91]
>10% residual viable tumour	7 (17) [7, 32]

Surgery	N=41 (%)
Lobectomy	38 (92.7)
Pneumonectomy	3 (7.3)
R0 resection	41 (100)

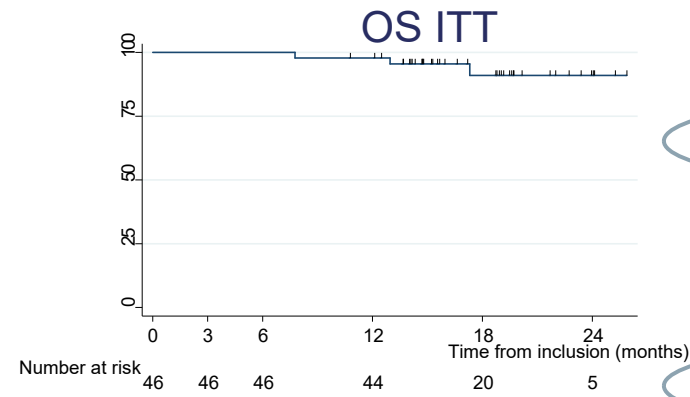


PFS ITT population:

12-month PFS: 96%
 24-month PFS: 77%
36-month PFS: 69.6%

PFS PP population:

PFS at 12 mo.: 100%
 PFS at 24 mo.: 87.9%
PFS at 36 mo.: 81.1%



OS ITT population

12-month OS: 98%
 24-month OS: 89.9%
36-month OS: 81.9%

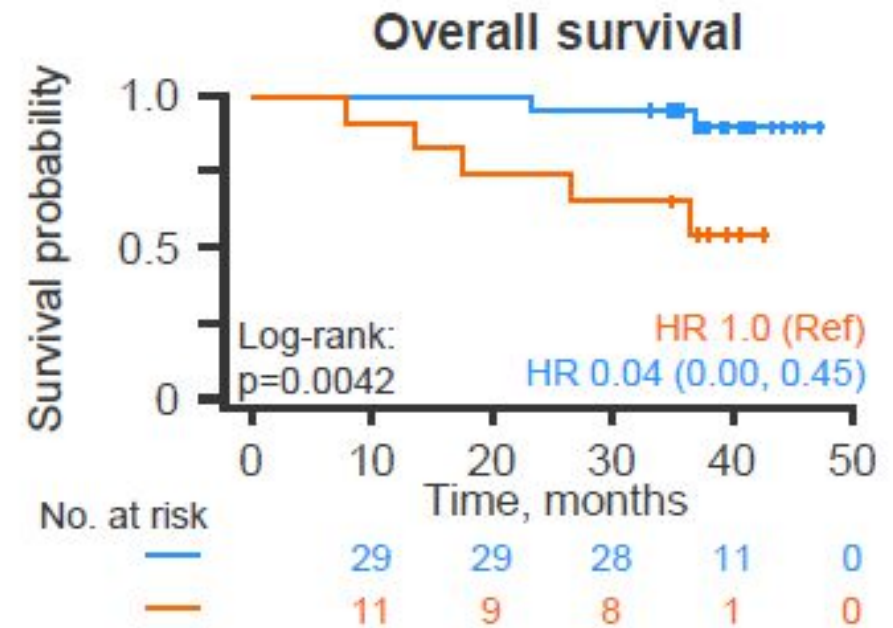
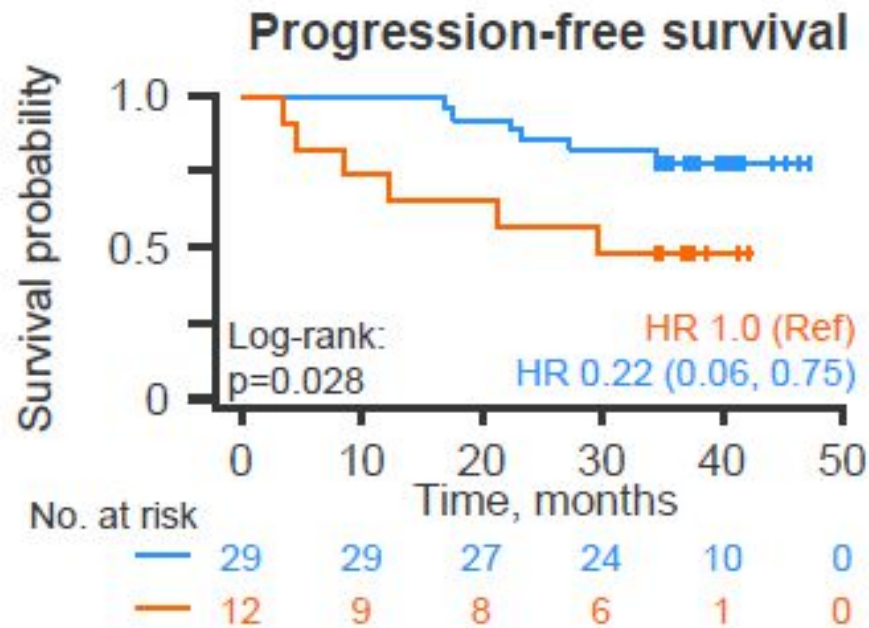
OS PP population:

OS at 12 mo.: 100%
 OS at 24 mo.: 97.3%
OS at 36 mo.: 91.0%



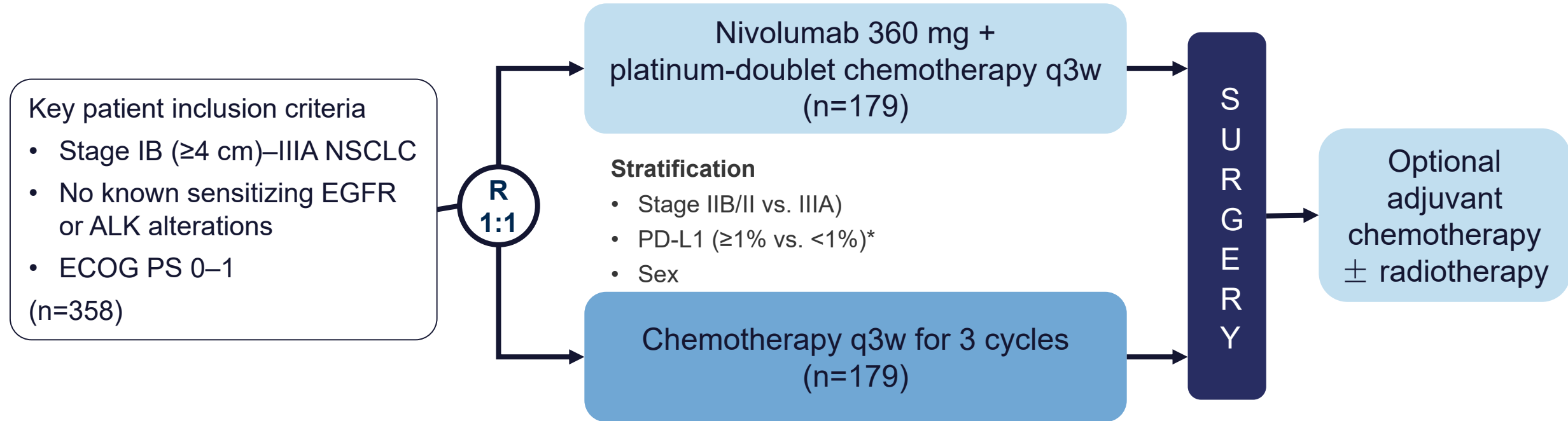
Pre-treatment levels of DNA for long-term survival prediction in stage IIIA NSCLC treated with neoadjuvant chemo-immunotherapy (NADIM)

Pre-treatment ctCNA levels



- Pre-treatment ctDNA analysis appears to be able to determine which patients are likely to be at a higher risk of progression
- Neither tumor cell PD-L1 nor TMB assessment were associated with survival outcome

Phase 3 CheckMate 816 trial: Nivolumab + platinum-doublet CT vs CT alone as neoadjuvant treatment for patients with resectable NSCLC



Primary endpoints

- pCR (0% viable tumor cells in lung and lymph nodes),
- EFS by BICR

Secondary endpoints

- MPR, OS, Time To Death or distant metastases, safety

Exploratory endpoints

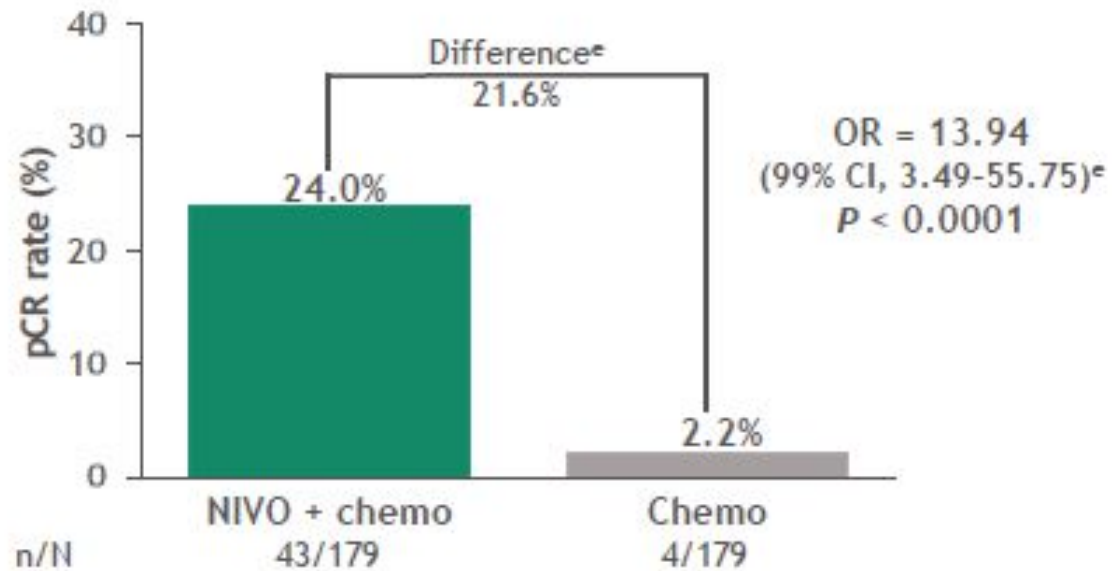
- ORR by BICR
- Predictive biomarkers (PD-L1, TMB, ctDNA)

*Determined using IHC 28-8 pharmDx assay

CheckMate 816:

pCR (primary endpoint) and MPR with neoadjuvant Nivo + CT vs CT

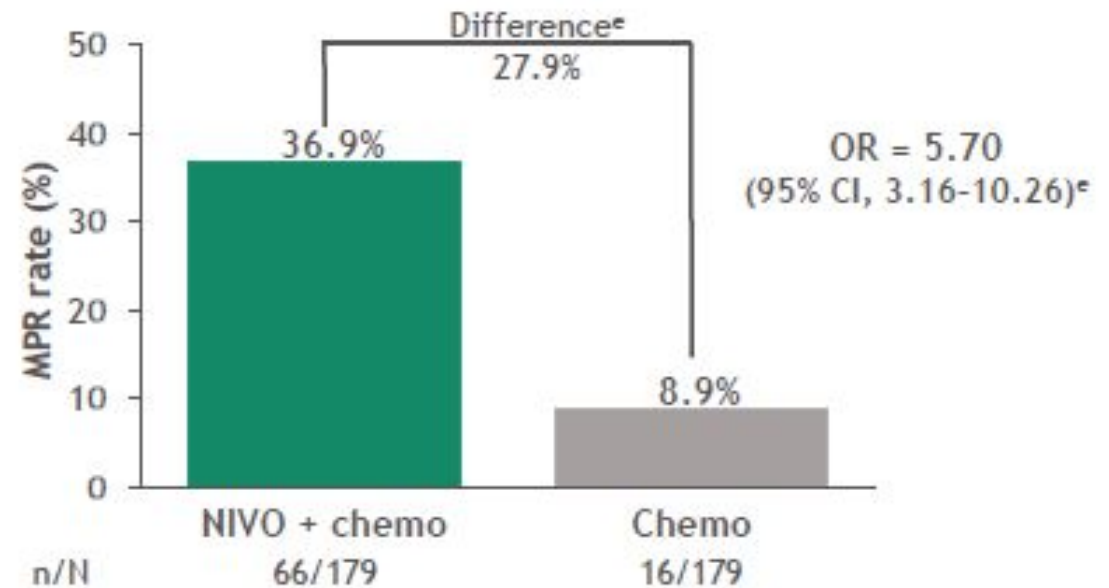
pCR^{b,c} in ITT (ypTONO)^d



pCR in patients with resection: 30.5% vs. 3.2%

Median viable tumor cells: 10% vs. 74%

MPR^{b,f} in ITT^d

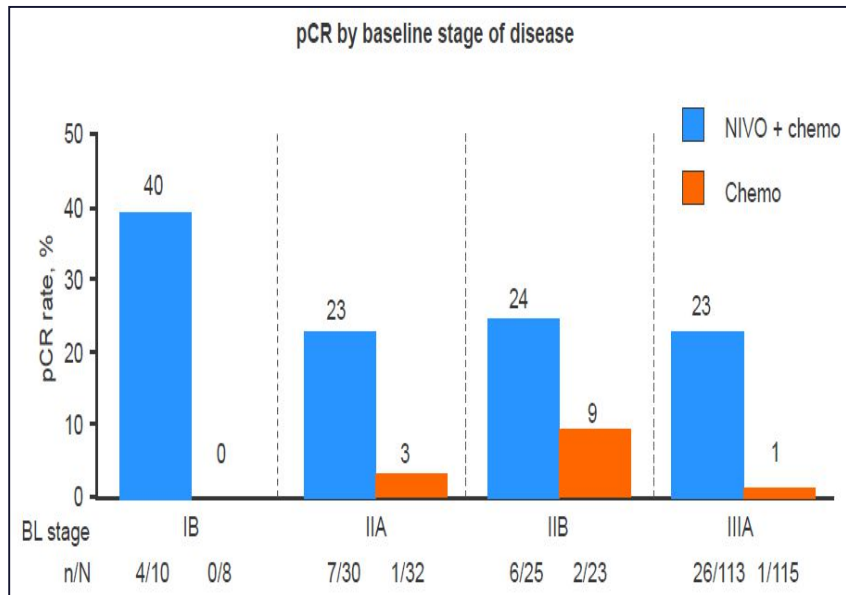


MPR in patients with resection: 46.8% vs. 12.7%

Organizado por:

Phase 3 CheckMate 816 trial: Nivolumab + platinum-doublet CT vs CT alone as neoadjuvant treatment for patients with resectable NSCLC

pCR subgroup analysis

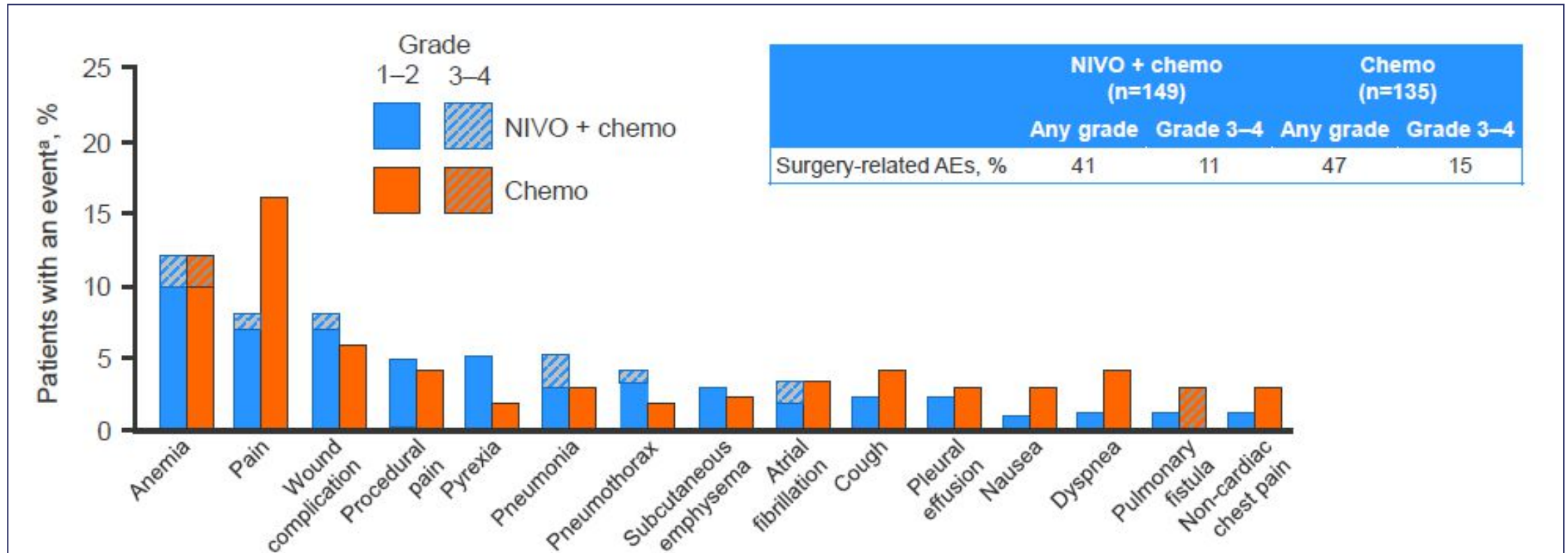


	pCR ^a rate, %		Unweighted pCR difference, % (95% CI)	Unweighted pCR difference, %
	NIVO + chemo (n = 179)	Chemo (n = 179)		
Overall (N = 358)	24	2		22
< 65 years (n = 176)	27	0		27
≥ 65 years (n = 182)	21	4		17
Male (n = 255)	23	2		20
Female (n = 103)	28	2		26
North America (n = 91)	22	2		20
Europe (n = 66)	24	0		24
Asia (n = 177)	28	3		25
Stage IB-II (n = 128)	26	5		21
Stage IIIA (n = 228)	23	1		22
Squamous (n = 182)	25	4		21
Non-squamous (n = 176)	23	0		23
Current/former smoker (n = 318)	26	2		23
Never smoker (n = 39)	10	0		10
PD-L1 < 1% (n = 155)	17	3		14
PD-L1 ≥ 1% (n = 178)	33	2		30
PD-L1 1-49% (n = 98)	24	0		24
PD-L1 ≥ 50% (n = 80)	45	5		40
TMB < 12.3 mut/Mb (n = 102)	22	2		21
TMB ≥ 12.3 mut/Mb (n = 76)	31	3		28
Cisplatin (n = 258)	22	2		20
Carboplatin (n = 72)	31	0		31

*Per BIPR in ITT.

Legend: Chemo ← 0 → NIVO + chemo

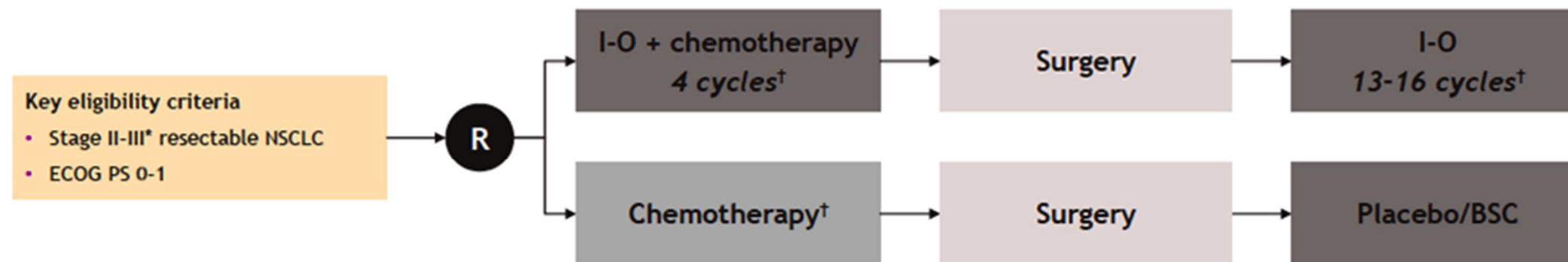
Phase 3 CheckMate 816 trial: Nivolumab + platinum-doublet CT vs CT alone as neoadjuvant treatment for patients with resectable NSCLC



In patients with resectable NSCLC, neoadjuvant nivolumab + chemotherapy showed a significant improvement in pCR rates and depth of pathological response compared with chemotherapy alone and was generally well-tolerated with no increase in postoperative complications

Ongoing phase 3 perioperative studies with I-O in resectable NSCLC

Checkmate 77T, KEYNOTE-671, IMpower030, AEGEAN¹⁻⁵



	Checkmate 77T ¹	KEYNOTE-671 ²	IMpower030 ³	AEGEAN ^{4,5}
I-O agent	Nivolumab	Pembrolizumab	Atezolizumab	Durvalumab
Primary endpoint(s)	EFS	EFS, OS	MPR, EFS	MPR, EFS
Primary completion date	December 2023	January 2024	November 2024	January 2024
Stages	IIA-III ^{B†}	II-III ^{B†}	II-III ^{B†}	IIA-III ^{B†}
Target enrollment	452	786	450	300

Cross-trial comparisons are not intended.

*Stages included differ between trials. †Dosage, timing, duration, and chemotherapy backbones differ between trials; information not available for Checkmate 77T or AEGEAN.

‡Includes stages III^B patients with N2 disease that is considered resectable.

1. Clinicaltrials.gov. NCT04025879. Accessed December 10, 2020. 2. Clinicaltrials.gov. NCT03425643. Accessed December 10, 2020. 3. Clinicaltrials.gov. NCT03456063. Accessed December 10, 2020. 4. Clinicaltrials.gov. NCT03800134. Accessed December 10, 2020. 5. Heymach JV et al. Poster presentation at WCLC 2019. Abstract P1.18-02.

ado por: