

Nuove strategie nel trattamento del tumore del polmone

Giovanni Maria Fadda
SC Oncologia – AOU SS



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



Primo punto: il miglioramento della sopravvivenza



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ





ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Cancer. 2024;1-7.

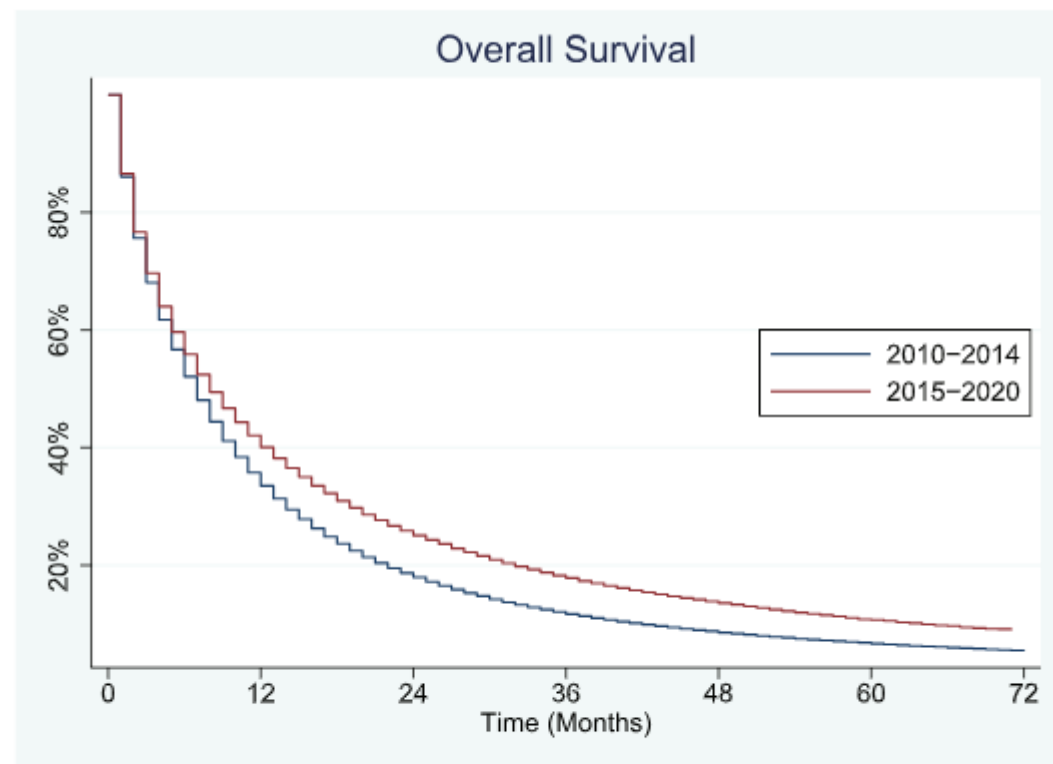


FIGURE 1 Kaplan-Meier curves comparing survival in the preimmunotherapy and immunotherapy eras. OS, 40.1% vs. 33.5%; 3-year OS, 17.8% vs. 11.7%; 5-year OS, 10.7% vs. 6.8%; median OS, 8 vs. 7 months; $p < 0.001$.





ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Cancer. 2024;1-7.

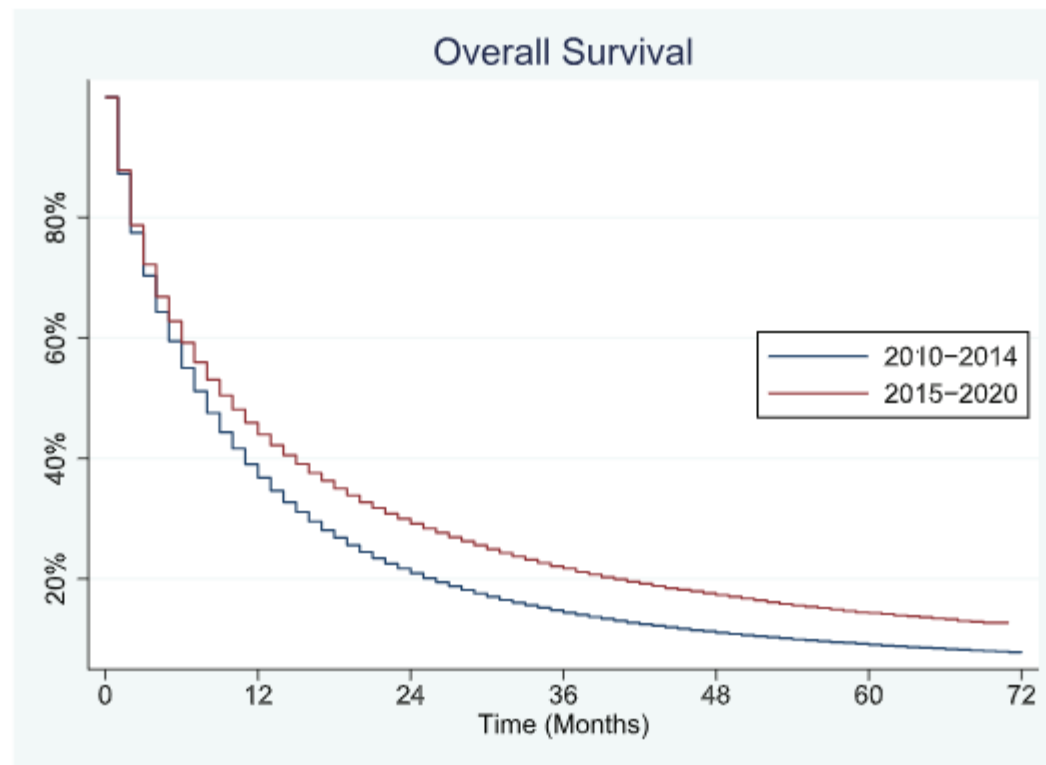


FIGURE 2 Kaplan-Meier curves comparing cancer-specific survival in the preimmunotherapy and immunotherapy groups. The curves show that the immunotherapy group (red line) has a significantly better survival outcome compared to the preimmunotherapy group (blue line). The 5-year survival rates are 44.0% vs. 36.8%; 3-year survival, 21.7% vs. 14.4%; 5-year survival, 14.3% vs. 9.0%; median overall survival, 14.3 months vs. 10.0 months (log-rank test).





ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Cancer. 2024;1-7.

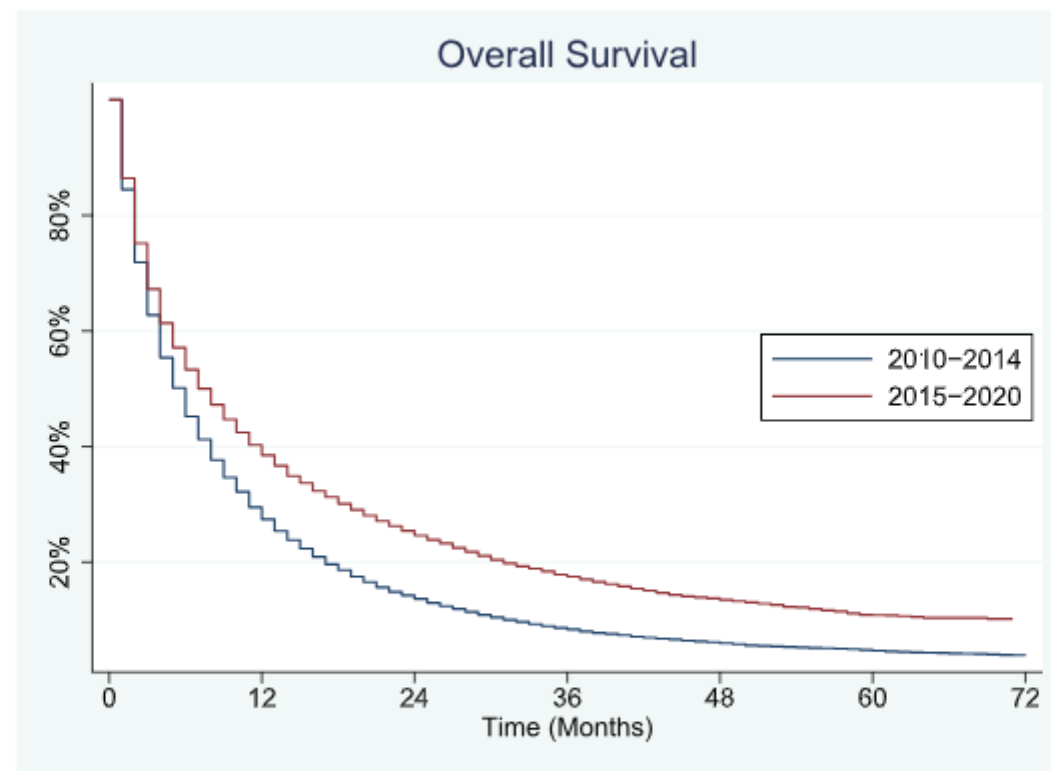


FIGURE 3 Kaplan-Meier curves comparing cancer-specific survival of patients with brain metastases immunotherapy eras (8 vs. 6 months; $p < .001$ by log-rank test).



Secondo punto: il contributo dell'immunoterapia nella malattia avanzata

Malattia «non oncogene addicted» senza driver molecolari sfruttabili



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ





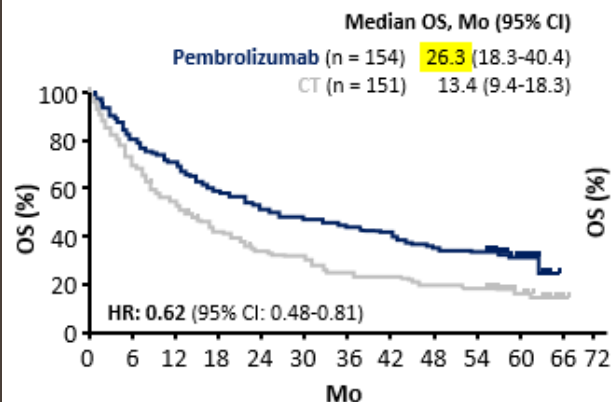
ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

FDA-Approved ICI Monotherapies for PD-L1–High Advanced or Metastatic NSCLC

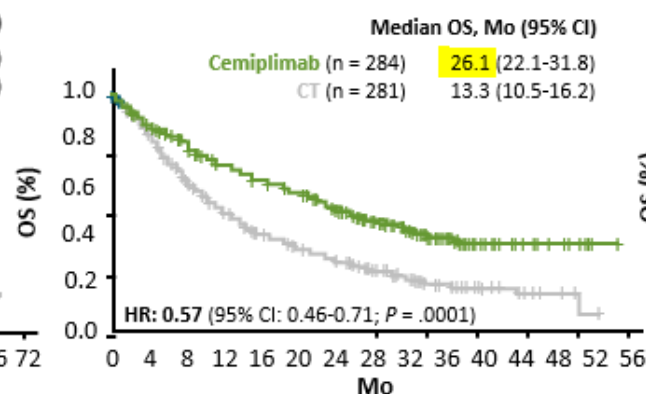
KEYNOTE-024^{1,2} (N = 305):

Pembrolizumab vs CT
(PD-L1 TPS ≥50%*)



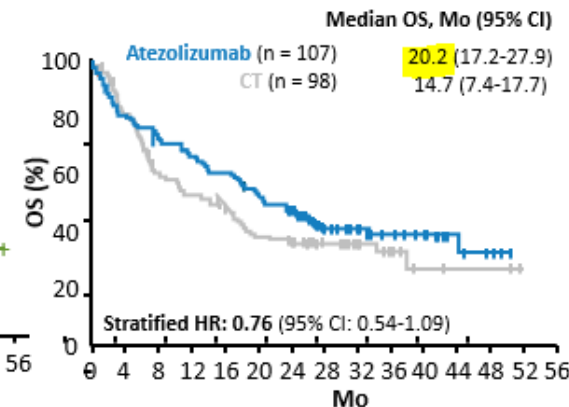
EMPOWER-Lung 1⁴ (n = 565[†]):

Cemiplimab vs CT
(PD-L1 TPS ≥50%*)



IMpower110⁵ (n = 205[‡]):

Atezolizumab vs CT
(PD-L1 ≥50% [TC] or ≥10% [IC])



- Pembrolizumab indication as monotherapy for metastatic NSCLC was expanded to tumors with PD-L1 TPS ≥1% based on KEYNOTE-042.³

*PD-L1 IHC by 22C3. [†]712 patients enrolled in overall ITT population.

[‡]572 patients enrolled in overall population; PD-L1 IHC by SP142.

1. Reck. JCO. 2021;39:2339. 2. Reck. NEJM. 2016;375:1823 3. Castro. JCO. 2023;41:1986.

4. Ozguroglu. Lancet Oncol. 2023;24:989. 5. Jassem. J Thorac Oncol. 2021;16:1872.



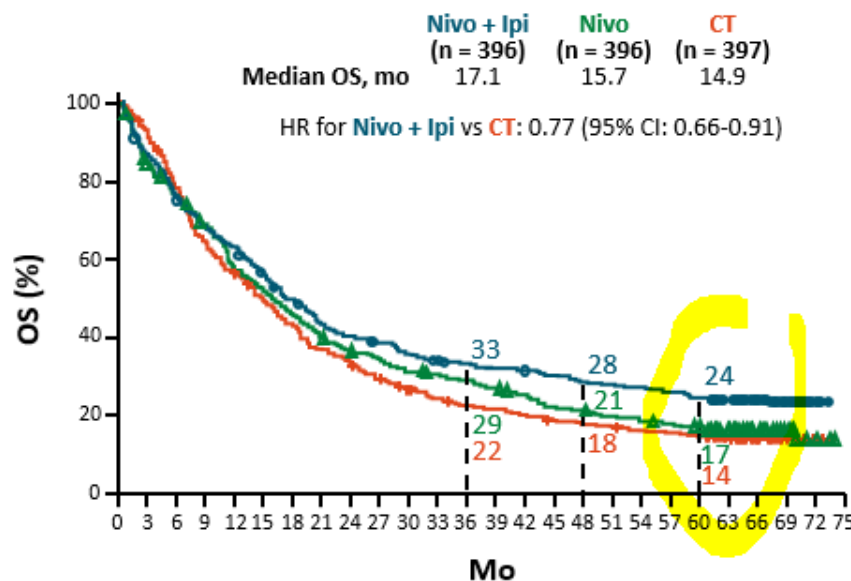


ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

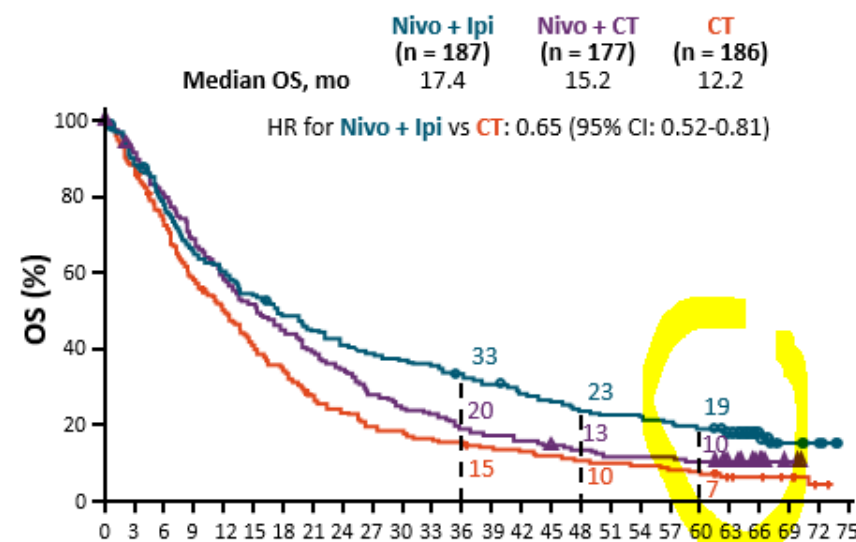
1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

CheckMate 227: First-line Nivolumab + Ipilimumab vs Chemotherapy for Advanced NSCLC

5-Yr OS: PD-L1 $\geq 1\%$



5-Yr OS: PD-L1 $< 1\%*$



*Not FDA approved indication.

Brahmer. J Clin Oncol. 2023;41:1200.

Slide



Terzo punto: il contributo dell'immuno- chemioterapia nella malattia avanzata



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ





ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

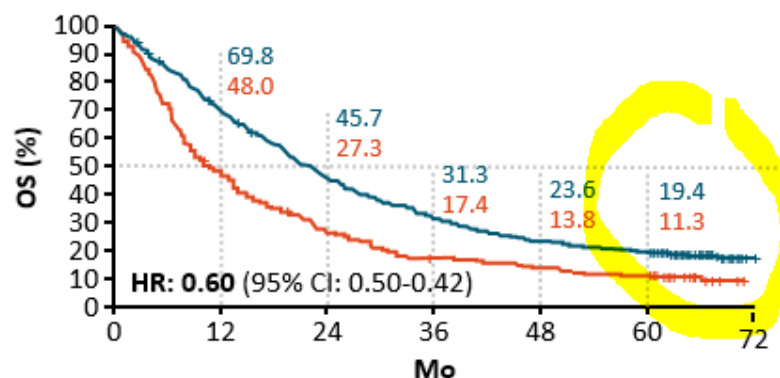
First-line Pembrolizumab Plus Chemotherapy in Advanced NSCLC

KEYNOTE-189:

Pembrolizumab vs CT in **Nonsquamous** NSCLC

OS in ITT (N = 616)

Treatment Group	Median OS, mo (95% CI)
Pembro + CT	19.4 (15.7-23.4)
Placebo + CT	11.3 (7.4-16.1)

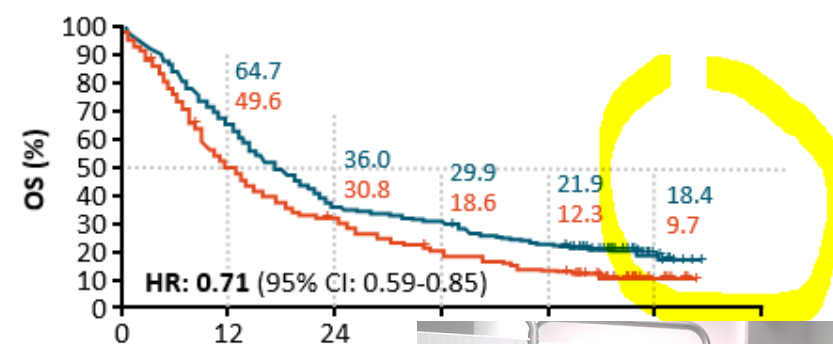


KEYNOTE-407:

Pembrolizumab vs CT in **Squamous** NSCLC

OS in ITT (N = 563)

Treatment Group	Median OS, mo (95% CI)
Pembro + CT	18.4 (13.8-23.4)
Placebo + CT	9.7 (6.5-13.7)



Garassino. JCO. 2023;41:1992. Novello. ESMO 2022. Abstr 974MO. Novello. JCO. 2023;41:1999.

Slide



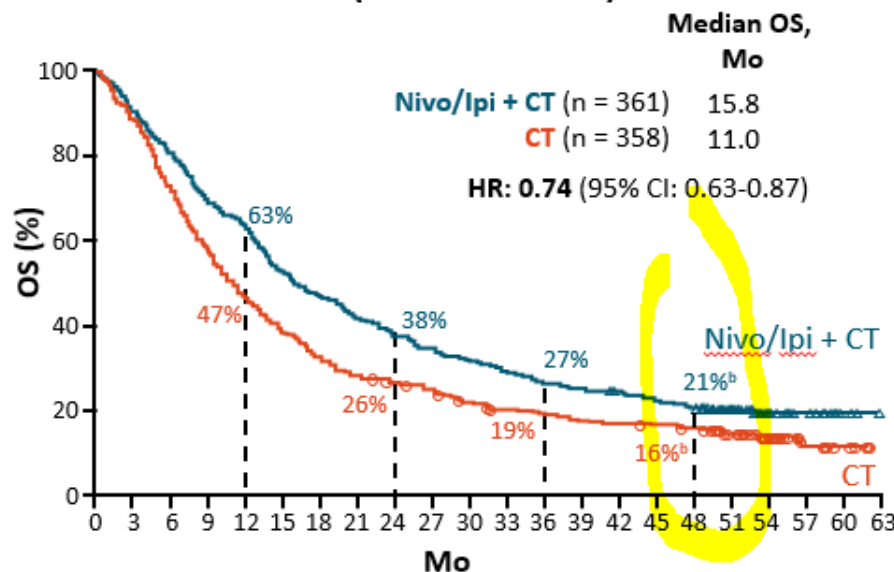


ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

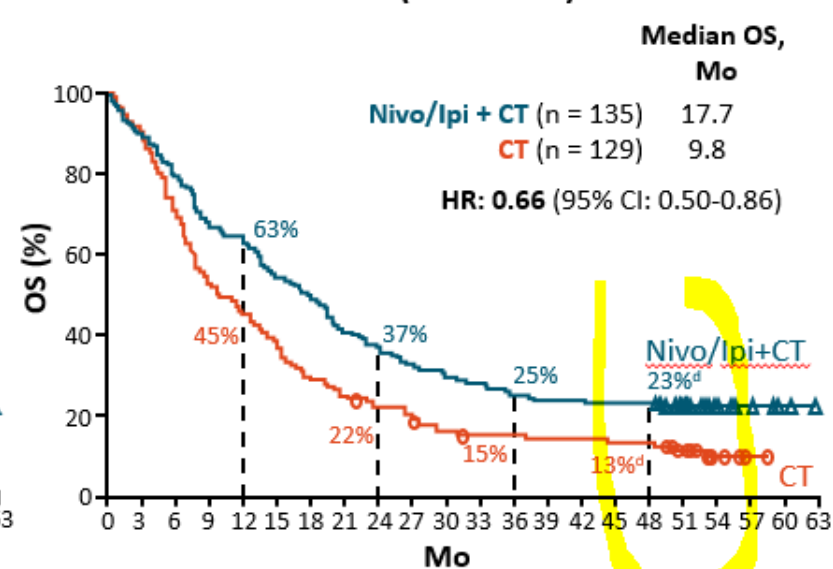
1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

CheckMate 9LA: Nivolumab + Ipilimumab + CT vs CT in Advanced NSCLC

OS (All Randomized)



OS (PD-L1 <1*)



*Measured by IHC (28-8 Pharm

Carbone. ASCO 2023. Abstr LBA9023. Paz-Ares. J Thorac Oncol. 2023;18:204.

Slide





ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

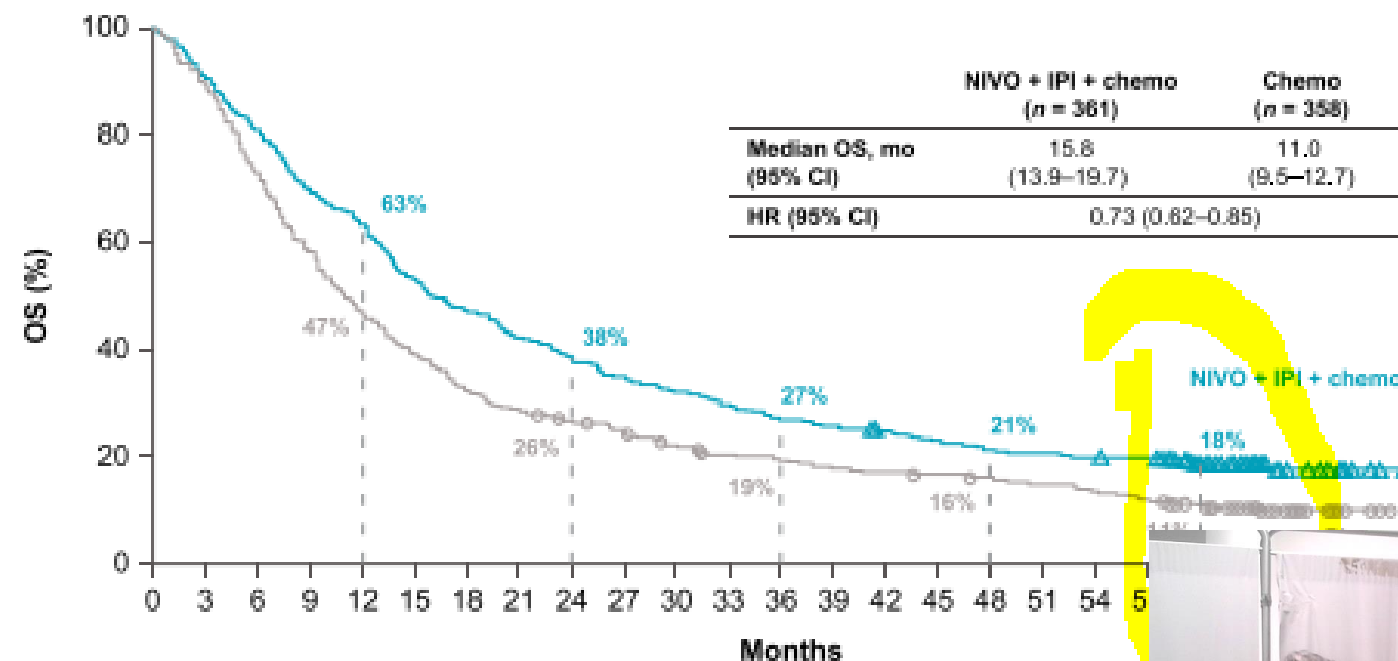
1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Five-year outcomes with first-line nivolumab plus ipilimumab with 2 cycles of chemotherapy versus 4 cycles of chemotherapy alone in patients with metastatic non-small cell lung cancer in the randomized CheckMate 9LA trial

Martin Reck^{a,*1}, Tudor-Eliade Ciuleanu^b, Michael Schenker^c, Stephanie Bordenave^d, Manuel Cobo^e, Oscar Juan-Vidal^f, Niels Reinmuth^g, Eduardo Richardet^h, Enriqueta Felipⁱ, Juliana Menezes^j, Ying Cheng^k, Hideaki Mizutani^l, Bogdan Zurawski^m, Aurelia Alexandruⁿ, David P. Carbone^o, Shun Lu^p, Thomas John^q, Takekazu Aoyama^r, Diederik J. Grootendorst^r, Nan Hu^r, Laura J. Eccles^r, Luis G. Paz-Ares^s

European Journal of Cancer 211 (2024) 114296

A



No. at risk

	361	326	292	250	227	191	170	151	138	125	115	106	96	92	87	80	74	72	69	6
NIVO + IPI + chemo	361	326	292	250	227	191	170	151	138	125	115	106	96	92	87	80	74	72	69	6
Chemo	358	319	260	208	168	139	115	102	93	86	74	66	63	58	55	53	50	46	42	3

Five-year outcomes with first-line nivolumab plus ipilimumab with 2 cycles of chemotherapy versus 4 cycles of chemotherapy alone in patients with metastatic non-small cell lung cancer in the randomized CheckMate 9LA trial

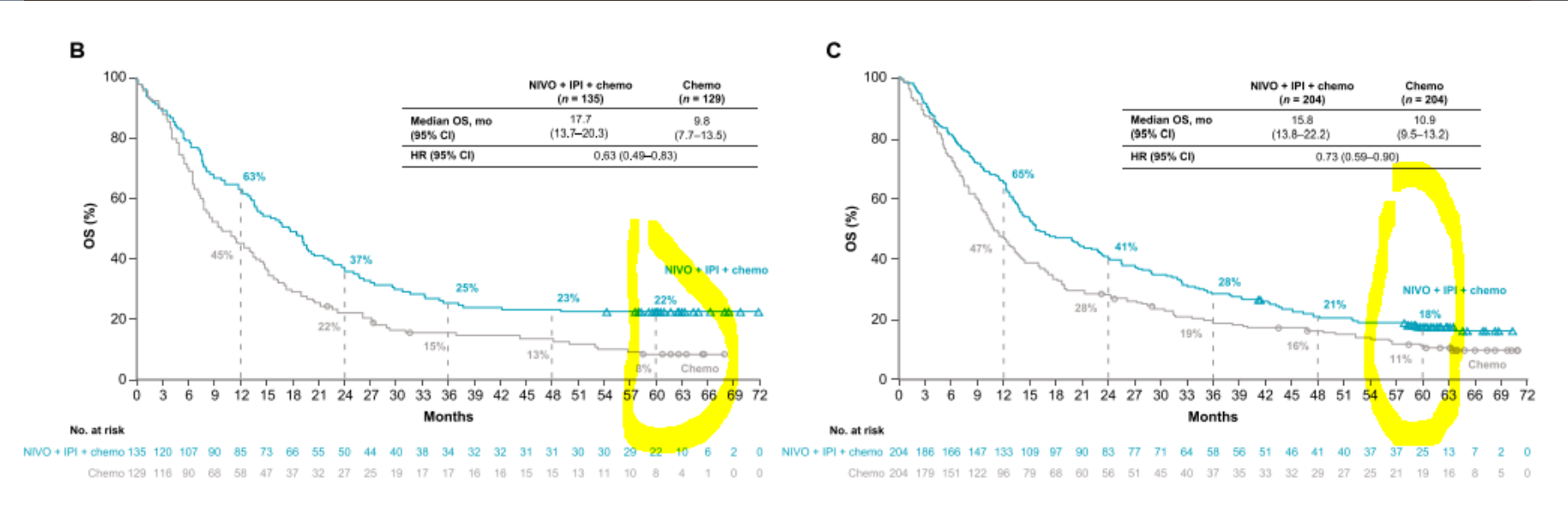
Martin Reck^{a,*1}, Tudor-Eliade Ciuleanu^b, Michael Schenker^c, Stephanie Bordenave^d, Manuel Cobo^e, Oscar Juan-Vidal^f, Niels Reinmuth^g, Eduardo Richardet^h, Enriqueta Felipⁱ, Juliana Menezes^j, Ying Cheng^k, Hideaki Mizutani^l, Bogdan Zurawski^m, Aurelia Alexandruⁿ, David P. Carbone^o, Shun Lu^p, Thomas John^q, Takekazu Aoyama^r, Diederik J. Grootendorst^r, Nan Hu^r, Laura J. Eccles^r, Luis G. Paz-Ares^s

European Journal of Cancer 211 (2024) 114296



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



OS (PD-L1 <1*)

OS (P



Five-year outcomes with first-line nivolumab plus ipilimumab with 2 cycles of chemotherapy versus 4 cycles of chemotherapy alone in patients with metastatic non-small cell lung cancer in the randomized CheckMate 9LA trial

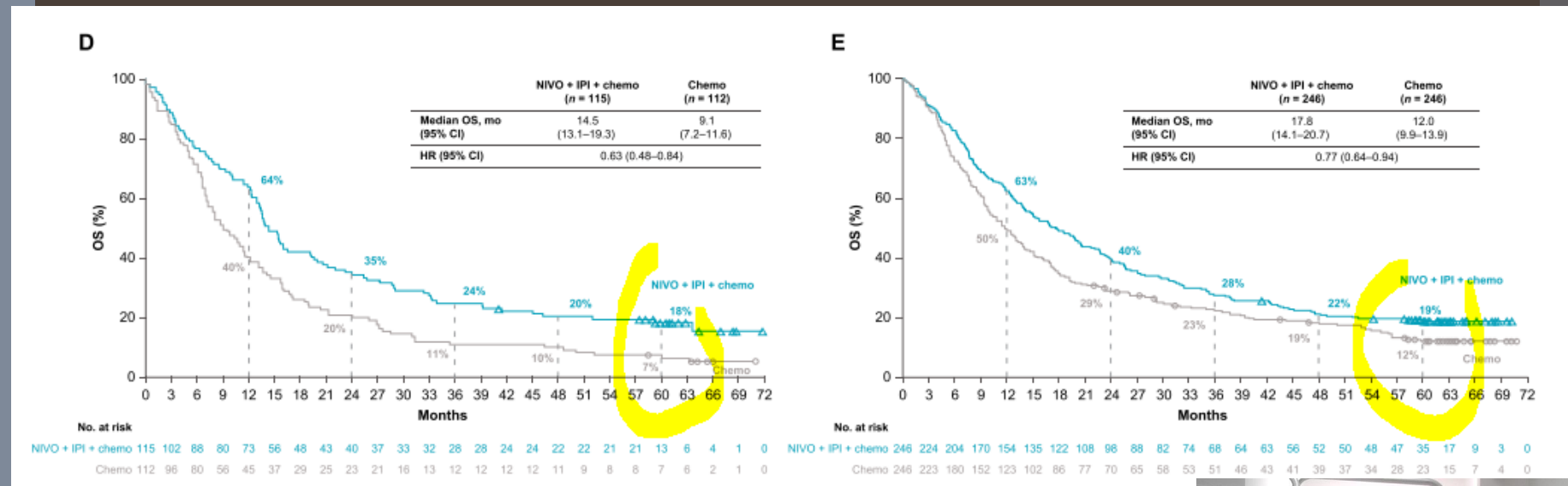
Martin Reck ^{a,*}, Tudor-Eliade Ciuleanu ^b, Michael Schenker ^c, Stephanie Bordenave ^d, Manuel Cobo ^e, Oscar Juan-Vidal ^f, Niels Reinmuth ^g, Eduardo Richardet ^h, Enriqueta Felip ⁱ, Juliana Menezes ^j, Ying Cheng ^k, Hideaki Mizutani ^l, Bogdan Zurawski ^m, Aurelia Alexandru ⁿ, David P. Carbone ^o, Shun Lu ^p, Thomas John ^q, Takekazu Aoyama ^r, Diederik J. Grootendorst ^r, Nan Hu ^r, Laura J. Eccles ^r, Luis G. Paz-Ares ^s

European Journal of Cancer 211 (2024) 114296



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



OS (SQ)

O



Quarto punto: il contributo dell'immuno- chemioterapia nella malattia localmente avanzata



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

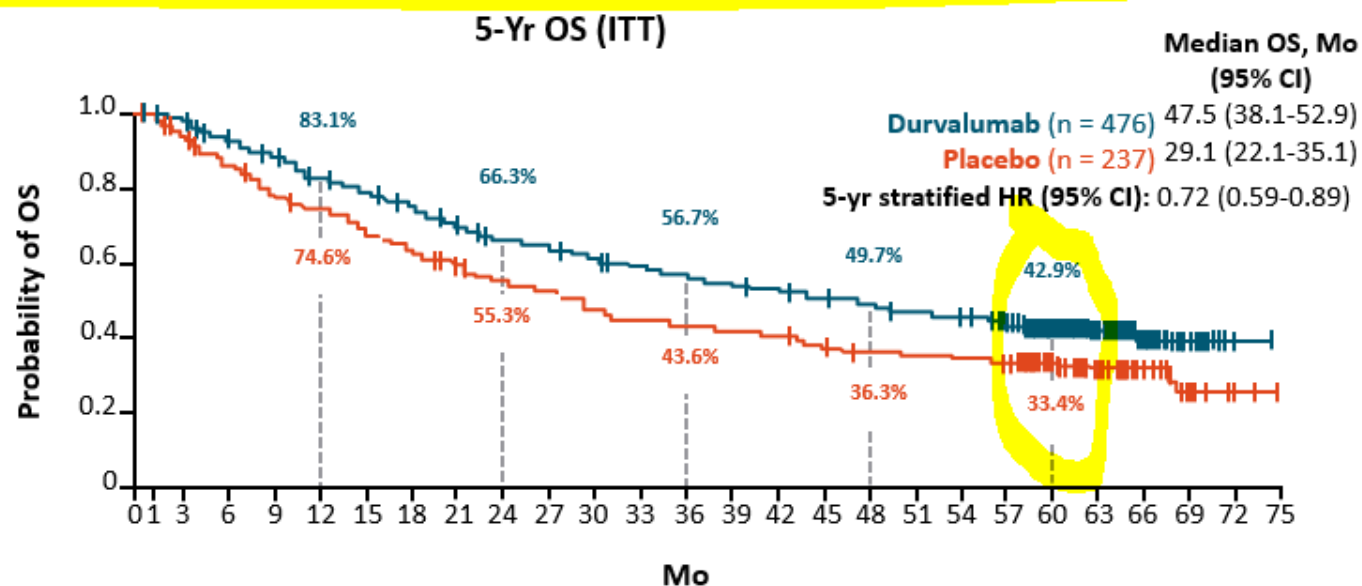




ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

PACIFIC: Consolidation Durvalumab After Concurrent CRT for Locally Advanced, Unresectable, Stage III NSCLC



In February 2018, the FDA approved durvalumab for the treatment of unresectable stage III NSCLC without disease progression following

Spigel. J Clin Oncol. 2022;40:1301.

Slit





ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

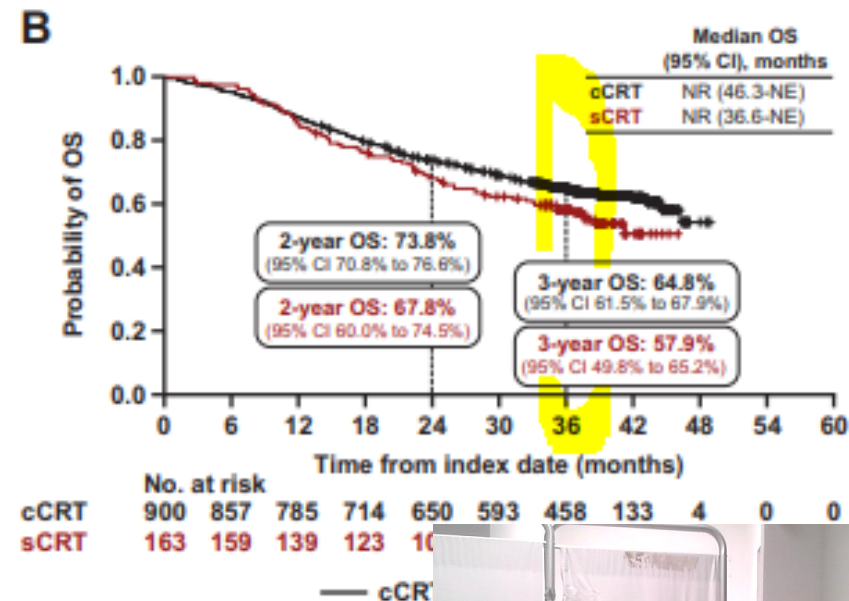
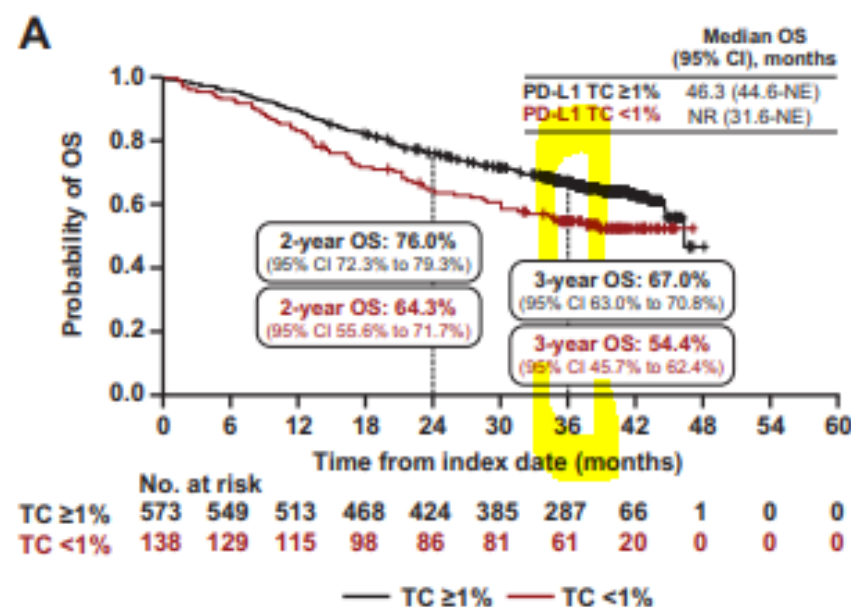
1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



ORIGINAL RESEARCH

Real-world outcomes with durvalumab after chemoradiotherapy in patients with unresectable stage III NSCLC: interim analysis of overall survival from PACIFIC-R

A. R. Filippi^{1,2,3}, J. Bar^{2,3}, C. Chouaid⁴, D. C. Christoph⁵, J. K. Field⁶, R. Fietkau⁷, M. C. Garassino⁸, P. Garrido⁹, V. D. Haakensen¹⁰, S. Kao¹¹, B. Markman¹², F. McDonald¹³, F. Mornex¹⁴, M. Moskovitz¹⁵, S. Peters¹⁶, A. Sibille¹⁷, S. Siva¹⁸, M. van den Heuvel¹⁹, P. Vercauter²⁰, S. Anand²¹, P. Chander²¹, M. Licour²², A. R. de Lima²¹, Y. Qiao²¹ & N. Girard^{23,24}



Quarto punto: il contributo dell'immuno- chemioterapia nella malattia resecabile



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



Quarto punto: il contributo dell'immuno- chemioterapia nella malattia resecabile

Terapia neoadiuvante



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ





ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Considerations for Integrating IO Into the Care of Resectable Lung Cancer

Neoadjuvant

- Shorter treatment time
- Better treatment compliance
- Allows response assessment
- Option to tailor further therapy to response
- Potential downstaging
- Better antigen priming?
- Early reduction of micrometastases

Perioperative

- Eradicate micrometastases before and after surgery
- Risk of overtreatment
- Allows response assessment
- Longer treatment time

Adjuvant

- No risk of surgical delay
- No increased perioperative risks due to preop therapy
- Complete pathologic staging
- Longer treatment time

Desai. JAMA Oncol. 2023;9:135. Duan. Transl Lung Cancer Res. 2022;11:1247.

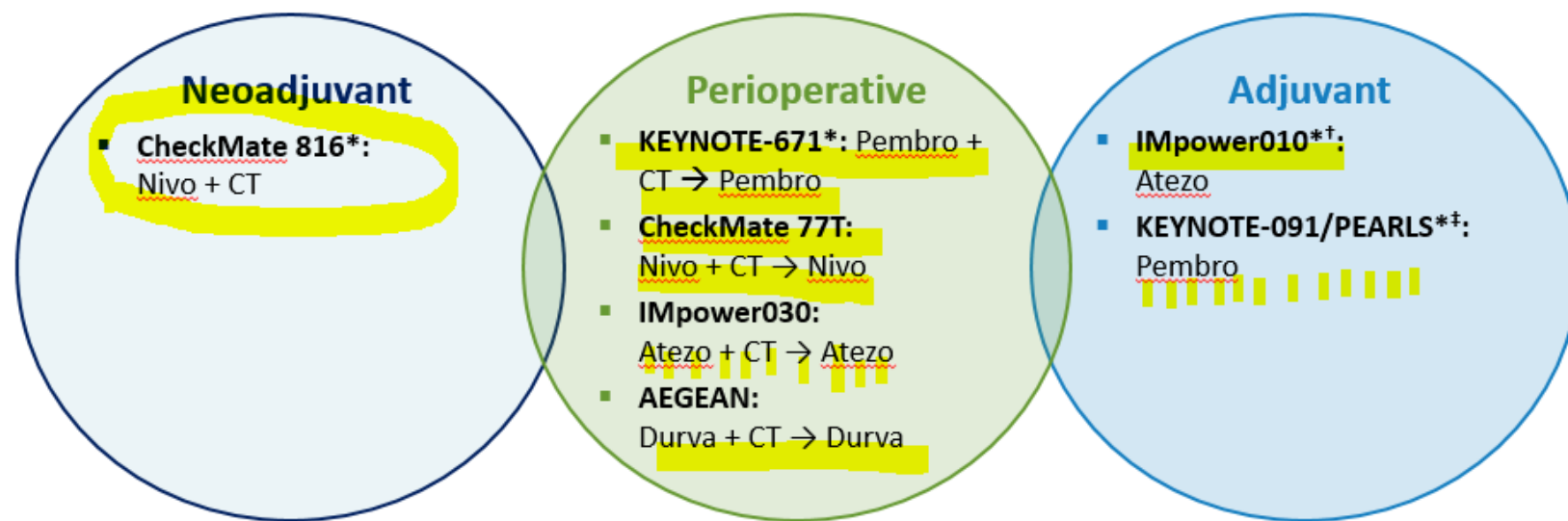




ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Evolving Immunotherapy-Based Treatment Landscape in Resectable NSCLC



*Trials leading to FDA approvals of denoted treatment regimen. *Mandatory chemotherapy. †Chemotherapy not mandatory.

NCT02998528. NCT03425643. NCT04025879. NCT03456063. NCT03800134. NCT02486718. NCT02504372.



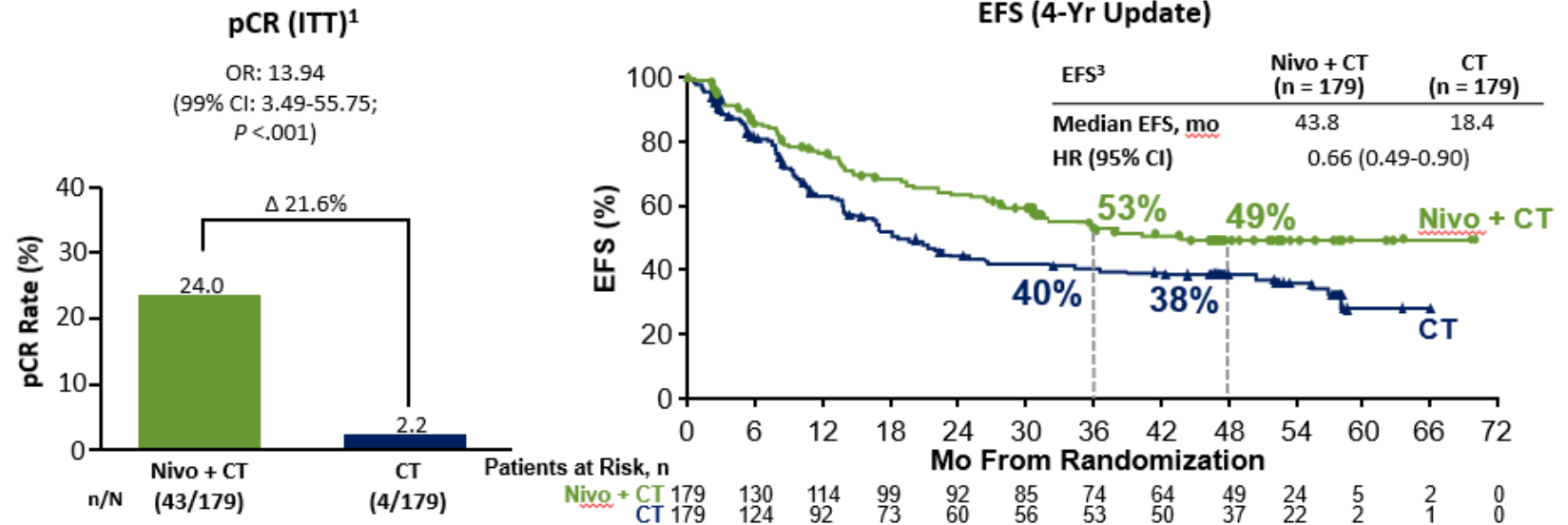
CheckMate 816: Neoadjuvant Nivolumab + CT for Resectable Stage IB-IIIA NSCLC

Phase III CheckMate 816: pCR and Updated 4-Yr EFS



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



FDA-approved in March 2022 for adults with resectable NSCLC (tumors ≥ 4 cm or N+) in combination with platinum doublet CT in the neoadjuvant setting²

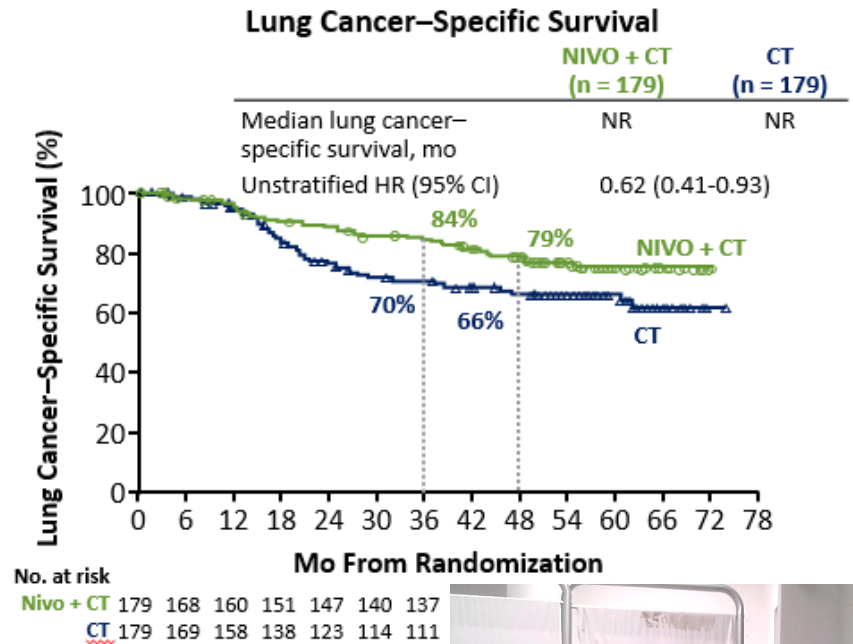
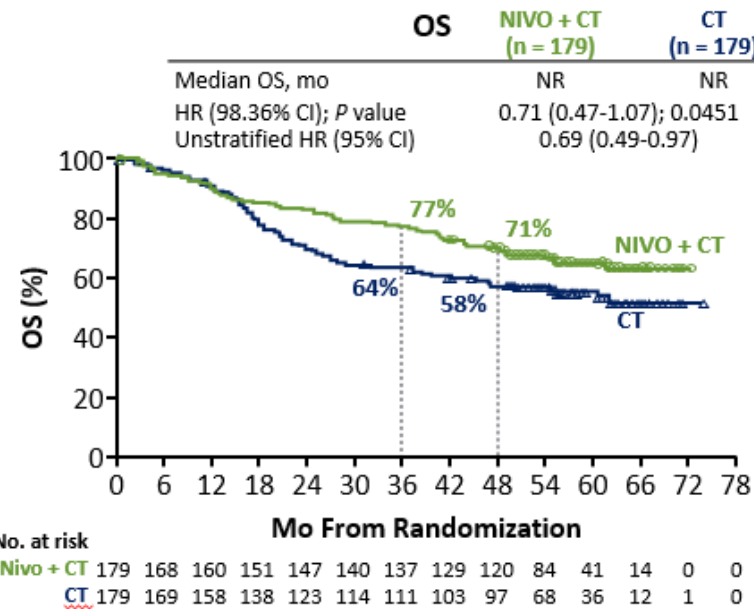
1. Forde. NEJM. 2022;386:1973. 2. Nivolumab PI. 3. Spicer. ASCO 2024. Abstr LBA8010.



CheckMate 816: Neoadjuvant Nivolumab + CT for Resectable Stage IB-IIIA NSCLC

Phase III CheckMate 816: 4-Yr OS

- Patients who received NIVO + CT and had pCR continued to have improved OS vs those who did not (HR [95% CI]: 0.08 [0.02-0.34]; **4-yr OS rates: 95% vs 63%**)



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



Quarto punto: il contributo dell'immuno- chemioterapia nella malattia resecabile

Terapia adiuvante



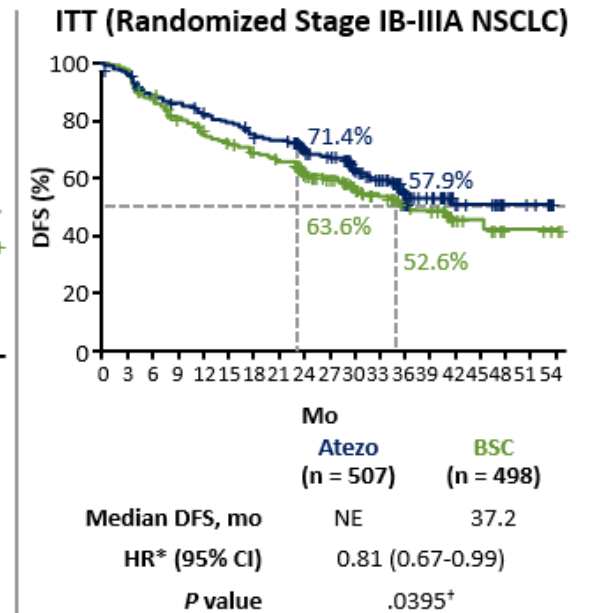
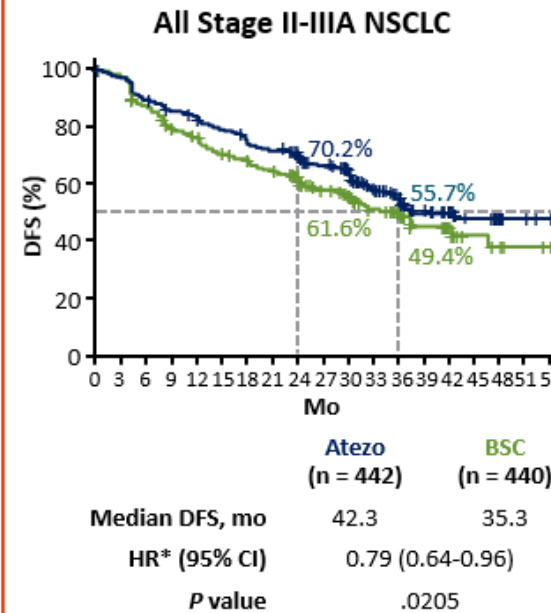
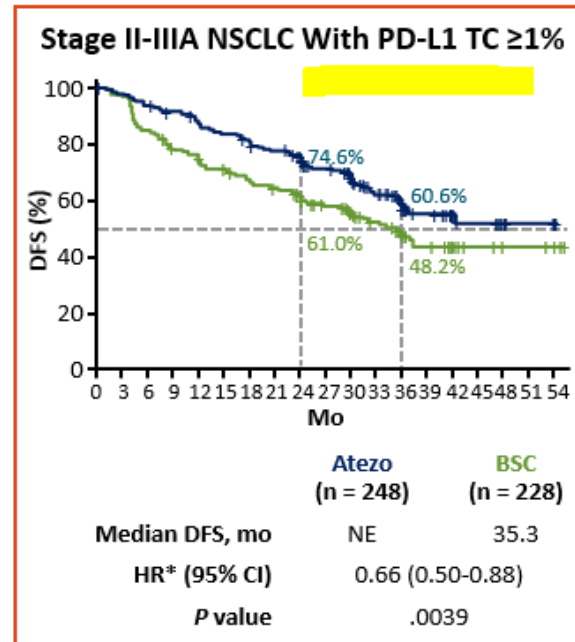
ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



IMpower010: Atezolizumab After CT in Adjuvant Setting for Resected Stage IB-IIIA NSCLC

IMpower010: DFS



- DFS benefit seen across subgroups but primarily in patients with stage II-IIIa NSCLC

*Stratified. *Did not cross the prespecified boundary for significance.

Felip. Lancet. 2021;398:1344. Wakelee. ASCO 2021. Abstr 8500.



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



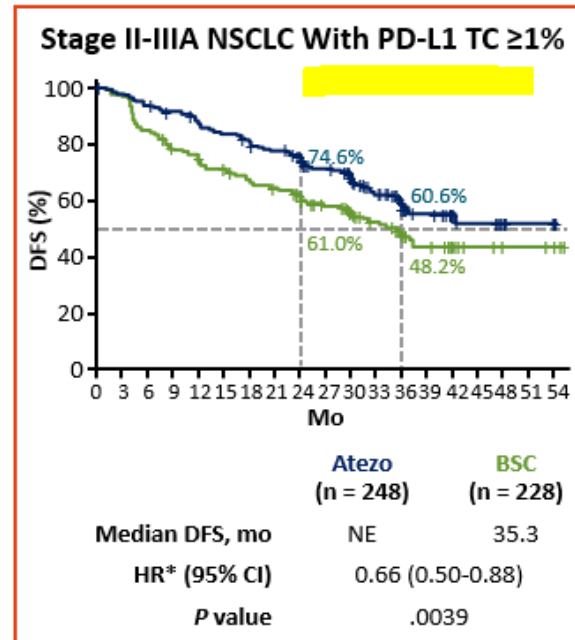
IMpower010: Atezolizumab After CT in Adjuvant Setting for Resected Stage IB-IIIA NSCLC



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

IMpower010: DFS

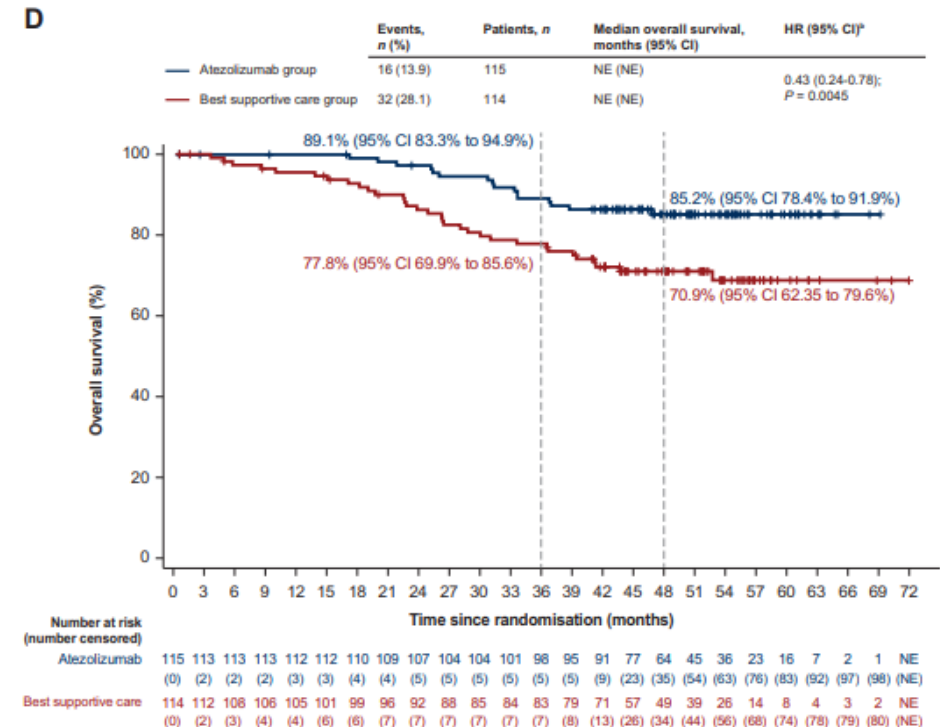


- DFS benefit seen across subgroups but primarily in patients with stage II-IIIA NS

*Stratified. †Did not cross the prespecified boundary for significance.

Felip. Lancet. 2021;398:1344. Wakelee. ASCO 2021. Abstr 8500.

Stage II-IIIA NSCLC With PD-L1 TC $\geq 50\%$

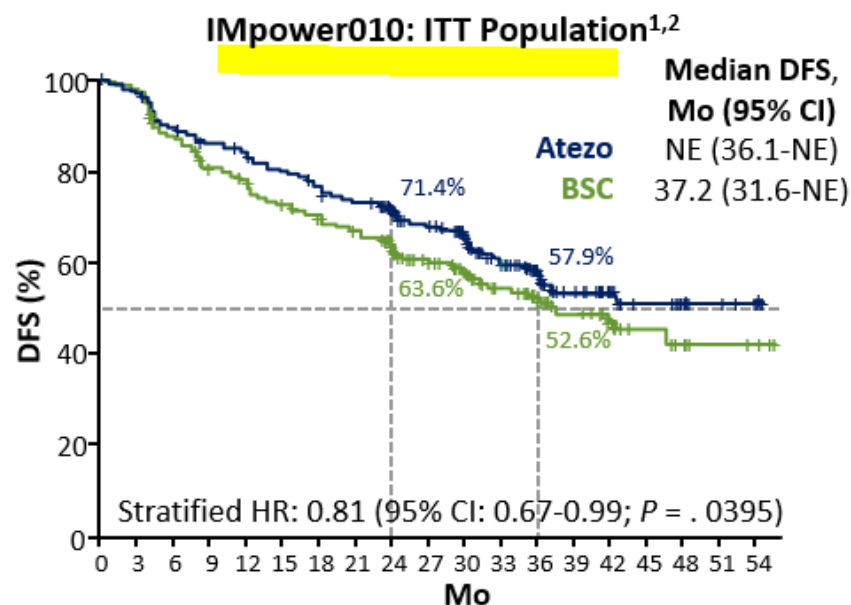




ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

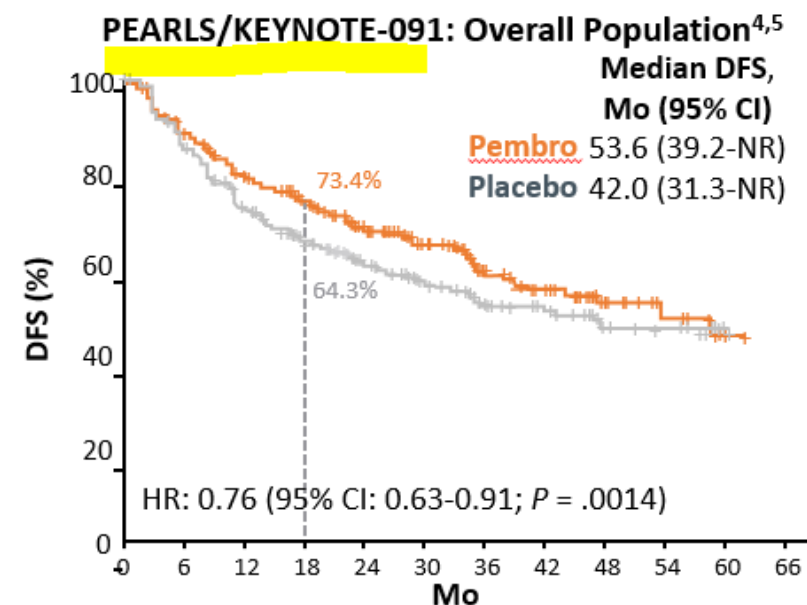
1° CORSO DI AGGIORNAMENTO L'EVOLUZIONE DELLA CURA IN ONCOLOGIA TRA COMPLESSITÀ E CONTINUITÀ

Adjuvant IO Trials: DFS in Overall Population (ITT)



FDA-approved in October 2021 as **adjuvant treatment** following resection and platinum-based CT for adults with stage II-IIIa NSCLC and PD-L1 expression on $\geq 1\%$ of tumor cells³

1. Felip. Lancet. 2021;398:1344. 2. Wakelee. ASCO 2021. Abstr 8500. 3. Atezolizumab PI. 4. Paz-Ares. ESMO Virtual 2022. Abstr VP3-2022. 5. O'Brien. Lancet Oncol. 2022;23:1274. 6. Pembrolizumab PI.



FDA-approved in January 2023 as **adjuvant treatment** following resection and platinum-based CT for adults with stage IB-IIIa, including



Quarto punto: il contributo dell'immuno- chemioterapia nella malattia resecabile

Terapia «perioperatoria»



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

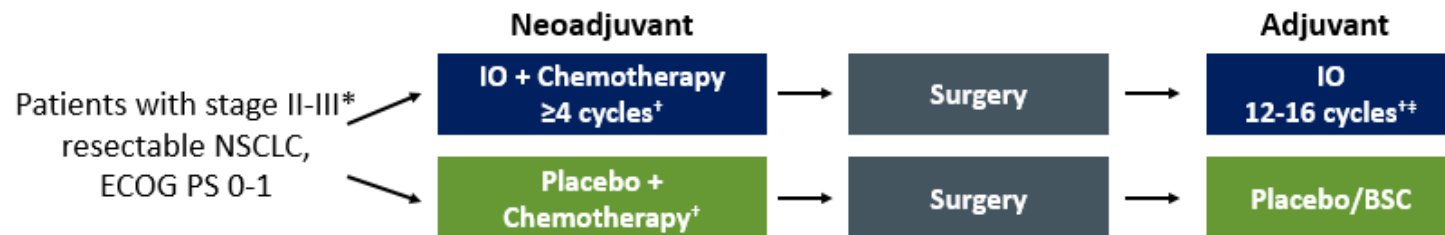




ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Ongoing Phase III Perioperative Studies in Resectable NSCLC



	KEYNOTE-671 ^{1,2}	AEGEAN ^{3,4}	CheckMate 77T ^{5,6}	IMpower030 ^{7,8}
IO agent	Pembrolizumab	Durvalumab	Nivolumab	Atezolizumab
Primary endpoint(s)	EFS, OS	pCR, EFS	EFS	EFS
Disease stage (TNM 8th ed.)	II-IIIB [§]	IIA-IIIB [§]	II-IIIB [§]	II-IIIB [§]
N	797	826	482	453
EGFR or ALK mut allowed	Yes	Amended to exclude	No	No
Chemotherapy backbone	≥4 cycles of cis/(gem or pemetrexed)	4 cycles of carbo/pac, carbo/pemetrexed, cis/gem, or cis/pemetrexed	≥4 cycles carbo/pac, cis/doc, carbo/pemetrexed, cis/pemetrexed, or carbo/pac	4 cycles of carbo/pemetrexed, carbo/nab-pac, cis/pemetrexed, or cis/gem

*Stages included differ between trials. †Dosage, timing, duration, and chemotherapy backbones differ between trials. ‡In contrast, CheckMate 77T includes cisplatin ± RT. §Includes stages IIIB patients with N2 disease that is considered resectable. Cross trial comparisons are not intended. ||Molecular

1. Spicer. ESMO 2023. Abstr LBA56. 2. NCT03425643. 3. Heymach. NEJM. 2023;389:1672. 4. NCT03800134.
5. Cascone. ESMO 2023. Abstr LBA1. 6. NCT04025879 7. Peters. Annal Oncol. 2019;30:Suppl 2. 8. NCT03456063.



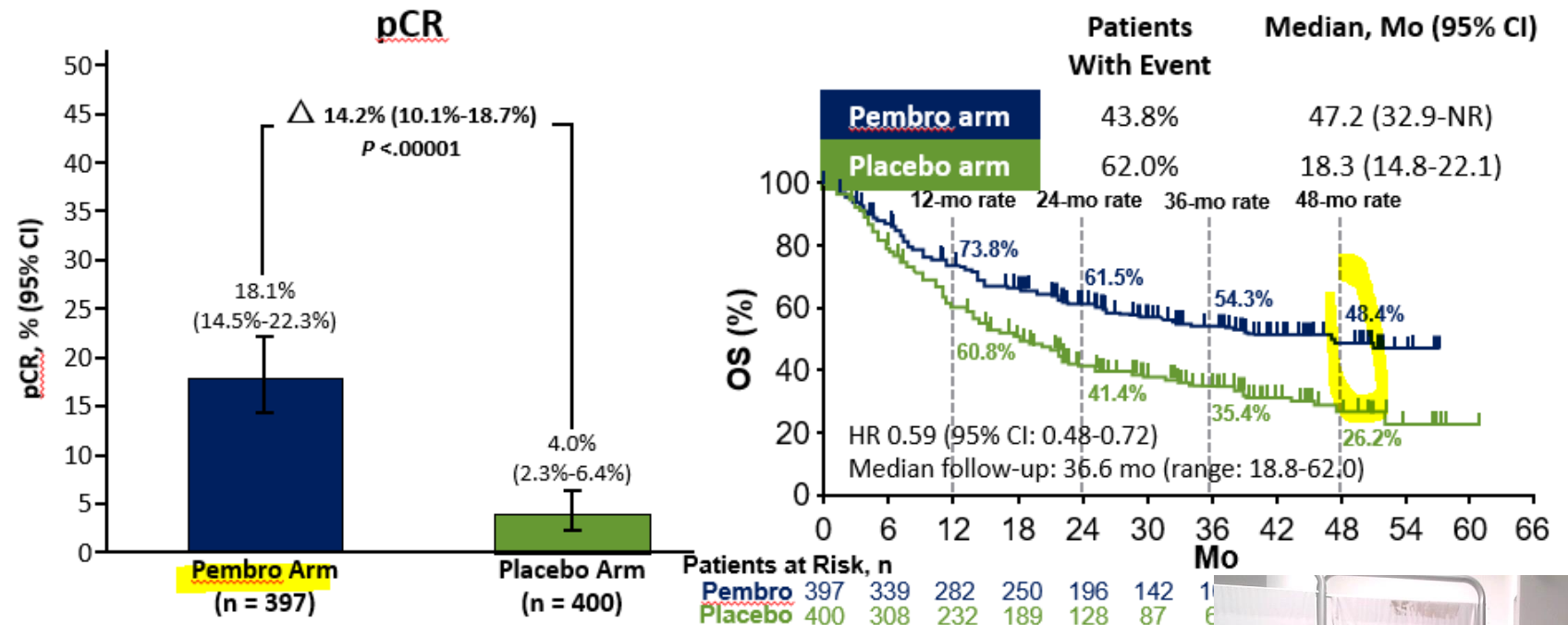
KEYNOTE-671: Neoadjuvant and Adjuvant Pembrolizumab in Resectable NSCLC

KEYNOTE-671: pCR and EFS



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

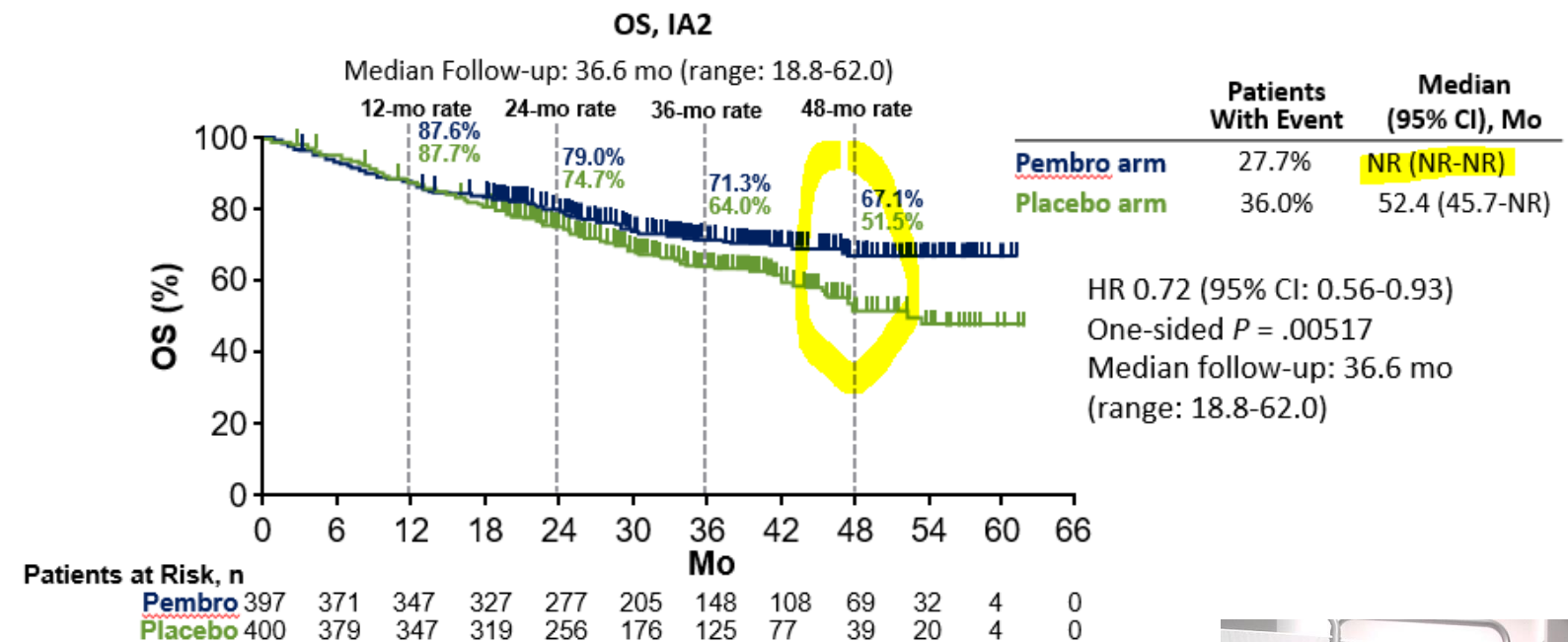


Wakelee. ASCO 2023. Abstr LBA100. Wakelee. NEJM. 2023;389:491. Spicer. ESMO 2023. Abstr LBA56.



KEYNOTE-671: Neoadjuvant and Adjuvant Pembrolizumab in Resectable NSCLC

KEYNOTE 671: OS



Spicer. ESMO 2023. Abstr LBA56.



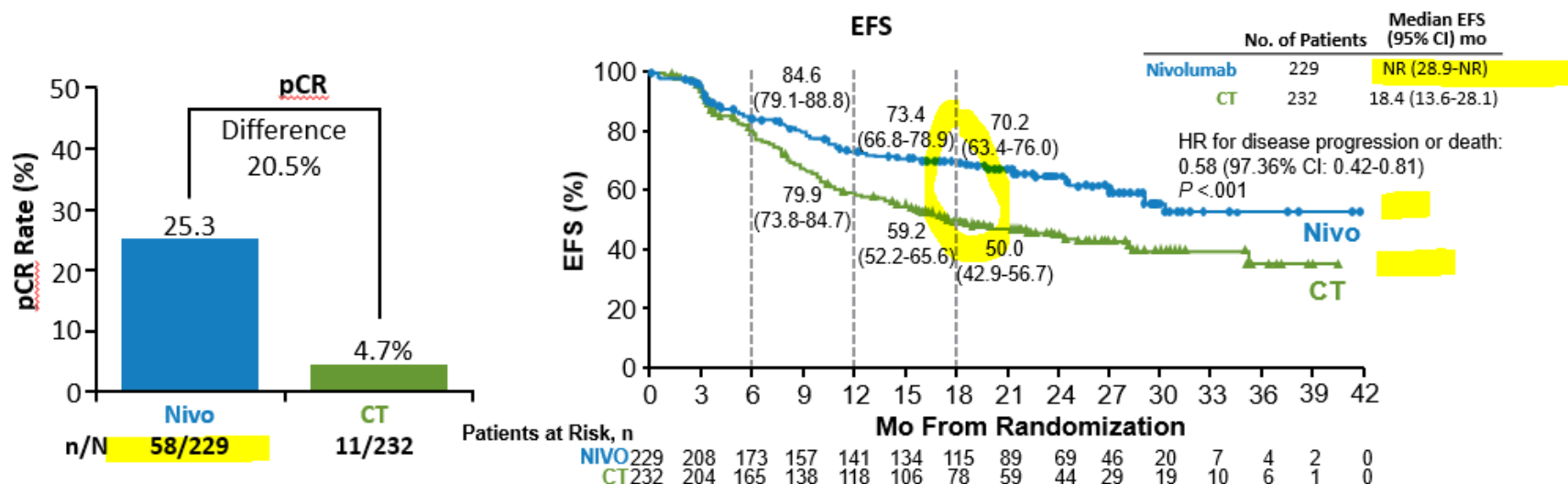
ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



CheckMate 77T: Neoadjuvant and Adjuvant Nivolumab in Resectable NSCLC

CheckMate 77T: pCR and EFS



Odds Ratio: 6.64 (95% CI: 3.40-12.97)

Cascone. NEJM. 2024;390:1756. Cascone. ESMO 2023. Abstr LBA1.



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



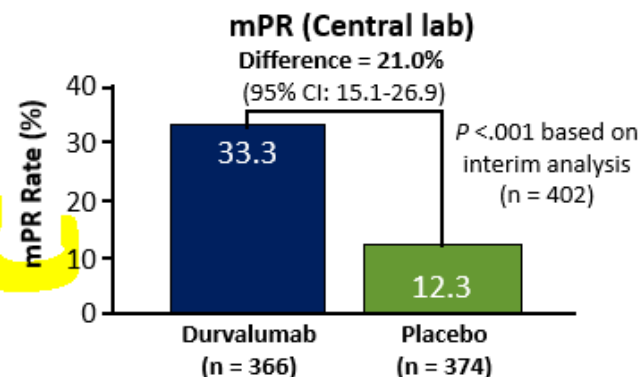
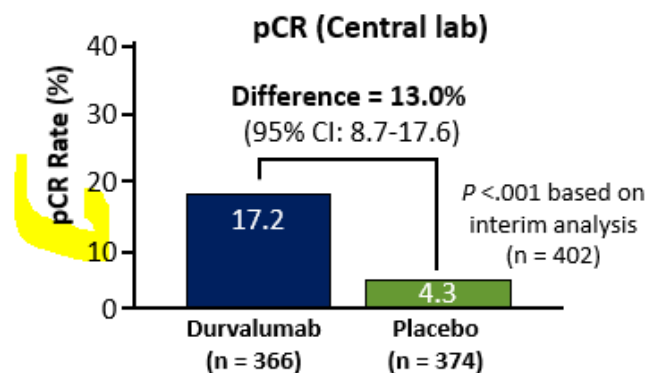
AEGEAN: Neoadjuvant and Adjuvant Durvalumab in Resectable NSCLC



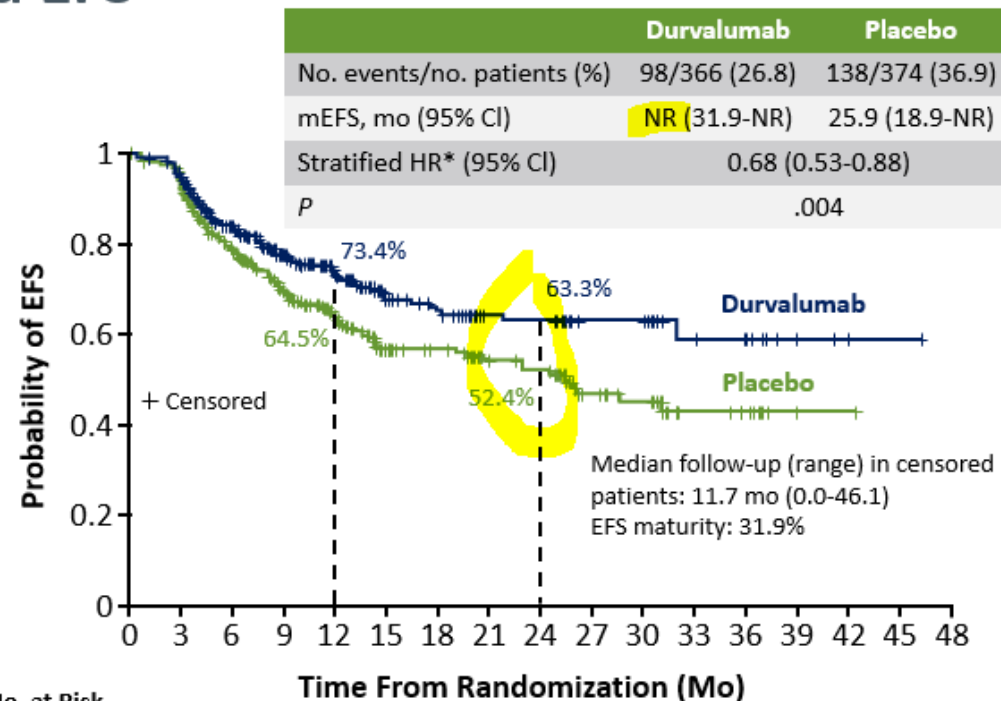
ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

AEGEAN: pCR, mPR, and EFS



Heymach. AACR 2023. Abstr CT005. Heymach. NEJM. 2023;389:1672.



Quinto punto: la malattia con mutazione di EGFR

Malattia «oncogene addicted» con driver molecolari
sfruttabili



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

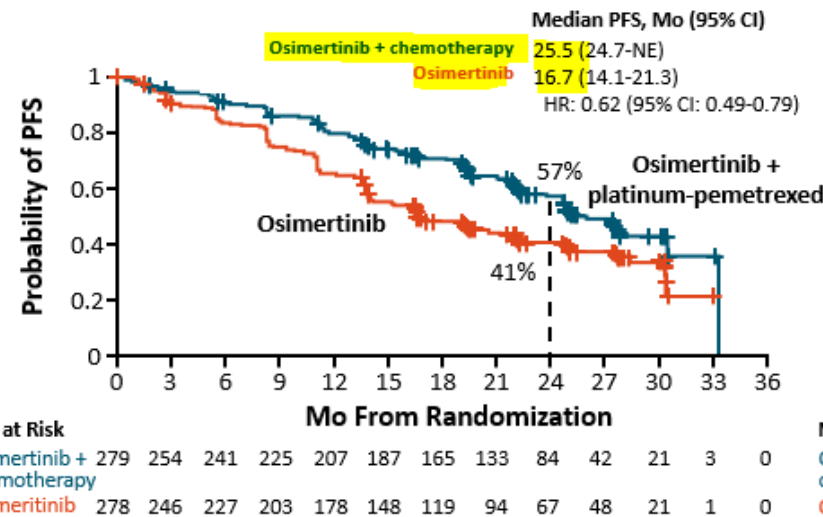
1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



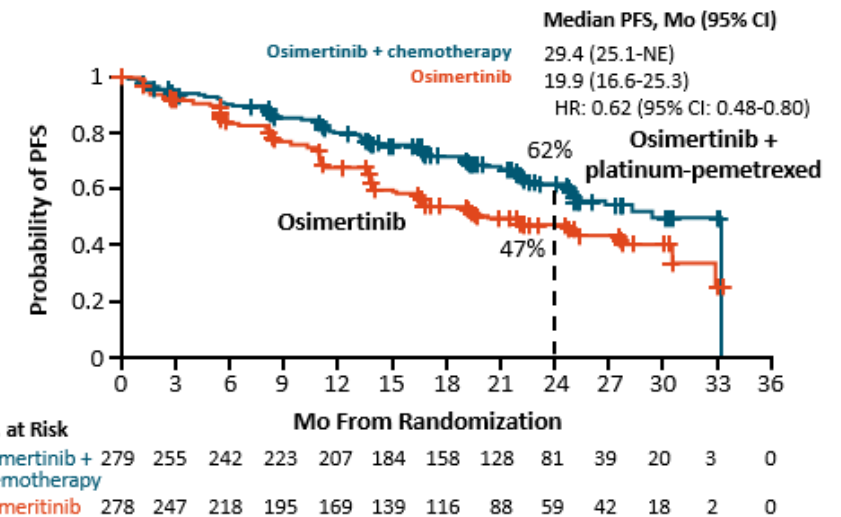
FLAURA2: Osimertinib ± Platinum-Based Chemotherapy in *EGFR*-Mutated Advanced NSCLC

FLAURA2: PFS

PFS by Investigator (Primary Endpoint)



PFS by BICR



- PFS data per investigator currently 51% mature
 - Median follow-up 19.5 mo in osimertinib + chemotherapy arm, 16.5 mo in osimertinib monotherapy
- PFS benefit with addition of chemotherapy to osimertinib observed across all predefined

Planchard. NEJM. 2023;389:1935.

Slide



ASSOCIAZIONE DI ONCOLOGIA
 MARIANGELA PINNA ODV

1° CORSO
 DI AGGIORNAMENTO
 L'EVOLUZIONE DELLA
 CURA IN ONCOLOGIA
 TRA COMPLESSITÀ
 E CONTINUITÀ

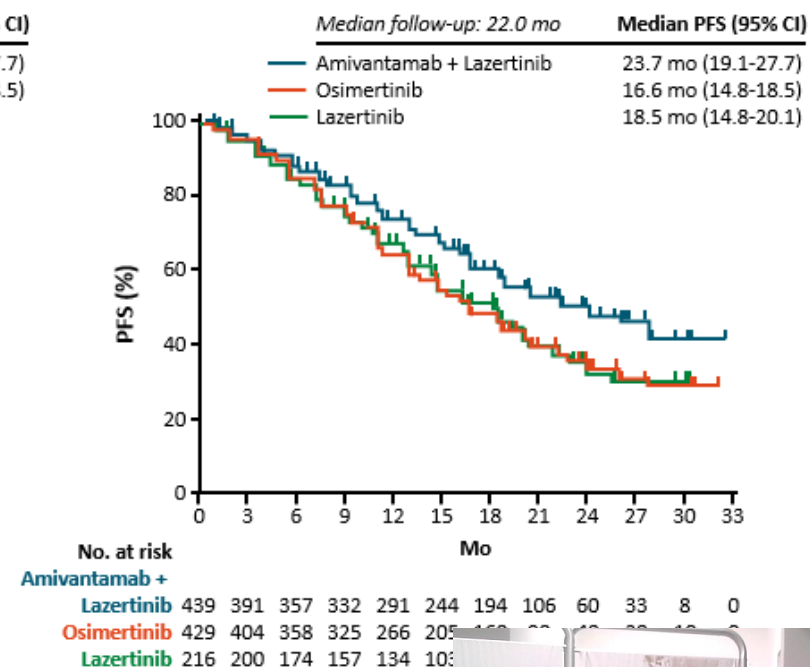
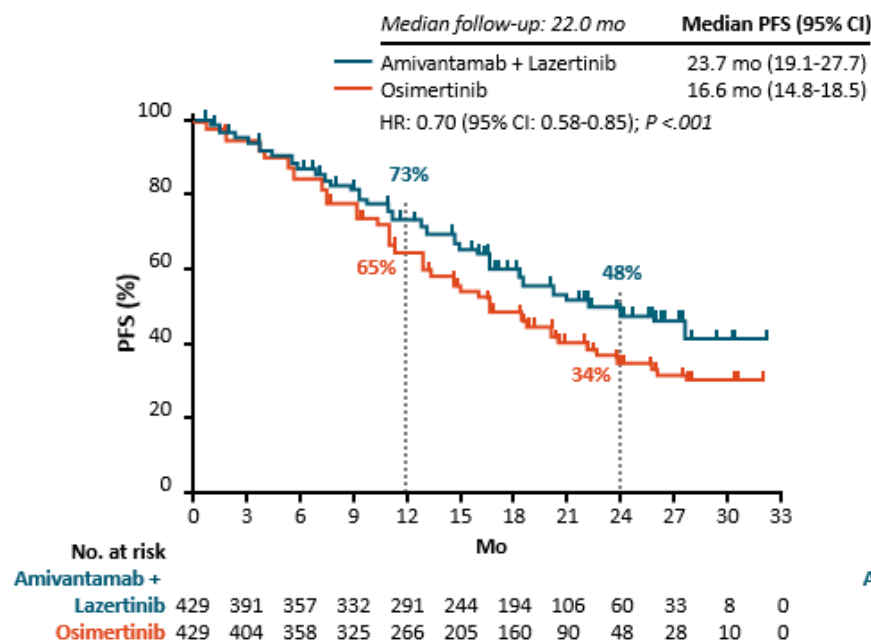




ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

MARIPOSA: PFS by BICR (Primary Endpoint)



Cho. ESMO 2023. LBA14. Felip. ASCO 2024. Abstr 8504.

Slid





ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO DI AGGIORNAMENTO L'EVOLUZIONE DELLA CURA IN ONCOLOGIA TRA COMPLESSITÀ E CONTINUITÀ

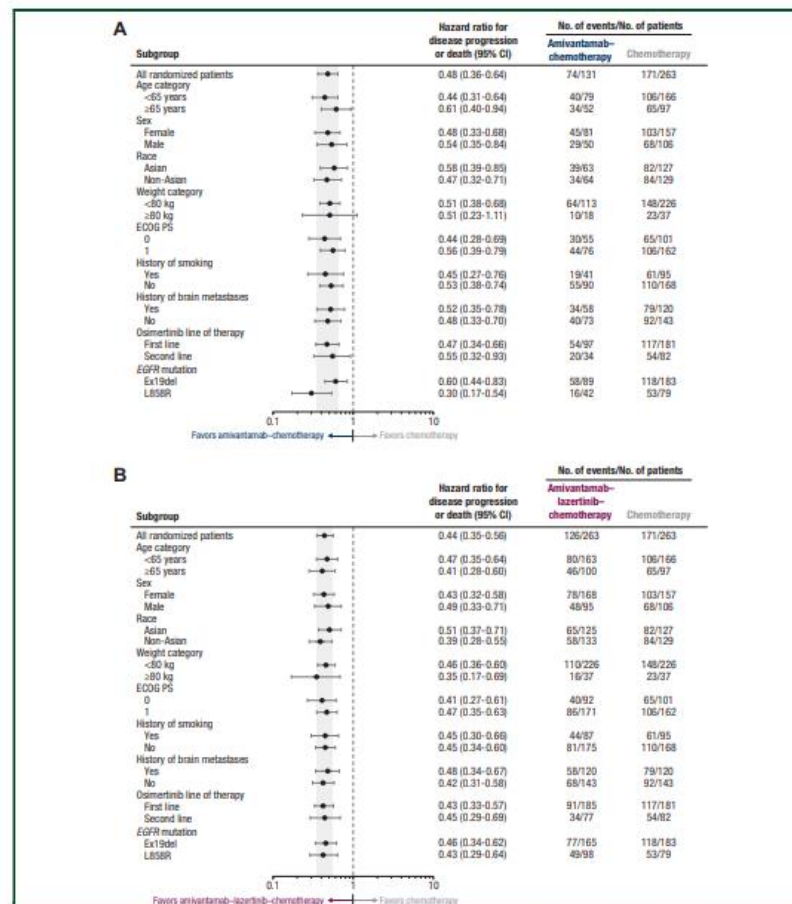


Figure 2. Progression-free survival by blinded independent central review of patient subgroups.

Shown are forest plots of progression-free survival in patient subgroups assessed by blinded independent central review for amivantamab-chemotherapy versus chemotherapy (A) and for amivantamab-lazertinib-chemotherapy versus chemotherapy (B). The efficacy analysis set included all randomized patients. The shaded areas indicate the 95% CI for the overall hazard ratio (all patients). CI, confidence interval; ECOG PS, Eastern Cooperative Oncology Group performance status.

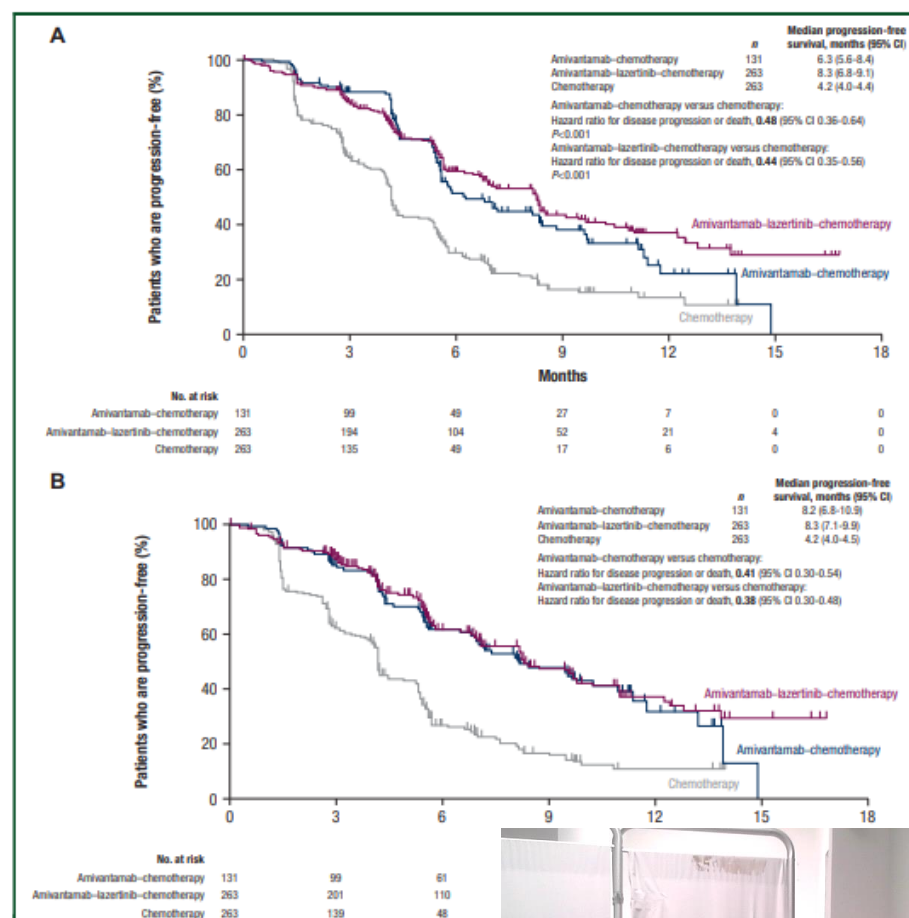


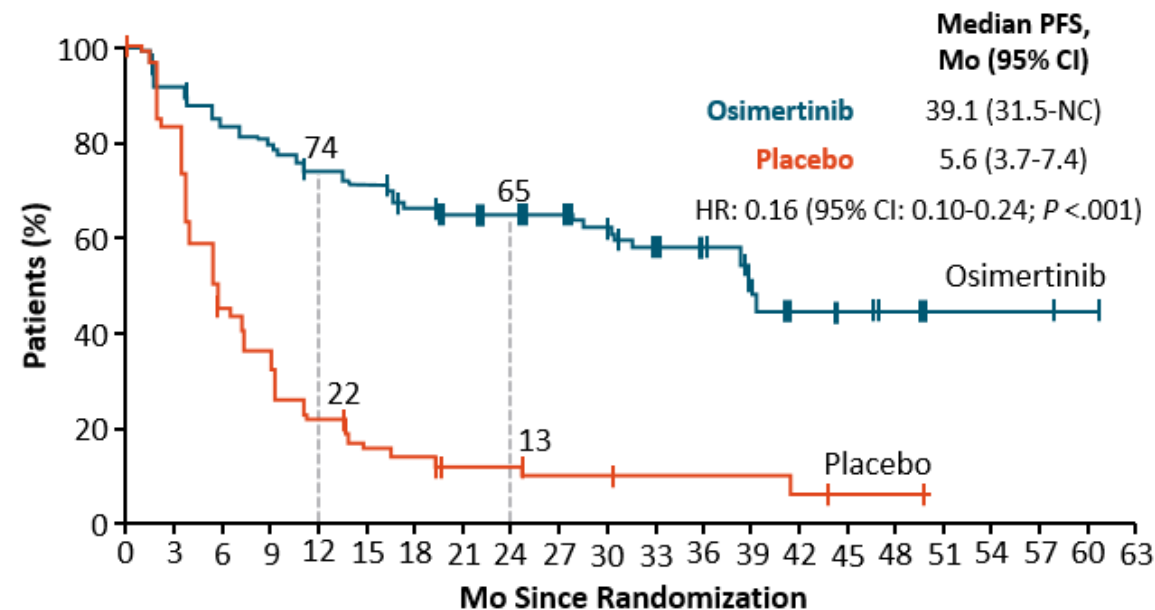
Figure 1. Progression-free survival by blinded independent central review and by inv

Shown are Kaplan-Meier estimates of progression-free survival assessed by blinded i

analysis set included all randomized patients. Tick marks indicate censoring of data. CI,

LAURA: Osimertinib vs Placebo After Definitive CRT in Unresectable Stage III *EGFR*-Mutated NSCLC

LAURA: PFS by BICR (Primary Endpoint)



- Median follow-up for PFS, mo (range):
 - Osimertinib: 22.0 (<0.1-60.6)
 - Placebo: 5.6 (<0.1-49.7)
- PFS favored osimertinib across all patient subgroups

Lu. NEJM. 2024;[Epub]. Ramalingam. ASCO 2024. Abstr LBA4.



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

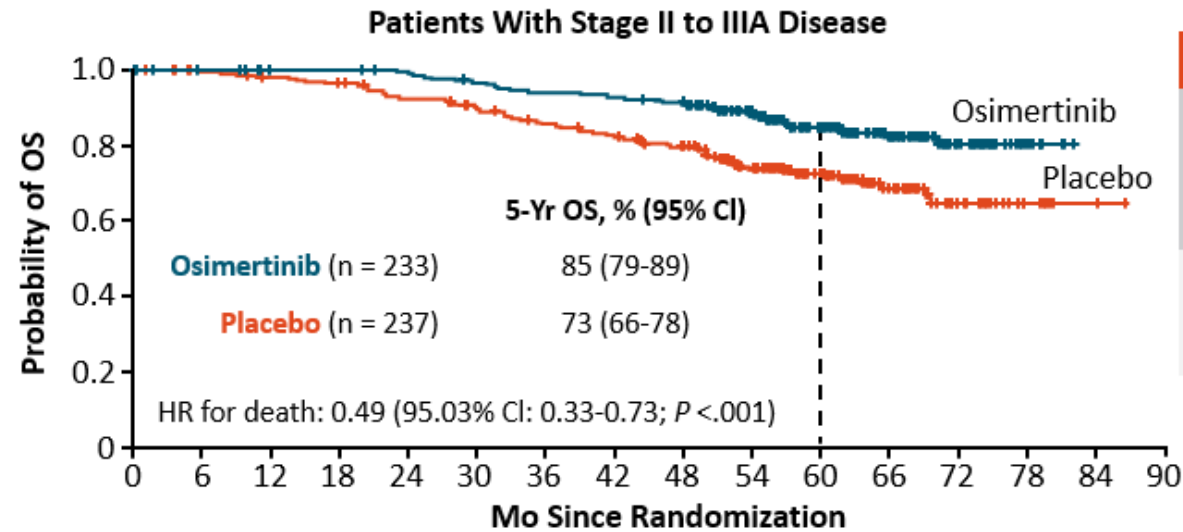
1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



ADAURA: Adjuvant Osimertinib for Early-Stage EGFR-Mutated NSCLC

ADAURA: Overall Survival in Patients With Stage II-IIIa NSCLC

- Median follow-up for OS: 61.5 mo



5-Yr OS, %	Osi	Pbo	HR
Disease stage			
▪ IB	94	88	0.44
▪ II	85	78	0.63
▪ IIIA	85	67	0.37
Adjuvant CT			
▪ Yes	87	77	0.49
▪ No	88	79	0.47

Tsuboi. NEJM. 2023;389:137. Herbst. ASCO 2023. Abstr LBA3.

Slid

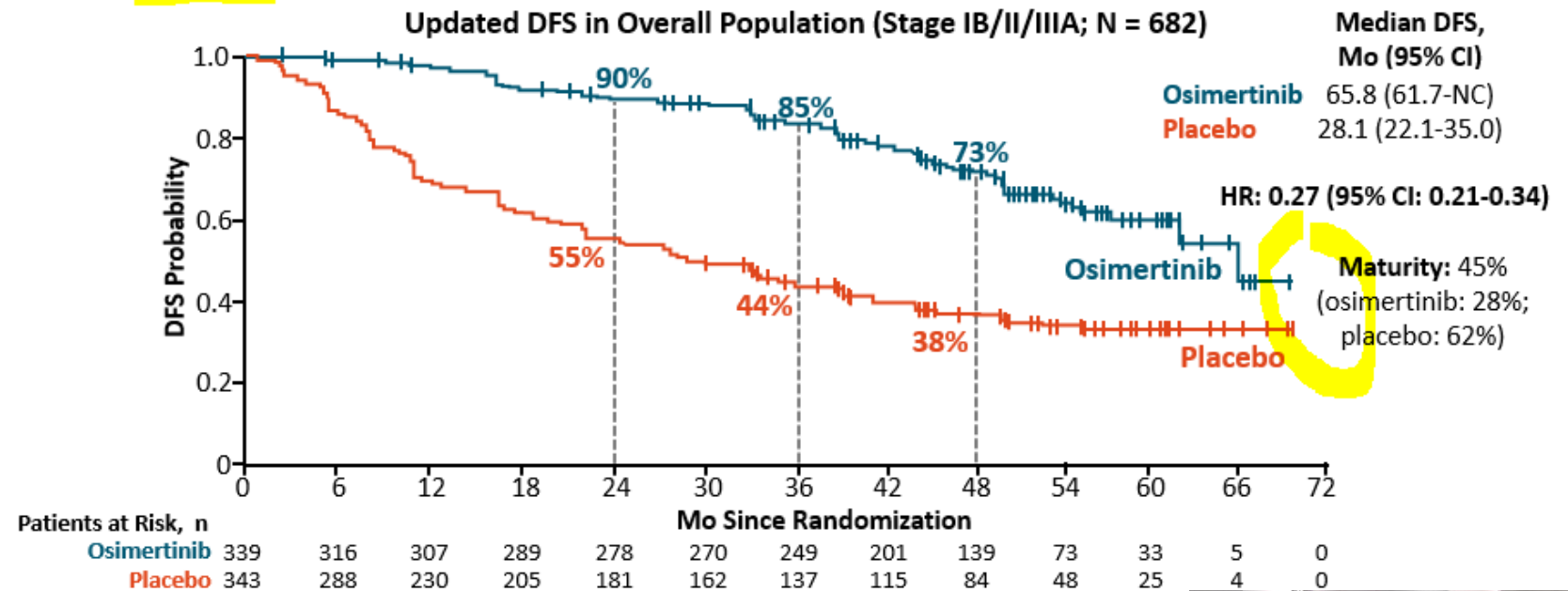


ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

ADAURA: Adjuvant Osimertinib for Early-Stage EGFR-Mutated NSCLC

ADAURA: Disease-Free Survival in Patients With Stage IB-IIIA NSCLC



- FDA approved in December 2020 for adjuvant treatment of adults with stage IB-IIIA EGFR+ (del19 or L858R) NSCLC following tumor resection ± adjuvant chemotherapy

Herbst. J Clin Oncol. 2023;41:1830. Osimertinib PL.

Slide



ASSOCIAZIONE DI ONCOLOGIA
 MARIANGELA PINNA ODV

1° CORSO
 DI AGGIORNAMENTO
 L'EVOLUZIONE DELLA
 CURA IN ONCOLOGIA
 TRA COMPLESSITÀ
 E CONTINUITÀ

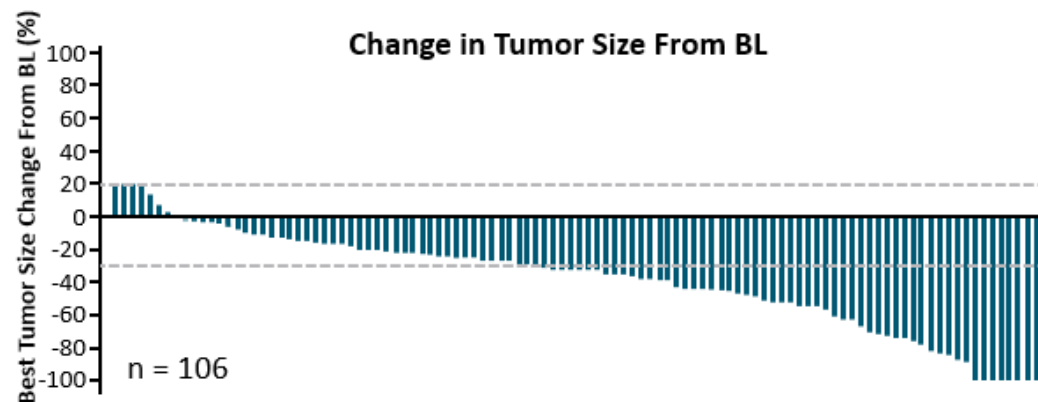




ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

WU-KONG1: Antitumor Activity



- Median DoR not reached
- 9-month DoR rate: 57%
- Sunvozertinib activity noted regardless of previous amivantamab therapy
 - ORR in patients with prior amivantamab: 50%
 - ORR in patients without prior amivantamab: 53.8%

Tumor Response per IRC	All Patients (n = 107)	
	Overall	Confirmed
ORR, % (97.5% CI)	53.3 (42.0-64.3)	44.9 (34.0-56.1)
CR, n (%)	3 (2.8)	2 (1.9)
PR, n (%)	54 (50.5)	46 (43.0)
SD, n (%)	44 (41.1)	--
PD, n (%)	8 (7.5)	--
Not evaluable, n (%)	3 (2.8)	--

Yang. ASCO 2024. Abstr 8513. Reproduced with permission.

Slic



Sesto punto: la malattia con fusione di ALK

Malattia «oncogene addicted» con driver molecolari
sfruttabili



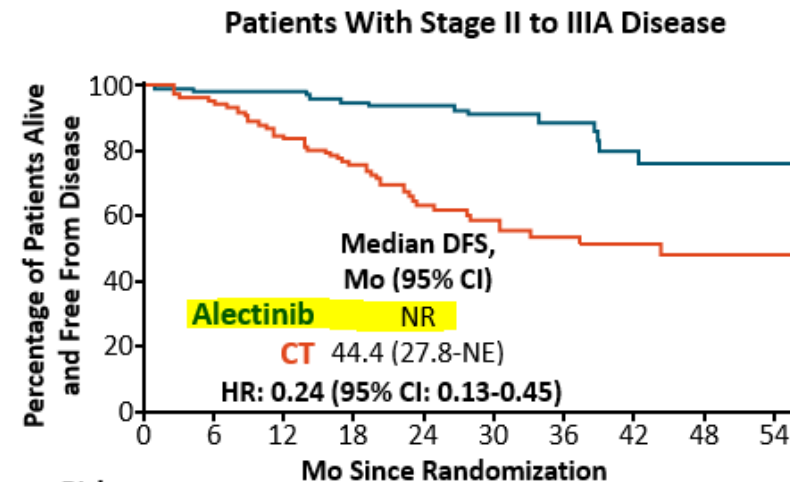
ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



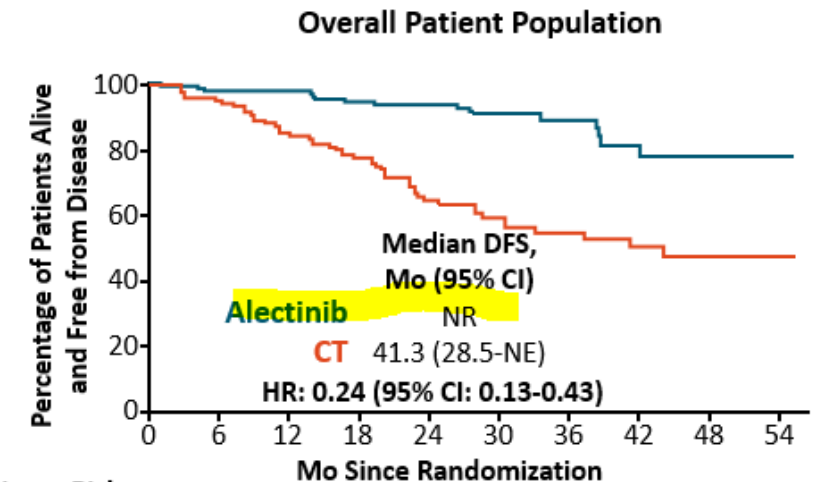
ALINA: Adjuvant Alectinib for Early-Stage ALK Fusion-Positive NSCLC

ALINA: Disease-Free Survival (Primary Endpoint)



No. at Risk

Alectinib	116	111	111	107	67	49	35	21	10	3
CT	115	102	88	79	48	35	23	17	10	2



No. at Risk

Alectinib	130	123	123	118	74	55	39	22	10	3
CT	127	112	98	89	55	41	27	18	11	2

- DFS benefit with alectinib vs chemotherapy observed across all subgroups of the ITT population, including age, sex, race, baseline ECOG PS, tobacco use history, tumor stage, and

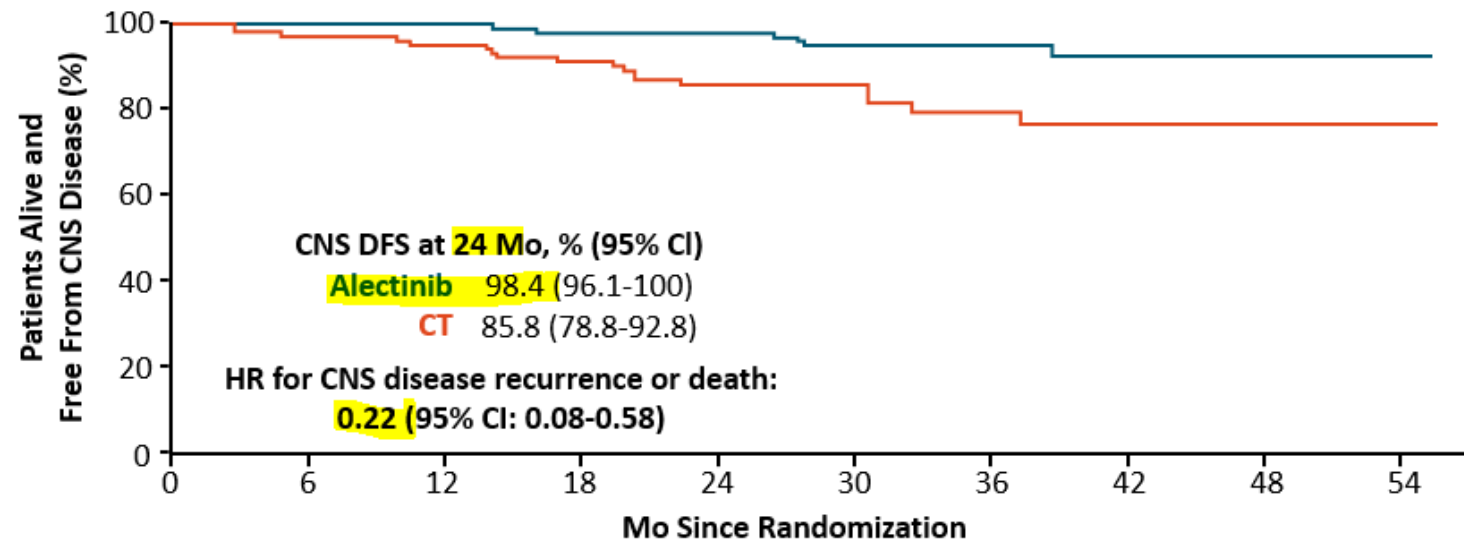


ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

ALINA: Adjuvant Alectinib for Early-Stage ALK Fusion-Positive NSCLC

ALINA: CNS Disease-Free Survival



Wu. NEJM. 2024;390:1265.

Slide



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



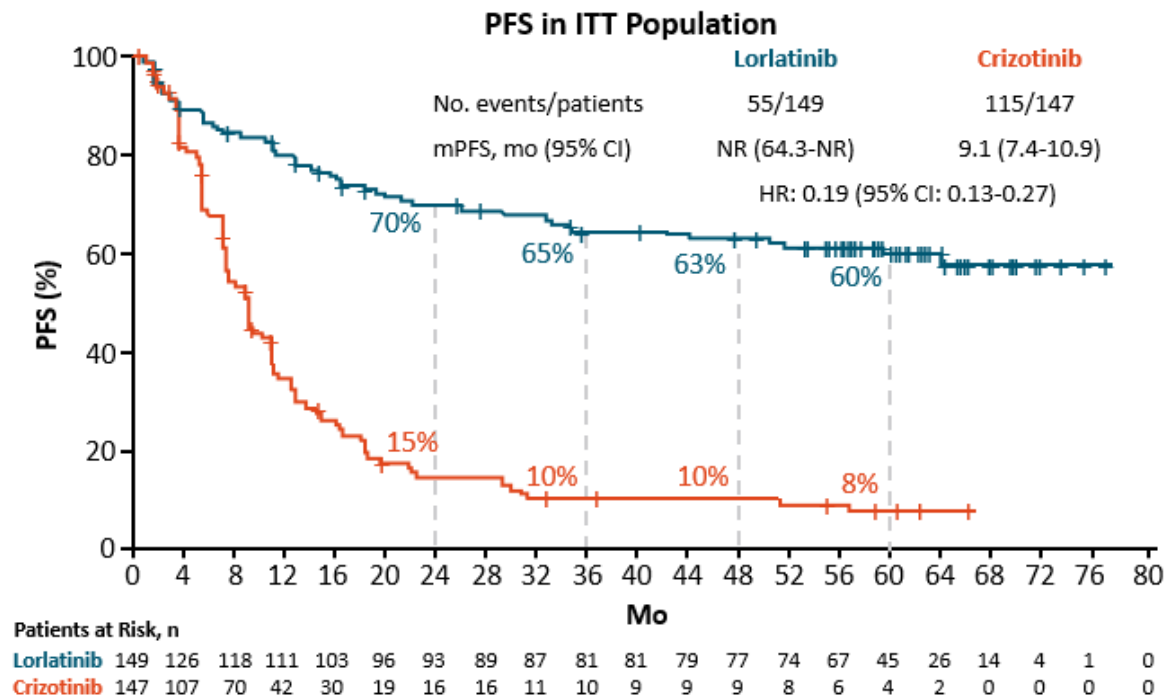
CROWN 5-Yr Update: First-line Lorlatinib vs Crizotinib in ALK-Positive NSCLC



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

CROWN 5-Yr Update: PFS by Investigator



Solomon. ASCO 2024. Abstr LBA8503. Solomon. JCO. 2024;[Epub].

- PFS favored lorlatinib vs crizotinib among all patient subgroups, including with/without BL brain metastases or poor prognostic biomarkers*
- HR for PFS (95% CI):
 - With BL brain mets: **0.08** (0.04-0.19)
 - Without BL brain mets: **0.24** (0.16-0.36)
- OS events needed for assessment NR; follow-up ongoing

*EML4:ALK

Slic



Sesto punto: la malattia con fusione di ROS

Malattia «oncogene addicted» con driver molecolari
sfruttabili



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

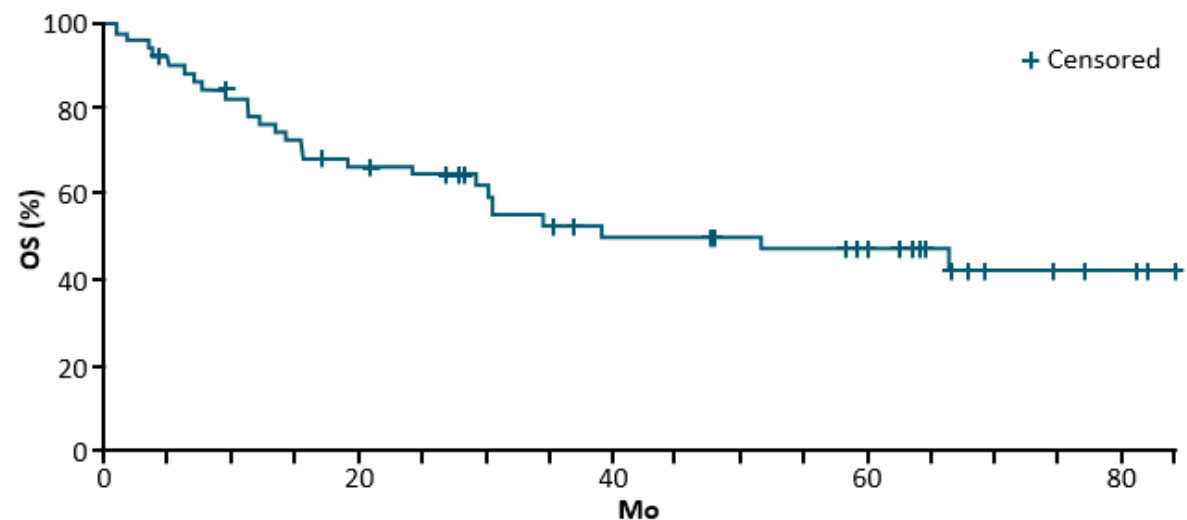




ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Crizotinib in *ROS1*-Rearranged NSCLC (Update): OS



- **Median OS: 51.4 mo** (95% CI: 29.3-NR)
- **Median follow-up period: 62.6 mo**
- **48-mo OS rate: 51%**

Shaw. Ann Oncol. 2019.390;1121.

Slide

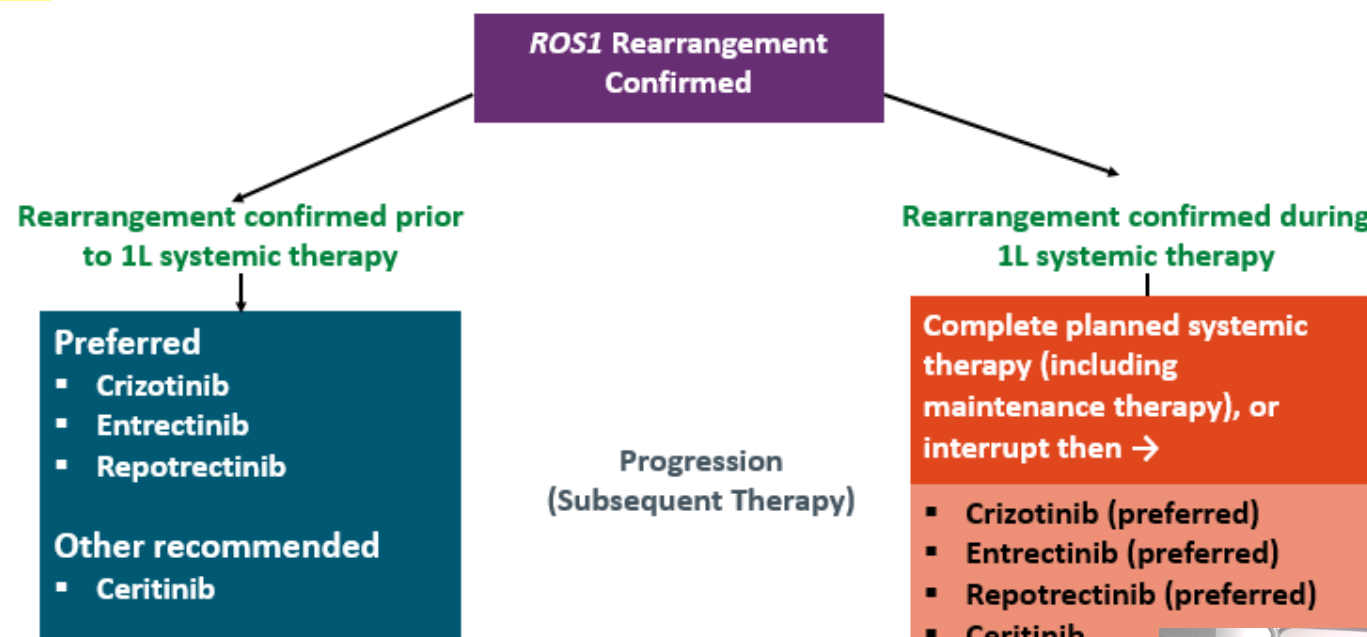




ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Guideline Recommendations for the Management of *ROS1*-Rearranged NSCLC



NCCN clinical practice guidelines in oncology: NSCLC. v7.2024. nccn.org.

Slide





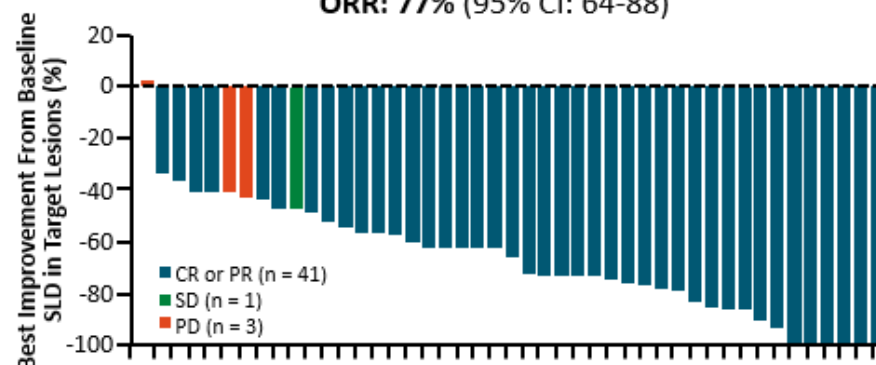
ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Entrectinib in *ROS1*-Rearranged NSCLC: Efficacy

Best Response in Efficacy Evaluable Population (n = 53)

ORR: 77% (95% CI: 64-88)



Parameter ²	Median, mo	95% CI
DoR	20	13.9-28.6
PFS	15.7	11.0-21.1
OS	47.8	44.1-NR

■ In 25 patients with measurable baseline CNS disease:

- Intracranial ORR: 80% (95% CI: 59.3-93.2)
- Median intracranial DoR: 12.9 mo
- Median intracranial PFS: 8.8 mo

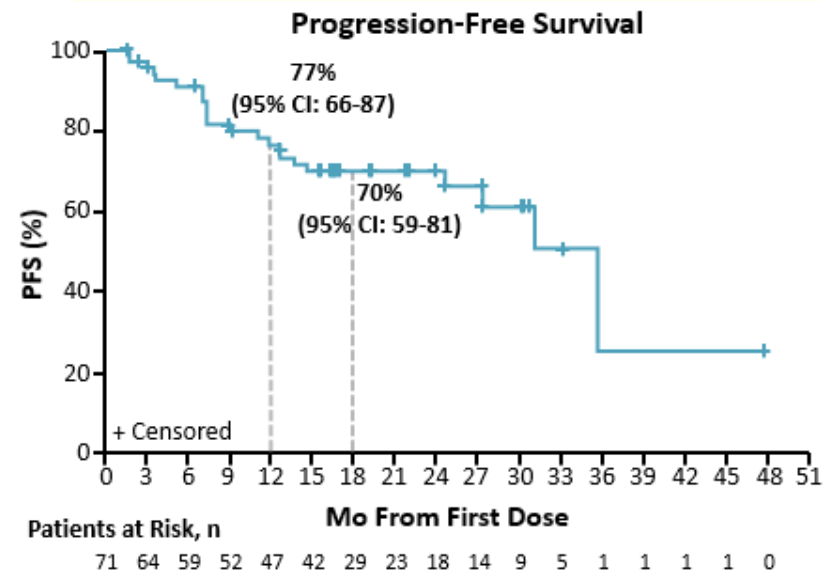
1. Drilon. Lancet Oncol. 2020;21:261. 2. Drilon. J Thorac Oncol Clin Res Rep. 2022;3:100332.

Slide

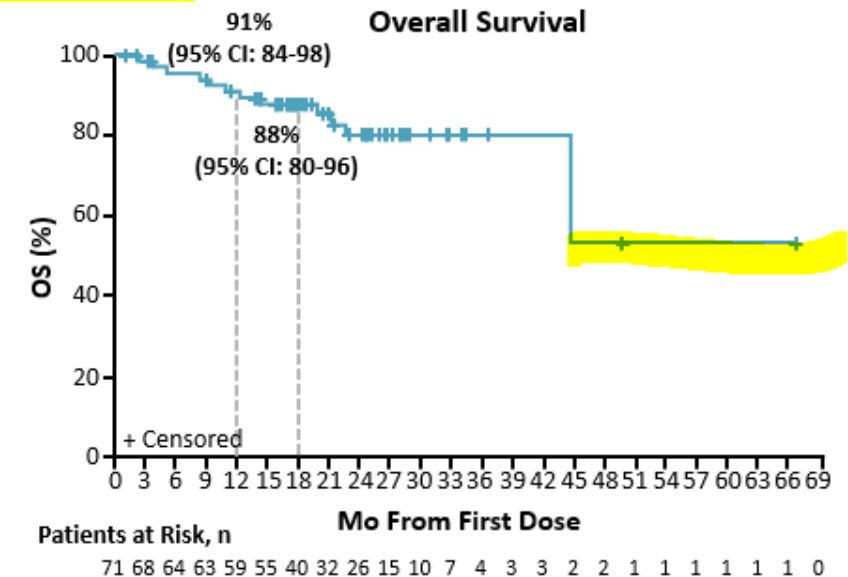


Repotrectinib in *ROS1*-Rearranged NSCLC (TRIDENT-1)

TRIDENT-1 (*ROS1* TKI–Naïve Cohort): PFS and OS



Patient Subgroup	mPFS, mo (95% CI)
All (n = 71)	35.7 (27.4-NE)
Prior CT (n = 20)	31.1 (24.6-NE)
No prior CT (n = 51)	NE (27.4-NE)



Patient Subgroup	mOS, mo (95% CI)
All (n = 71)	NE (44.4-NE)
Prior CT (n = 20)	31.1 (24.6-NE)
No prior CT (n = 51)	NE (44.4-NE)

Cho. WCLC 2023. Abstr OA03.06. Drilon. NEJM. 2024;390:118.

Median follow-up: 24.0 mo (range: 14.2-66.6).

Slic

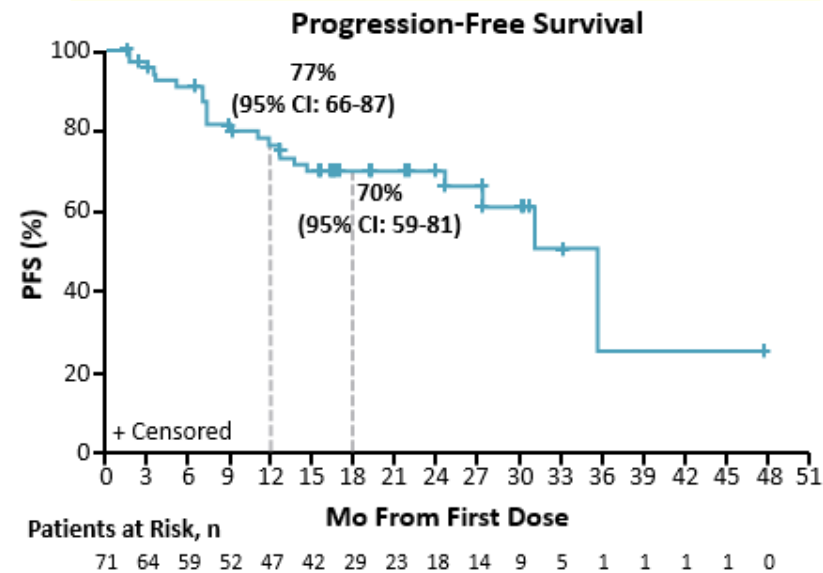


ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

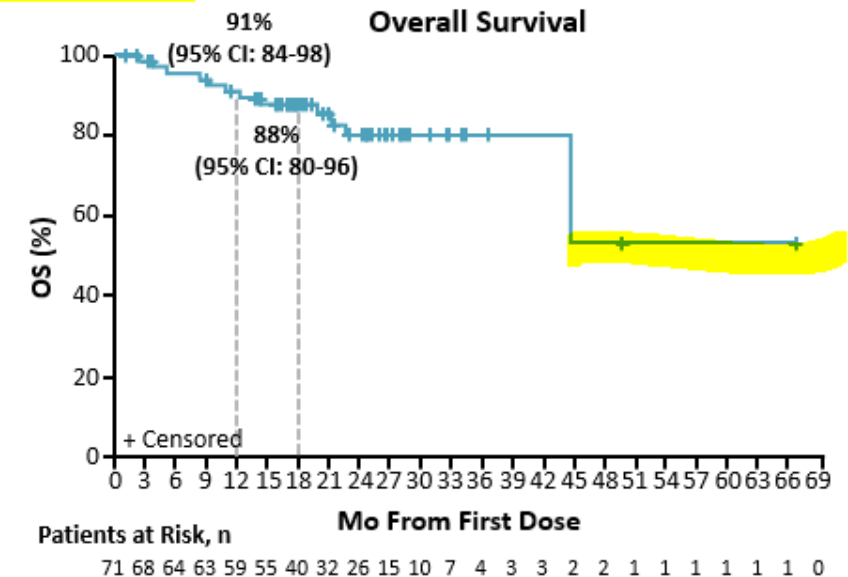
1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Repotrectinib in *ROS1*-Rearranged NSCLC (TRIDENT-1)

TRIDENT-1 (*ROS1* TKI–Naïve Cohort): PFS and OS



Patient Subgroup	mPFS, mo (95% CI)
All (n = 71)	35.7 (27.4-NE)
Prior CT (n = 20)	31.1 (24.6-NE)
No prior CT (n = 51)	NE (27.4-NE)



Patient Subgroup	mOS, mo (95% CI)
All (n = 71)	NE (44.4-NE)
Prior CT (n = 20)	NE (44.4-NE)
No prior CT (n = 51)	NE (44.4-NE)

Cho. WCLC 2023. Abstr OA03.06. Drilon. NEJM. 2024;390:118.

Median follow-up: 24.0 mo (range: 14.2-66.6).

Slic

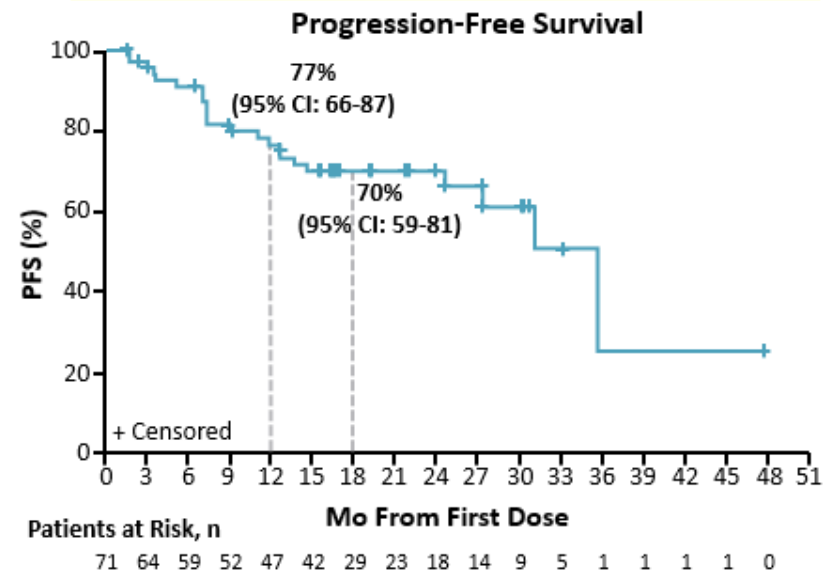


ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

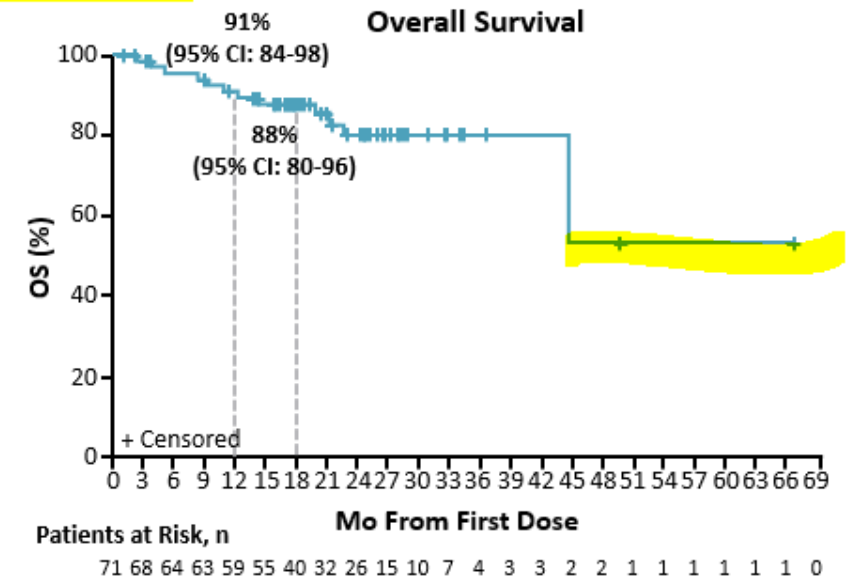
1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

Repotrectinib in *ROS1*-Rearranged NSCLC (TRIDENT-1)

TRIDENT-1 (*ROS1* TKI–Naïve Cohort): PFS and OS



Patient Subgroup	mPFS, mo (95% CI)
All (n = 71)	35.7 (27.4-NE)
Prior CT (n = 20)	31.1 (24.6-NE)
No prior CT (n = 51)	NE (27.4-NE)



Patient Subgroup	mOS, mo (95% CI)
All (n = 71)	NE (44.4-NE)
Prior CT (n = 20)	31.1 (24.6-NE)
No prior CT (n = 51)	NE (44.4-NE)

Cho. WCLC 2023. Abstr OA03.06. Drilon. NEJM. 2024;390:118.

Median follow-up: 24.0 mo (range: 14.2-66.6).

Slic



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

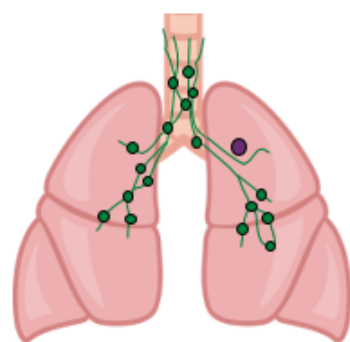
1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



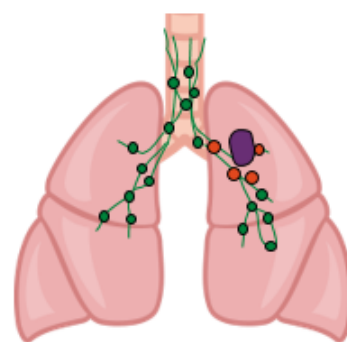
ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ

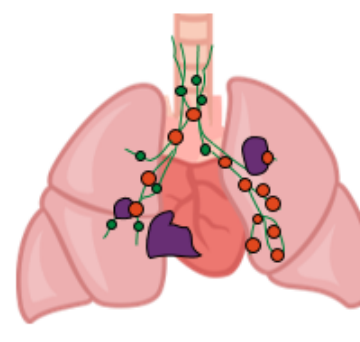
Moving Targeted Therapy and Immunotherapy Earlier in Disease Course



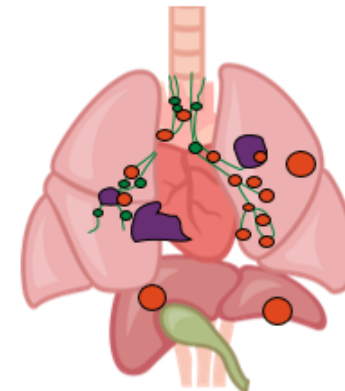
Stage I



Stage II



Stage III



Stage IV

● Tumors

● Nonmetastatic lymph nodes

● Regional/local metastatic lymph nodes/c

Sl





ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO DI AGGIORNAMENTO L'EVOLUZIONE DELLA CURA IN ONCOLOGIA TRA COMPLESSITÀ E CONTINUITÀ

First-line Systemic Treatment for Nonresectable NSCLC

1. Molecularly targeted therapy: PS 0-4

EGFR E19Del, L858R,
T790M[§], S768I[§], L861Q[§], and/or G719X[§]
Osimertinib[§] or +carboplatin/pemetrexed
Erlotinib (Erl), Gefitinib, Afatinib[§],
Dacomitinib, afatinib+certuximab[§]
Erl+ramucirumab, Erl+bevacizumab,
Furmonertinib (China)

EGFR E20ins: **Amivantamab**;
Amivantamab +carboplatin/pemetrexed

ALK fusions:
Alectinib[§], Brigatinib[§], Lorlatinib[§],
Ceritinib, [Crizotinib]

ROS1 fusions:
Entrectinib[§], Crizotinib, Ceritinib,
Repotrectinib[§], [Lorlatinib]

BRAF V600E:
Dabrafenib ±Trametinib[§], [Vemurafenib]
Encorafenib + binimetinib

NTRK1/2/3 fusions: Larotrectinib, Entrectinib, Repotrectinib
RET fusion: Selpercatinib[§], Pralsetinib[§],
[Cabozantinib (2B)]

MET exon 14 skipping mutations:
Capmatinib[§], Tepotinib[§], [crizotinib]

High level MET amplification (≥10):
capmatinib, crizotinib

ERBB2 (HER2) mutations:
fam-trastuzumab deruxtecan,
ado-trastuzumab emtansine,
pyrotinib (China)
KRAS G12C: Sotorasib, Adagrasib

2. Immune checkpoint monotherapy: PS 0-2

Pembrolizumab monotherapy:

KEYNOTE-024 (P3) (FDA 10/24/2016)
(PD-L1 IHC 22C3 pharmDx: TPS≥50%)

KEYNOTE-042 (P3) (FDA 4/11/2019)
(PD-L1 TPS≥1% and not candidate for surgery
or chemotherapy)

Atezolizumab monotherapy:
IMPOWER-110 (P3) (FDA 5/18/2020)
(PD-L1 IHC SP142 assay: TC3≥50% or IC3≥10%)

Cemiplimab monotherapy V4.2021
EMPOWER-Lung 1 (FDA 2/22/2021)
(PD-L1 IHC SP263 assay TPS≥50%)

**NSCLC with high
PD-L1 expression,
no driver oncogene
alterations and no
contraindications to
ICI therapy**

3. Chemoimmunotherapy combination:

KEYNOTE-021G (P2)

KEYNOTE-189 (P3):

Pembrolizumab plus pemetrexed and platinum
(FDA accelerated approval 5/10/2017;
regular approval 8/20/2018)

EMPOWER-Lung3 (P3):

Cemiplimab, paclitaxel and carboplatin
(FDA 11/8/2022)

CHOICE-01 (P3)

Toripalimab plus chemotherapy
(FDA 10/27/2023)

4. IMPOWER-150 (P3):

Atezolizumab, bevacizumab paclitaxel and carboplatin
(FDA 12/6/2018)

*Preferred

First line therapy

Subsequent Therapy

Chemotherapy

[other recommended, category 2B]

PD-L1 TPS<50% and no sensitizing EGFR or ALK alteration

Non-squamous (WT)

Platinum-doublet
±bevacizumab

Pembrolizumab
with chemo
Atezolizumab, bevacizumab
with chemo

Squamous (WT)

Platinum-doublet
±ramucirumab

Pembrolizumab
with chemo
Atezolizumab with chemo

[Atezolizumab is an option for patients
with PS 3, regardless of PD-L1 status.]

KEYNOTE-407 (P3):

**Pembrolizumab plus carboplatin
and (paclitaxel or nab-paclitaxel)**
(FDA 10/30/2018)

IMPOWER-130 (P3):

**Atezolizumab plus carboplatin and
nab-paclitaxel** (FDA 12/3/2019)

EMPOWER-Lung3 (P3):

Cemiplimab, paclitaxel and carboplatin
(FDA 11/9/2022)

5. Dual ICIs without or with chemotherapy

[**CheckMate-227 (P3)** Nivolumab + ipilimumab]

PD-L1 IHC 22-8 pharmDx ≥1 (FDA 5/15/2020)

CheckMate-9LA (P3) Regardless of PD-L1 expression

Nivolumab + ipilimumab + paclitaxel + carboplatin (FDA 5/26/2020)

POSEIDON (P3) Tremelimumab

chemotherapy (FDA 11/10/2020)

CHOICE-01 (P3)

Toripalimab

plus chemotherapy

(FDA 10/27/2023)



Grazie per l'attenzione

Giovanni Maria Fadda



ASSOCIAZIONE DI ONCOLOGIA
MARIANGELA PINNA ODV

1° CORSO
DI AGGIORNAMENTO
L'EVOLUZIONE DELLA
CURA IN ONCOLOGIA
TRA COMPLESSITÀ
E CONTINUITÀ



