16th CONGRESS Lung ON CANCER

BARCELONA 27 / 28 NOVEMBER 2025

GECP lung cancer research

LOCOREGIONAL NSCLC DISEASE
Is there a role for SABRT?

Javier Luna Tirado
Oncólogo radioterápico
Fundación Jiménez Díaz

- SBRT ESTADIO INICIAL

- SBRT NSCLC MTS

- SBRT COMO BOOST EN TRATAMIENTO RADICAL

- SBRT NEOADYUVANTE

GECP
lung cancer research

CONFLICTO DE INTERESES

En cumplimiento con el Código de Buenas Prácticas de la Industria Farmacéutica (Farmaindustria), se informa que toda la información compartida durante esta reunión científico-profesional es estrictamente confidencial, privilegiada y destinada únicamente al destinatario previsto. Queda expresamente prohibida la difusión, directa o indirecta, a través de redes sociales, canales de comunicación o medios externos, así como cualquier uso no autorizado, incluida la divulgación o distribución del contenido.

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TRATAMIENTO RADICAL RTQT

VOLUME 28 · NUMBER 13 · MAY 1 2010

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Meta-Analysis of Concomitant Versus Sequential Radiochemotherapy in Locally Advanced Non–Small-Cell Lung Cancer

Anne Aupérin, Cecile Le Péchoux, Estelle Rolland, Walter J. Curran, Kiyoyuki Furuse, Pierre Fournel,

The NEW ENGLAND JOURNAL of MEDICINE

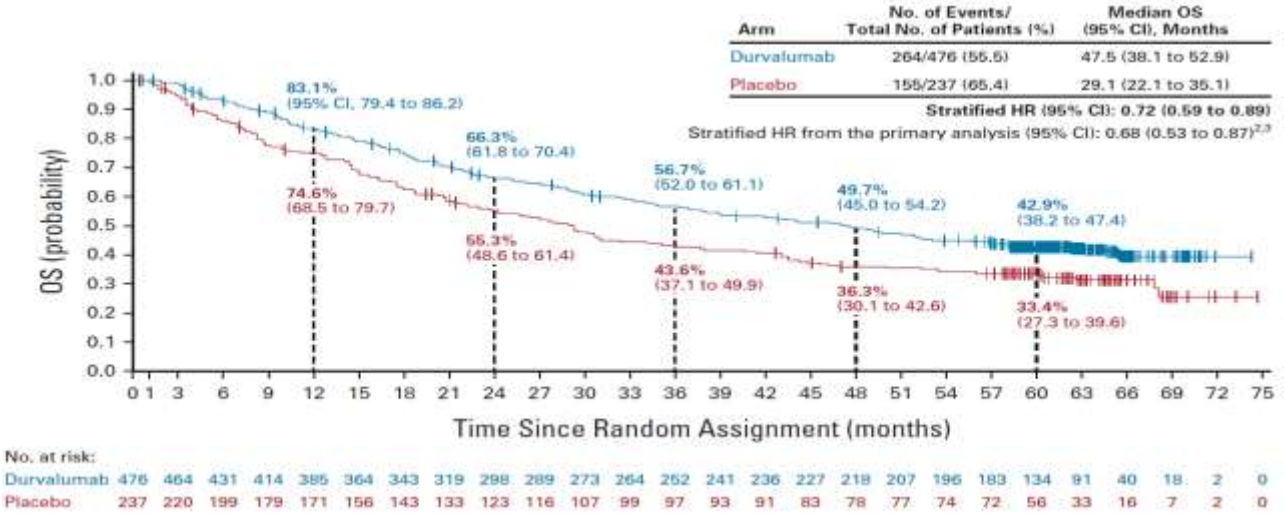
ESTABLISHED IN 1812 NOVEMBER 16, 2017 VOL. 377 NO. 20

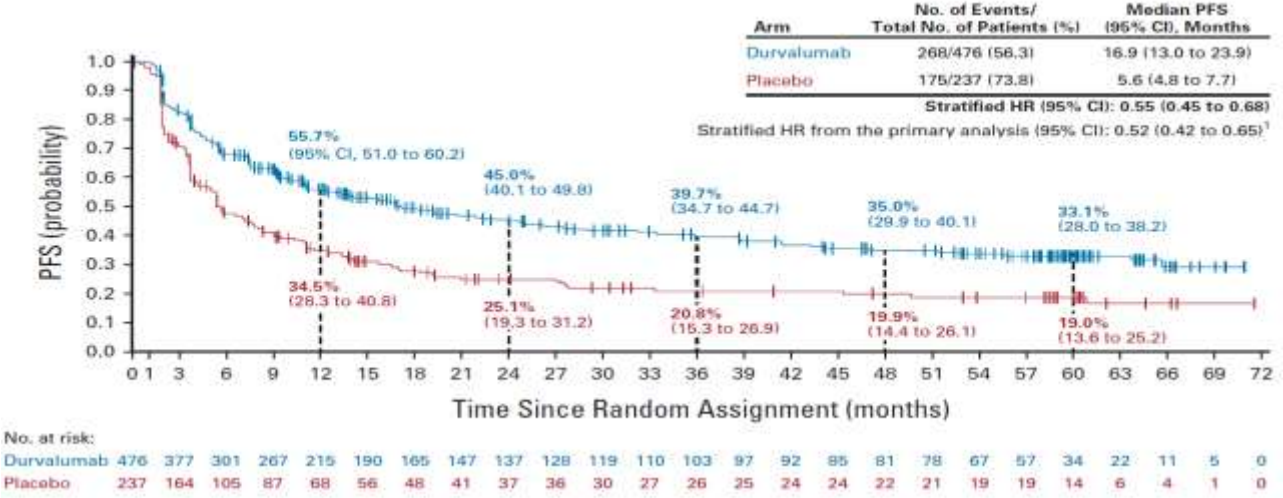
Durvalumab after Chemoradiotherapy in Stage III Non–Small-Cell Lung Cancer

S.J. Antonia, A. Villegas, D. Daniel, D. Vicente, S. Murakami, R. Hui, T. Yokoi, A. Chiappori, K.H. Lee, M. de Wit, B.C. Cho, M. Bourhaba, X. Quantin, T. Tokito, T. Mekhail, D. Planchard, Y.-C. Kim, C.S. Karapetis, S. Hiret, G. Ostoros, K. Kubota, J.E. Gray, L. Paz-Ares, J. de Castro Carpeño, C. Wadsworth, G. Melillo, H. Jiang, Y. Huang, P.A. Dennis, and M. Özgüroğlu, for the PACIFIC Investigators*

Five-Year Survival Outcomes From the PACIFIC Trial: Durvalumab After Chemoradiotherapy in Stage III Non–Small-Cell Lung Cancer

David R. Spigel, MD[1]; Corinne Faivre-Finn, MD, PhD[2]; Jhanelle E. Gray, MD[3]; David Vicente, MD[4]; David Planchard, MD, PhD[5]; Luis Paz-Ares, MD, PhD[6]; Johan F. Vansteenkiste, MD, PhD[7]; Marina C. Garassino, MD[8,9]; Rina Hui, PhD[10]; Xavier Quantin, MD, PhD[11]; Andreas Rimner, MD[12]; Yi-Long Wu, MD[13]; Mustafa Özgüroğlu, MD[14]; Ki H. Lee, MD[15]; Terufumi Kato, MD[16]; Maike de Wit, MD, PhD[17]; Takayasu Kurata, MD[18]; Martin Reck, MD, PhD[19]; Byoung C. Cho, MD, PhD[20]; Suresh Senan, PhD[21]; Jarushka Naidoo, MBBCH, MHS[22]; Helen Mann, MSc[23]; Michael Newton, PharmD[24]; Pirantha Thiyagarajah, MD[25]; and Scott J. Antonia, MD, PhD[3]; on behalf of the PACIFIC Investigators





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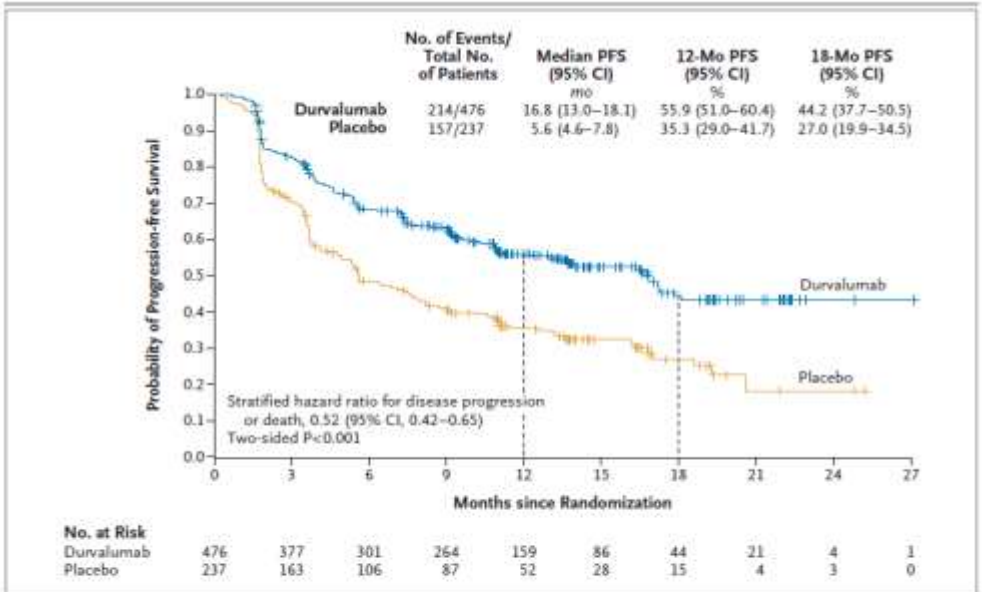


Figure 1. Progression-free Survival in the Intention-to-Treat Population.

Shown are Kaplan–Meier curves for progression-free survival (PFS), defined according to the Response Evaluation Criteria in Solid Tumors, version 1.1, and assessed by means of blinded independent central review. Tick marks indicate censored observations, and vertical lines indicate the times of landmark PFS analyses. The intention-to-treat population included all patients who underwent randomization.

Table 3. Adverse Events of Any Cause.

Event	Durvalumab (N=475)		Placebo (N=234)	
	Any Grade*	Grade 3 or 4	Any Grade*	Grade 3 or 4
	number of patients with event (percent)			
Any event	460 (96.8)	142 (29.9)	222 (94.9)	61 (26.1)
Cough	168 (35.4)	2 (0.4)	59 (25.2)	1 (0.4)
Pneumonitis or radiation pneumonitis†	161 (33.9)	16 (3.4)	58 (24.8)	6 (2.6)
Fatigue	113 (23.8)	1 (0.2)	48 (20.5)	3 (1.3)
Dyspnea	106 (22.3)	7 (1.5)	56 (23.9)	6 (2.6)
Diarrhea	87 (18.3)	3 (0.6)	44 (18.8)	3 (1.3)
Pyrexia	70 (14.7)	1 (0.2)	21 (9.0)	0
Decreased appetite	68 (14.3)	1 (0.2)	30 (12.8)	2 (0.9)
Nausea	66 (13.9)	0	31 (13.2)	0
Pneumonia	62 (13.1)	21 (4.4)	18 (7.7)	9 (3.8)
Arthralgia	59 (12.4)	0	26 (11.1)	0
Pruritus	58 (12.2)	0	11 (4.7)	0
Rash	58 (12.2)	1 (0.2)	17 (7.3)	0
Upper respiratory tract infection	58 (12.2)	1 (0.2)	23 (9.8)	0
Constipation	56 (11.8)	1 (0.2)	20 (8.5)	0
Hypothyroidism	55 (11.6)	1 (0.2)	4 (1.7)	0
Headache	52 (10.9)	1 (0.2)	21 (9.0)	2 (0.9)
Asthenia	51 (10.7)	3 (0.6)	31 (13.2)	1 (0.4)
Back pain	50 (10.5)	1 (0.2)	27 (11.5)	1 (0.4)
Musculoskeletal pain	39 (8.2)	3 (0.6)	24 (10.3)	1 (0.4)
Anemia	36 (7.6)	14 (2.9)	25 (10.7)	8 (3.4)

2021 ESMO congress

1171MO – PACIFIC-R Real-World Study: Treatment Duration and Interim Analysis of Progression-Free Survival in Unresectable Stage III NSCLC Patients Treated with Durvalumab After Chemoradiotherapy

Nicolas Girard,[1] Hans J.M. Smit,[2] Anne Sibille,[3] Fiona McDonald,[4] Françoise Mornex,[5] Marina C. Garassino,[6] Andrea Riccardo Filippi,[7] Solange Peters,[8] John K. Field,[9] Daniel C. Christoph,[10] Rainer Fietkau,[11] Vilde Drageset Haakensen,[12] Jair Bar,[13] Christos Chouaid,[14] Victoria Bray,[15] Steven Kao,[16] William Sawyer,[17] Allison Allen,[18] Muriel Licour,[19] Pilar Garrido[20]

PACIFIC-R: un estudio internacional, observacional

- **1399 pacientes** incluidos en el **conjunto de análisis completo (FAS)** de **290 centros activos** en **11 países participantes**
  - Francia (n=342), España (244)†, Australia (165), Países Bajos (155), Bélgica (118), Italia (116), Israel (92), Alemania (62), Reino Unido (54), Noruega (36) y Suiza (15)

Durvalumab Treatment Discontinuation

FAS (N=1,399)	Discontinuation reason, n (%)*	Median time from durva. start to discontinuation
Patient decision	20 (1.4)	6.1 months
AE	233 (16.7)	2.8 months
Completed treatment†	659 (47.1)	12.0 months
Disease progression	377 (26.9)	5.1 months
Death	21 (1.5)	1.9 months

- **Pneumonitis/interstitial lung disease (ILD)** was the most common AE leading to (% of FAS):
  - **Permanent** discontinuation: 133 (**9.5%**)‡
  - **Temporary** interruption: 73 (**5.2%**)‡

Pneumonitis/ILD

	FAS (N=1,399)
Patients with any pneumonitis/ILD, n (%)§	250 (17.9)
Mild event¶	56 (4.0)
Moderate event¶	118 (8.4)
Severe event¶	41 (2.9)
Life-threatening or fatal event¶	5 (0.4)

- Median **time to onset** of pneumonitis/ILD from durvalumab initiation: **2.5 months**
- **Corticosteroid** administration was required in **71.3%** of events#

¿DOSIS, TÉCNICA RADIOTERAPIA?

original reports

Long-Term Results of NRG Oncology RTOG 0617: Standard- Versus High-Dose Chemoradiotherapy With or Without Cetuximab for Unresectable Stage III Non–Small-Cell Lung Cancer

Jeffrey D. Bradley, MD[1]; Chen Hu, PhD[2,3]; Ritsuko R. Komaki, MD[4]; Gregory A. Masters, MD[5]; George R. Blumenschein, MD[6]; Steven E. Schild, MD[4]; Jeffrey A. Bogart, MD[7]; Kenneth M. Forster, PhD[8]; Anthony M. Magliocco, MD[9]; Vivek S. Kavadi, MD[10]; Samir Narayan, MD[11]; Puneeth Iyengar, MD[12]; Clifford G. Robinson, MD[13]; Raymond B. Wynn, MD[14]; Christopher D. Koprowski, MD[15]; Michael R. Olson, MD[16]; Joanne Meng, MD[17]; Rebecca Paulus, BS[2]; Walter J. Curran Jr, MD[18]; and Hak Choy, MD[19]

Inoperable stage III NSCLC

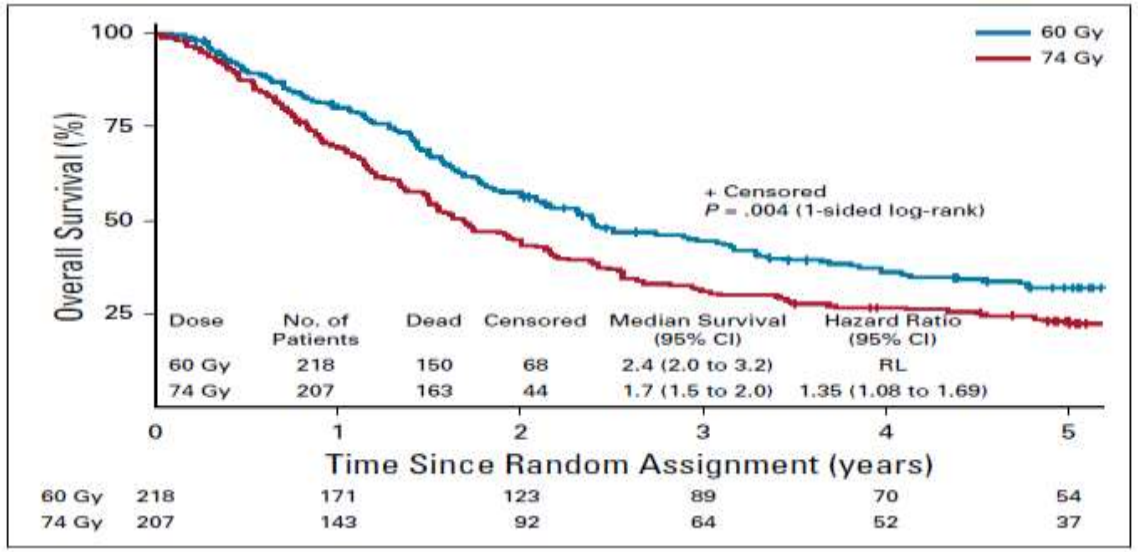
Concurrent Radio-chemotherapy (Carbo – Taxol)

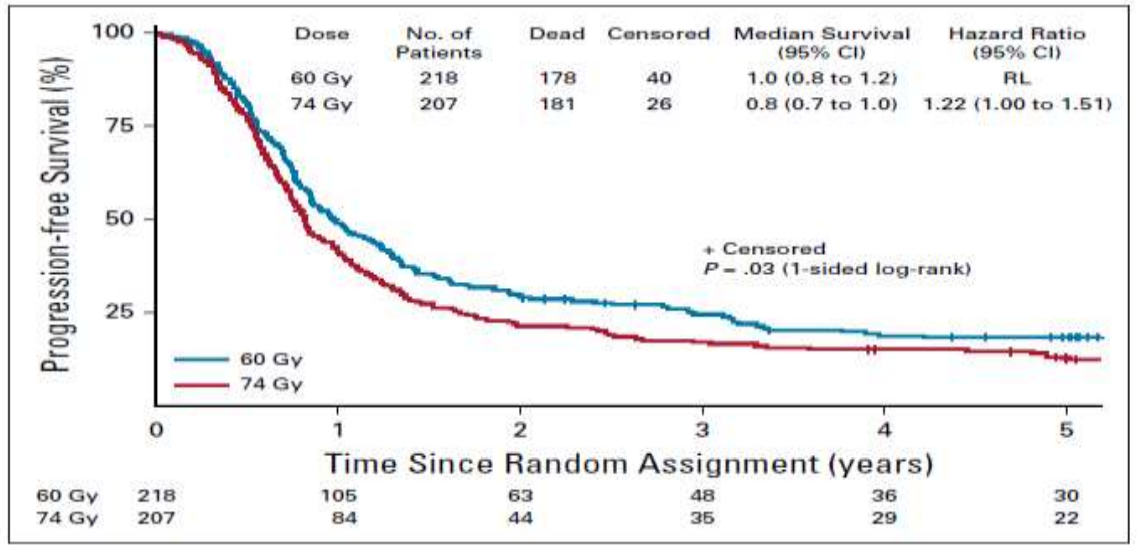
60Gy	74Gy
RCHT	RCHT + Cetuximab

Bradley Lancet Oncol 2015

TABLE 3. Patterns of Failure at 5 Years

	Standard Dose (60 Gy)		High Dose (74 Gy)		
Failure Pattern	Failed, % (95% CI)	No. at Risk	Failed, % (95% CI)	No. at Risk	*P*
Local	38.2 (31.7 to 44.8)	40	45.7 (38.7 to 52.4)	27	.07
Regional	35.7 (29.3 to 42.2)	37	38.4 (31.7 to 45.0)	27	.54
Locoregional	49.7 (42.8 to 56.3)	34	55.4 (48.3 to 61.9)	25	.17
Distant	52.3 (45.3 to 58.8)	36	57.6 (50.4 to 64.1)	24	.32





VOLUME 35 · NUMBER 1 · JANUARY 1, 2017

JOURNAL OF CLINICAL ONCOLOGY ORIGINAL REPORT

Impact of Intensity-Modulated Radiation Therapy Technique for Locally Advanced Non–Small-Cell Lung Cancer: A Secondary Analysis of the NRG Oncology RTOG 0617 Randomized Clinical Trial

Stephen G. Chun, Chen Hu, Hak Choy, Ritsuko U. Komaki, Robert D. Timmerman, Steven E. Schild,

Table 3. Outcomes at 2 Years by Radiation Therapy Technique

Outcome	3D-CRT, % (95% CI)	IMRT, % (95% CI)	*P*
Overall survival	49.4 (42.9 to 55.5)	53.2 (46.4 to 59.6)	.597
Progression-free survival	27.0 (21.5 to 32.7)	25.2 (19.7 to 31.1)	.595
Local failure	37.1 (31.0 to 43.1)	30.8 (24.8 to 36.9)	.498
Distant metastases	49.6 (43.2 to 55.8)	45.9 (39.2 to 52.3)	.661

NOTE. *P* values from a two-sided log-rank test stratified by radiation therapy dose level (60 *v* 74 Gy).

Abbreviations: 3D-CRT, three-dimensional conformal external beam radiation therapy; IMRT, intensity-modulated radiation therapy.

Table 4. CTCAE ≥ Grade 3 Radiation-Related Adverse Events of 3D-CRT and IMRT

≥ Grade 3 Toxicity	3D-CRT, % (No.)	IMRT, % (No.)	*P*
No. of patients	254	228	
Pneumonitis	7.9 (20)	3.5 (8)	.039
Esophagitis/dysphagia	15.4 (39)	13.2 (30)	.534
Weight loss	2.8 (7)	3.9 (9)	.419
Cardiovascular	8.3 (21)	4.8 (11)	.131

NOTE. *P* values from a Cochran-Mantel-Haenszel test stratified by radiation therapy dose level (60 *v* 74 Gy) and cetuximab random assignment.

Abbreviations: 3D-CRT, three-dimensional conformal external beam radiation therapy; CTCAE, Common Terminology Criteria for Adverse Events (version 3); IMRT, intensity-modulated radiation therapy.

¿PRESTAMOS SUFICIENTE ATENCIÓN AL CORAZÓN?

- Hay un interés creciente debido a los resultados del estudio RTOG 0617 en el que la dosis en corazón fue un factor predictor de supervivencia (p< 0,001). La IMRT se asoció a unas dosis menores en corazón (p< 0,05)

Cardiac Toxicity of Thoracic Radiotherapy: Existing Evidence and Future Directions

Kathryn Banfill, MBChB,[a,b,*] Meredith Giuliani, PhD,[c,d] Marianne Aznar, PhD,[a]
Kevin Franks, MBChB,[e,f] Alan McWilliam, PhD,[a,b] Matthias Schmitt, PhD,[g]
Fei Sun, MBBS,[e,f] Marie Catherine Vozenin, PhD,[h] Corinne Faivre Finn, PhD,[a]
behalf of the IASLC Advanced Radiation Technology committee

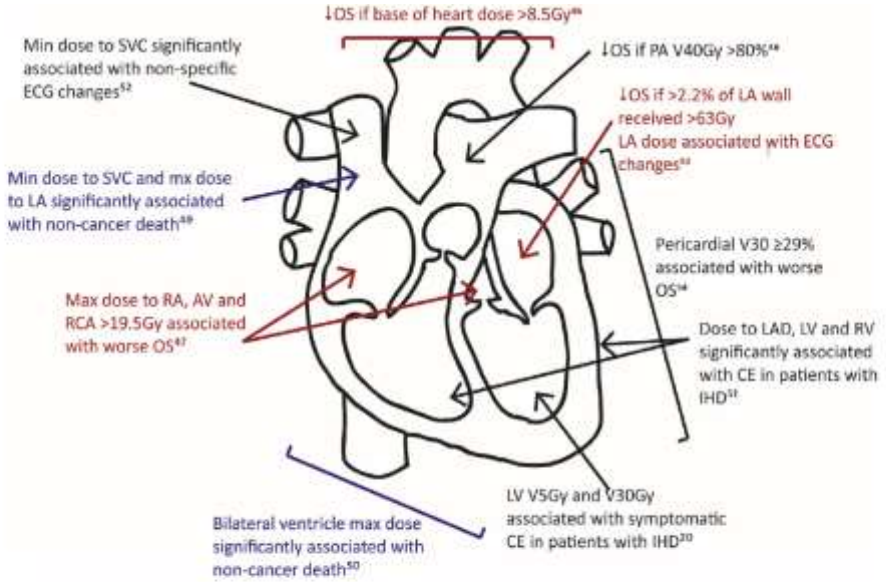


Figure 2. Cardiac substructures found to be significantly associated with cardiac events or overall survival in prospective and retrospectives studies. Labels in black reveal studies using standard fractionation, those in red reveal studies using hypo-fractionated radiotherapy, and those in blue reveal studies using SABR. AV, aortic valve; CE, cardiac events; ECG, electro-cardiogram; IHD, ischemic heart disease; LA, left atrium; LAD, left anterior descending coronary artery; LV, left ventricle; OS, overall survival; PA, pulmonary artery; RA, right atrium; RCA, right coronary artery; RV, right ventricle; SABR, stereotactic ablative body radiotherapy; SVC, superior vena cava; V30, volume of heart receiving greater than or equal to 30 Gy; V40, volume of heart receiving greater than or equal to 40 Gy; V5, volume of heart receiving greater than or equal to 5 Gy.

JAMA Oncology | Original Investigation

Association of Sinoatrial Node Radiation Dose With Atrial Fibrillation and Mortality in Patients With Lung Cancer

MÁS PARÁMETROS DOSIMÉTRICOS CARDIACOS: V5, V30, V40, DOSIS MEDIA
PARÁMETROS EN SUBESTRUCTURAS CARDIACAS

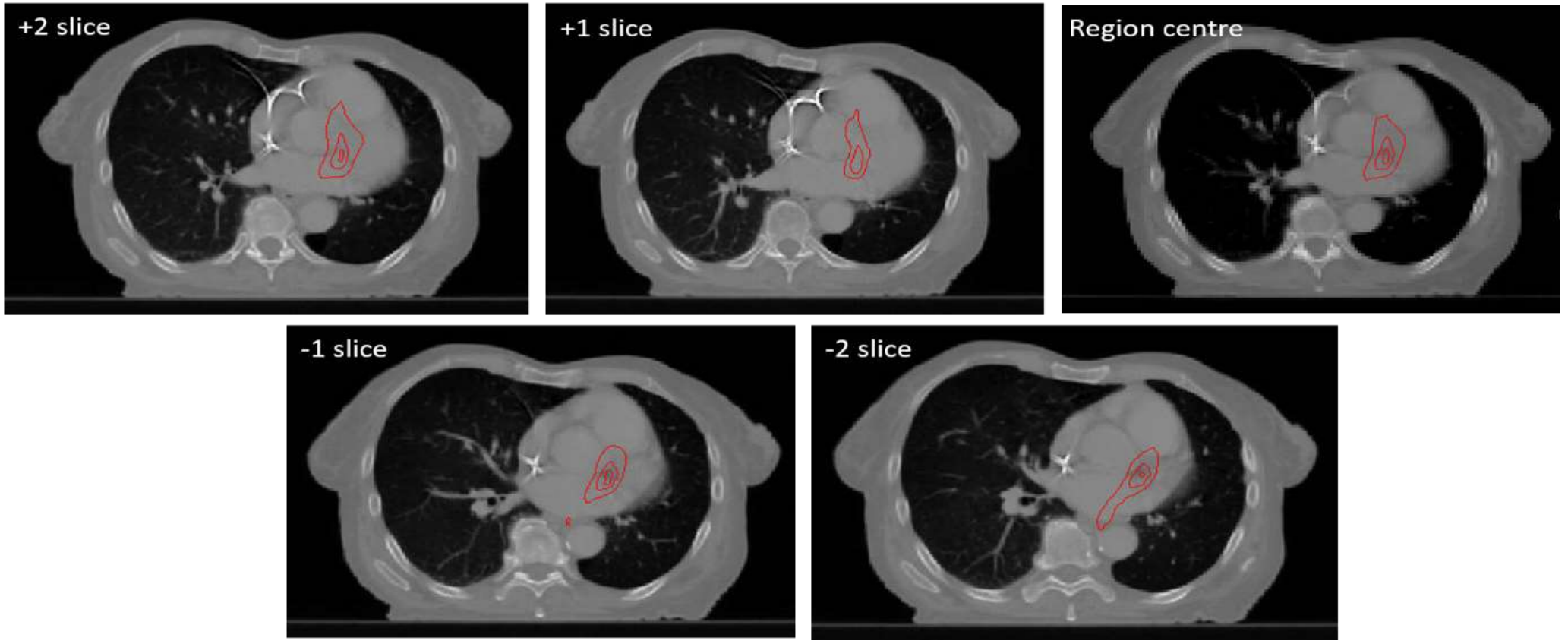
Journal of Thoracic Oncology Vol. 18 No. 5

Demystifying the Results of RTOG 0617: Identification of Dose Sensitive Cardiac Subregions Associated With Overall Survival

Alan McWilliam, PhD,[a,b,*] Azadeh Abravan, PhD,[a,b] Kathryn Banfill, PhD,[a,b] Corinne Faivre-Finn, PhD,[a,b] Marcel van Herk, PhD[a,b]

[a]*The Division of Cancer Science, The University of Manchester, Manchester, United Kingdom*
[b]*The Christie National Health Service (NHS) Foundation Trust, Manchester, United Kingdom*

Received 5 October 2022; revised 18 January 2023; accepted 22 January 2023

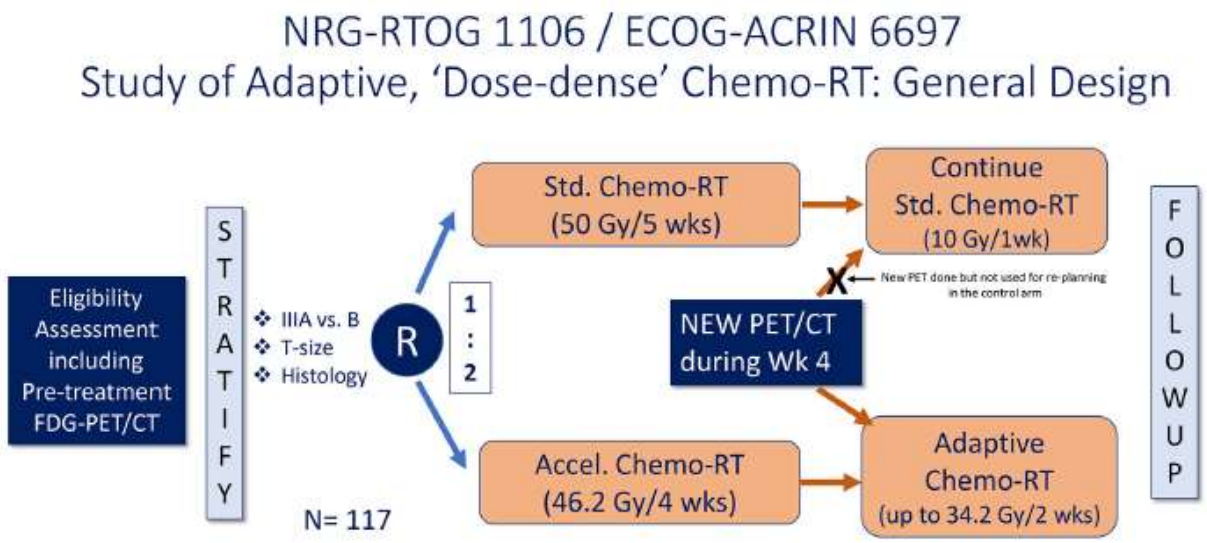


¿ESCALAMOS DOSIS DE OTRA MANERA?

Meeting Abstract | 2021 ASCO Annual Meeting I

LUNG CANCER—NON-SMALL CELL LOCAL-REGIONAL/SMALL CELL/OTHER THORACIC CANCERS

NRG-RTOG 1106/ACRIN 6697: A phase IIR trial of standard versus adaptive (mid-treatment PET-based) chemoradiotherapy for stage III NSCLC—Results and comparison to NRG-RTOG 0617 (non-personalized RT dose escalation).



	R0617 Control Arm	R0617 High-dose Arm	R1106 Control Arm	R1106 Adaptive Arm
3-yr OS	44.5%	31.1%	49.1%	47.5%
3-yr Local-regional failure (institution reported)	47.1%	50.9%	30.0%	30.2%
2-yr In-field primary tumor local control (institution reported)	NS	NS	58.5%	75.6%
2-yr In-field local-regional control (institution reported)	NS	NS	55.6%	66.3%
Cardiac event Grade 3+ (crude %)	17.9%	19.8%	2.6%	1.3%
Pulmonary toxicity Grade 3+ (crude %)	20.6%	19.3%	14.3%	23.8%
Esophagitis Grade 3+ (crude %)	5.0%	17.4%	7.9%	3.8%

CONCLUSIONES:

No se mejora el control locorregional con escalada dosis

La escalada dosis no genera una toxicidad mayor

Radiotherapy and Oncology 181 (2023) 109492

Contents lists available at ScienceDirect

Radiotherapy and Oncology

journal homepage: www.thegreenjournal.com

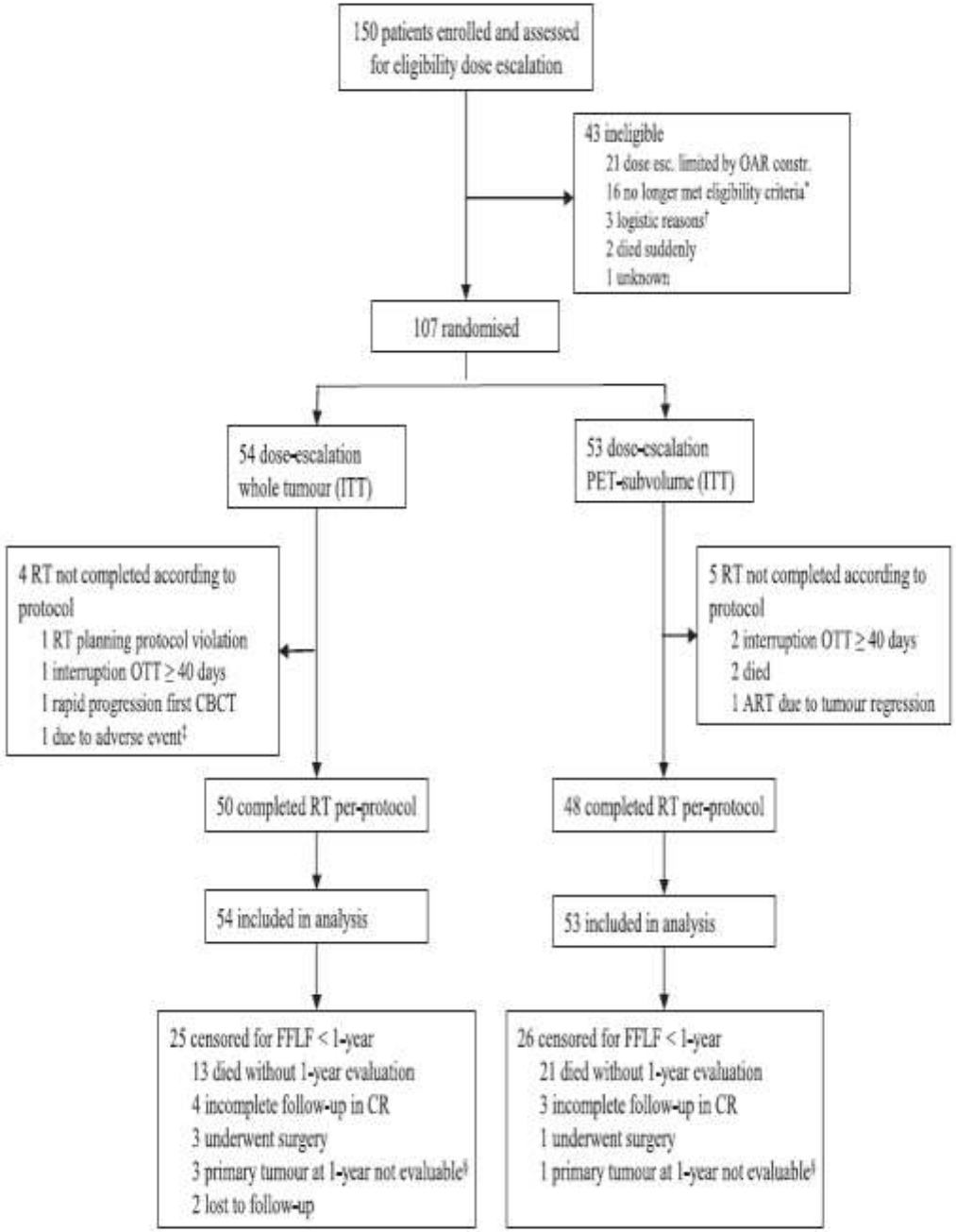
Original Article

^{18}F-FDG-PET guided vs whole tumour radiotherapy dose escalation in patients with locally advanced non-small cell lung cancer (PET-Boost): Results from a randomised clinical trial

Saskia A. Cooke [a,*], Dirk de Ruysscher [b], Bart Reymen [b], Maarten Lambrecht [c,d], Gitte Fredberg Persson [e,f,g], Corinne Faivre-Finn [h], Edith M.T. Dieleman [i], Rolf Lewensohn [j,k], Judi N.A. van Diessen [a], Karolina Sikorska [l], Ferry Lalezari [m], Wouter Vogel [a,n], Wouter van Elmpt [b], Eugène M.F. Damen [a], Jan-Jakob Sonke [a], José S.A. Belderbos [a,*]

Patients with inoperable, stage II-III NSCLC were randomised (1:1) to receive dose-escalated radiotherapy to the whole primary tumour or a PET-defined subvolume, in 24 fractions.

Median dose/fraction to the boosted volume was 3.30 Gy in the whole tumour group, and 3.50 Gy in the PET-subvolume group



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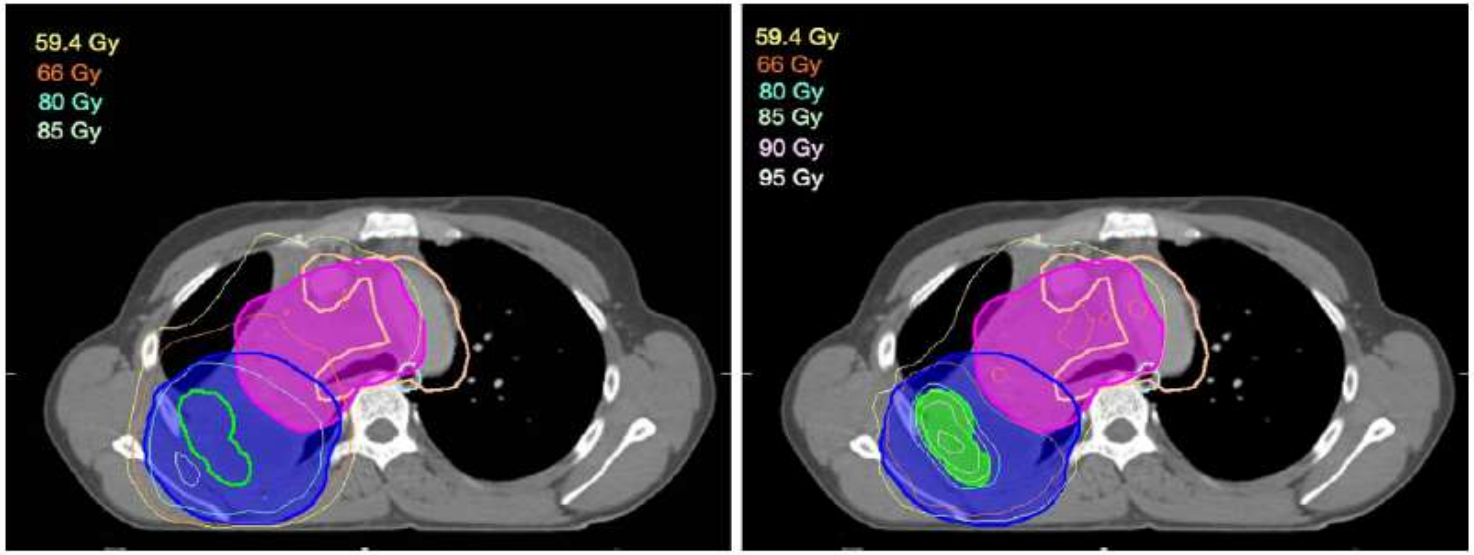
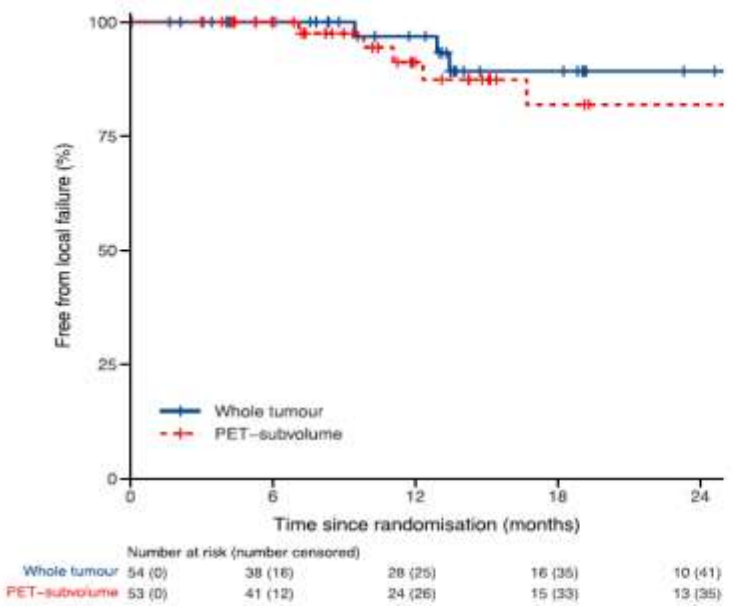
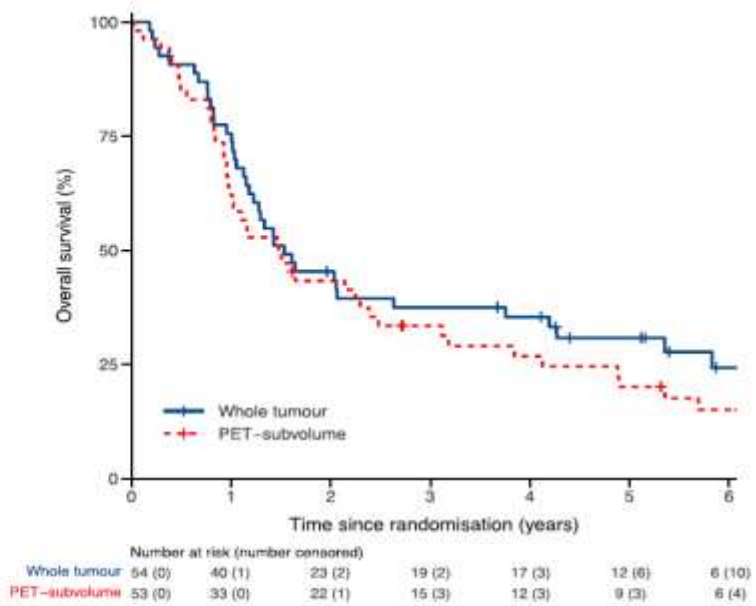
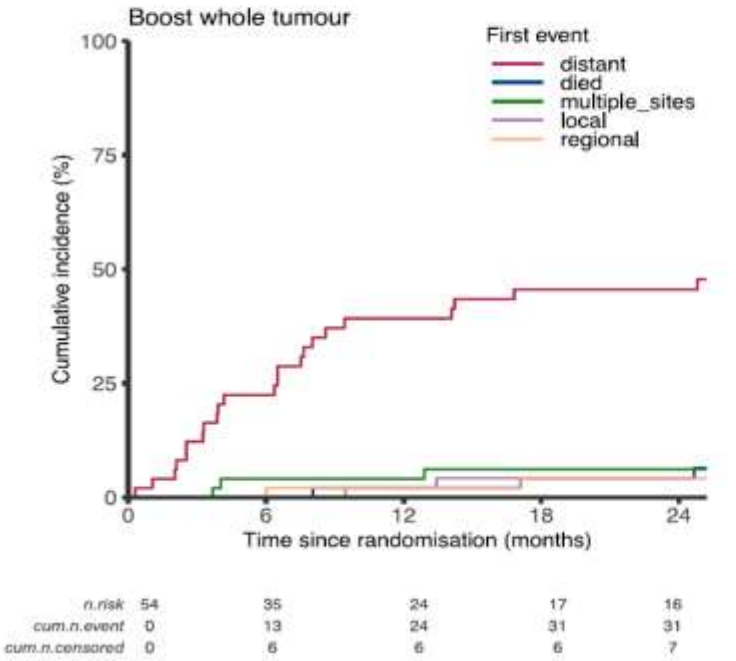


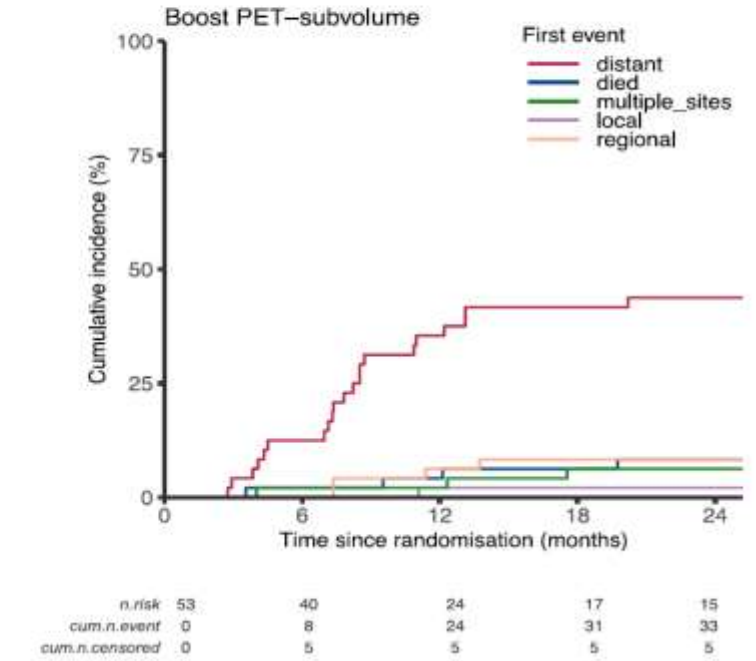
Fig. 1. Panel A shows a dose distribution for escalation to the primary tumour as a whole (PTV_{prim} in blue). Panel B shows a dose distribution escalation to the PET-subvolume (PTV_{PET} in green, ≥50% SUV_{max} on patients' pre-treatment ^{18}F-FDG-PET/CT) within the primary tumour for the same patient. The two plans were required to have an equal mean lung dose, delivering 24 fractions in the range of 3.0-5.4 Gy, determined by predefined organ at risk constraints. As the PET-subvolume is generally smaller than the whole tumour, the fraction dose in this plan could generally be escalated higher before reaching the same mean lung dose. Lymph nodes (PTV_{ln} in pink) did not receive a dose escalation, but were planned to receive 66 Gy in the same 24 fractions. Organ at risk constraints were prioritised over fraction dose escalation. The mediastinal envelope plus a 5 mm margin, used as planning risk volume, is represented by the salmon line. PTV=planning target volume.





(b)





GECP lung cancer research

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NO ALCANZADO OBJETIVO
ALTA TOXICIDAD

Adaptive radiotherapy (up to 74 Gy) or standard radiotherapy (66 Gy) for patients with stage III non-small-cell lung cancer, according to [^{18}F]FDG-PET tumour residual uptake at 42 Gy (RTEP7–IFCT-1402): a multicentre, randomised, controlled phase 2 trial

Lancet Oncol 2024; 25: 1176–87

Pierre Vera, Sébastien Thureau*, Florence Le Tinier, Philippe Chaumet-Riffaud, Sébastien Hapdey, Hélène Kolesnikov-Gauthier, Etienne Martin, Alina Berriolo-Riedinger, Nicolas Pourel, Jean Marc Broglia, Pierre Boisselier, Sophie Guillemard, Naji Salem, Isabelle Brenot-Rossi, Cécile Le Péchoux, Céline Berthold, Etienne Giroux-Leprieur, Damien Moreau, Sophie Guillerm, Khadija Benali, Laurent Tessonnier, Clarisse Audigier-Valette, Delphine Lerouge, Elske Quak, Carole Massabeau, Frédéric Courbon, Patricia Moisson, Anne Larrouy, Romain Modzelewski, Pierrick Gouel, Nadia Ghazzar, Alexandra Langlais, Elodie Amour, Gérard Zalcman, Philippe Giraud*

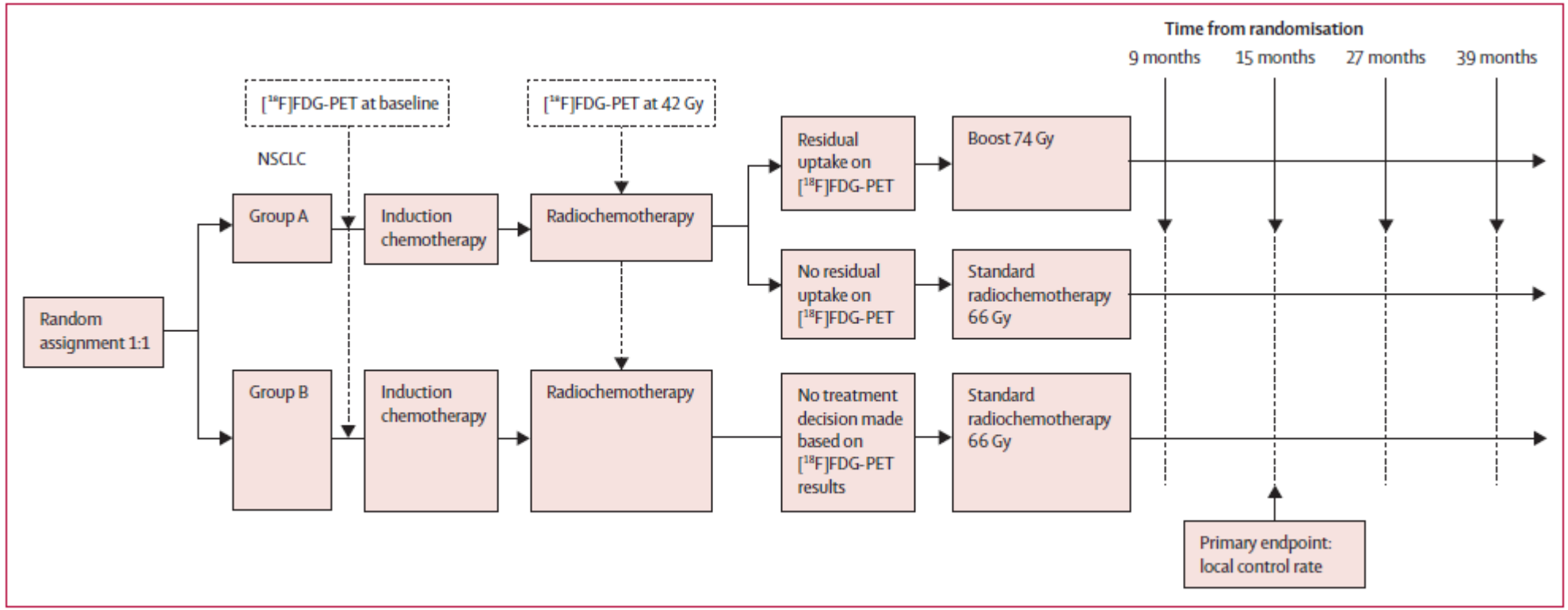

Figure 1: **Study design**
[^{18}F]FDG=[^{18}F]fluorodeoxyglucose. NSCLC=non-small-cell lung cancer.

Adaptive radiotherapy (up to 74 Gy) or standard radiotherapy (66 Gy) for patients with stage III non-small-cell lung cancer, according to [^{18}F]FDG-PET tumour residual uptake at 42 Gy (RTEP7–IFCT-1402): a multicentre, randomised, controlled phase 2 trial

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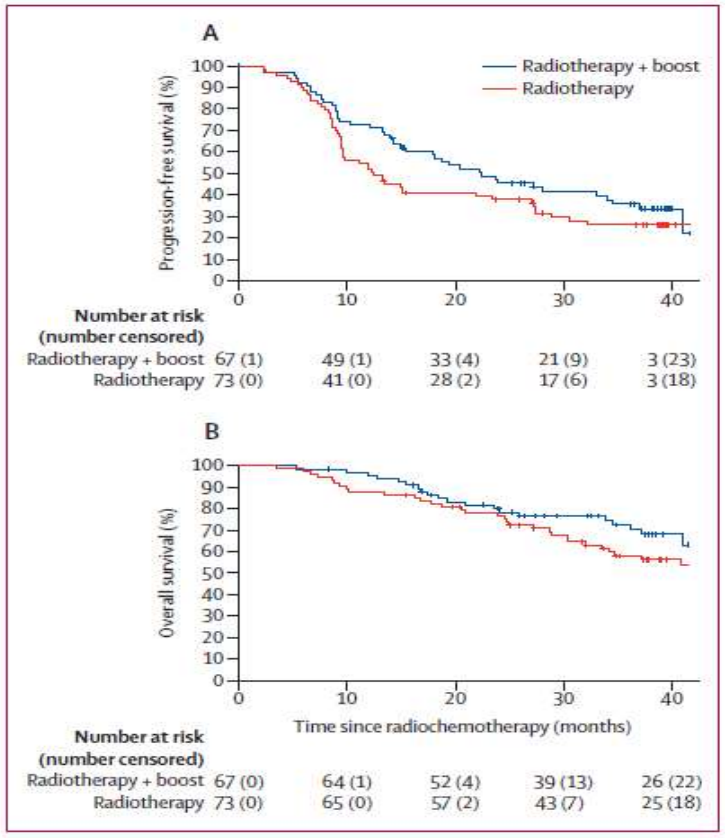


Figure 3: Progression-free survival (A) and overall survival (B) from randomisation

The median progression-free survival was 22·3 months (95% CI 14·8–33·7) in group A and 12·3 months (9·4–23·3) in group B (figure 3A). 15-month local control rate was still 71·4% in the group of patients who did not receive durvalumab

The median overall survival was not reached (NR; 95% CI 40·9–NR) in group A, and was 43·3 months (33·4–NR) in group B, with a 39-month overall survival of 67·8% (95% CI 53·9–78·3) in group A and 55·8% (43·0–66·8) in group B (figure 3B).

TOXICIDAD SIMILAR ENTRE GRUPOS, ASUMIBLE

¿Y SI UNA CLAVE ES LA RADIOSENSIBILIDAD?

NRG-RTOG 0617 Validates ERCC1/2 Genotypic Signature as a Radiosensitivity Biomarker for Tumor and Normal Tissues in Non-Small Cell Lung Cancer Patients

- Un análisis genético de 321 pacientes incluidos en el estudio RTOG 0617 para validar a *ERCC1* and *ERCC2 como biomarcadores de radiosensibilidad para tumor y tejidos sanos*
- Hasta 275 pacientes tenían expresión tanto de ERCC1 como de ERCC2
- De los 163 pacientes asignados al brazo de 60 Gy, 67 ptes tenían el genotipo resistente, con una mediana de supervivencia (SM) de 22 meses comparado con el genotipo radiosensible con SM 31 meses
- De los 112 ptes del grupo de 74 Gy, 36 tenían genotipo resistente, SM 31 meses, mientras que genotipo sensible SM 20 meses
- Son necesarios estudios prospectivos para determinar si se puede realizar una prescripción de radioterapia personalizada en función de la firma genética del paciente

16th CONGRESS Lung ON CANCER

BARCELONA 27 / 28 NOVEMBER 2025

SBRT

ESTADIO INICIAL

GECP lung cancer research

SBRT

Stereotactic body radiotherapy (SBRT), también conocida como stereotactic ablative radiotherapy (SART)

Está indicada en lesiones de un determinado tamaño (generalmente de hasta 5-7 cm).

Se realiza en muy pocas sesiones, generalmente entre 3 y 5

Logra un altísimo control local de la lesión, debido fundamentalmente a la alta dosis biológica equivalente administrada (>100 Gy vs 60-70 Gy RTE convencional)

Efecto abscopal

ELSEVIER

doi:10.1016/j.ijrobp.2009.09.042

REPORT

AMERICAN SOCIETY FOR THERAPEUTIC RADIOLOGY AND ONCOLOGY (ASTRO) AND AMERICAN COLLEGE OF RADIOLOGY (ACR) PRACTICE GUIDELINE FOR THE PERFORMANCE OF STEREOTACTIC BODY RADIATION THERAPY

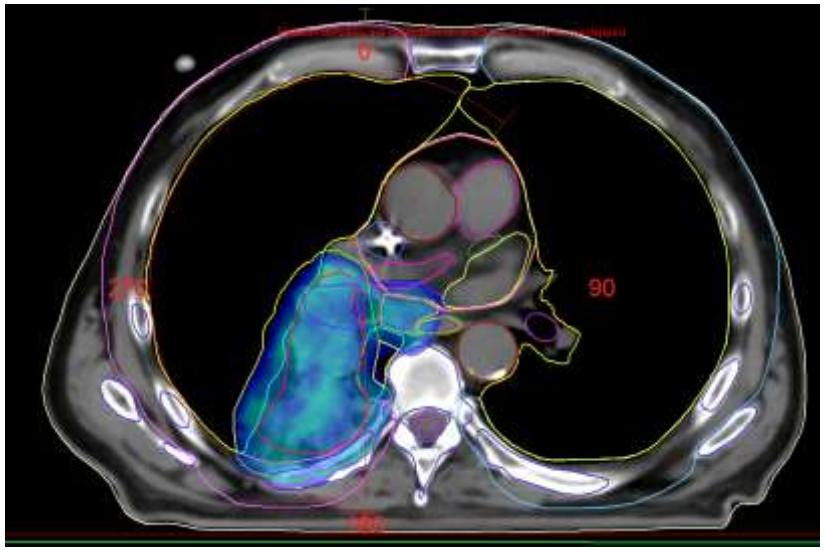
Louis Potters, M.D.,* Brian Kavanagh, M.D.,† James M. Galvin, D.Sc.,‡ James M. Hevezi, Ph.D.,§ Nora A. Janjan, M.D.,¶ David A. Larson, M.D., Ph.D.,** Minesh P. Mehta, M.D.,†† Samuel Ryu, M.D.,‡‡ Michael Steinberg, M.D.,§§ Robert Timmerman, M.D.,¶¶ James S. Welsh, M.D.,*** and Seth A. Rosenthal, M.D.†††

Stereotactic body radiation therapy (SBRT) is an external beam radiation therapy method used to very precisely deliver a high dose of radiation to an extracranial target within the body, using either a single dose or a small number of fractions. Specialized treatment planning results in high target

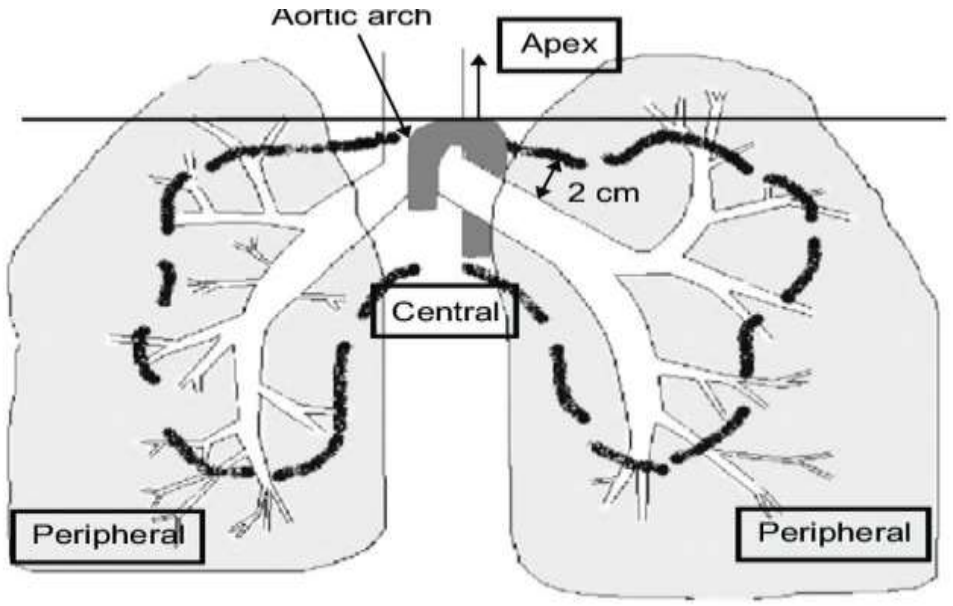
SBRT

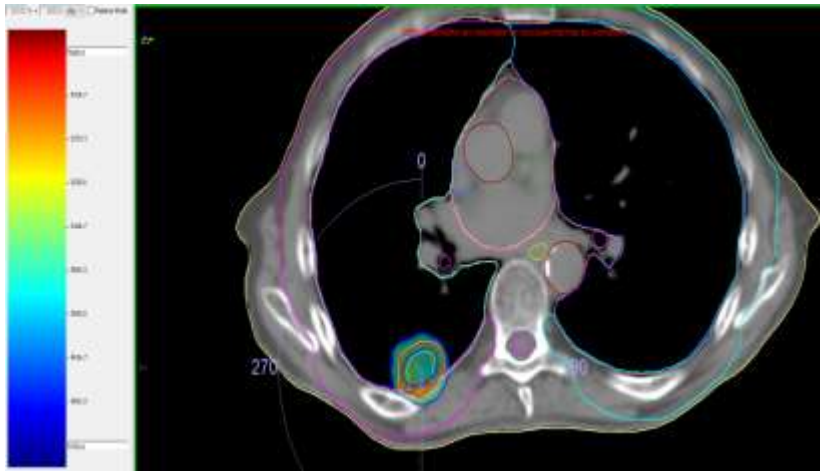
COMO TRATAMIENTO RADICAL: Boost para aumentar dosis ¿hay que aumentar siempre dosis? Búsqueda de tratamientos personalizadas con dosis personalizadas

COMO TRATAMIENTO NEOADYUVANTE: Dosis más bajas, equilibrio entre la mayor muerte celular tumoral y la citolisis linfocitaria



SBRT TUMORES PERIFÉRICOS



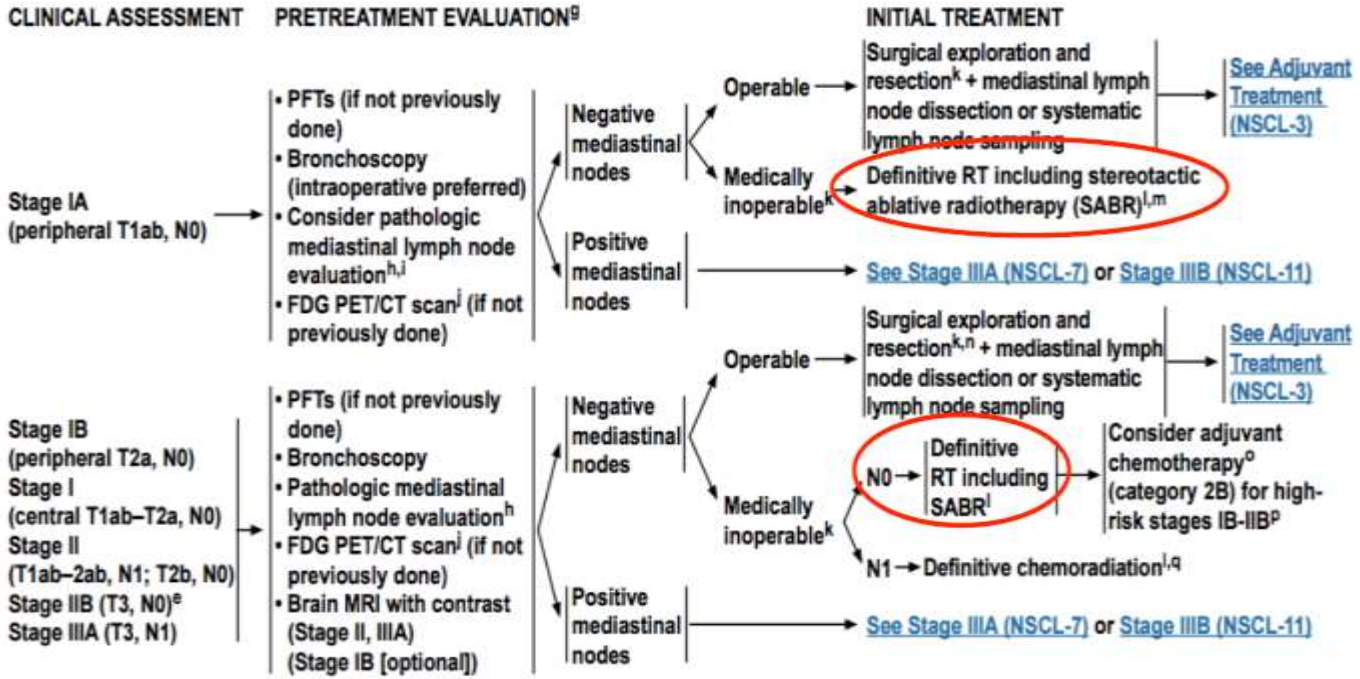


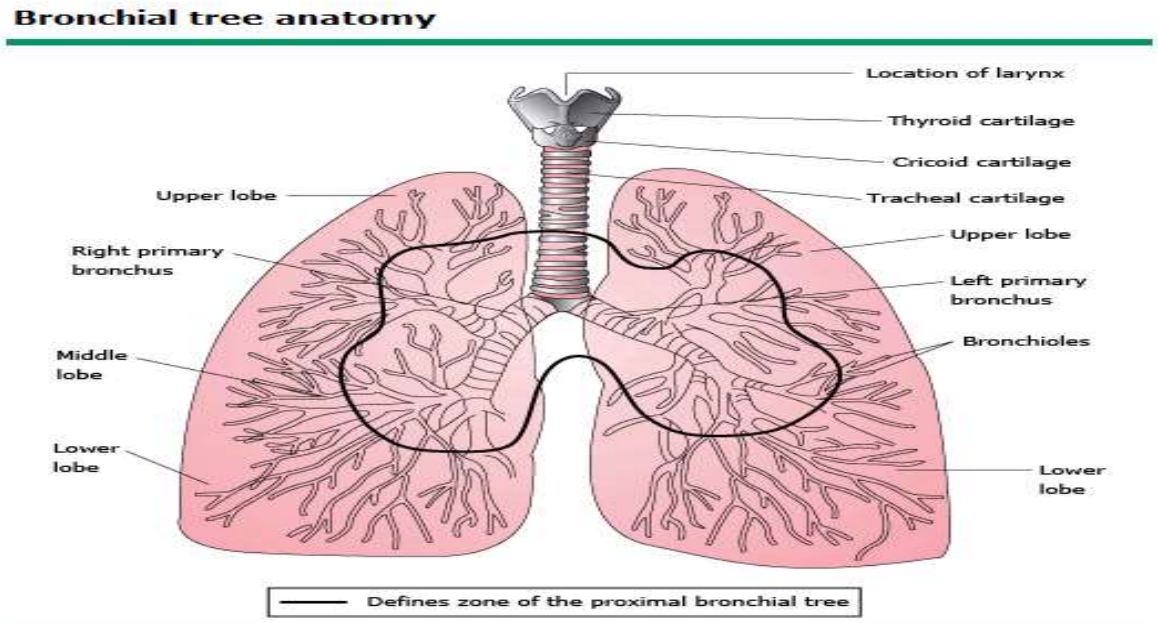
Numerosos estudios muestran una alta tasa de control local (LC): 90% a 3–5 años y una supervivencia global (SG) del 55–60% a 3 años, y una bajísima toxicidad

SBRT ESTADIOS INICIALES CNMP

Estudios prospectivos

Autor (año)	Tipo/Estadio	Nº pacientes	Dosis	Seguimiento media	Resultados
Baumann 2009	Fase II/ Estadio I NSCLC	57	45Gy:15 Gy x 3 (Isodosis 67%)	35 meses	3 años-CL: 92% 3 años-SCE: 88% 3 años-SG: 60%
Timmerman 2010	RTOG Fase II/ T1-2N0M0 (localización periférica)	55	54Gy:18 Gy x 3 (prescripción inicial 60 Gy)	34,4 meses	3 años-CL: 97,6% 3 años-SLE: 48,3% 3 años-SG: 55,8%
Ricardi 2010	FaseII/ Estadio I	62	45Gy:15 Gy x 3	28 meses	3 años-CL: 87,8% 3 años-SCE: 72,5% 3 años-SG: 57,1%
Bral 2011	Fase II/ T1-3N0M0	40	60Gy:20Gy x 3 60Gy: 15Gy x 4	16 meses	2 años-CL: 84% 2 años-SCE: 64% 2 años-SG: 52%
Nagata 2012	Fase II/Estadio I inoperable	100	48Gy:12 Gy x 4 Isocentro	46.8 meses	3 años-SG 59.9% 3 años-SLE 49.8%
Nagata 2015	Fase II/Estadio I inoperable	100	48Gy:12 Gy x 4 Isocentro	58 meses	5 años-SG 42.8%





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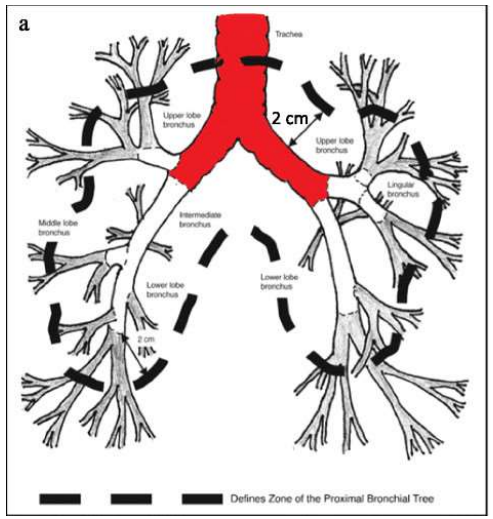
UpToDate®

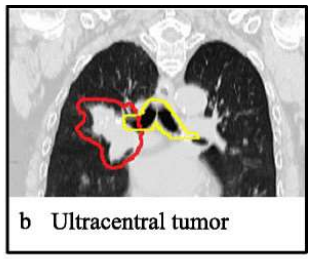
"Central":

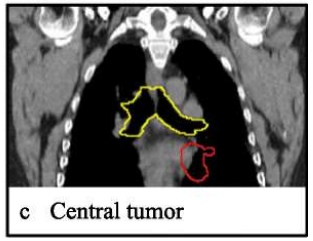
- Most common definition/RTOG: Tumor within 2 cm radius in all directions from the proximal bronchial tree (PBT):
  - Distal 2 cm of Trachea, Carina
  - Right & left mainstem bronchi
  - Right: upper lobe, bronchus intermedius, middle lobe, lower lobe bronchus
  - Left: upper lobe, lingular bronchus, lower lobe bronchus
- Other definitions: within 2 cm of any mediastinal critical structure (bronchi, esophagus, heart & major vessels etc.)

SBRT EN TUM CENTRALES

SBRT TUMORES CENTRALES







EORTC 22113-08113 LungTech phase II trial results. *J Thorac Oncol* 2024;19:1297-1309

ORIGINAL ARTICLE

Stereotactic Body Radiotherapy for Centrally Located Inoperable Early-Stage NSCLC: EORTC 22113-08113 LungTech Phase II Trial Results

Antonin Levy, MD, PhD,[a] Sonja Adebahr, MD,[b,c] Coen Hurkmans, PhD,[d]

Patients with inoperable non-metastatic central NSCLC (T1-T3 N0 M0, 7cm) were included. After prospective central imaging review and radiation therapy quality assurance for any eligible patient, SBRT (8 x 7.5 Gy) was delivered. The primary endpoint was freedom from local progression probability three years after the start of SBRT.

Median age 75 years.
Median tumor size was 2.6 cm (range 1.2–5.5) and most cancers were T1 (51.6%) or T2a (38.7%) N0 M0 and of squamous cell origin (48.4%).
Six patients (19.4%) had an ultracentral tumor location. The median follow-up was 3.6 years.

The rates of 3-year freedom from local progression and overall survival were 81.5% and 61.1% respectively.

SBRT-related acute adverse events and late adverse events G3 were reported in 6.5% (n =2, including one G5 pneumonitis in a patient with prior interstitial lung disease) **and 19.4% respectively**

16th CONGRESS Lung ON CANCER

BARCELONA 27 / 28 NOVEMBER 2025

SBRT

NSCLC MTS

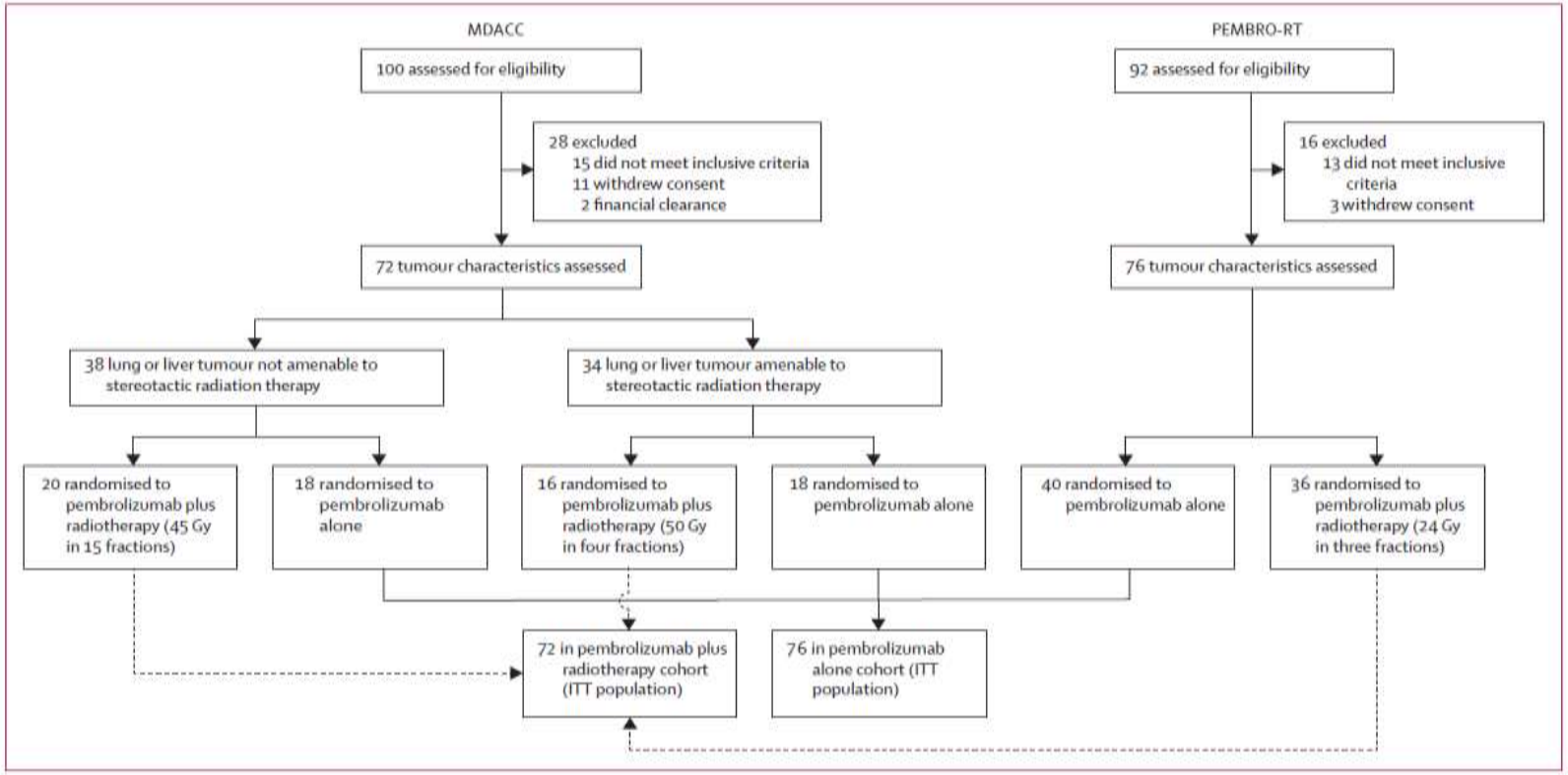
GECP lung cancer research

Pembrolizumab with or without radiotherapy for metastatic non-small-cell lung cancer: a pooled analysis of two randomised trials

Lancet Respir Med 2020; 9: 467–75

Willemijn S M E Theelen, Dawei Chen*, Vivek Verma, Brian P Hobbs, Heike M U Peulen, Joachim G J V Aerts, Idris Bahce, Anna Larissa N Niemeijer, Joe Y Chang, Patricia M de Groot, Quynh-Nhu Nguyen, Nathan I Comeaux, George R Simon, Ferdinandos Skoulidis, Steven H Lin, Kewen He, Roshal Patel, John Heymach†, Paul Baas†, James W Welsh†*

In the PEMBRO-RT trial, the first dose of pembrolizumab was given sequentially less than 1 week after the last dose of radiotherapy (24 Gy in three fractions), whereas in the MDACC trial, pembrolizumab was given concurrently with the first dose of radiotherapy (50 Gy in four fractions or 45 Gy in 15 fractions). Only unirradiated lesions were measured for response. The endpoints for this pooled analysis were best out-of-field (abscopal) response rate (ARR), best abscopal disease control rate (ACR), ARR at 12 weeks, ACR at 12 weeks, progression-free survival, and overall survival.



Pembrolizumab with or without radiotherapy for metastatic non-small-cell lung cancer: a pooled analysis of two randomised trials

Willemijn S M E Theelen, Dawei Chen*, Vivek Verma, Brian P Hobbs, Heike M U Peulen, Joachim G J V Aerts, Idris Bahce, Anna Larissa N Niemeijer, Joe Y Chang, Patricia M de Groot, Quynh-Nhu Nguyen, Nathan I Comeaux, George R Simon, Ferdinandos Skoulidis, Steven H Lin, Kewen He, Roshal Patel, John Heymach†, Paul Baas†, James W Welsh†*

	Pembrolizumab alone (n=76)	Pembrolizumab plus radiotherapy (n=72)	Number needed to treat	Odds ratio (95% CI)	p value
Best overall response					
Abscopal response rate	15/76 (19·7%)	30/72 (41·7%)	2·00	2·96 (1·42–6·20)	0·0039
Abscopal control rate	33/76 (43·4%)	47/72 (65·3%)	4·58	2·51 (1·28–4·91)	0·0071
PD-L1 status					
<1%	6/36 (16·7%)	11/29 (37·9%)	4·69	3·00 (0·96–10·00)	0·080
1–49%	3/14 (21·4%)	9/19 (47·4%)	3·85	3·30 (0·96–16·70)	0·16
≥50%	5/15 (33·3%)	6/13 (46·2%)	16·13	1·72 (0·37–7·69)	0·70
Objective response at 12 weeks					
Abscopal response rate	14/76 (18·4%)	25/72 (34·7%)	5·26	1·95 (0·91–4·20)	0·086
Abscopal control rate	29/76 (38·2%)	45/72 (62·5%)	4·09	2·71 (1·39–5·28)	0·0033

Data are n (%), unless otherwise stated.

Table 2: **Response to treatment**

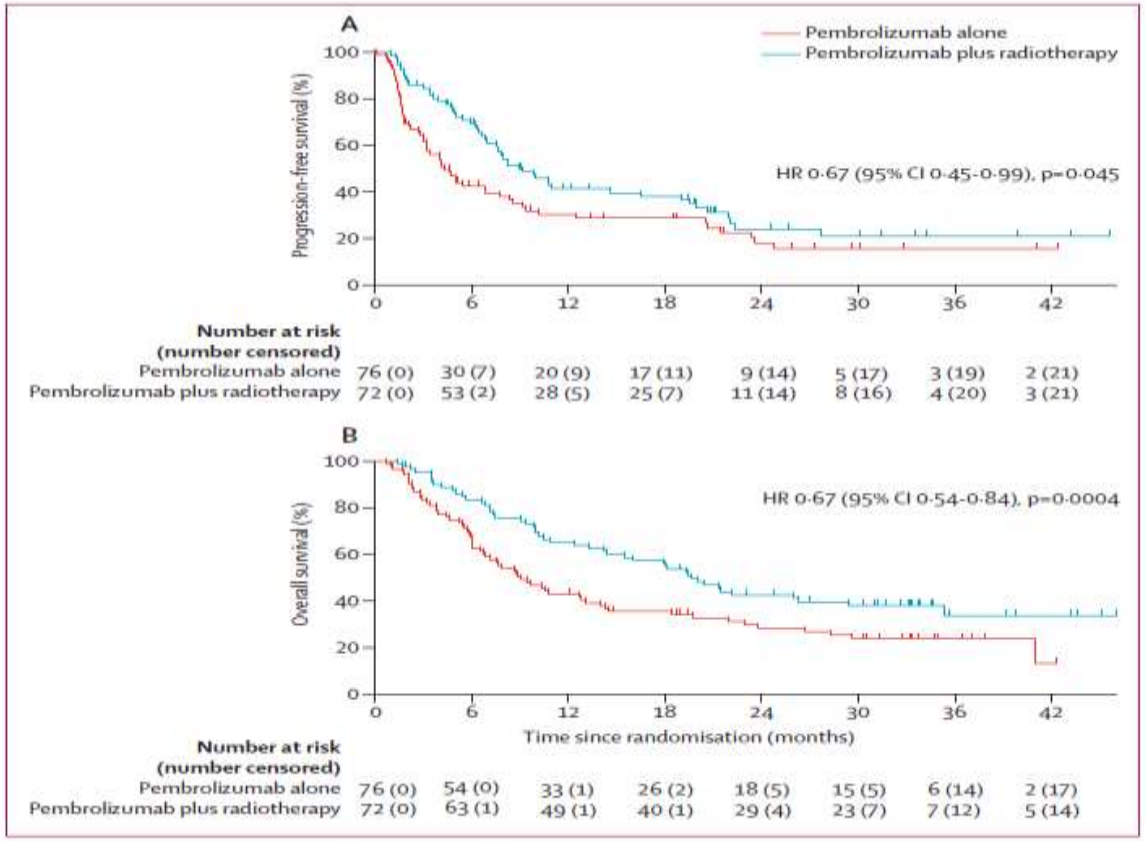


Figure 2: **Kaplan-Meier analysis of progression-free survival (A) and overall survival (B)**

Pembrolizumab with or without radiotherapy for metastatic non-small-cell lung cancer: a pooled analysis of two randomised trials

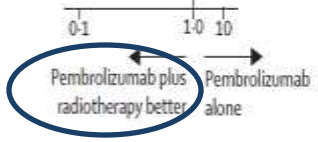
Willemijn S M E Theelen*, Dawei Chen*, Vivek Verma, Brian P Hobbs, Heike M U Peulen, Joachim G J V Aerts, Idris Bahce, Anna Larissa N Niemeijer, Joe Y Chang, Patricia M de Groot, Quynh-Nhu Nguyen, Nathan I Comeaux, George R Simon, Ferdinandos Skoulidis, Steven H Lin, Kewen He, Roshal Patel, John Heymach†, Paul Baas†, James W Welsh†

SLP

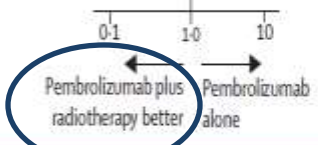
SG

A

	Pembrolizumab plus radiotherapy (n/N)	Pembrolizumab alone (n/N)	HR (95% CI)	Pembrolizumab plus radiotherapy	Pembrolizumab alone	p value
Age, years						
≥65	30/35	24/36	0·57 (0·30–1·03)	14·1 (9·4–20·9)	6·7 (1·8–12·0)	0·080
<65	29/37	29/40	0·73 (0·41–1·28)	6·7 (5·6–7·9)	4·6 (2·4–6·4)	0·33
Gender						
Male	31/42	32/43	0·55 (0·31–0·98)	10·2 (4·7–17·8)	6·1 (2·4–8·2)	0·032
Female	28/30	21/33	0·78 (0·50–1·68)	6·8 (4·5–9·1)	4·9 (3·5–6·2)	0·78
Histological features						
Non-squamous cell	7/11	5/13	0·68 (0·44–1·03)	7·9 (5·1–10·2)	4·5 (2·8–6·0)	0·054
Squamous cell	52/61	48/63	0·62 (0·31–1·87)	12·0 (3·1–26·2)	10·0 (2·7–16·4)	0·41
Previous lines of chemotherapy						
0	15/21	11/16	0·89 (0·38–2·10)	12·3 (4·3–21·1)	6·5 (1·5–9·0)	0·70
1	28/30	30/41	0·72 (0·42–1·26)	7·4 (4·1–10·6)	5·0 (1·3–8·4)	0·23
≥2	16/21	12/19	0·43 (0·18–0·96)	8·3 (6·6–10·1)	1·6 (0·3–4·2)	0·016
Smoking status						
Current	14/18	10/13	0·44 (0·12–1·01)	7·1 (1·3–14·0)	4·4 (3·3–5·4)	0·051
Former	37/41	36/49	0·63 (0·42–1·08)	8·4 (3·9–14·4)	4·4 (1·4–7·2)	0·060
Never	8/13	7/14	0·84 (0·67–1·58)	10·2 (3·2–16·6)	3·3 (1·0–7·6)	0·21
Sum of baseline RECIST measurements						
≤median	31/40	26/42	0·51 (0·24–0·98)	11·7 (3·8–20·6)	6·5 (2·3–8·7)	0·048
>median	28/32	27/34	0·48 (0·12–1·01)	9·5 (5·2–15·2)	4·6 (1·4–8·4)	0·056
Previous radiotherapy						
Yes	23/36	21/39	0·76 (0·39–1·45)	7·4 (6·5–8·3)	4·4 (1·5–7·3)	0·39
No	36/36	32/37	0·62 (0·37–1·01)	9·6 (3·4–15·7)	4·7 (1·9–7·5)	0·053
PD-L1 status						
<1%	27/29	22/36	0·74 (0·42–1·30)	6·8 (5·1–8·6)	4·7 (1·6–7·8)	0·29
1–49%	14/19	12/14	0·40(0·16–0·96)	10·4 (5·6–14·1)	3·3 (0·4–6·2)	0·012
≥50%	11/13	12/15	0·84 (0·37–1·90)	7·5 (5·6–9·5)	6·9 (2·9–10·9)	0·68
Total	**59/72**	**53/76**	**0·67 (0·45–0·99)**	**9·0 (6·8–11·2)**	**4·4 (2·9–5·9)**	**0·045**



	Pembrolizumab plus radiotherapy (n/N)	Pembrolizumab alone (n/N)	HR (95% CI)	Pembrolizumab plus radiotherapy	Pembrolizumab alone	p value
Age, years						
≥65	30/35	22/36	0·57 (0·33–1·02)	18·5 (16·8–21·5)	9·0 (3·7–14·2)	0·058
<65	32/37	26/40	0·71 (0·41–1·28)	19·1 (5·5–35·0)	9·2 (5·9–12·8)	0·29
Gender						
Male	34/42	25/43	0·50 (0·29–0·84)	19·5 (13·0–25·4)	8·5 (5·04–10·5)	0·020
Female	28/30	23/33	0·93 (0·48–1·82)	19·2 (8·1–30·3)	16·0 (3·4–24·3)	0·79
Histological features						
Non-squamous cell	7/11	7/13	0·69 (0·42–1·02)	17·9 (10·7–25·0)	8·8 (5·5–11·9)	0·061
Squamous cell	55/61	41/63	0·42 (0·12–1·52)	Undefined	10·3 (0·0–41·1)	0·24
Previous lines of chemotherapy						
0	16/21	9/16	0·65 (0·25–1·64)	20·6 (16·5–29·4)	14·3 (1·5–27·6)	0·31
1	32/30	30/41	0·79 (0·43–1·34)	13·2 (1·5–22·3)	8·7 (2·9–14·7)	0·39
≥2	14/21	9/19	0·51 (0·22–1·29)	18·0 (8·7–28·2)	7·6 (3·3–11·7)	0·18
Smoking status						
Current	13/18	8/13	0·72 (0·26–1·90)	10·9 (0·0–26·5)	7·0 (0·5–11·6)	0·42
Former	39/41	31/49	0·68 (0·51–1·32)	Undefined	9·4 (7·2–11·6)	0·16
Never	10/13	9/14	0·84 (0·60–1·82)	20·1 (8·2–30·8)	9·2 (2·0–17·6)	0·40
Sum of baseline RECIST measurements						
≤median	30/40	22/42	0·73 (0·45–0·92)	18·4 (12·4–29·3)	9·0 (3·2–15·4)	0·039
>median	32/32	26/34	0·56 (0·26–1·00)	14·0 (2·5–23·4)	7·3 (5·2–11·3)	0·051
Previous radiotherapy						
Yes	29/36	18/39	0·52 (0·27–1·03)	19·0 (13·6–24·8)	7·4 (5·9–9·1)	0·051
No	33/36	30/37	0·71 (0·41–1·15)	19·2 (6·5–32·0)	12·4 (1·1–24·1)	0·15
PD-L1 status						
<1%	21/29	27/36	0·69 (0·39–1·20)	19·2 (11·4–27·0)	7·9 (2·8–11·3)	0·19
1–49%	16/19	8/14	0·50 (0·21–1·17)	18·7 (9·0–26·8)	8·7 (3·1–14·0)	0·080
≥50%	5/13	12/15	0·44 (0·17–1·14)	Undefined	11·8 (2·8–21·5)	0·11
Total	**62/72**	**48/76**	**0·67 (0·54–0·84)**	**19·2 (14·6–23·8)**	**8·7 (6·4–11·0)**	**0·0004**



Pembrolizumab with or without radiotherapy for metastatic non-small-cell lung cancer: a pooled analysis of two randomised trials

Willemijn S M E Theelen, Dawei Chen*, Vivek Verma, Brian P Hobbs, Heike M U Peulen, Joachim G J V Aerts, Idris Bahce, Anna Larissa N Niemeijer, Joe Y Chang, Patricia M de Groot, Quynh-Nhu Nguyen, Nathan J Comeaux, George R Simon, Ferdinandos Skoulidis, Steven H Lin, Kewen He, Roshal Patel, John Heymach†, Paul Baas†, James W Welsh†*

	Univariate progression-free survival (p value)	Multivariable progression-free survival		Univariate overall survival (p value)	Multivariable overall survival	
		Hazard ratio (95% CI)	p value		Hazard ratio (95% CI)	p value
PD-L1 status	0·11	..	..	0·091	..	..
0%	..	1 (ref)	..	..	1 (ref)	..
1–49%	..	1·04 (0·56–1·92)	0·91	..	0·73 (0·42–1·27)	0·26
≥50%	..	0·83 (0·40–1·72)	0·62	..	0·53 (0·29–1·12)	0·090
Treatment	0·030	..	..	0·032	..	..
Pembrolizumab alone	..	1 (ref)	..	..	1 (ref)	..
Pembrolizumab plus radiotherapy (45 Gy in 15 fractions)	..	0·98 (0·43–1·53)	0·57	..	1·16 (0·72–2·39)	0·33
Pembrolizumab plus radiotherapy (24 Gy in three fractions)	..	0·76 (0·46–1·09)	0·083	..	0·84 (0·53–1·43)	0·14
Pembrolizumab plus radiotherapy (50 Gy in four fractions)	..	0·67 (0·36–0·98)	0·042	..	0·82 (0·34–1·87)	0·23

JAMA Oncology | Original Investigation

JAMA Oncol. 2019;5(9):1276-1282.

Effect of Pembrolizumab After Stereotactic Body Radiotherapy vs Pembrolizumab Alone on Tumor Response in Patients With Advanced Non-Small Cell Lung Cancer

Results of the PEMBRO-RT Phase 2 Randomized Clinical Trial

Willemijn S. M. E. Theelen, MD; Heike M. U. Peulen, MD, PhD; Ferry Lalezari, MD; Vincent van der Noort, PhD; Jeltje F. de Vries, PhD; Joachim G. J. V. Aerts, MD, PhD; Daphne W. Dumoulin, MD; Idris Bahce, MD, PhD; Anna-Larissa N. Niemeijer, MD; Adrianus J. de Langen, MD, PhD; Kim Monkhorst, MD, PhD; Paul Baas, MD, PhD

INTERVENTIONS Pembrolizumab (200 mg/kg every 3 weeks) either alone (control arm) or after radiotherapy (3 doses of 8 Gy) (experimental arm) to a single tumor site until confirmed radiographic progression, unacceptable toxic effects, investigator decision, patient withdrawal of consent, or a maximum of 24 months.

Figure 1. CONSORT Diagram

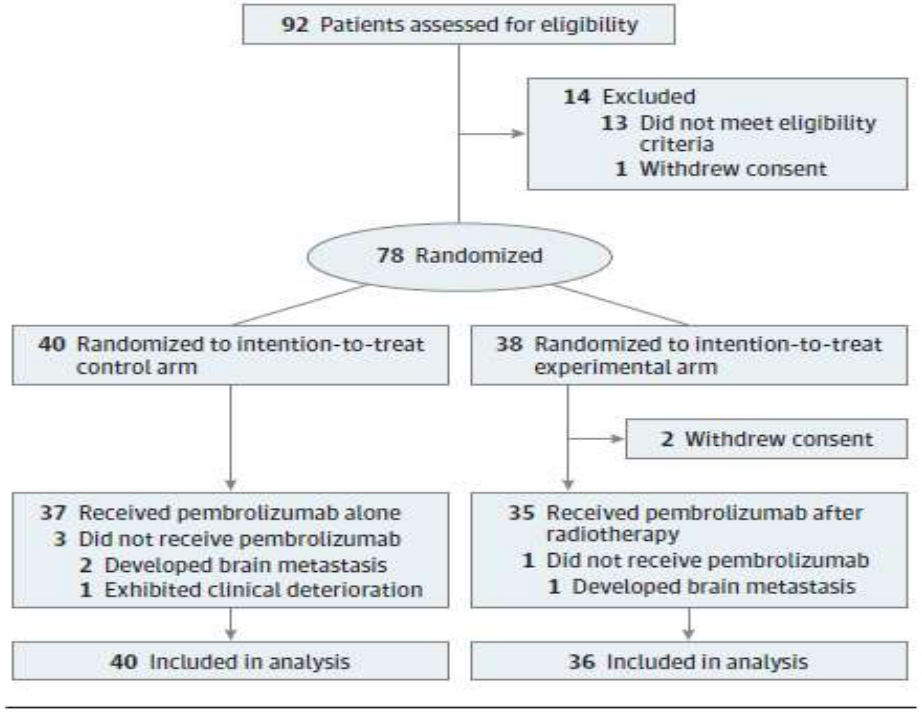


Table. Response to Treatment

Response	Experimental Arm, No./Total No. (%) (n = 36)[a]	Control Arm, No./Total No. (%) (n = 40)[b]
Best overall response, No.		
Complete response	3	1
Partial response	14	8
Stable disease	9	10
Progressive disease	10	21
Objective response rate at 12 wk		
Overall[c]	13/36 (36)	7/40 (18)
PD-L1 TPS, %		
0	4/18 (22)	1/25 (4)
1-49	3/8 (38)	3/8 (38)
≥50	6/10 (60)	3/5 (60)
Disease control rate at 12 wk[d]	23/36 (64)	16/40 (40)

Abbreviations: PD-L1, programmed death–ligand 1; TPS, tumor proportion score.

[a] Patients who received pembrolizumab therapy after stereotactic body radiotherapy.

[b] Patients who received pembrolizumab therapy alone.

[c] $P = .07$.

[d] $P = .04$.

JAMA Oncology | Original Investigation

JAMA Oncol. 2019;5(9):1276-1282.

Effect of Pembrolizumab After Stereotactic Body Radiotherapy vs Pembrolizumab Alone on Tumor Response in Patients With Advanced Non-Small Cell Lung Cancer

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Median progression-free survival was **1.9 months** (95%CI, 1.7-6.9 months) vs **6.6 months** (95%CI, 4.0-14.6 months) (hazard ratio, 0.71; 95%CI, 0.42-1.18; *P = .19), and median* overall survival was **7.6 months** (95%CI, 6.0-13.9 months) vs **15.9 months** (95%CI, 7.1 months to not reached) (hazard ratio, 0.66; 95%CI, 0.37-1.18; *P = .16). Subgroup analyses showed the* largest benefit from the addition of radiotherapy in patients with PD-L1–negative tumors.

Figure 2. Progression-Free Survival in the Intent-to-Treat Population

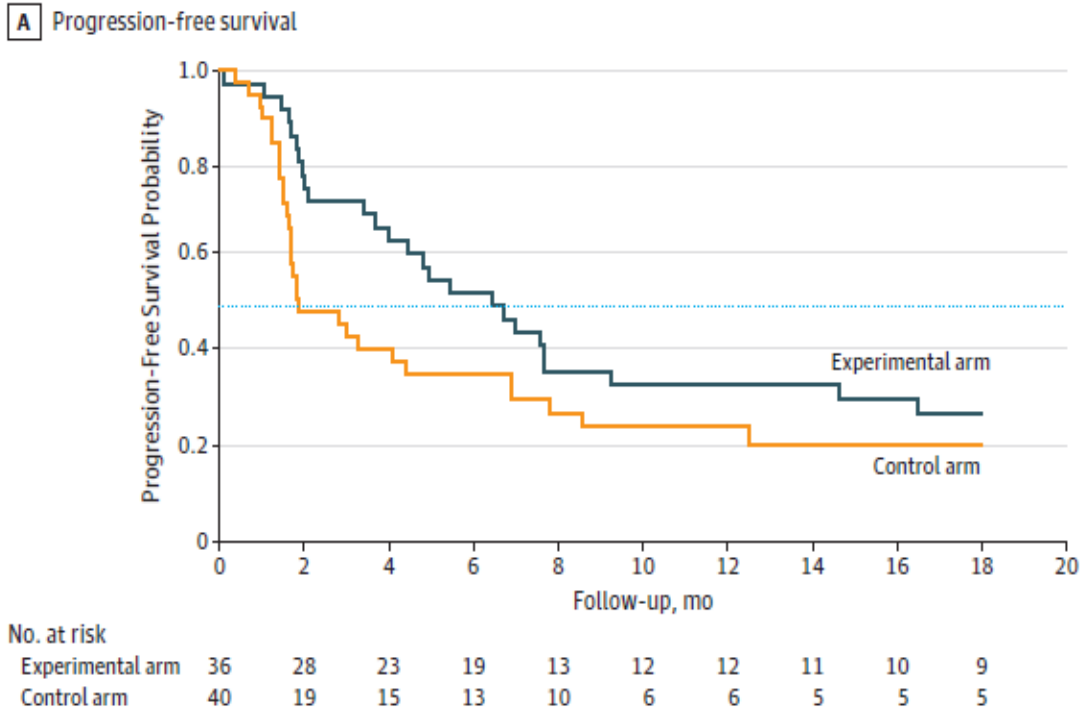
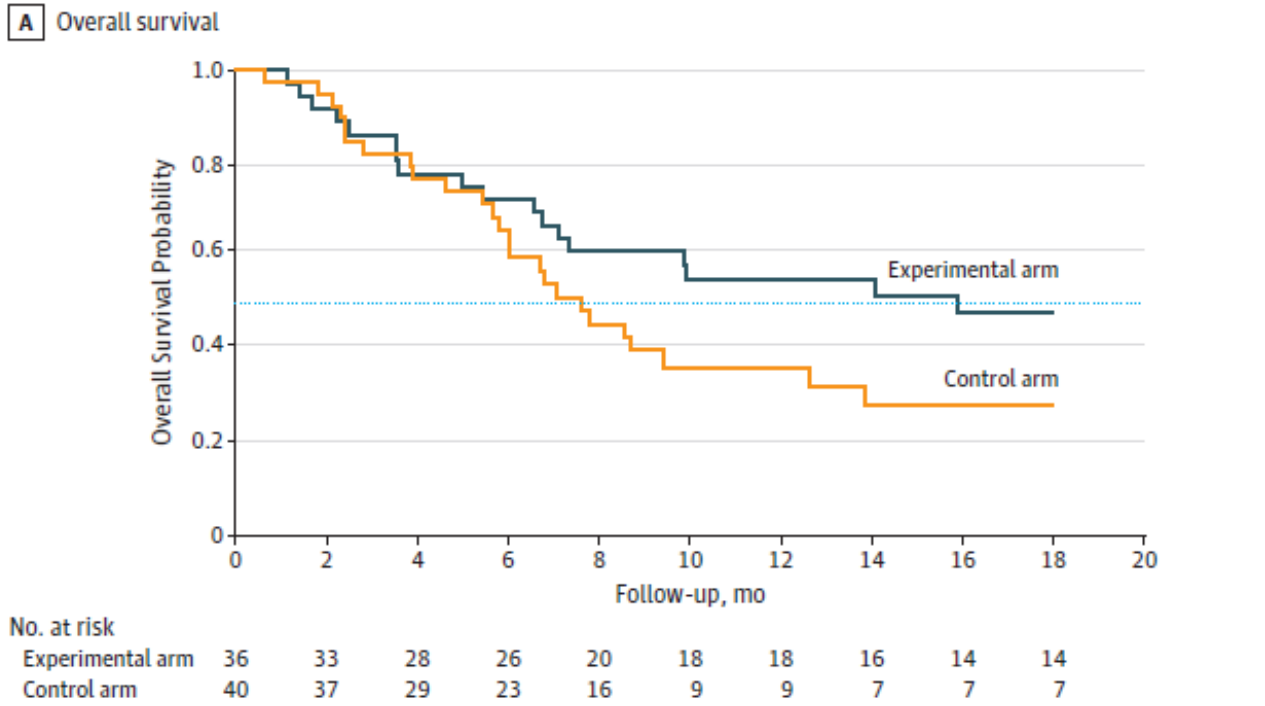


Figure 3. Overall Survival in the Intent-to-Treat Population



16th CONGRESS Lung ON CANCER

BARCELONA 27 / 28 NOVEMBER 2025

- SBRT COMO BOOST EN TRATAMIENTO RADICAL

GECP lung cancer research

Radiotherapy and Oncology 201 (2024) 110439

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Original Article

Stereotactic ablative radiotherapy for locally advanced non-small cell lung cancer: A systematic review and *meta*-analysis

Gustavo A. Viani [a,b,*,1], Andre G. Gouveia [b,c,1], Alexander V. Louie [d,e], Fabio Arcidiacono [f],

METAANÁLISIS DE SBRT EXCLUSIVA EN LA-NSCLC

A total of 7 studies (2014–2023), consisting of three prospective phase II trials and four retrospective studies, were included in our analysis, encompassing the treatment outcomes of 268 patients who were either unwilling or medically unfit to receive conventional chemoradiation and underwent SABR for LA-NSCLC

Table 1
Characteristics of studies using SABR to treat locally advanced non-small cell lung cancer.

Author and Year	Arcidiacono et al 2023	Cong et al 2019	Eriguchi et al 2016	Karam et al 2014	Kubicek et al 2022	Narita et al 2019	Parisi et al 2019
Design	Ph II	R	R	R	Ph II	R	Ph II
Patients	50	51	25	33	22	70	17
Median Age (range)	73 (45–88)	63 (35–82)	79 (60–86)	80 (65–100)	67 (46–91)	81 (63–93)	58 (43–69)
Female (%)	28	35	32	76	NR	29	24
Male (%)	72	65	68	24	NR	71	76
Stage							
IIIA/B (%)	40/34	NR	100/0	33/0	59/18	100/0	12/88
Nodal disease N2/N3 %	54/12	33/33	0/0	36/3	59/9	0/0	65/35
Histology							
SCC (%)	48	57	48	51	36	34	41
Adenocarcinoma (%)	52	35	28	33	54	29	59
Total dose in 5 fractions (Gy) (median)	45 (T) 40 (N)	35	40	40	50 (T) 45 (N)	50	30 (T) 25 (N)
Median Fraction # (range)	5 (5)	5 (4–6)	5 (5–10)	7 (5–10)	5 (3–5)	5 (5–10)	5 (NR)
Median BED Gy10 (range)	85.5/72 (59.5–115.5)	59.5 (52.5–65.6)	72 (72–100)	77.8 (42.6–132)	100/85.5 (72–180)	100/72 (75–100)	48/37.5 (45–72)
Medium Follow-up in months	38	17	28	9	23	25	87

Abbreviations: BED, biological effective dose; NR, not reported; SCC, squamous cell carcinoma; Ph II, Phase II study; R, Retrospective; N, involved node/s; T, primary tumor.

The median total dose administered to the primary tumor was 40 Gy (ranging from 30 to 50 Gy), delivered in 3 to 10 fractions (median of 5 fractions), resulting in a median biological effective dose (BED) of 77.8 Gy10 (ranging from 48 to 100 Gy)

The 1-year and 2-year OS rates were 74 % (95 % CI: 58–90 %) and 55 % (95 % CI: 34–76 %), respectively. Meta-regression analysis indicated a linear relationship between OS and LC, with a 0.7 % increase in OS for each 1 % improvement in LC (p = 0.005).

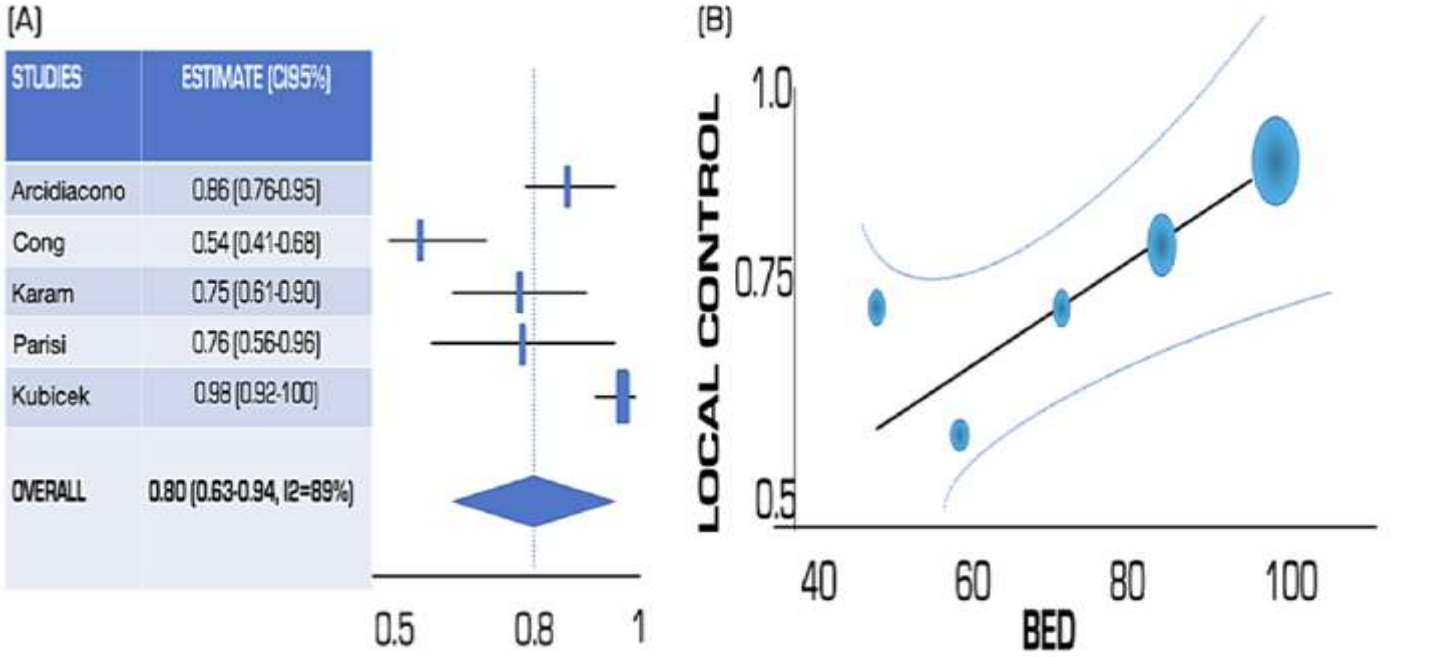

Fig. 1. (a) Meta-analysis of 5 studies evaluating the Local control at 1 year; 1 (b) metaregression demonstrating the linear relationship between the LC and BED.
Note: The circle sizes represent the weight of each study in the *meta*-regression analysis.

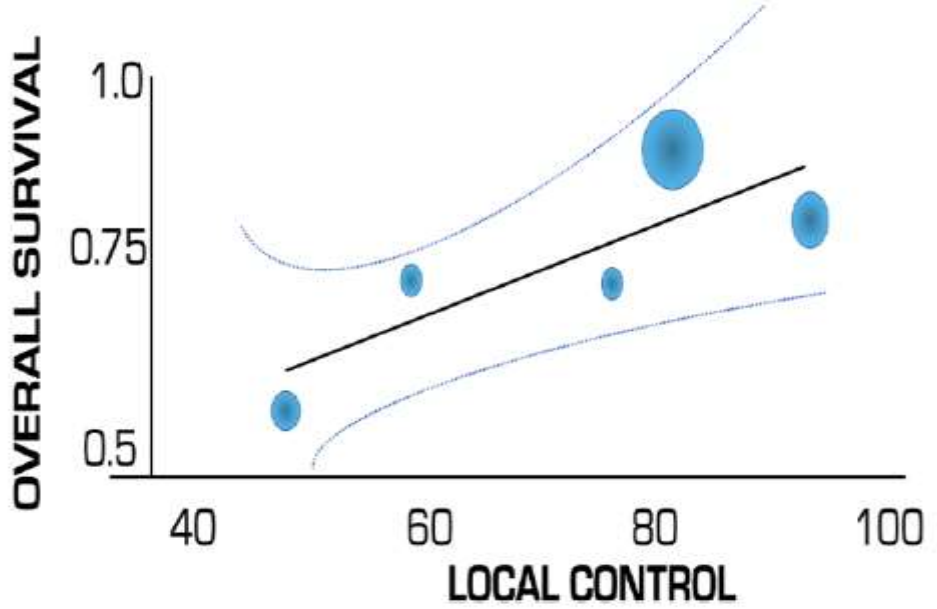

Fig. 2. (a) Meta-analysis of 5 studies evaluating the overall survival at 1 year; 1 (b) *meta*-analysis of 5 studies evaluating the overall survival at 2 years.

SBRT como boost de RTE

Phase I trial

Stereotactic ablative radiotherapy after concomitant chemoradiotherapy in non-small cell lung cancer: A TITE-CRM phase 1 trial

Jérôme Doyen[a,b,*], Michel Poudenx[b,c], Jocelyn Gal[b,d], Josiane Otto[b,c], Caroline Guerder[e],

26 ptes

RTE 46 Gy con RT3D

Distintos esquemas de SBRT (3 fracciones consecutivas, entre 7-12 Gy por fracción)

Inicio SBRT a los 21 días de media (10-58) de finalizar QTRT. Tto con Cyberknife

BED medio 110 Gy (81.7 -125)

Hemoptisis fatal con 3 x 12 Gy. **Se establece 3 x 11 Gy como dosis recomendada**

2AÑOS: CL 70.3%, SLLR 55.5%, SLM 44.5%, OS 50.8%

Table 1
Patient demographics and treatment characteristics.

Demographic or clinical characteristic	No. of patients	%
Median age, years	65.5 (46.7–81.1)	
Median follow-up, months	37.1 (1.7–60.7)	
Gender		
Male	19	73.1%
Female	7	26.9%
Stage		
II	2	7.6%
IIIA	14	53.8%
IIIB	7	26.9%
IV (oligometastatic disease)	3	11.7%
Histology		
Adenocarcinoma	11	42.3%
Squamous cell	13	50%
Large cell carcinoma	2	7.6%
Performance status		
0	6	23.1%
1	16	61.5%
2	4	15.4%
Chemotherapy		
Cisplatin – docetaxel	19	73.1%
Carboplatin – docetaxel	7	26.9%
Three dimensional radiotherapy		
Median tumor size	60 mm (31–106)	
Median tumor volume	41 mL (5.6–194.9)	
Median treatment duration	35 days (29–45)	
Total dose	46 Gy (all patients)	
Stereotactic body radiotherapy		
Median tumor size	39.5 mm (0–55)	
Median tumor volume	21.6 mL (1–115)	
Median treatment duration	4 days (3–19)	
Dose level 1 (3 × 7 Gy)	3 patients	
Dose level 2 (3 × 8 Gy)	4 patients	
Dose level 3 (3 × 9 Gy)	3 patients	
Dose level 4 (3 × 10 Gy)	3 patients	
Dose level 5 (3 × 11 Gy)	9 patients	
Dose level 6 (3 × 12 Gy)	4 patients	
Median isodose of prescription	80% (77–82)	
Median number of beams	148 (96–251)	
Median delay between 3DCRT and SABR	21 days (10–58)	

Primary lung tumour stereotactic body radiotherapy followed by concurrent mediastinal chemoradiotherapy and adjuvant immunotherapy for locally advanced non-small-cell lung cancer: a multicentre, single-arm, phase 2 trial

Lancet Oncol 2025; 26: 85–97

John H Heinzerling, Kathryn F Mileham, Myra M Robinson, James T Symanowski, Raghava R Induru, Gregory M Brouse, Christopher D Corso, Roshan S Prabhu, Daniel E Haggstrom, Benjamin J Moeller, William E Bobo, Carolina E Fasola, Vipul V Thakkar, Sridhar E Pal, Jenna M Gregory, Sarah L Norek, Xhevahire J Begic, Aparna H Kesarwala, Stuart H Burri, Charles B Simone 2nd

Participants received SBRT to the primary tumour (50–54 Gy in three to five fractions) followed by standard radiotherapy (planned up to 60 Gy in 30 2 Gy fractions) to the involved lymph nodes with concurrent platinum doublet chemotherapy (either paclitaxel 50 mg/m² intravenously plus carboplatin area under the curve 2 mg/mL per min every 7 days for a total of six 1-week cycles or etoposide 50 mg/m² intravenously on days 1–5 and days 29–33 plus cisplatin 50 mg/m² intravenously on days 1, 8, 29, and 36 for two cycles of 4 weeks). An amendment to the protocol (Dec 11, 2017) permitted the administration of consolidation durvalumab at the discretion of the

Name of structure	Dosimetric parameter	Per protocol
Lungs: IGTV	V20 Gy	<37%
	Mean (Gy)	≤20
Spinal canal	D0.03cc (Gy)	≤50
Heart	V50%	≤40
Esophagus	Mean (Gy)	<34

Abbreviation: IGTV = Internal gross target volume.

Primary lung tumour stereotactic body radiotherapy followed by concurrent mediastinal chemoradiotherapy and adjuvant immunotherapy for locally advanced non-small-cell lung cancer: a multicentre, single-arm, phase 2 trial

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Recruiting

Testing the Addition of High Dose, Targeted Radiation to the Usual Treatment for Locally-Advanced Inoperable Non-Small Cell Lung Cancer

ClinicalTrials.gov ID NCT05624996

Sponsor NRG Oncology

Information provided by NRG Oncology (Responsible Party)

Last Update Posted 2025-11-10

	Grade 3	Grade 4	Grade 5
At least one adverse event	18 (30%)	4 (7%)	4 (7%)
Oesophagitis	1 (2%)	0	0
Fatigue	1 (2%)	0	0
Dysphagia	0	0	0
Nausea	0	0	0
Dyspnoea	2 (3%)	0	1 (2%)
Pneumonitis	2 (3%)	0	1 (2%)
Diarrhoea	1 (2%)	0	0
Anorexia	0	0	0
Cough	0	0	0
Vomiting	0	0	0
Constipation	0	0	0
Dyspepsia	0	0	0
Non-cardiac chest pain	0	0	0
Decreased platelet count	1 (2%)	1 (2%)	0
Lung infection	2 (3%)	1 (2%)	1 (2%)
Other respiratory, thoracic, or mediastinal disorder	1 (2%)	0	0
Decreased neutrophil count	5 (8%)	4 (7%)	0
Hypokalaemia	1 (2%)	0	0
Hypotension	1 (2%)	0	0
Hyponatremia	2 (3%)	0	0
Generalised muscle weakness	1 (2%)	0	0
Decreased white blood cell count	4 (7%)	1 (2%)	0
Anaemia	4 (7%)	0	0
Febrile neutropenia	2 (3%)	0	0
Hypoxia	2 (3%)	0	0
Decreased lymphocyte count	2 (3%)	0	0
Sinus tachycardia	2 (3%)	0	0
Cardiac chest pain	1 (2%)	0	0
Gastritis	1 (2%)	0	0
Increased lipase	1 (2%)	0	0
Bronchial infection	1 (2%)	0	0
Vascular access complication	1 (2%)	0	0
Acute kidney injury	0	1 (2%)	0
Respiratory failure	0	0	2 (3%)

16th CONGRESS Lung ON CANCER

BARCELONA 27 / 28 NOVEMBER 2025

- SBRT COMO TRATAMIENTO NEOADYUVANTE

GECP lung cancer research

Study design

Preoperative Stereotactic body radiotherapy and platinum-based doublet chemotherapy plus Tislelizumab (immunotherapy) for operable stage II to III EGFR wild-type NSCLC (SACTION-1 trial)

Key eligibility criteria:

- Resectable stage II-IIIA or potentially resectable T3-4N2 IIIB NSCLC （AJCC 8th edition）
- Age ≥18
- ECOG PS 0-1
- No known EGFR/ALK alteration

N=46[a] → SBRT 8Gy*3d → Interval ≤7 days → Tislelizumab 200mg, D1 + Carboplatin AUC=5, D1 + Pemetrexed 500mg/m2, D1 (Adeno) or Nab-paclitaxel 260mg/m2, D1 (Squamous & other subtypes) Q3W * 2 cycles → Evaluation → Scheduled operation within 4-6 weeks following treatment

Adjuvant therapy per physicians' decision

Primary endpoint: MPR[b]

Secondary endpoints: pCR, resection rate, event-free survival

[a] Simon's optimal two-stage design, considering a threshold MPR rate of 30% and an expected MPR rate of 50%. If there were 19 or more MPRs in 46 patients, the null hypothesis can be rejected. α=0.05, β=0.20.

[b] MPR defined as the presence of 10% or fewer viable tumor in the primary tumor and resected lymph nodes.

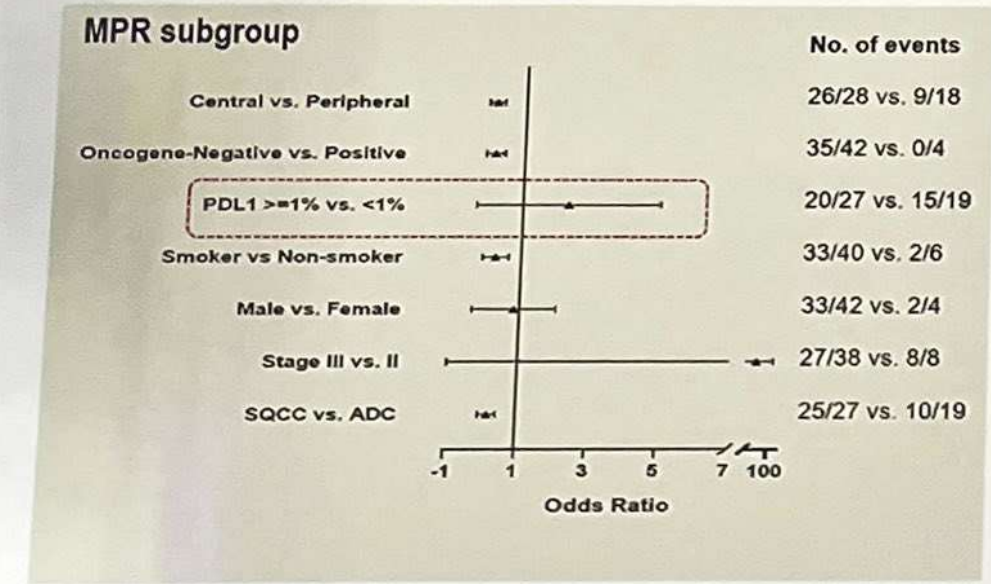
Ze-Rui Zhao, et al.

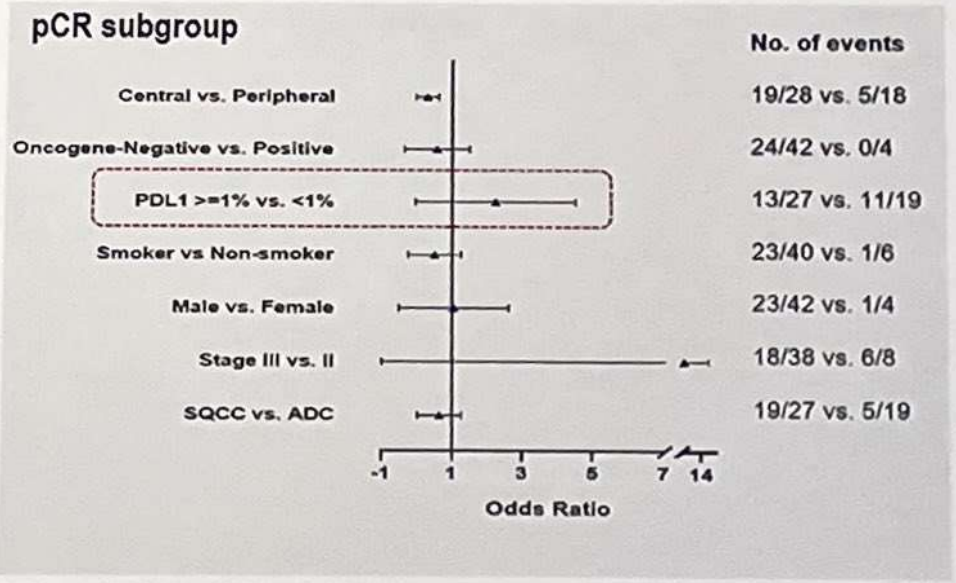
MADRID ESMO congress

Primary & secondary endpoints

	Major pathological response	Pathological complete response
ITT population	35/46 (76.1%; 95% CI 61.2-87.4%)	24/46 (52.2%; 95% CI 36.9-67.1%)
Per-protocol population	35/44 (79.5%; 95% CI 64.7-90.2%)*	24/44 (54.5%; 95% CI 38.8-69.6%)

Data are n/N (%). CI: confidence interval. *4 non-MPR patients had oncogene events: one ALK+ postoperatively, one negative blood NGS but EGFR+ postoperatively, 1 ROS1+, and 1 KRAS+





The exact two-sided 95% CIs were measured by the Clopper-Pearson method.

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MADRID 2023 ESMO congress

Neoadjuvant durvalumab with or without stereotactic body radiotherapy in patients with early-stage non-small-cell lung cancer: a single-centre, randomised phase 2 trial

Lancet Oncol 2021; 22: 824–35

Nasser K Altorki, Timothy E McGraw, Alain C Borczuk, Ashish Saxena, Jeffrey L Port, Brendon M Stiles, Benjamin E Lee, Nicholas J Sanfilippo, Ronald J Scheff, Bradley B Pua, James F Gruden, Paul J Christos, Cathy Spinelli, Joyce Gakuria, Manik Uppal, Bhavneet Binder, Olivier Elemento, Karla V Ballman, Silvia C Formenti

Eligible patients were randomly assigned (1:1) to either neoadjuvant durvalumab monotherapy or neoadjuvant durvalumab plus stereotactic body radiotherapy (8 Gy × 3 fractions)

All patients received two cycles of durvalumab 3 weeks apart

Those in the durvalumab plus radiotherapy group also received three consecutive daily fractions of 8 Gy stereotactic body radiotherapy delivered to the primary tumour immediately before the first cycle of durvalumab.

The primary endpoint was major pathological response in the primary tumour.
(was defined as the presence of 10% or fewer viable tumour cells in the primary tumour).

Lancet Oncol 2021; 22: 824–35

Neoadjuvant durvalumab with or without stereotactic body radiotherapy in patients with early-stage non-small-cell lung cancer: a single-centre, randomised phase 2 trial

Nasser K Altorki, Timothy E McGraw, Alain C Borczuk, Ashish Saxena, Jeffrey L Port, Brendon M Stiles, Benjamin E Lee, Nicholas J Sanfilippo, Ronald J Scheff, Bradley B Pua, James F Gruden, Paul J Christos, Cathy Spinelli, Joyce Gakuria, Manik Uppal, Bhavneet Binder, Olivier Elemento, Karla V Ballman, Silvia C Formenti

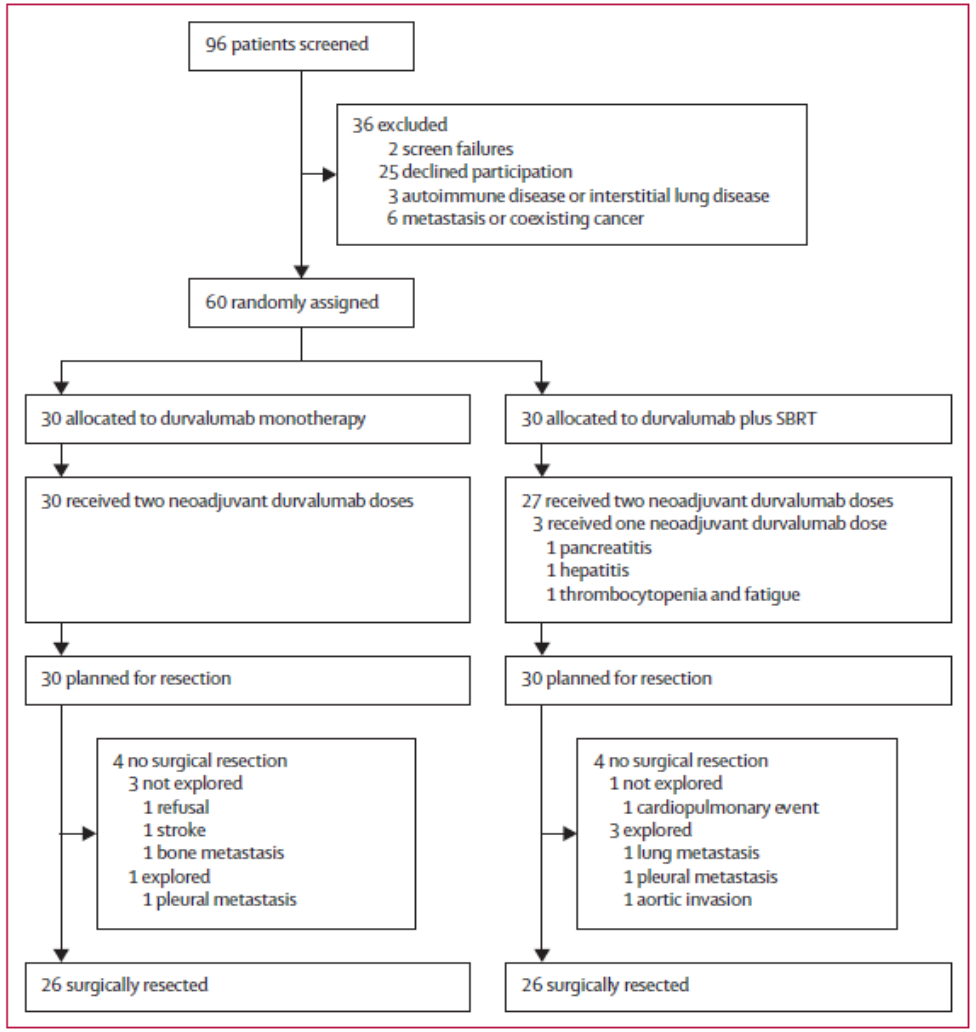

Figure 1: **Trial profile**
SBRT=stereotactic body radiotherapy.

	Durvalumab monotherapy group (n=30)	Durvalumab plus SBRT group (n=30)
Age, years	71·0 (65·2–75·0)	70·0 (64·2–74·0)
Sex		
Male	16 (53%)	15 (50%)
Female	14 (47%)	15 (50%)
ECOG performance status		
0	21 (70%)	23 (77%)
1	9 (30%)	7 (23%)
Smoking status		
Current	7 (23%)	10 (33%)
Former	17 (57%)	16 (53%)
Never	6 (20%)	4 (13%)
Clinical stage		
IA	3 (10%)	1 (3%)
IB	8 (27%)	7 (23%)
IIA	1 (3%)	6 (20%)
IIB	4 (13%)	4 (13%)
IIIA	14 (47%)	12 (40%)
Invasive mediastinal staging	12 (40%)	13 (43%)
Cell type		
Adenocarcinoma	16 (53%)	18 (60%)
Squamous	11 (37%)	12 (40%)
Sarcomatoid	1 (3%)	0
Not otherwise specified	2 (7%)	0
PD-L1 expression status		
≥1%	13 (43%)	23 (77%)
<1%	15 (50%)	6 (20%)
Unknown	2 (7%)	1 (3%)
EGFR mutation		
Positive	5 (17%)	7 (23%)
Negative	25 (83%)	23 (77%)

Data are median (IQR) or n (%). ECOG=Eastern Cooperative Oncology Group. SBRT=stereotactic body radiotherapy.

Table 1: **Demographic and disease characteristics**

Neoadjuvant durvalumab with or without stereotactic body radiotherapy in patients with early-stage non-small-cell lung cancer: a single-centre, randomised phase 2 trial

Lancet Oncol 2021; 22: 824–35

Nasser K Altorki, Timothy E McGraw, Alain C Borczuk, Ashish Saxena, Jeffrey L Port, Brendon M Stiles, Benjamin E Lee, Nicholas J Sanfilippo, Ronald J Scheff, Bradley B Pua, James F Gruden, Paul J Christos, Cathy Spinelli, Joyce Gakuria, Manik Uppal, Bhavneet Binder, Olivier Elemento, Karla V Ballman, Silvia C Formenti

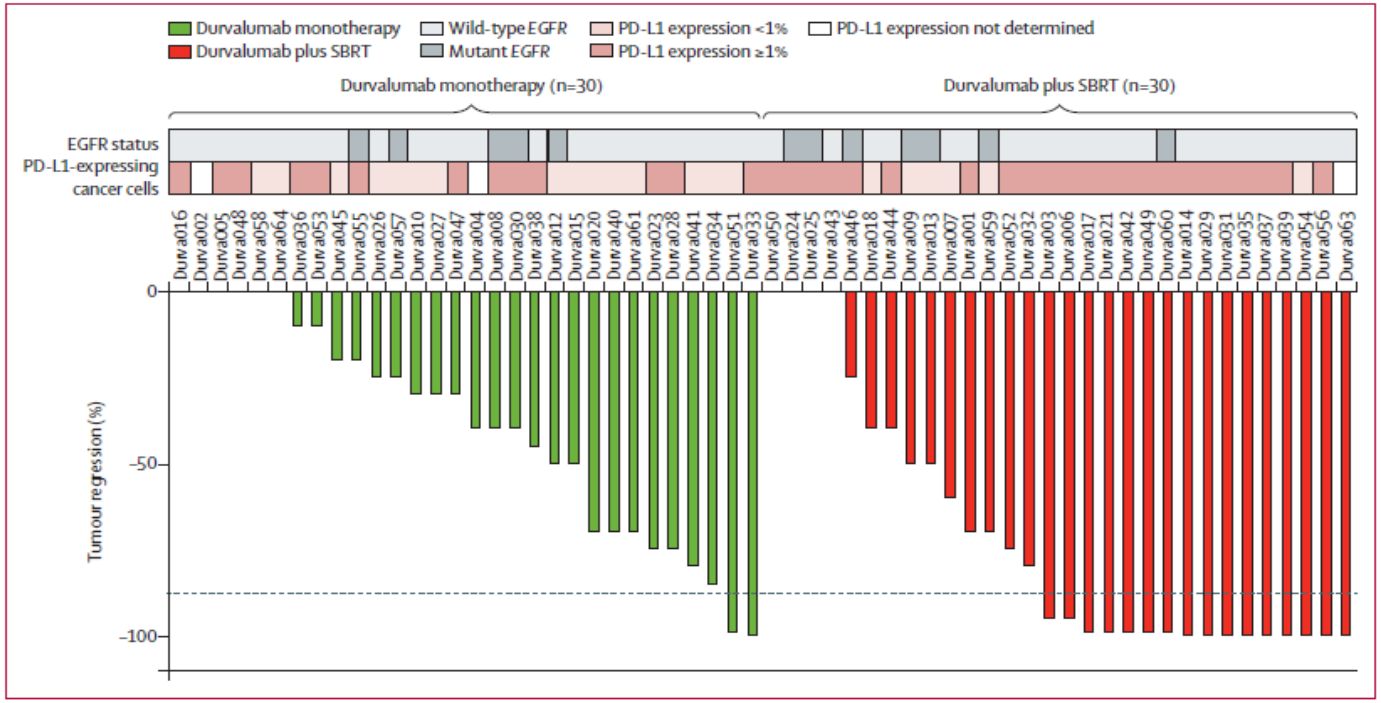

Figure 2: **Waterfall plot of tumour regression**
The dashed line indicates the threshold for achieving a major pathological response (≤10% viable tumour cells in the primary tumour). Tumour regression was determined as the negative of 100 minus the residual tumour percentage. EGFR status and percentage of PD-L1-positive cancer cells are reported. For the purpose of this analysis, tumours that progressed were assigned a value of 0 for tumour regression. One patient from each group (ie, Durva016 and Durva050) died before surgery and they were also assigned a value of 0 for tumour regression. SBRT=stereotactic body radiotherapy.

	Major pathological response*	Complete pathological response
Durvalumab monotherapy (n=30)		
IB	1 (3%)	0
IIIA	1 (3%)	0
Durvalumab plus SBRT (n=30)		
IA	1 (3%)	0
IB	0	1 (3%)
IIA	1 (3%)	2 (7%)
IIB	2 (7%)	2 (7%)
IIIA	4 (13%)	3 (10%)

Data are n (%). SBRT=stereotactic body radiotherapy. *Excluding patients with complete pathological response.

Table 2: **Clinical stages in major and complete pathological responders**

	Durvalumab monotherapy		Durvalumab plus SBRT	
	Radiographic response (n=30)	Major pathological response (n=2)	Radiographic response (n=30)	Major pathological response* (n=16)
Stable disease	24 (80%)	1 (50%)	15 (50%)	5 (31%)
Partial response	1 (3%)	1 (50%)	14 (47%)	11 (69%)
Progression	3 (10%)	0	1 (3%)	0
Pseudoprogression	2 (7%)	0	0	0
Complete response	0	0	0	0

Data are n (%). SBRT=stereotactic body radiotherapy. *Including patients with complete pathological response (table 2, figure 2).

Table 3: **Radiographic and major pathological responses**

← Post

Patrick Forde
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Is “total” neoadjuvant therapy possible for a subgroup of pts with lung cancer? 51% of pts with PD-L1 high lung cancer in the #CM77T trial had no cancer left at surgery. Refinement of selection biomarkers & new therapies may mean this is not as far away as it seems! #ESMO23

Traducir post

ECOG PS 1 (n = 173)	24.4	4.4		20.0 (9.8-30.6)
Stage II (n = 162)	29.6	3.7		25.9 (14.9-36.9)
Stage III (n = 299)[b]	23.0	5.3		17.7 (10.0-25.5)
Squamous (n = 234)	28.4	5.9		22.5 (13.1-31.8)
Non-squamous (n = 227)	22.1	3.5		18.6 (10.2-27.4)
Current/former smoker (n = 417)	25.9	4.9		21.1 (14.4-27.7)
Never smoker (n = 44)	17.6	3.7		13.9 (−4.6 to 37.5)
PD-L1 < 1% (n = 186)[c]	12.9	4.3		8.6 (0.4-17.3)
PD-L1 ≥ 1% (n = 256)[c]	35.2	4.7		30.5 (21.2-39.4)
PD-L1 1-49% (n = 159)	26.5	3.9		22.6 (11.7-33.3)
PD-L1 ≥ 50% (n = 97)	51.1	5.8		45.3 (28.1-59.8)

CONCLUSIONES

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-El control locorregional es fundamental en NSCLC e impacta en SLP y SG

- En tratamiento radical, la escalada de dosis de radioterapia sigue siendo un asunto de relevancia

- En tratamiento neoadyuvante, la SBRT podría ser un interesante tratamiento que mejore las tasas de resecciones R0 y la respuesta locorregional

-Necesarios marcadores de respuesta (perfiles moleculares/genéticos, IA)

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THANK YOU

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