



**HighLights
ASCO 2017
Câncer de
Pulmão**

Apresentação

A Sociedade Americana de Oncologia Clínica (ASCO) foi fundada em 1964 e, desde então, tornou-se a principal organização voltada para profissionais que lidam diariamente com o câncer em todo o mundo.

Sua missão é promover o combate à doença, habilitando seus membros a oferecer o que existe de melhor em termos de tratamento para o seus pacientes. Para isso, investe maciçamente em pesquisa e é reconhecida por promover educação continuada de alto nível.

Todos os anos, a ASCO organiza seu Congresso, reunindo os mais renomados profissionais do mundo em todas as áreas da Oncologia. O contato direto com profissionais de destaque, o intenso compartilhamento de informações, assim como a troca de experiências cotidianas criam um ambiente favorável para o aprendizado.

O Grupo Oncoclínicas não poderia deixar de estar presente nesse evento, trazendo para seus pacientes e parceiros todas as novidades apresentadas. Em linha com nosso objetivo de nos transformar no melhor grupo de Oncologia do país, estivemos presentes com mais de 80 Oncologistas em Chicago, coletando os principais e mais atualizados dados científicos.

E por meio do Instituto Oncoclínicas conseguimos compilar as informações mais relevantes, transformando-as em um *slide kit* didático, versátil e inovador. É com prazer que disponibilizamos a vocês, nossos parceiros, o “Melhor da ASCO 2017”.

Cordialmente,
Instituto Oncoclínicas



○ CONFLITOS DE INTERESSE

Esses slides estão isentos de conflitos de interesses e possuem finalidade essencialmente educacional.



ROTEIRO

1. Tratamento Adjuvante do Câncer de Pulmão: Finalmente algo novo
2. Doença Avançada - ASCO 2017
3. Doença Avançada ALK + - ASCO 2017
4. Doença Avançada EGFR + - ASCO 2017
5. Doença Avançada – imunoterapia – ASCO 2017
6. Tratamento da Metástase cerebral – ASCO 2017
7. Mesotelioma e Imunoterapia





**Tratamento
Adjuvante do
Câncer de Pulmão:
Finalmente algo
novo**

○ Tratamento Adjuvante

- Há décadas o padrão de tratamento adjuvante em câncer de pulmão é um doublet baseado em cisplatina.
- O benefício pela meta-análise LACE é cerca de 5% de ganho absoluto nesta estratégia.
- TKIs (direcionados a mutação do EGFR) demonstraram benefício limitado nos estudos prévios.
- Estudo ADJUVANT buscou analisar eficácia do gefitinibe em pacientes II-III A (N1-N2)

Gefitinib (G) versus vinorelbine / cisplatin (VP) as adjuvant treatment in stage II-IIIa (N1-N2) non-small-cell lung cancer (NSCLC) with *EGFR* activating mutation (ADJUVANT): A randomized, Phase III trial (CTONG 1104)

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Abstract 8500 presented by Y-L Wu

Guangdong Lung Cancer Institute, Guangdong General Hospital, China

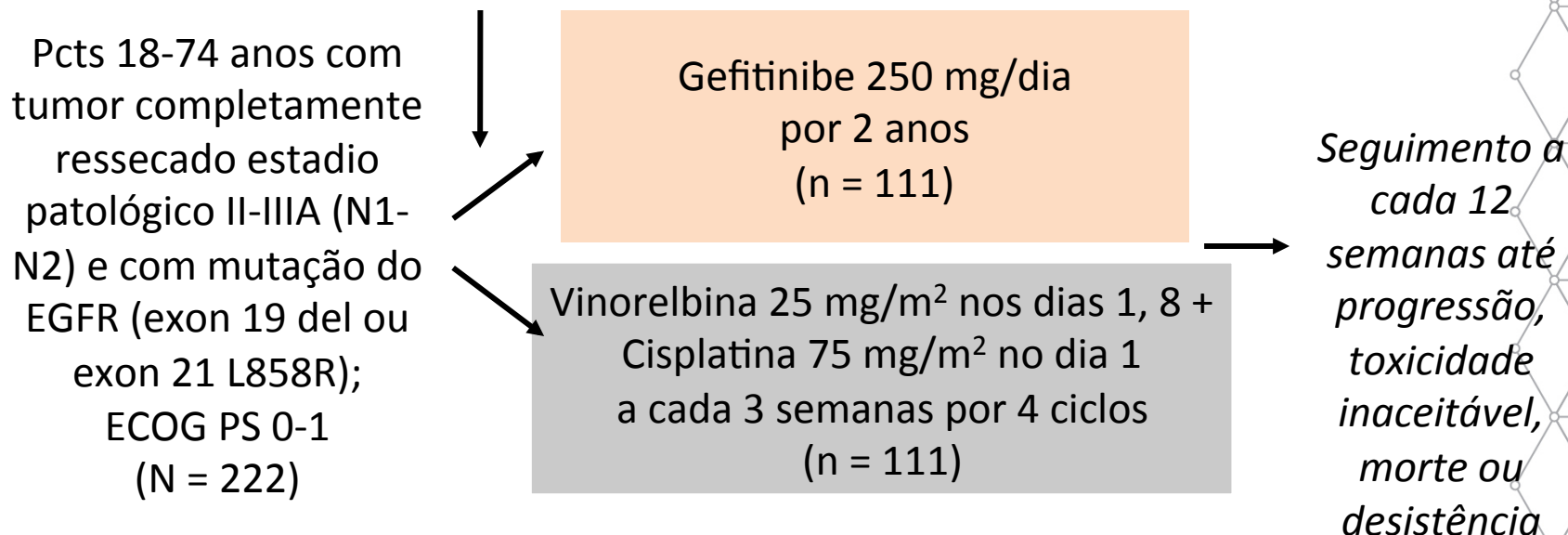
June 5, 2017

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ADJUVANT

- Estudo randomizado fase III

Estratificado pela mutação do EGFR e pelo N



- Desfecho primário: Sobrevida livre de Progressão (SLP)
- Desfecho secundário: 3-anos SLP, 5-anos SLP, Sobrevida Global (SG), 5-anos OS, tolerância,

analyses

Baseline demographics (ITT population)

	Vinorelbine plus cisplatin (n=111)	Gefitinib (n=111)
Age, years, median (range)	60 (26–76)	58 (32–74)
Female, n (%) [†]	65 (58.6)	65 (58.6)
Never smoker, n (%)	85 (76.6)	82 (73.9)
Baseline ECOG PS, n (%)		
1	85 (76.6)	72 (64.9)
Pathology stage, n (%)		
IIA	33 (29.7)	33 (29.7)
IIB	4 (3.6)	4 (3.6)
IIIA	71 (64.0)	72 (64.9)
Not available	3 (2.7)	2 (1.8)
Pathology, n (%)		
Adenocarcinoma	105 (94.6)	102 (91.9)
Squamous carcinoma	1 (0.9)	5 (4.5)
Adenosquamous carcinoma	3 (2.7)	2 (1.8)
Not available	2 (1.8)	2 (1.8)

[†]Sex was not available for two patients in the gefitinib arm and one patient in the vinorelbine plus cisplatin arm

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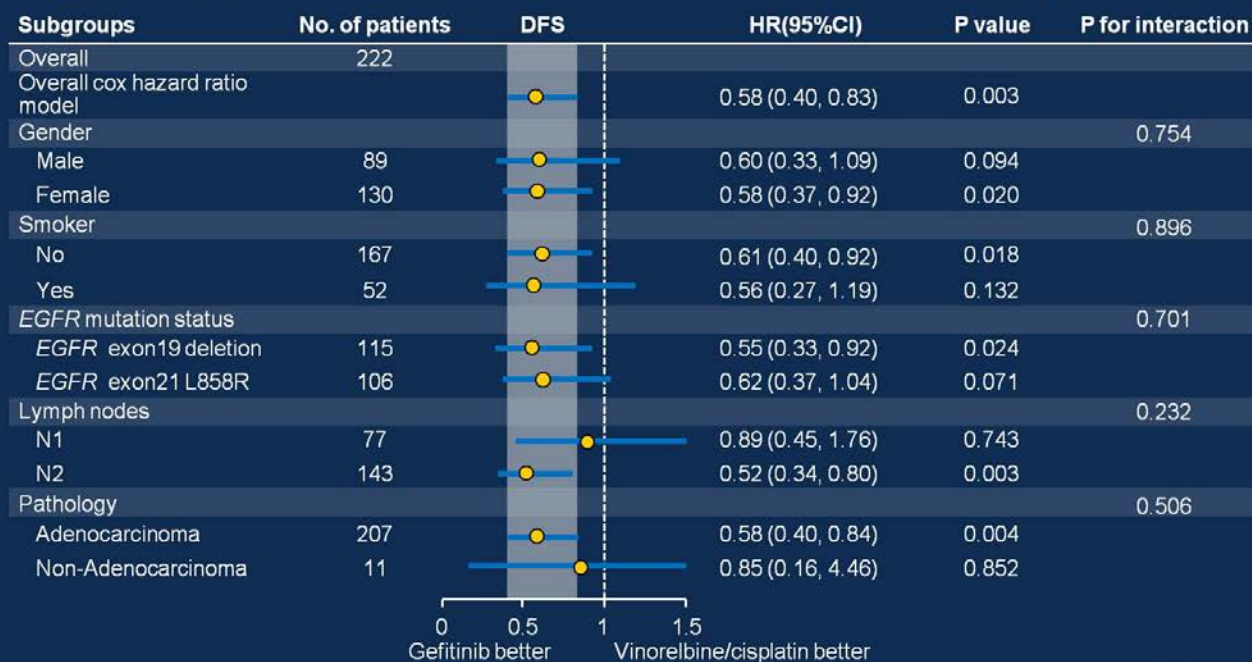
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ADJUVANT: Sobrevida livre de Progressão (Desfecho Primário)

	Gefitinib e (n = 111)	Vinorelbina/ Cisplatina (n = 111)	HR (95% CI)	<i>P</i>
Mediana SLP, meses	28.7	18.0	0.60 (0.42-0.87)	.005
■ Taxa 3- anos SLP %	34	27		

Wu YL, et al. ASCO 2017. Abstract 8500.

Subgroup analysis of DFS (ITT population)



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Não há um subgrupo específico que possamos caracterizar com maior eficácia. Mesmo subgrupos de “não adenocarcinoma” e “fumantes”, que não tiveram p significativo, possuem um número muito pequeno de pacientes para qq conclusão.

AEs in ≥10% of patients (safety population)

AE, n (%)	Gefitinib (n=106)		Vinorelbine plus cisplatin (n=87)	
	All grades	Grade ≥3	All grades	Grade ≥3
Total AEs	61 (57.5)	13 (12.3)	70 (80.5)	42 (48.3)
Neutropenia	3 (2.8)	0 (0.0)	46 (52.9)	30 (34.5)
Anemia	2 (1.9)	1 (0.9)	44 (50.6)	5 (5.7)
Leukopenia	4 (3.8)	0 (0.0)	41 (47.1)	14 (16.1)
Myelosuppression	0 (0.0)	0 (0.0)	12 (13.8)	3 (3.4)
Nausea	3 (2.8)	0 (0.0)	38 (43.7)	6 (6.9)
Vomiting	5 (4.7)	0 (0.0)	36 (41.4)	8 (9.2)
Anorexia	2 (1.9)	0 (0.0)	20 (23.0)	0 (0.0)
Rash	43 (40.6)	1 (0.9)	0 (0.0)	0 (0.0)
Elevated ALT	29 (27.4)	2 (1.9)	3 (3.4)	0 (0.0)
Elevated AST	12 (11.3)	2 (1.9)	1 (1.1)	0 (0.0)
Diarrhea	28 (26.4)	1 (0.9)	4 (4.6)	0 (0.0)
Cough	11 (10.4)	0 (0.0)	15 (17.2)	0 (0.0)
Fatigue	4 (3.8)	0 (0.0)	10 (11.5)	0 (0.0)
Fever	1 (0.9)	0 (0.0)	9 (10.3)	1 (1.1)

AE, adverse event; ALT, alanine aminotransferase; AST, aspartate transaminase

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Perfil de toxicidade usual para o gefitinibe

ADJUVANT: Conclusões

- Em pacientes operados estágio II-IIIa, o braço em uso do Gefitinibe alcançou melhor SLP em comparação a vinorelbina/cisplatina para aqueles pacientes com mutação do *EGFR*.
 - Mediana SLP: 28.7 vs 18.0 meses (HR: 0.60; 95% CI: 0.42-0.87; $P = .005$)
 - 3-anos DFS: 34% vs 27%
 - Dados de sobrevida global não disponíveis
- Gefitinibe apresentou tolerância usual
- Autores concluíram que o gefitinibe por 2 anos deve ser considerado como novo tratamento padrão para este perfil de pacientes.

**Doença
Avançada
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**Doença
Avançada –
ALK +
ASCO 2017**

Alectinib vs crizotinib in treatment-naïve advanced *ALK*+ NSCLC: primary results of the global phase III ALEX study (LBA9008)

Alice Shaw¹, Solange Peters², Tony Mok³, Shirish M. Gadgeel⁴, Jin Seok Ahn⁵, Sai-Hong Ignatius Ou⁶, Maurice Perol⁷, Rafal Dziadziuszko⁸, Dong-Wan Kim⁹, Rafael Rosell¹⁰, Ali Zeaiter¹¹, Ting Liu¹¹, Sophie Golding¹¹, Bogdana Balas¹¹, Johannes Noe¹¹, Peter N. Morcos¹², and D. Ross Camidge¹³ on behalf of the ALEX investigators

1. Massachusetts General Hospital, Boston, MA, USA; 2. Lausanne University Hospital, Switzerland; 3. Chinese University of Hong Kong, Hong Kong; 4. Karmanos Cancer Institute/Wayne State University, Detroit, MI, USA; 5. Sungkyunkwan University School of Medicine, Seoul, South Korea; 6. Chao Family Comprehensive Cancer Center, University of California, Irvine School of Medicine, Orange, CA, USA; 7. Department of Medical Oncology, Léon Bérard Cancer Center, Lyon, France; 8. Department of Oncology and Radiotherapy, Medical University of Gdansk, Gdansk, Poland; 9. Seoul National University Hospital, Seoul, South Korea; 10. Catalan Institute of Oncology, Barcelona, Spain; 11. F. Hoffmann-La Roche Ltd, Basel, Switzerland; 12. Roche Innovation Center, New York, USA; 13. University of Colorado, Denver, CO, USA

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<http://tago.ca/Lfq>

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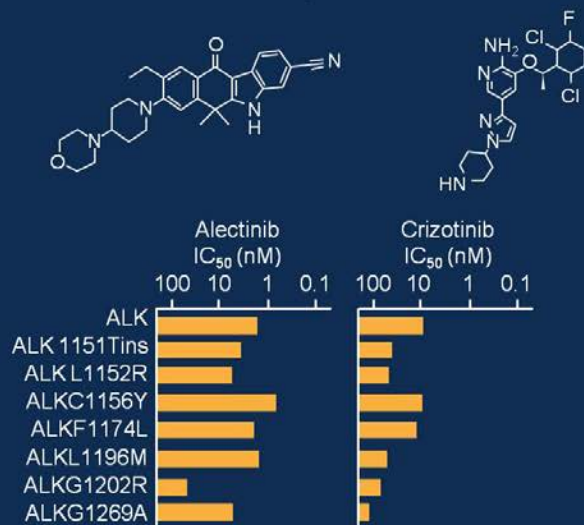
○ *BackGround para doença ALK+ NSCLC*

- Inibidores do ALK+ são ativos e o tratamento padrão neste tipo de doença ^[1]
- Crizotinibe é o tratamento padrão de doença ALK+
 - Estudo de fase III PROFILE 1014 demonstrou superioridade do crizotinibe frente a terapia padrão da época com pemetrexed + cisplatina^[2]
 - Desfechos do Crizotinibe , mediana de SLP: 10.9 meses; TxResp: 74%
 - Progressão em SNC é comum em pacientes ALK+ recebendo crizotinibe^[3]
- Alectinibe demonstrou atividade em pacientes refratários ao crizotinibe em estudos iniciais^[4-6]

1. Kwak EL, et al. N Engl J Med. 2010;363:1693-1703. 2. Solomon BJ, et al. N Engl J Med. 2014;371:2167-2177. 3. Yoshida T, et al. Lung Cancer. 2016;97:43-47. 4. Ou SH, et al. J Clin Oncol. 2016;34:661-668. 5. Shaw AT, et al. Lancet Oncol. 2016;17:234-242. 6. Gadgeel SM, et al. J Clin Oncol. 2016;34:4079-4085. 7. Peters S, et al. N Engl J Med. 2017; [Epub ahead of print].

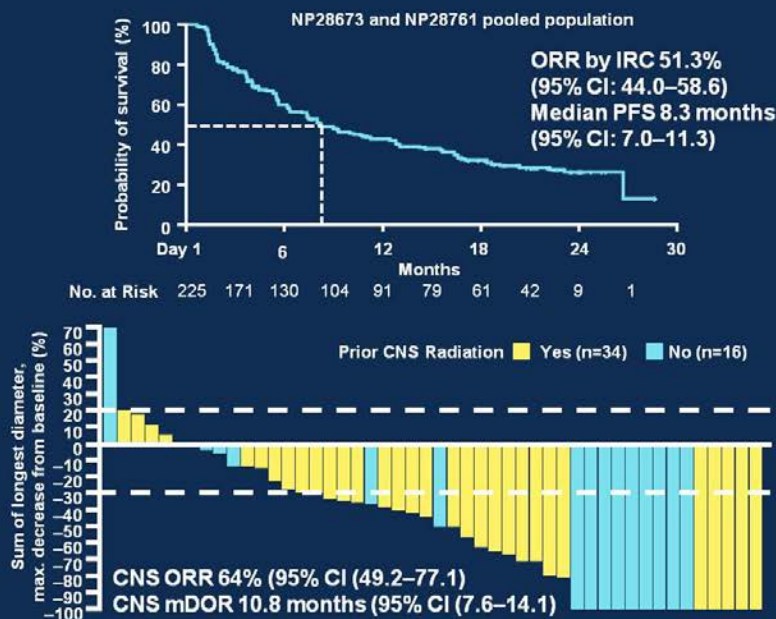
Alectinib in ALK+ NSCLC

In vitro kinase activity^{1,2}



1. Sakamoto et al., Cancer Cell 2011;19:679–90; 2. Kodama et al., Cancer Lett 2014;351:215–21; 3. Ou et al., JCO 2016;34:661–8; 4. Shaw et al., Lancet Oncol 2016;17:234–42; 5. Yang et al., WCLC 2016; 6. Gadgeel et al., JCO 2016;34:4079–85

Clinical activity (crizotinib-resistant ALK+ NSCLC)^{3–6}



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Estudo ALEX

Pactes estratificados de acordo com ECOG PS (0/1 vs 2), raça (Asiático vs não-Asiático), meta SNC (sim ou não) vs no)

Pcts com tumor de pulmão avançado
ALK+, sem
tratamento prévio,
ECOG PS 0-2
(N = 303)

Alectinibe 600 mg BID VO
(n = 152)

Crizotinibe 250 mg BID VO
(n = 151)

*Sem
permissão
para
crossover*

- Desfecho Primário: sobrevida livre de progressão (SLP)
- Desfechos Secundários: SLP por IRC, tempo para progressão em SNC, taxa de resposta (TXR), sobrevida global, tolerância
- Mediana de seguimento do alectinibe de 18.6 meses e do crizotinibe de 17.6 meses

Baseline characteristics

		Crizotinib (N=151)	Alectinib (N=152)
Age, years	Median (range)	54 (18–91)	58 (25–88)
Gender, n (%)	Female	87 (58)	84 (55)
	Male	64 (42)	68 (45)
Race, n (%)	Non-Asian	82 (54)	83 (55)
	Asian	69 (46)	69 (45)
ECOG PS, n (%)	0–1	141 (93)	142 (93)
	2	10 (7)	10 (7)
Smoking status, n (%)	Non-smoker	98 (65)	92 (61)
	Past smoker	48 (32)	48 (32)
	Active smoker	5 (3)	12 (8)
Histology, n (%)	Adenocarcinoma	142 (94)	137 (90)
	Other*	9 (6)	15 (10)

*Other histology included: large cell carcinoma, mixed with predominantly adenocarcinoma component, squamous cell carcinoma, undifferentiated

ECOG PS, Eastern Cooperative Oncology Group Performance status

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Baseline CNS disease

		Crizotinib (N=151)	Alectinib (N=152)
CNS metastases by IRC (%)	Present	58 (38)	64 (42)
	Absent	93 (62)	88 (58)
CNS metastases treatment (%)	n	58	64
	None	36 (62)	37 (58)
	Whole brain RT	16 (28)	17 (27)
	Radiosurgery	4 (7)	5 (8)
	Other*	1 (2)	4 (6)
	Brain surgery	1 (2)	1 (2)

*1 patient in the alectinib arm received both radiosurgery and whole brain radiotherapy; 1 patient in the crizotinib arm and 3 patients in the alectinib arm had brain surgery combined with radiotherapy

CNS, central nervous system; IRC, Independent Review Committee, RT, radiotherapy

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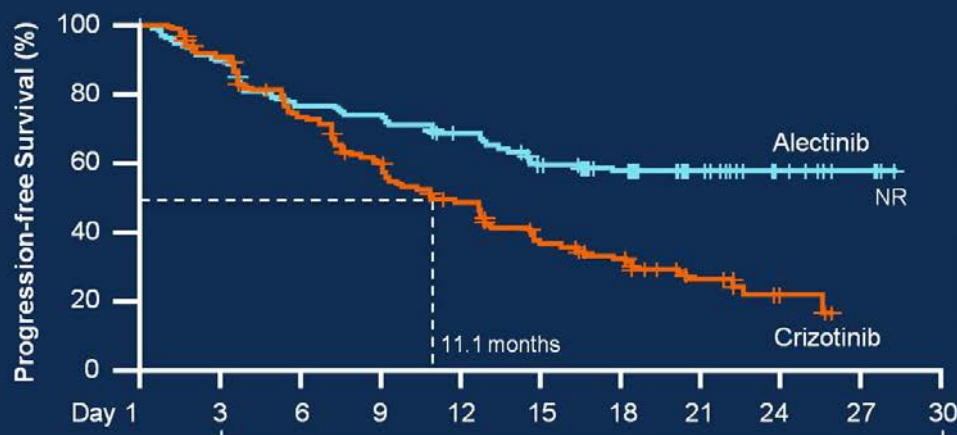
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ALEX:TX Resposta

TX Resposta (ITT)	Alectinibe (n = 152)	Crizotinibe (n = 151)	HR (95% CI)	P
Tx Resposta Investigador, % (95% CI)	82.9 (76.0-88.5)	75.5 (67.8-82.1)	--	.09
CR, n (%)	6 (4)	2 (1)		
PR, n (%)	120 (79)	112 (74)		
SD, n (%)	9 (6)	24 (16)		
Mediana DuraçãoR meses (95%CI)	NA (NA)	11.1 (7.9-13.0)	0.36	--

TX Resposta (Lesão mensurável SNC)	Alectinibe (n = 21)	Crizotinibe (n = 22)
TX resposta pelo IRC, % (95% CI)	81 (58-95)	50 (28-72)
SNC respota completa, n (%)	8 (38)	1 (5)
Mediana DuraçãoR, meses (95% CI)	17.3 (14.8-NA)	5.5 (2.1-17.3)

Primary endpoint: PFS, investigator-assessed



No. at Risk

	151	132	104	84	65	46	35	16	5
Crizotinib	151	132	104	84	65	46	35	16	5
Alectinib	152	135	113	109	97	81	67	35	15

	Crizotinib (N=151)	Alectinib (N=152)
Patients with events, n (%)	102 (68)	62 (41)
Median PFS, months (95% CI)	11.1 (9.1–13.1)	NR (17.7–NR)
HR (95% CI)		0.47 (0.34–0.65)
P-value (log-rank test)		P<0.0001

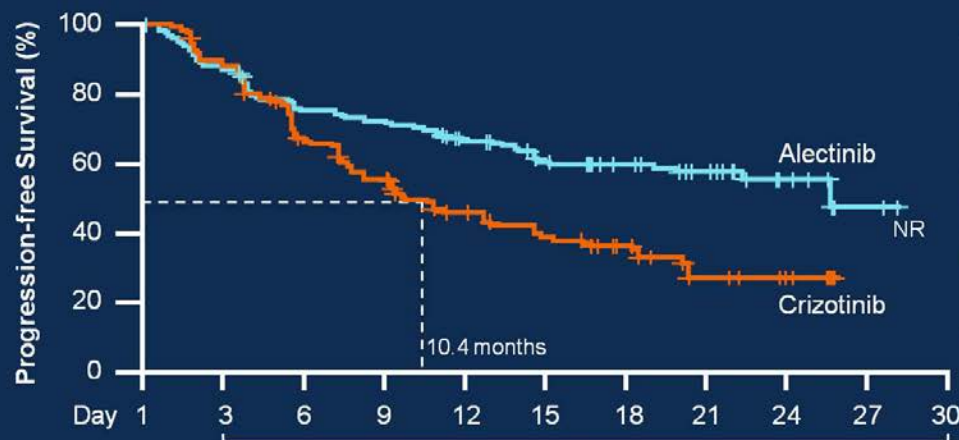
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Secondary endpoint: PFS, IRC-assessed



No. at Risk

	151	128	92	74	57	46	33	12	4
Crizotinib	151	128	92	74	57	46	33	12	4
Alectinib	152	132	112	108	95	83	69	35	15

	Crizotinib (N=151)	Alectinib (N=152)
Patients with events, n (%)	92 (61)	63 (41)
Median PFS, months (95% CI)	10.4 (7.7–14.6)	25.7 (19.9–NR)
HR (95% CI)		0.50 (0.36–0.70)
P-value (log-rank test)		P<0.0001

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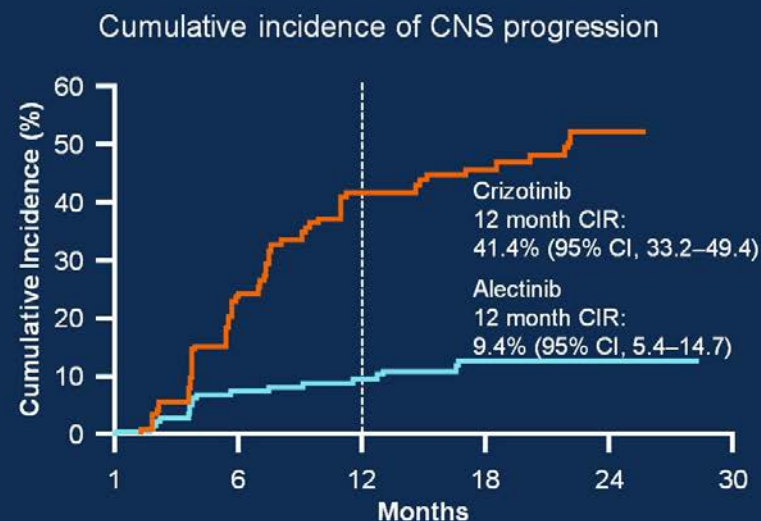
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A Sobrevida livre de Progressão mais que dobrou com o uso do Alectinibe!

Secondary endpoint: Time to CNS progression (by IRC, ITT)

- A competing risk analysis with CNS progression, non-CNS progression and death as competing events was conducted
- For each patient, the first event of CNS progression, non-CNS progression or death was counted

	Crizotinib (N=151)	Alectinib (N=152)
Patients with events, n (%)	68 (45)	18 (12)
Cause-specific HR (95% CI)		0.16 (0.10–0.28)
P-value (log-rank test)		P<0.0001

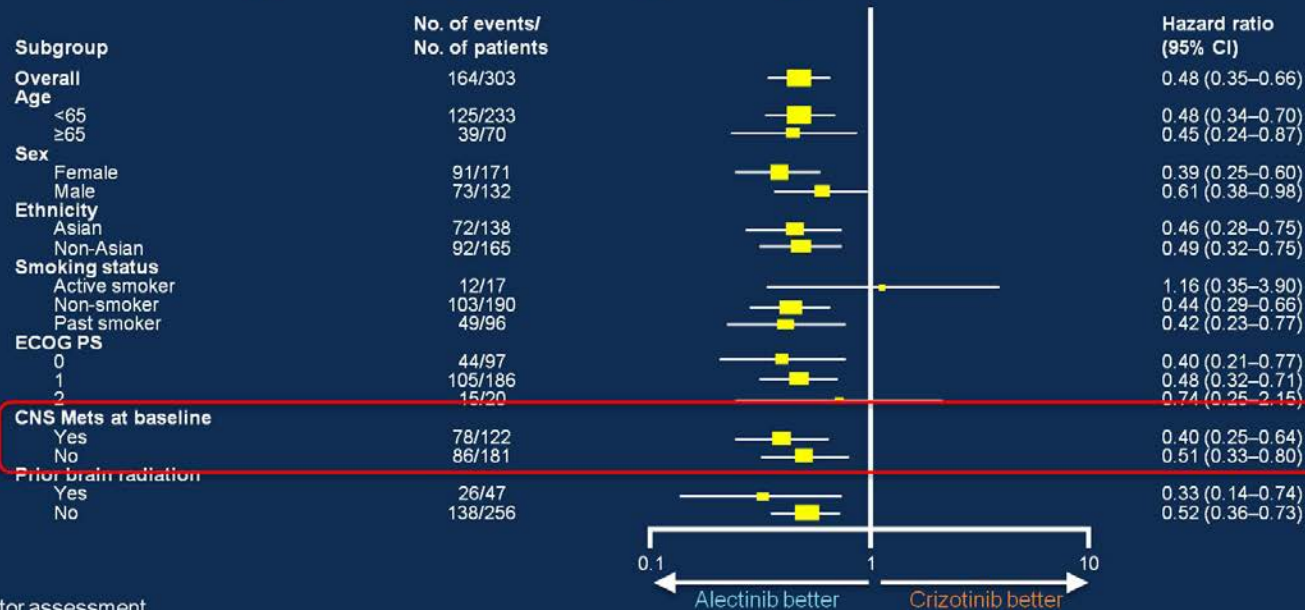


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PFS: analysis by subgroups*



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Adverse events, $\geq 10\%$ between treatment arms

N (%)	Crizotinib (N=151)		Alectinib (N=152)	
	Any grade	Grade 3–5	Any grade	Grade 3–5
Nausea	72 (48)	5 (3)	21 (14)	1 (1)
Diarrhea	68 (45)	3 (2)	18 (12)	0
Vomiting	58 (38)	5 (3)	11 (7)	0
Peripheral edema	42 (28)	1 (1)	26 (17)	0
Dysgeusia	29 (19)	0	4 (3)	0
ALT increased	45 (30)	22 (15)	23 (15)	7 (5)
AST increased	37 (25)	16 (11)	21 (14)	8 (5)
Visual impairment	18 (12)	0	2 (1)	0
Blood bilirubin increased	2 (1)	0	23 (15)	3 (2)
Myalgia	3 (2)	0	24 (16)	0
Anemia	7 (5)	1 (1)	30 (20)	7 (5)
Weight increased	0	0	15 (10)	1 (1)

AE, adverse event; ALT, alanine aminotransferase; AST, aspartate transaminase

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Perfil de toxicidade favorável ao Alectinibe: menor toxicidade hepática e melhor tolerância GI

Conclusões

- Pacientes com tumores de pulmão avançado *ALK+*, a primeira linha de tratamento com alectinibe mostrou-se superior ao crizotinibe
 - Mediana de sobrevida livre de progressão: HR 0.47 (95% CI: 0.34-0.65; $P < .0001$)
 - Melhor tempo para progressão em SNC
 - Toxicidade favorável
- Investigadores do estudo concluíram que alectinibe é o novo “standart of care”

**Doença
Avançada –
EGFR +
ASCO 2017**

○ AURA-3 : Background

- Metastases em SNC ocorrem em cerca de 40% dos pacientes com mutação do EGFR no decorrer da sua evolução.
 - Metas SNC são um sinal de pior prognóstico.

Uso de TKIs tem um melhor desfecho comparativamente a quimioterapia para metas em SNC.

- Osimertinibe: tem ação em SNC
 - Usado hoje em segunda linha para quem tem a mutação do T790M.
- Esta apresentação enfoca o desfecho do osimertinibe neste estudo fase III comparativamente ao doublet de platina/pemetrexede para pacientes com a mutação do T790M+ e metastases em SNC.

○ AURA-3: Análise de desfechos SNC

*Doença avançada
ou irressecável
que progrediu a
Tki em pacientes
com mutação do
EGFR T790M
(N = 419)*

Osimertinib 80 mg QD
(n = 279)

n = 75 (27%)

n = 30 (11%)

Quimioterapia com platina/alimta
(n = 140)

n = 41 (29%)

n = 16 (11%)

- Desfechos: Resposta em SNC; Duração resposta SNC; SLP SNC

○ AURA-3: Características dos grupos

Características	Osimertinibe (n = 75)	QT (n = 41)
Idade, anos	59 (34-82)	59 (20-79)
Homens, %	45	29
Raça, %		
▪ Branco	31	20
▪ Asiático	68	80
▪ Outros	1	0
PS, %		
▪ 0	29	34
▪ 1	71	66
MutaçõesEGFR, %		
▪ Ex19del	64	49
▪ L858R	36	41
▪ Other	0	7
	99	Adenocarcinoma
Radioterapia até a entrada do estudo, %	34	49

AURA-3: Tx resposta e duração em SNC

In cFAS, CNS ORR better with osimertinib regardless of previous radiotherapy, but numbers small

Desfecho	Osimertinibe (n = 30)	QT(n = 16)	TX R (95% CI)
TX R SNC, % (95% CI)	70 (51-85)	31 (11-59)	5.13 (1.44-20.64); <i>P</i> = .015
Tempo para resposta SNC, semanas	6.1	6.1	
Mediana DurR, meses (95% CI)	8.9 (4.3-NC)	5.7 (NC-NC)	

TXR SNC, % (95% CI)	Osimertinibe (n = 75)	QT (n = 41)
Radioterapia SNC últimos 6 meses da randomização	64 (35-87) (n = 14)	22 (2-60) (n = 9)
Sem radiothrapia ou radioterapia ≥ 6 meses antes da radomização	34 (23-48) (n = 61)	16 (5-33) (n = 32)

○ AURA-3:SLP em pacientes com e sem Meta SNC

Mediana SLP, Meses	Osimertinibe	QT	HR (95%CI)
SLP população total AURA-3			
▪ Pactes meta SNC	8.5 (n = 93)	4.2 (n = 51)	0.32 (0.21-0.49); <i>P</i> < .001
▪ Pactes sem meta SNC	10.8 (n = 186)	5.6 (n = 89)	0.40 (0.29-0.55); <i>P</i> < .001

AURA-3: Resposta em pacientes com metas em Meninge

- 7 pacientes com metastases em leptomeninge foram tratados com osimertinibe 80 mg : 4 tiveram respostas

Pact	RT prévia	Tipos de resposta		
		Score de RANO	SNC (RECIST v1.1)	Sistêmico (RECIST v1.1)
1	Não	CR	CR	PR
2	Não	CR	PR	PR
3	Não	PR	SD	SD
4	Não	PR	SD	SD
5	Não	SD	SD	PR
6	Sim	SD	SD	SD
7	Sim	SD	SD	SD

Mok T, et al. ASCO 2017. Abstract 9005.

○ AURA-3: Conclusões SNC

- Osimertinibe foi associado com significante melhora da taxa de resposta e da SLP em metas no SNC comparativamente a QT com platina/pemetrexede
- Respostas observadas independentemente de radioterapia prévia.
- Geralmente tempo para resposta de aproximadamente 6 semanas.
- Pacientes com metastases em meninge também tiveram resposta com a uso do osemertinibe.

Mok T, et al. ASCO 2017. Abstract 9005.



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Dacomitinib versus Gefitinib for the First-Line Treatment of Advanced NSCLC (ARCHER 1050): A Randomized, Open-Label, Phase 3 Trial

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Background

- Dacomitinib is a second-generation, irreversible epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor
 - Characterized by irreversible inhibition of three members of the ErbB family (EGFR/HER1, HER2, and HER4)
- A single arm phase 2 study (ARCHER 1017) of dacomitinib as first-line therapy in subgroup of patients with *EGFR*-activating mutation reported:
 - Response rate 75.6%
 - Median PFS 18.2 months
- Phase III ARCHER 1050 was designed to investigate dacomitinib versus gefitinib as first-line treatment in patients with advanced NSCLC harbouring *EGFR*-activating mutations

Engelman et al *Can Res* 2007; Janne et al *Lancet Oncology* 2014

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- Dacomitinibe é um inibidor irreversível do EGFR
- Estudo de comparação direta entre dois TKIs na primeira linha de tratamento do tumor de pulmão EGFR mutado avançado.

ARCHER 1050: Study Design

- Phase III randomized open-label study to evaluate dacomitinib as an alternative first-line treatment for patients with advanced NSCLC with an *EGFR*-activating mutation

- Advanced NSCLC with *EGFR*-activating mutation(s)
- No prior systemic treatment of advanced NSCLC
- No CNS metastasis**
- No prior *EGFR* TKI or other TKI
- ECOG PS 0,1

N=452

R
1:1

Dacomitinib
45 mg PO QD
(N=227)

Gefitinib
250 mg PO QD
(N=225)

Stratification factors

Race (inc. Asian vs non-Asian)

EGFR mutation type
(exon 19 vs 21)

Primary endpoint

PFS by blinded independent review (IR)

- ≥256 PFS events
- PFS HR ≤ 0.667 (50%↑)
- 90% power
- 1-sided $\alpha = 0.025$
- mPFS: 14.3 vs 9.5 months**

Secondary endpoints

PFS (investigator assessed),
ORR, DOR,
TTF, OS, Safety, PROs

ClinicalTrials.gov: <https://clinicaltrials.gov/ct2/show/NCT01774721>

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- Estudo 1:1 sem pacientes com metástase em SNC.

Baseline Patient Characteristics

Characteristic	Dacomitinib (n=227) (n[%])	Gefitinib (n=225) (n[%])
Age, years		
Median (range)	62 (28–87)	61 (33–86)
<65 years	133 (58.6)	140 (62.2)
≥65 years	94 (41.4)	85 (37.8)
Sex		
Male	81 (35.7)	100 (44.4)
Female	146 (64.3)	125 (55.6)
Ethnicity		
White	56 (24.7)	49 (21.8)
Black	1 (0.4)	0 (0.0)
Asian	170 (74.9)	176 (78.2)
ECOG PS		
0	75 (33.0)	62 (27.6)
1	152 (67.0)	163 (72.4)
Smoking status		
Never smoked	147 (64.8)	144 (64.0)
Ex-smoker	65 (28.6)	62 (27.6)
Smoker	15 (6.6)	19 (8.4)
EGFR status at randomization (per IVRS)		
Exon 19 deletion	134 (59.0)	133 (59.1)
L858R mutation in exon 21	93 (41.0)	92 (40.9)

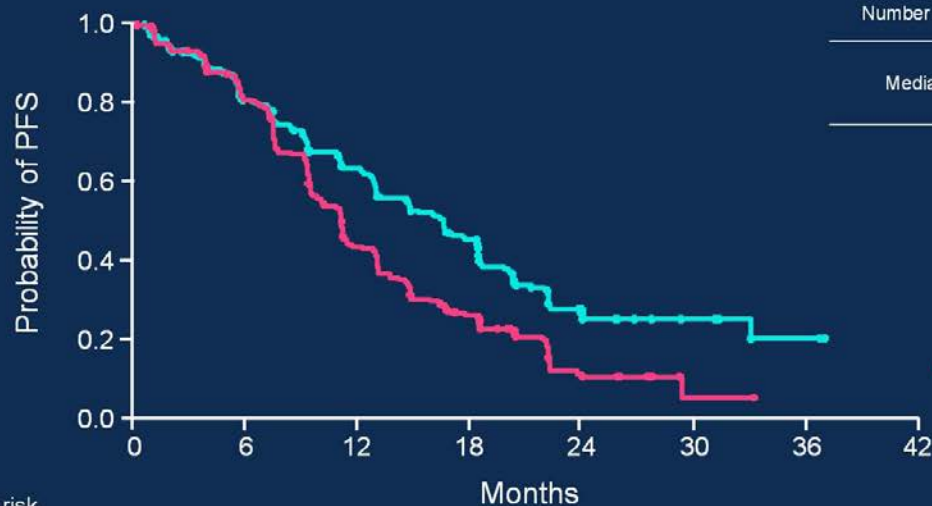
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- Maior parte da população do estudo é asiática.

PFS: Investigator Assessment (ITT population)



	Daco (N=227)	Gef (N=225)
Number of Events, n (%)	140 (61.7 %)	177 (78.7 %)
Median PFS (95% CI)	16.6 (12.9, 18.4)	11.0 (9.4, 12.1)
HR (95% CI)	0.62 (0.50–0.78) P<0.0001	

No. at risk

Dacomitinib	227	166	124	85	19	7	2	0
Gefitinib	225	172	89	48	9	1	0	0

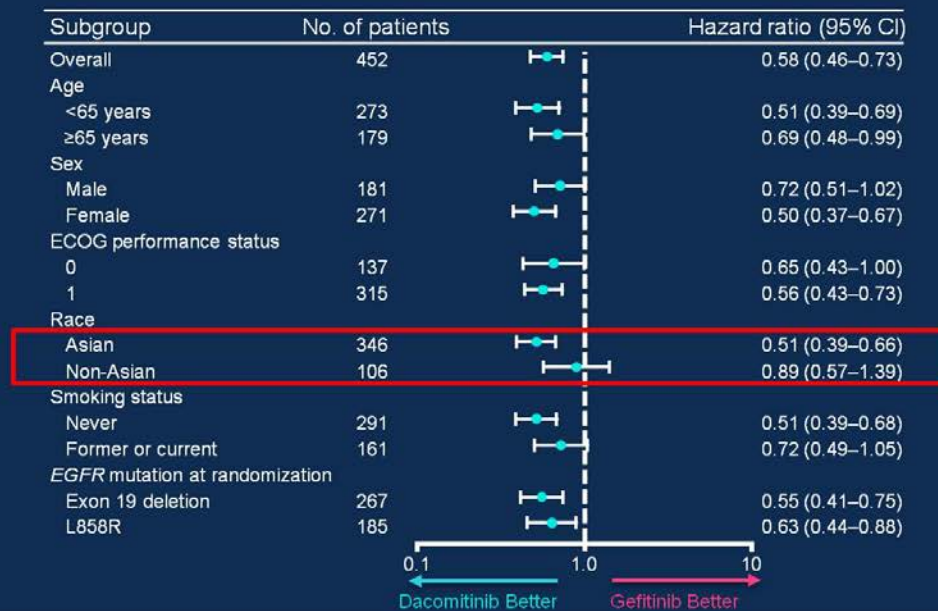
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- Houve uma diferença estatisticamente significativa em favor do dacomitinibe

PFS Subgroup Analysis (Independent review)



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- Não há uma população específica para o benefício. A diferença entre asiáticos e não asiáticos pode se dever ao número de pacientes.

Best Overall Response (Blinded Independent Review; ITT Population)

	Dacomitinib (n=227)	Gefitinib (n=225)
Objective response rate		
Percentage of patients	74.9	71.6
95% CI	68.7-80.4	65.2-77.4
P value ^a	0.3883	
Duration of response in responders^b		
Median no. of months	14.8	8.3
95% CI	12.0-17.4	7.4-9.2
P-value ^b	<0.0001	

Overall survival was not mature, with only 36.9% of events at the time of data cutoff

^aThe P-value (2-sided) is from the Cochran–Mantel–Haenszel test stratified by *EGFR* mutation status at randomization (exon 19 deletion vs. the L858R mutation) and by race (Japanese vs. Chinese and other East Asian vs. Non-Asian). ^bThe duration of response was calculated with the use of the Kaplan–Meier method from the time of the first documented response until the date of progression or the last RECIST assessment for patients who did not have disease progression.

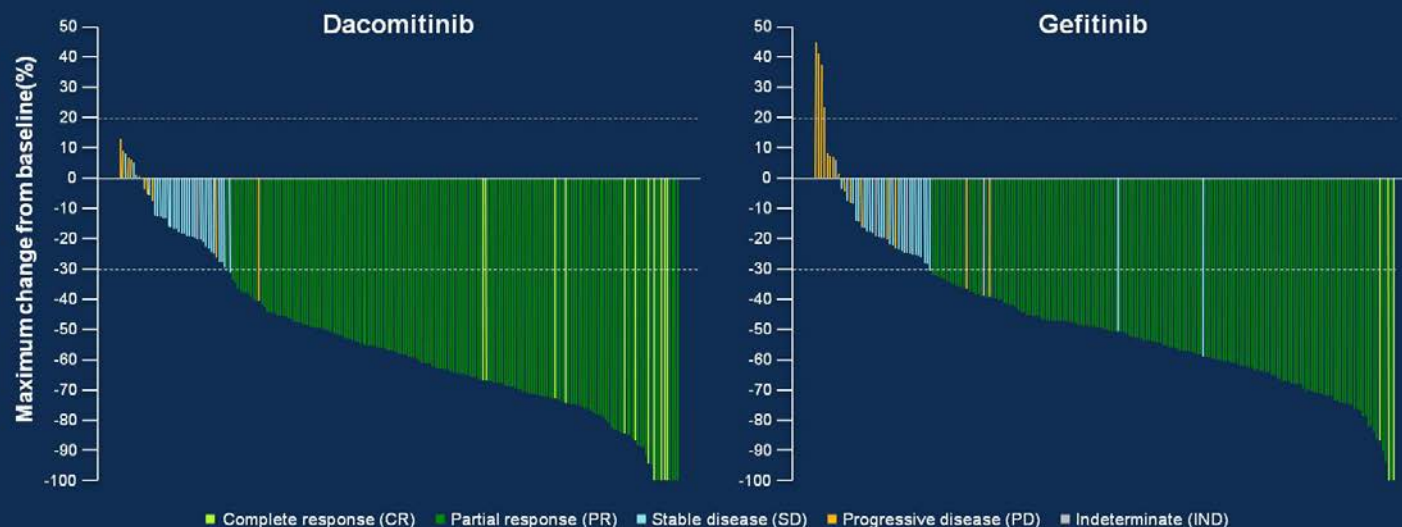
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- A taxa de resposta foi basicamente a mesma...
- Diferença foi o tempo de duração da resposta!

ORR: Tumor change per blinded IRC review



Shown are best responses in patients treated with dacomitinib or gefitinib. Each bar represents an individual patient's maximum reduction in target lesion size.

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Adverse Events from Any Cause

Adverse event	Dacomitinib (N = 227)						Gefitinib (N = 224)					
	Any Grade	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Any Grade	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Number of patients (percent)												
Diarrhea	198 (87.2)	113(49.8)	65 (28.6)	19 (8.4)	0	1 (0.4)	125 (55.8)	103 (46.0)	20 (8.9)	2 (0.9)	0	0
Paronychia	140 (61.7)	46 (20.3)	77 (33.9)	17 (7.5)	0	0	45 (20.1)	30 (13.4)	12 (5.4)	3 (1.3)	0	0
Dermatitis acneiform	111 (48.9)	37 (16.3)	43 (18.9)	31 (13.7)	0	0	64 (28.6)	43 (19.2)	21 (9.4)	0	0	0
Stomatitis	99 (43.6)	51 (22.5)	40 (17.6)	8 (3.5)	0	0	40 (17.9)	33 (14.7)	6 (2.7)	1 (0.4)	0	0
Decreased appetite	70 (30.8)	40 (17.6)	23 (10.1)	7 (3.1)	0	0	55 (24.6)	48 (21.4)	6 (2.7)	1 (0.4)	0	0
Dry skin	63 (27.8)	42 (18.5)	18 (7.9)	3 (1.3)	0	0	38 (17.0)	35 (15.6)	3 (1.3)	0	0	0
Weight decreased	58 (25.6)	31 (13.7)	22 (9.7)	5 (2.2)	0	0	37 (16.5)	22 (9.8)	14 (6.3)	1 (0.4)	0	0
Alopecia	53 (23.3)	41 (18.1)	11 (4.8)	1 (0.4)	0	0	28 (12.5)	26 (11.6)	2 (0.9)	0	0	0
Cough	48 (21.1)	39 (17.2)	9 (4.0)	0	0	0	42 (18.8)	36 (16.1)	5 (2.2)	1 (0.4)	0	0
Pruritus	45 (19.8)	27 (11.9)	17 (7.5)	1 (0.4)	0	0	31 (13.8)	24 (10.7)	4 (1.8)	3 (1.3)	0	0
ALT increased	44 (19.4)	37 (16.3)	5 (2.2)	2 (0.9)	0	0	88 (39.3)	45 (20.1)	24 (10.7)	19 (8.5)	0	0

Adverse events occurring in at least 15% of the patients in either study group in the safety population.
Events are listed in descending order of frequency in the dacomitinib group.

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- Esta análise de tolerância mostra o perfil de maior toxicidade para o dacomitinibe, especialmente para a diarreia e para os efeitos de pele

Serious Adverse Events (SAE)

	Total incidence of SAE	Treatment-related SAE	Permanent discontinuation due to treatment-related AEs	Death related to treatment
Dacomitinib (n=227)	62 (27.3%)	21 (9.3%)	22 (9.7%)	2 (0.9%)
Gefitinib (n=224)	50 (22.3%)	10 (4.5%)	15 (6.7%)	1 (0.4%)

- Cause of death related to treatment
 - Dacomitinib: 2 (1 related to untreated diarrhea, 1 related to untreated cholelithases/liver disease)
 - Gefitinib: 1 (related to sigmoid colon diverticulitis/rupture complicated by pneumonia)

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Conclusions

- ARCHER 1050 is the first randomized Phase 3 study to compare a second-generation EGFR TKI with a standard first-generation EGFR TKI for first-line treatment of patients with advanced *EGFR*-mutated NSCLC
- Dacomitinib was superior to gefitinib with respect to PFS and DOR
 - Median PFS at 14.7 months is among the highest
- Incidence of diarrhea, skin rash and mucositis is higher with dacomitinib while incidence of hepatic toxicity is higher with gefitinib
- Incidence of AEs reported for dacomitinib was comparable to that reported for other dacomitinib studies; no new safety signals were identified
- Dose modification is more frequent with dacomitinib
- Patients treated with dacomitinib shared similar improvements in patient-reported measures of key disease-associated symptoms as the gefitinib group
- **Dacomitinib should be considered as a new treatment option for first-line management of patients with advanced *EGFR*-mutated NSCLC**

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- Esta conclusão de que o inibidor irreversível é mais eficaz vale para outros compostos também?

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Nivolumab ± Ipilimumab in Advanced Small Cell Lung Cancer: First Report of a Randomized Cohort From CheckMate 032

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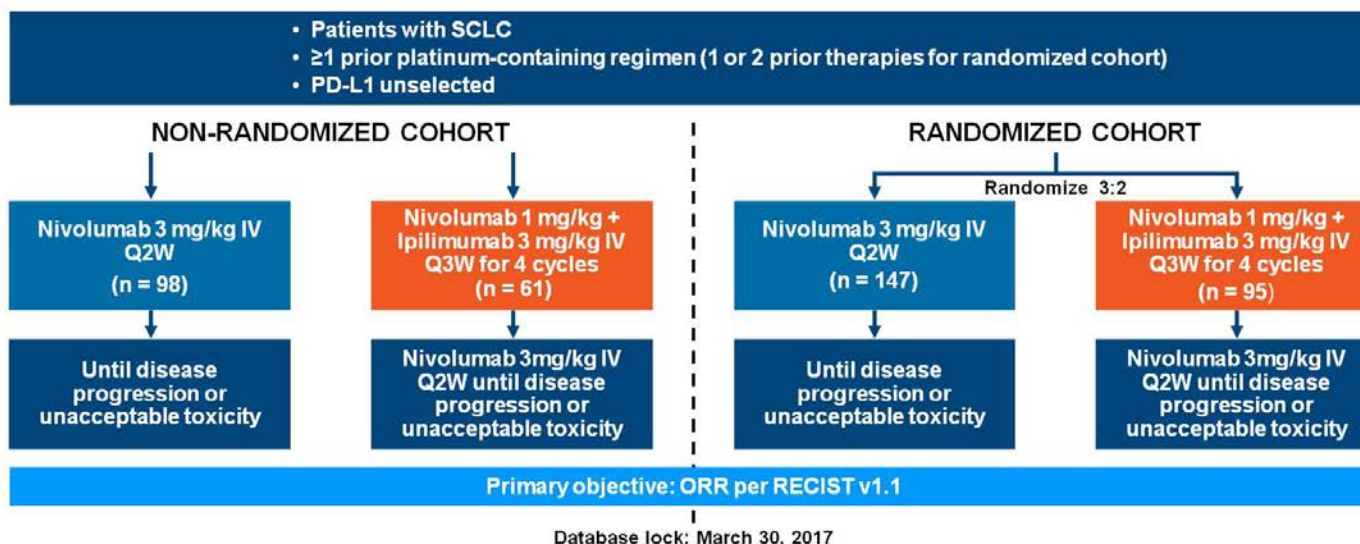
Nivolumab ± Ipilimumab in Advanced SCLC (CheckMate 032): Background

- Pacientes com tumores “Oat Cell” geralmente são de prognóstico muito reservado.
- CheckMate 032: estudo de fase I/II trial avaliando nivolumabe isolado ou com ipilimumabe em vários tipos de tumor, inclusive “oat cell” que progrediu a Qt prévia com platina.
 - Nivolumabe ± ipilimumabe já considerados para tratamento em alguns guidelines

Hellmann MD, et al. ASCO 2017. Abstract 8503. Antonia SJ, et al. Lancet Oncol. 2016;17:883-895.

CheckMate 032: Nivolumab ± Ipilimumab in Advanced SCLC

Phase I/II CheckMate 032 Study Design



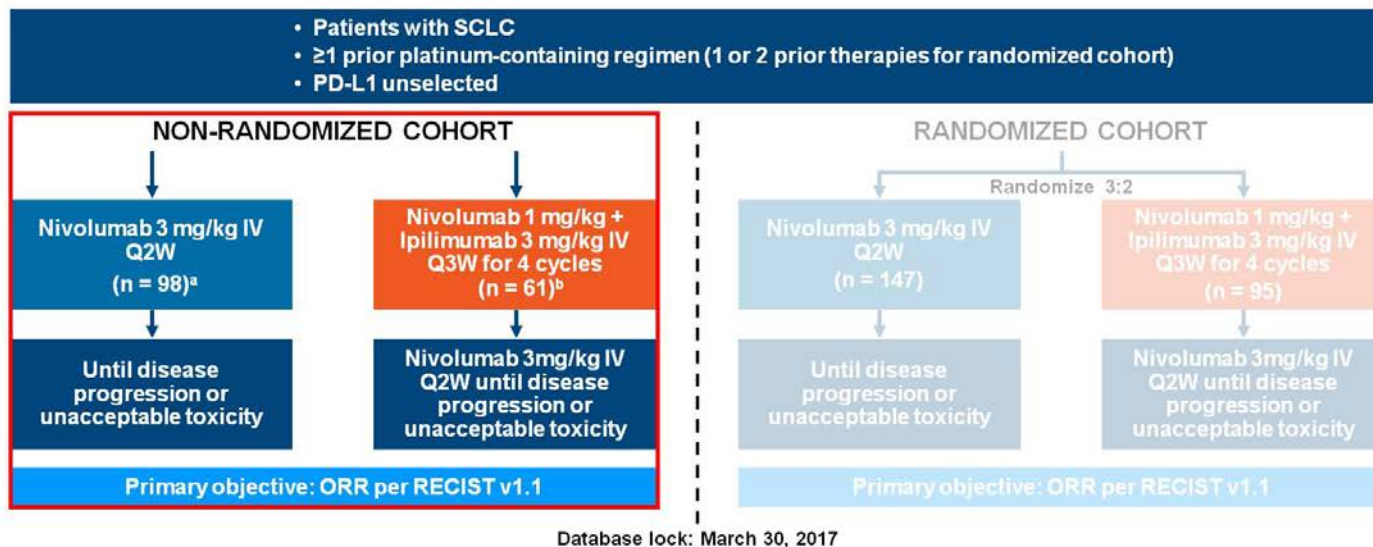
ORR = objective response rate; PD-L1 = programmed death ligand 1

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CheckMate 032: Nivolumab ± Ipilimumab in Advanced SCLC

Phase I/II CheckMate 032 Study Design – Non-Randomized Cohort



- Update includes response per blinded independent central review (BICR)
 - Additional follow-up of ~6 months from prior disclosure⁸

^aMedian follow-up 23.3 mo; ^bMedian follow-up 28.6 mo
Follow-up was calculated as time from first dose to database lock

4

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CheckMate032: Resposta no subgrupo não randomizado com Follow-up prolongado

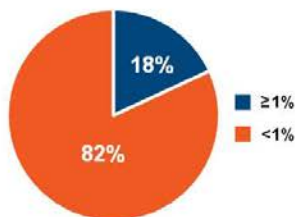
Tx de Resposta	Nivolumabe (n = 98)	Nivolumabe + ipilimumabe (n = 61)
ORR, %	11	23
▪ PD-L1 $\geq$ 1%	9	10
▪ PD-L1 < 1%	14	32
Mediana para resposta, meses	1.4 (1.1-4.1)	2.0 (1.0-4.1)
Mediana da duração de resposta, meses	17.9 (2.8-34.6+)	14.2 (1.5-26.5+)
Resposta mantida aos 2 anos, %	45	36

CheckMate 032: Nivolumab ± Ipilimumab in Advanced SCLC Summary of Response per BICR – Non-Randomized Cohort

Summary of response

	Nivolumab (n = 98)	Nivolumab + Ipilimumab (n = 61)
ORR, % (95% CI)	11 (6, 19)	23 (13, 36)
Median time to response, mo (range)	1.4 (1.1–4.1)	2.0 (1.0–4.1)
Median DOR, mo (range)	17.9 (2.8–34.6+)	14.2 (1.5–26.5+)
Patients with ongoing responses at 2 yr, ^a %	45	36

Tumor PD-L1 expression in non-randomized cohort (n = 159)^b



ORR by tumor PD-L1 expression

PD-L1 expression	ORR, % (n/N)	
	Nivolumab (n = 98)	Nivolumab + Ipilimumab (n = 61)
Less than 1%	14 (9/64)	32 (10/31)
1% or more	9 (1/11)	10 (1/10)

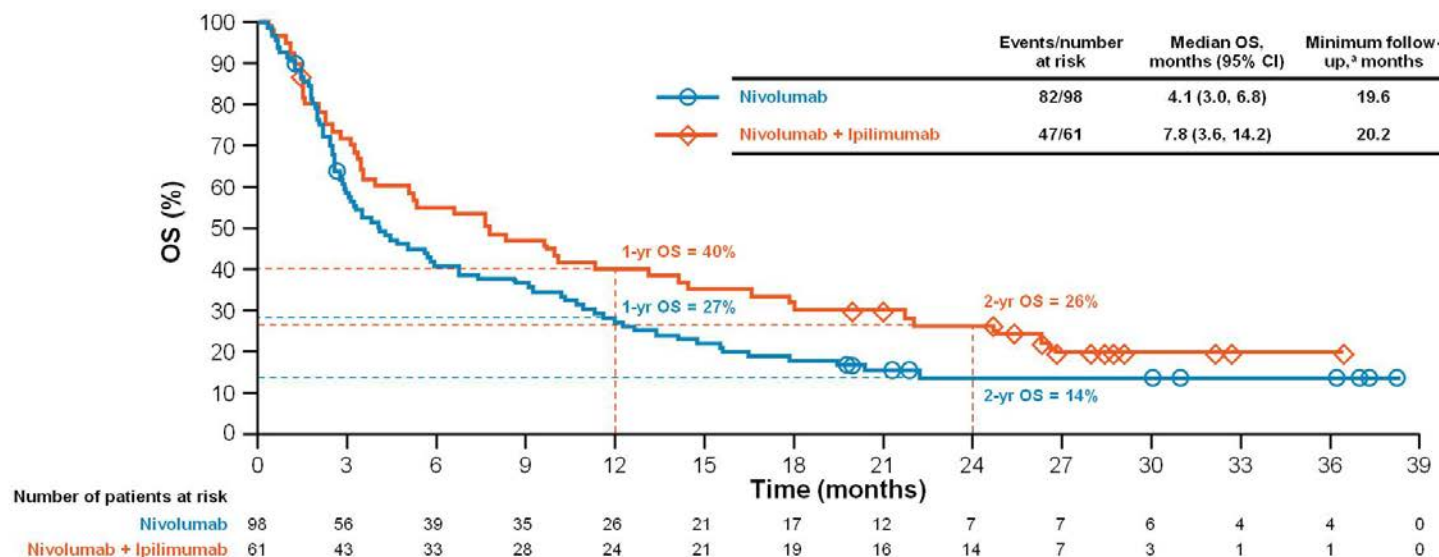
DOR = duration of response; ipi = ipilimumab; nivo = nivolumab; ^aPercentage of responders (nivo, n = 11; nivo + ipi, n = 14)

^bPercentage of patients with quantifiable PD-L1 expression; PD-L1 expression was not evaluable/missing in 43 patients (27%)

6

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CheckMate 032: Nivolumab ± Ipilimumab in Advanced SCLC OS – Non-Randomized Cohort



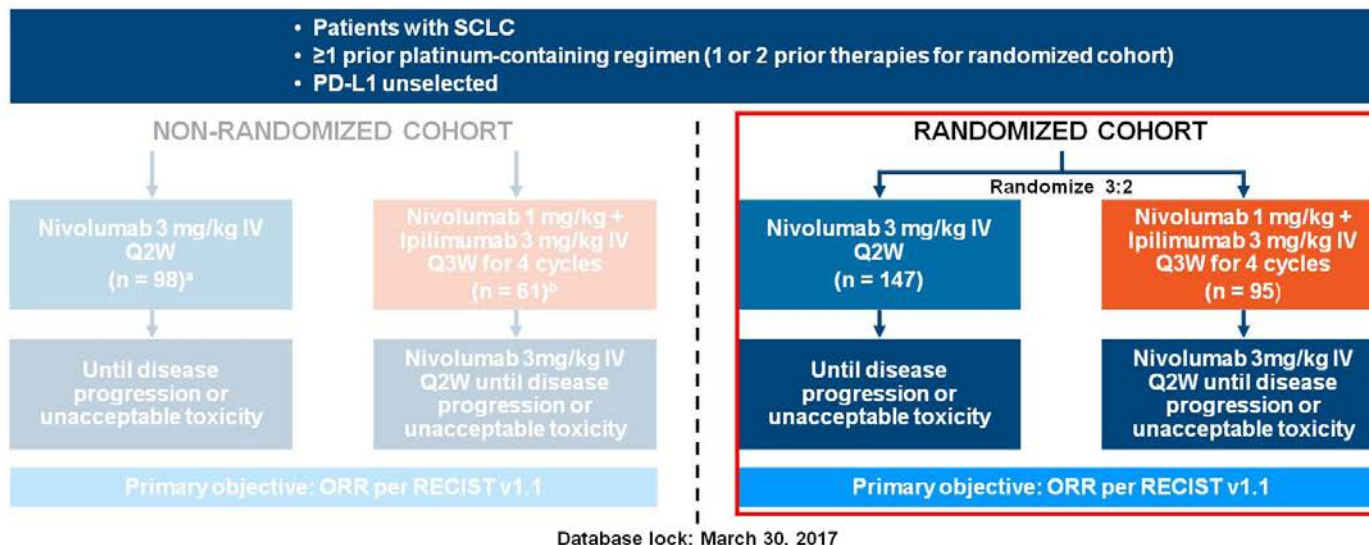
OS = overall survival; ²Between first dose and database lock; follow-up shorter for patients who died prior to database lock

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CheckMate 032: Nivolumab ± Ipilimumab in Advanced SCLC

Phase I/II CheckMate 032 Study Design – Randomized Cohort



- Interim descriptive analysis of the randomized cohort
 - Median follow-up: nivo, 10.8 mo; nivo + ipi, 11.2 mo

^aMedian follow-up 23.3 mo; ^bMedian follow-up 28.6 mo
 Follow-up was calculated as time from first dose to database lock

8

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CheckMate 032: Nivolumab ± Ipilimumab in Advanced SCLC Baseline Patient Characteristics – Randomized Cohort

	Nivolumab (n = 147)	Nivolumab + Ipilimumab (n = 95)
Median age, yr (range) ≥65 yr, %	63.0 (29–83) 44	65.0 (41–91) 51
Male, %	59	63
Prior treatment regimens, % 1 2–3	67 33	67 33
Platinum sensitivity, % Sensitive Resistant Unknown/not reported	50 49 1	42 57 1
Smoking status, % Current/former smoker Never-smoker Unknown	92 7 1	95 4 1
ECOG PS, % 0 1 Not reported	33 67 0	28 71 1

9

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○ CheckMate 032: Eficácia

Desfechos	Coorte Randomizado		Coorte Não Randomizado	
	Nivolumabe (n = 147)	Nivolumabe + Ipilimumabe (n = 95)	Nivolumabe (n = 98)	Nivolumabe + Ipilimumabe (n = 61)
TX resposta, %	12	21	11	23
TTR, meses	1.5	1.4	1.4	2.0
3-meses SLP, %	18	30	27	36
3-meses SG, %	65	64	59	72

CheckMate 032: Nivolumab ± Ipilimumab in Advanced SCLC Summary of Safety – Pooled Cohorts

	Nivolumab (n = 245)		Nivolumab + Ipilimumab (n = 156)	
	Any grade, %	Grade 3–4, %	Any grade, %	Grade 3–4, %
Any TRAEs	55	12	73	37
TRAEs leading to discontinuation	3	2	13	10
Select TRAEs by category				
Skin	16	<1	36	6
Endocrine	8	0	21	3
Hepatic	6	2	12	6
Gastrointestinal	5	0	24	8
Hypersensitivity/infusion reaction	5	0	1	0
Pulmonary	3	2	4	3
Renal	1	<1	1	0
Grade 3–4 select TRAEs that resolved, %^a	45		78	

- Median time to resolution of grade 3–4 select TRAEs ranged from 1.8 wk (gastrointestinal events) to 16.3 wk (hepatic events) in the nivolumab + ipilimumab arm and from 3.4 wk (pulmonary events) to not reached (renal and hepatic events) in the nivolumab arm
- There were a total of 5 treatment-related deaths^b
 - 4 with nivolumab + ipilimumab (due to myasthenia gravis, pneumonitis, seizures/encephalitis, and autoimmune hepatitis)^c
 - 1 with nivolumab (due to pneumonitis)

TRAE = treatment-related adverse event; ^aPercentage of total number of grade 3–4 select TRAEs across categories (nivo + ipi, n = 40; nivo, n = 11); ^bIn addition, there was one death in the nivo + ipi arm for which both disease progression and colitis were felt to be contributing factors; ^cA previously reported death due to renal failure was subsequently determined to not be related to treatment

16

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CheckMate 032: Nivolumab ± Ipilimumab in Advanced SCLC Summary

- With BICR and longer follow-up in the non-randomized cohort, responses remained durable and survival promising
 - 2-yr OS: nivolumab + ipilimumab, 26%; nivolumab, 14%
- In a randomized, phase 2 cohort of 242 patients, initial efficacy was consistent with that in the non-randomized cohort
 - ORR: nivolumab + ipilimumab, 21%; nivolumab, 12%
- Responses observed regardless of platinum sensitivity, line of therapy or PD-L1 status
- Grade 3/4 TRAEs and deaths were more common with nivolumab + ipilimumab than with nivolumab
- Additional exploratory analyses are ongoing (QoL, biomarkers) towards improving predictors of response to immunotherapy in SCLC and optimizing management

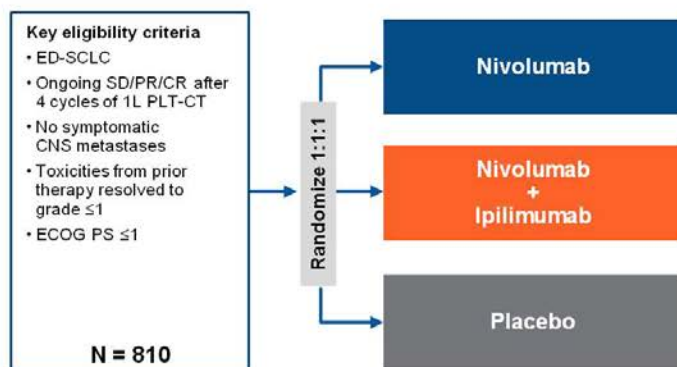
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Ongoing Phase 3 Studies With Nivolumab ± Ipilimumab in SCLC

CheckMate 451: study design¹⁰

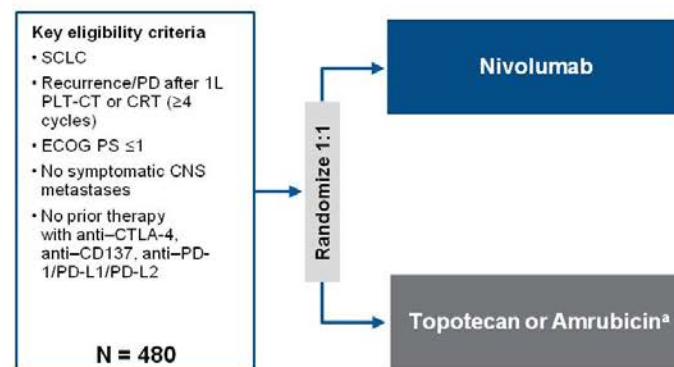
• Currently enrolling patients



- **Primary outcome measures:**
 - OS, PFS
- **Secondary outcome measures:**
 - OS and PFS descriptive analyses: nivolumab vs nivolumab + ipilimumab

1L = first-line; CT = chemotherapy; CRT = chemoradiation therapy; CTLA-4 = cytotoxic T lymphocyte antigen-4; PD-1 = programmed-death 1; PD-L2 = PD ligand 2
PLT = platinum-based; ^aWhere locally approved

CheckMate 331: study design¹¹



- **Primary outcome measures:**
 - OS
- **Secondary outcome measures:**
 - PFS, ORR

Presented By Matthew Hellmann at 2017 ASCO Annual Meeting

**Doença
Avançada -
Imunoterapia
Não Pequenas
Células**

Progression After the Next Line of Therapy (PFS2) and Updated OS Among Patients With Advanced NSCLC and PD-L1 TPS $\geq 50\%$ Enrolled in KEYNOTE-024

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KEYNOTE-024 Study Design (NCT02142738)

Key Eligibility Criteria

- Untreated stage IV NSCLC
- PD-L1 TPS $\geq 50\%$
- ECOG PS 0-1
- No activating *EGFR* mutation or *ALK* translocation
- No untreated brain metastases
- No active autoimmune disease requiring systemic therapy

R (1:1)
N = 305

Pembrolizumab
200 mg IV Q3W
(2 years)

Platinum-Doublet
Chemotherapy^a
(4-6 cycles)

PD^b

Pembrolizumab
200 mg Q3W
for 2 years

Key End Points

Primary: PFS (RECIST v1.1, blinded independent central review)

Secondary: OS, ORR, safety

Exploratory: DOR, PFS2

^aOptional pemetrexed maintenance therapy for nonsquamous disease.
^bTo be eligible for crossover, progressive disease (PD) had to be confirmed by blinded, independent central radiology review and all safety criteria had to be met.

KEYNOTE 024 em seu desenho original

KEYNOTE-024: Current Analysis

- Update OS
 - Survival follow-up: every 2 months
- Assess PFS2
 - Definition: time from randomization to PD per investigator review (RECIST v1.1) after start of second-line therapy or death, whichever occurred first
 - Patients who were alive without PD on second-line therapy were censored at time of last known survival without PD
 - Patients who died without PD were counted as events
 - Patients who discontinued the second-line therapy were counted as events
- Data cutoff: January 5, 2017
 - Median follow-up: 19.1 mo (range, 14.3-27.6)

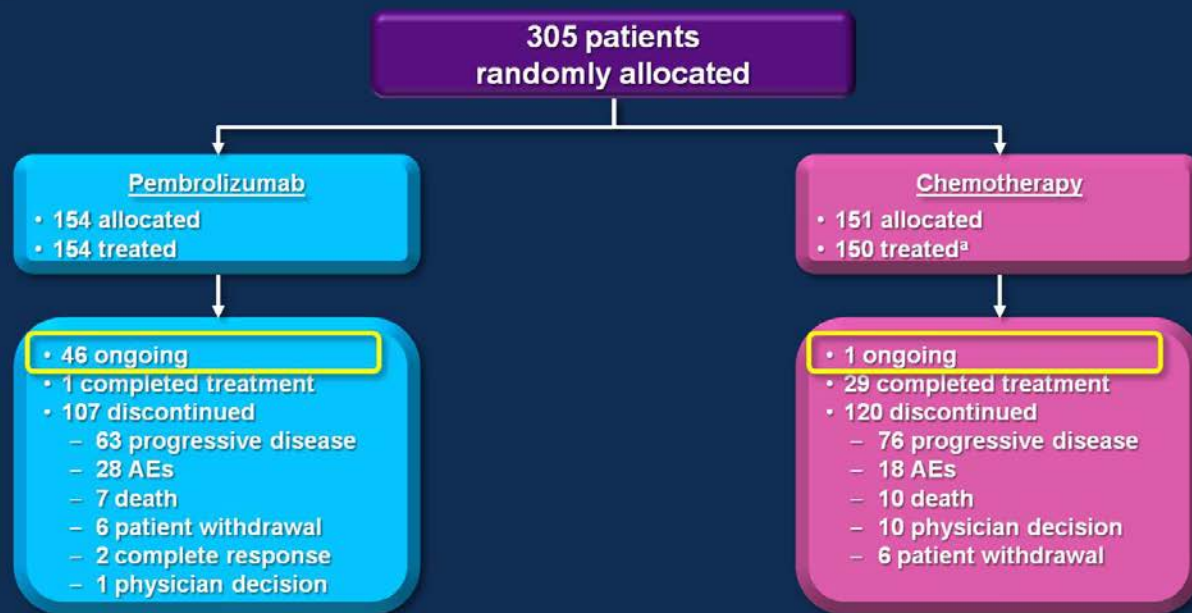
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Follow-up defined as time from first dose to database cutoff date, regardless of death, withdrawal of consent, or loss to follow-up.

- Esta análise procurou avaliar sobrevida livre de progressão após a primeira linha de tratamento. Ou seja, avaliar o desfecho dos pacientes que realizaram imunoterapia em segunda linha.

Disposition of Study Treatment



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^a46 patients received pemetrexed maintenance therapy.
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First Subsequent Systemic Therapy: Pembrolizumab Arm (N = 48)

	Patients, n (%) ^a	Treatment Duration, median (range)
Platinum doublet	42 (87.5)	3.6 mo (1 d to 10.7+ mo)
Carboplatin + pemetrexed ± bevacizumab ^b	17 (35.4)	
Carboplatin + paclitaxel ± bevacizumab ^c	9 (18.8)	
Carboplatin + gemcitabine	8 (16.7)	
Cisplatin + pemetrexed	5 (10.4)	
Cisplatin + gemcitabine	2 (4.2)	
Platinum + pemetrexed	1 (2.1)	
Other	6 (12.5)	2.8 mo (1 d to 10.0+ mo)
Cisplatin	2 (4.2)	
Cabozantinib	1 (2.1)	
Carboplatin	1 (2.1)	
Cytarabine	1 (2.1)	
Pemetrexed + bevacizumab	1 (2.1)	

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^aPercentages calculated out of the number of patients who received subsequent therapy.
^b1 patient received carboplatin + pemetrexed + bevacizumab.
^c3 patients received carboplatin + paclitaxel + bevacizumab.
 Data cutoff: Jan 5, 2017.

- Esta análise procurou avaliar sobrevida livre de progressão após a primeira linha de tratamento. Ou seja, avaliar o desfecho dos pacientes que realizaram imunoterapia em segunda linha.

First Subsequent Systemic Therapy: Chemotherapy Arm (N = 97)

	Patients, n (%) ^a	Treatment Duration, median (range)
Crossover to pembrolizumab	79 (81.4)	4.2 mo (1 d to 20.3+ mo)
Anti-PD-1 outside of crossover	12 (12.4)	3.0 mo (1 d to 11.3+ mo)
Nivolumab	9 (9.3)	
Pembrolizumab	3 (3.1)	
Other	6 (6.2)	1.9 mo (1 d to 5.2 mo)
Pemetrexed	2 (2.1)	
Carboplatin + gemcitabine	1 (1.0)	
Carboplatin + paclitaxel	1 (1.0)	
Docetaxel	1 (1.0)	
Paclitaxel	1 (1.0)	

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^aPercentages calculated out of the number of patients who received subsequent therapy.
Data cutoff: Jan 5, 2017.

- A maior parte dos pacientes submetidos a tratamento com quimioterapia foram depois expostos a imunoterapia. .

Kaplan-Meier Estimate of PFS2



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^aNominal P value.
 Assessed per RECIST v1.1 by investigator review.
 Data cutoff: Jan 5, 2017.

- A resposta da imunoterapia em segunda linha foi conforme esperado. Melhor do que a quimioterapia...e com reposta duradouras nos repondedores

Summary and Conclusions

- Pembrolizumab continued to show OS benefit over chemotherapy as first-line therapy for advanced NSCLC with PD-L1 TPS $\geq 50\%$
 - Median OS for pembrolizumab was not reached with a median follow-up of 19 months
 - Despite an effective crossover rate of 60%, there remained a high degree of separation of the OS curves
- PFS2 was substantially improved for patients in the pembrolizumab arm vs the chemotherapy arm
- Patients whose tumors have PD-L1 TPS $\geq 50\%$ have better survival if beginning treatment with pembrolizumab rather than platinum-doublet chemotherapy
- Along with a favorable safety profile, these data support pembrolizumab as a standard of care for first-line treatment of NSCLC with PD-L1 TPS $\geq 50\%$

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- Nos pacientes selecionados deste estudo, com expressão do PDL1 acima de 50%, pembrolizumabe se mostrou a melhor alternativa terapêutica também em segunda linha.

**Mesotelioma
ASCO 2017**



Second or 3rd line Nivolumab (Nivo) versus Nivo plus Ipilimumab (Ipi) in Malignant Pleural Mesothelioma (MPM) patients: results of the IFCT-1501 **MAPS-2** randomized phase 2 trial.

EUDRACT N°2015-004475-75 - ClinicalTrials.gov : NCT 02716272

Arnaud SCHERPEREEL, Julien MAZIERES, Laurent GREILLER, Radj GERVAIS, Olivier BYLICKI, Isabelle MONNET, Romain CORRE, Denis MORO-SIBILOT, Clarisse AUDIGIER-VALETTE, Myriam LOCATELLI, Olivier MOLINIER, Luc THIBERVILLE, Thierry URBAN, Catherine LIGEZA-POISSON, David PLANCHARD, Elodie AMOUR, Franck MORIN and Gérard ZALCMAN, on behalf of the **French Cooperative Thoracic Intergroup (IFCT)**

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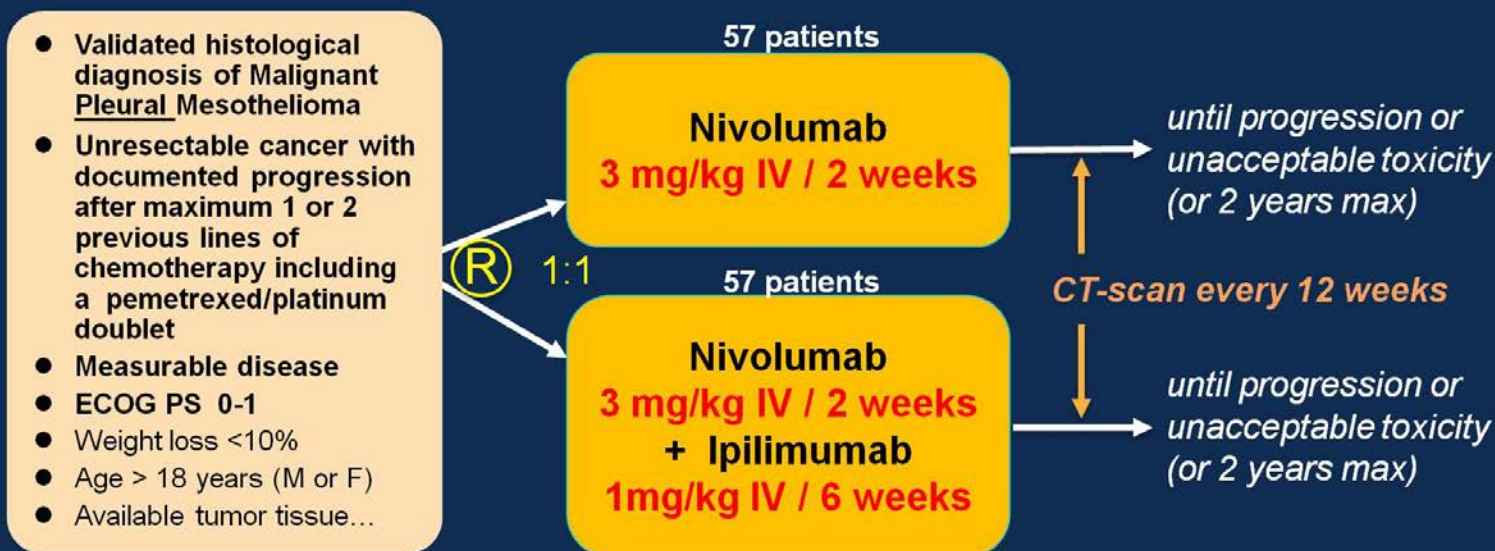
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MAPS-2 Background

- Mesotelioma avançado é uma doença rara e agressiva.
 - Pacientes virgens de tratamento o tratamento padrão é a associação de bevacizumabe ao doublet pemetrexede/cisplatina ou o doublet isolado (18.8 meses e 16.1 meses de sobrevida global retrospectivamente).
- Em pacientes com mesotelioma, aproximadamente 20% a 60% dos tumores são positivos para o PD-L1.

MAPS-2 trial Mesothelioma Anti-PD-1 Study 2 - IFCT 1501

Randomized, non-comparative phase 2 trial - One-step Fleming design (each arm independently)



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7

- Primary endpoint: 12-wk DCR per BICR with modified RECIST criteria for MPM
- Secondary endpoints: safety, PFS, OS, QoL, predictive utility of tumor PD-L1 score, prognostic utility of biomarkers

Patients baseline characteristics (1)	Nivo Arm (n=63)	Nivo+Ipi Arm (n=62)
Gender N (%)		
Male	47 (75)	53 (85)
Female	16 (25)	9 (15)
Age (years)		
Mean +/- SD	71.2 ± 9.4	70.4 ± 9.0
Median [Range]	72.3 [32.5-87.2]	71.2 [48.1-88.1]
Histologic subtype N (%)		
Epithelioid	51 (81)	53 (85)
Sarcomatoid or Mixed (biphasic)	12 (19)	9 (15)
Performance Status N (%)		
0	19 (31)	25 (40)
1	42 (69)	36 (58)
2	0	1 (2)
Smoking status N (%)		
Smoker / Never Smoker	33 (53) / 29 (47)	35 (56) / 27 (44)
Number of prior line(s) N (%)		
1	44 (70)	43 (69)
2	16 (25)	18 (29)
>2	3 (5)	1 (2)

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Tumor Response assessment after first 12 weeks



By a blinded, independent panel of Radiologists

in the first 108 eligible patients

in the ITT population (125 pts)

Tumor assessment % [IC95%] (n pts)	NIVO Arm (n=54)	NIVO+IPI Arm (n=54)
Objective response	18.5% [8.2-28.9%] (10)	25.9% [14.2-37.6%] (14)
Stable Disease	25.9% [14.2-37.6%] (14)	24.1% [12.7-35.5%] (13)
Disease control rate	44.4% [31.2-57.7%] (24)	50.0% [36.7-63.3%] (27)
Disease Progression	51.9 [38.5-65.2%] (28)	42.6% [29.4-55.8%] (23)
Not evaluable/not done /missing	3.7% [0.0-8.7%] (2)	7.4% [0.4-14.4%] (4)

Tumor assessment % [IC95%] (n pts)	NIVO Arm (n=63)	NIVO+IPI Arm (n=62)
Objective response	17.5% [8.1-26.8%] (11)	24.2% [13.5-34.9%] (15)
Stable Disease	22.2% [12.0-32.5%] (14)	27.4% [16.3-38.5%] (17)
Disease control rate	39.7% [27.6-51.8%] (25)	51.6% [39.2-64.1%] (32)
Disease Progression	57.1% [44.9-69.4%] (36)	37.1% [25.1-49.1%] (23)
Not evaluable/not done /missing	3.2% [0.0-7.5%] (2)	11.3% [3.4-19.2%] (7)

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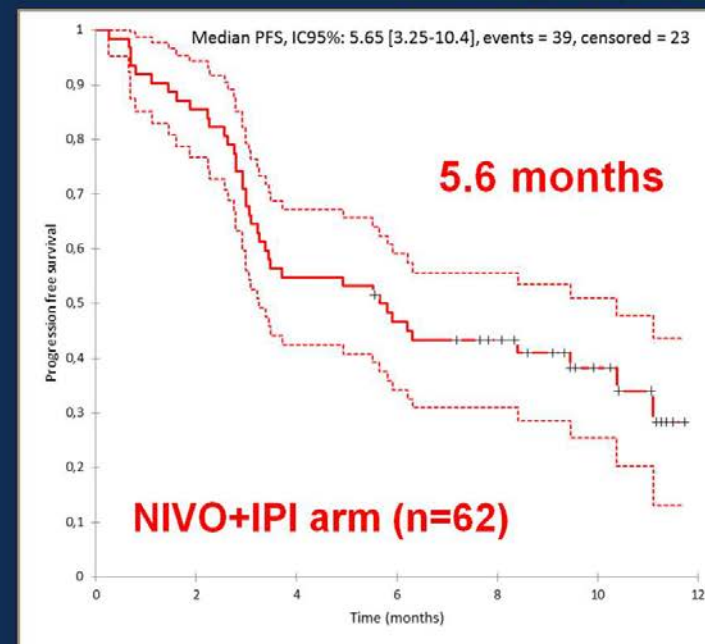
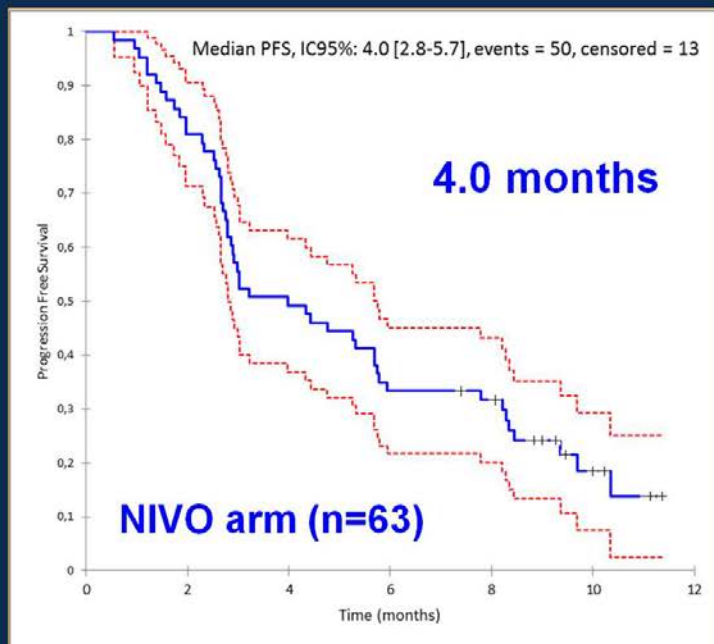
Resposta em quase metade dos pacientes em cada braço.

Efficacy: ITT median Progression-free Survival (PFS)

median follow-up= 10.4 mo [10.0-11.1]



Data cut-off: March 31th, 2017
Database export: May 2nd, 2017



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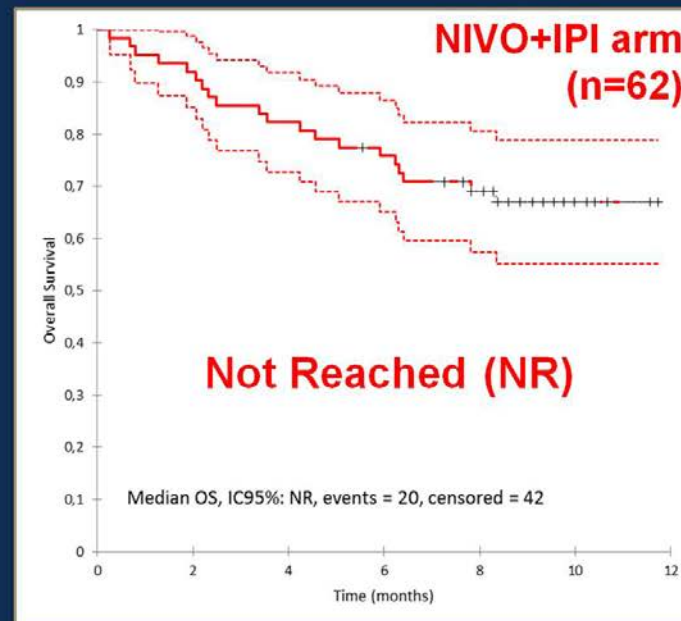
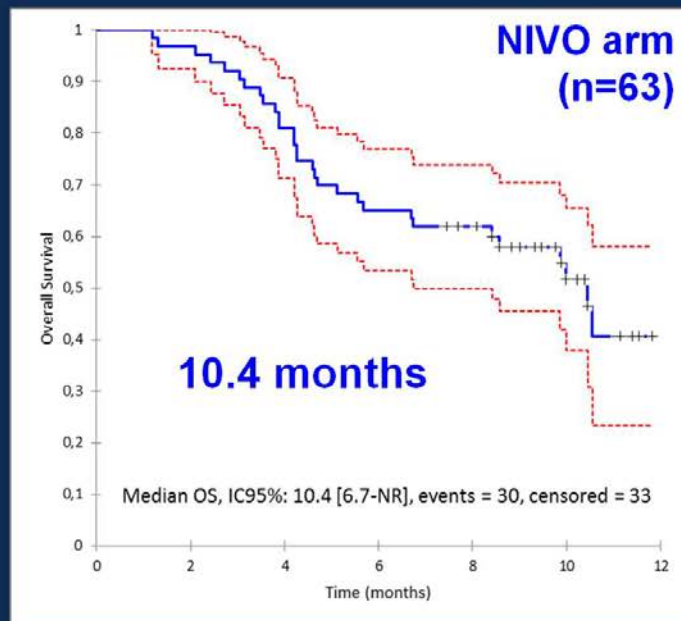
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Efficacy: ITT preliminary Overall Survival (OS)

median follow-up= 10.4 mo [10.0-11.1]



Data cut-off: March 31th, 2017
Database export: May 2nd, 2017



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MAPS-2 Conclusões

- Em pacientes com mesotelioma avançado após 1-2 esquemas prévios de quimioterapia, tanto nivolumabe quanto a associação de nivo + ipilimumabe atingiram o desfecho estabelecido:
 - Tx controle de doença em 12 semanas nos primeiros 108 pacientes: nivo, 44.4%; nivo + ipi, 50.0%
- Sobrevida global de nivolumabe e nivolumabe + ipilimumabe foi elevada (10.4 meses vs Não atingida)
- Efeitos colaterais esperados para a imunoterapia

Efeitos grau 3 e 4: nivo, 9.5%; nivo + ipi, 18.0%

MAPS-2 trial conclusions



- Both Nivo alone Arm, and Nivo+Ipi Arm reached their 1st endpoint in 2nd/3rd line MPM pts, increasing **meaningfully 12 weeks DCR**
- Moreover, patients from both arms of this study seem to have **prolonged median OS** than all previous reports in this setting
- Toxicity was **globally** manageable, **even if** 3 treatment-related deaths were reported in the combo arm
- Matured survival, QoL, biomarkers data, and subgroup analysis will be presented next Autumn, 1 year after accrual of the last patient

→ Immunotherapy (Nivo +/- Ipi) may provide new therapeutic options as 2nd/3rd line treatment for relapsing MPM patients

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