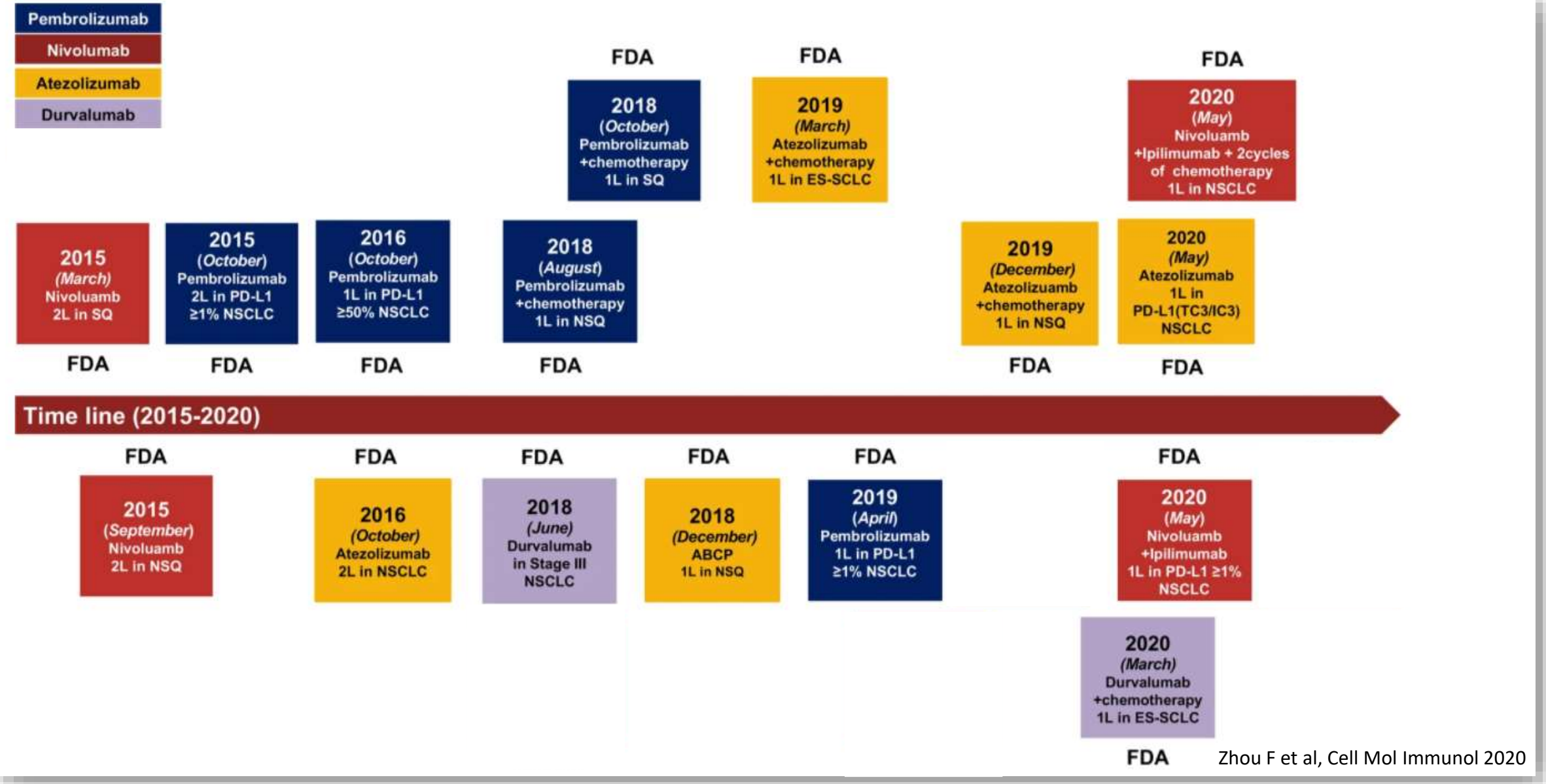
Immunterapi ved lungekreft

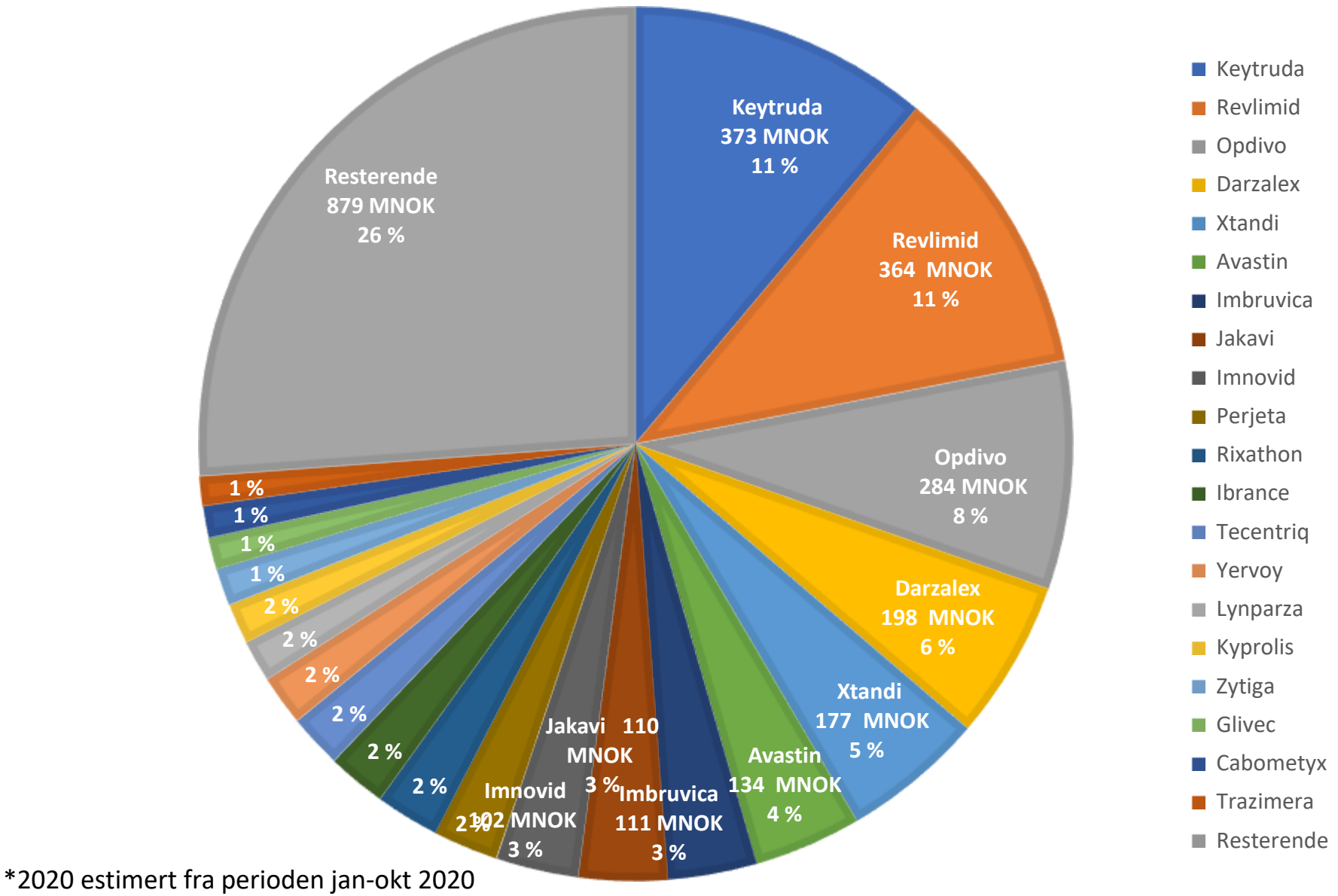
Odd Terje Brustugun
Onkolog dr med
Onkologisk seksjon, Drammen sykehus
Leder, Norsk lungekreftgruppe

Immunterapi-godkjenninger ved lungekreft



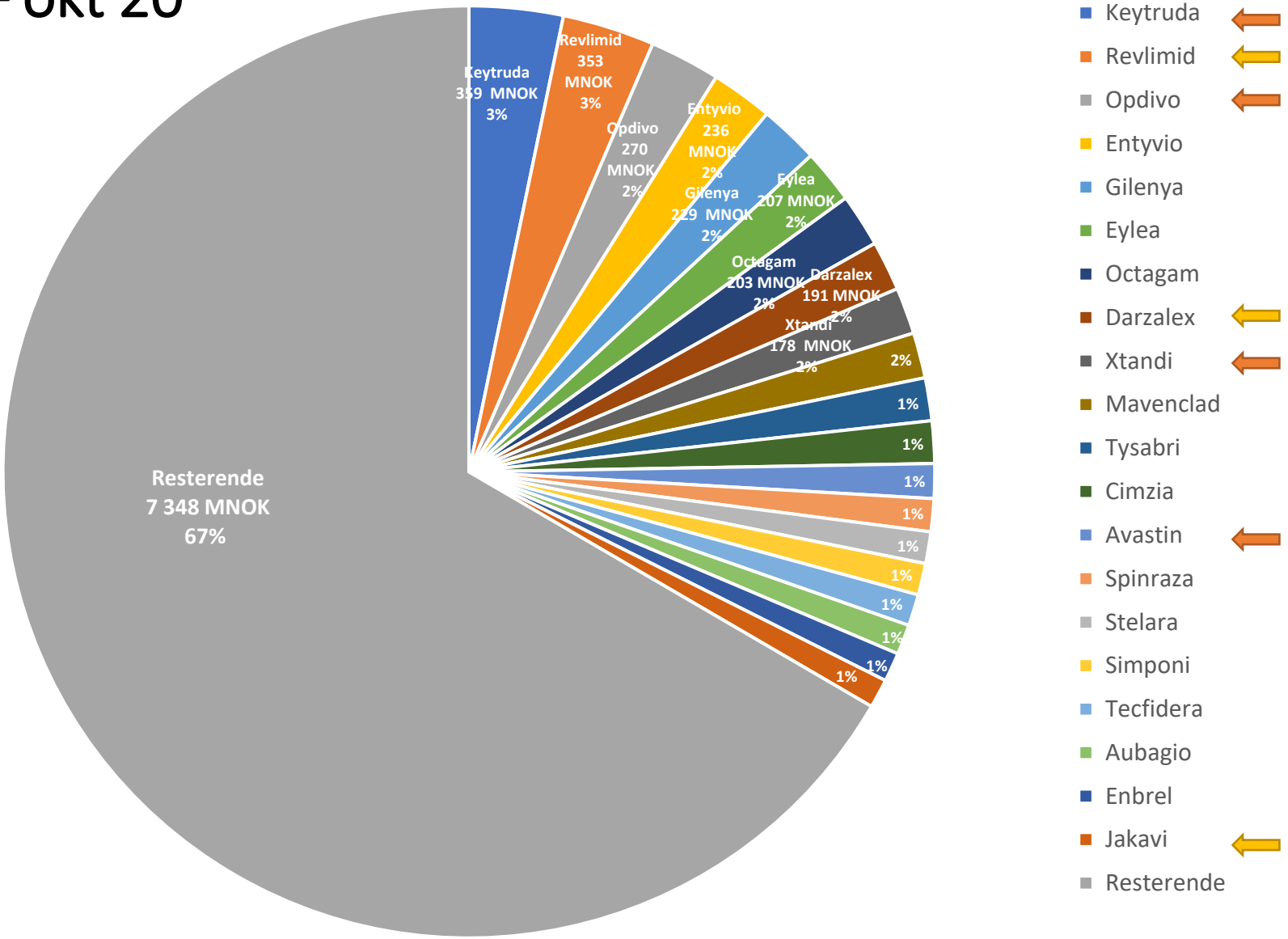
Zhou F et al, Cell Mol Immunol 2020

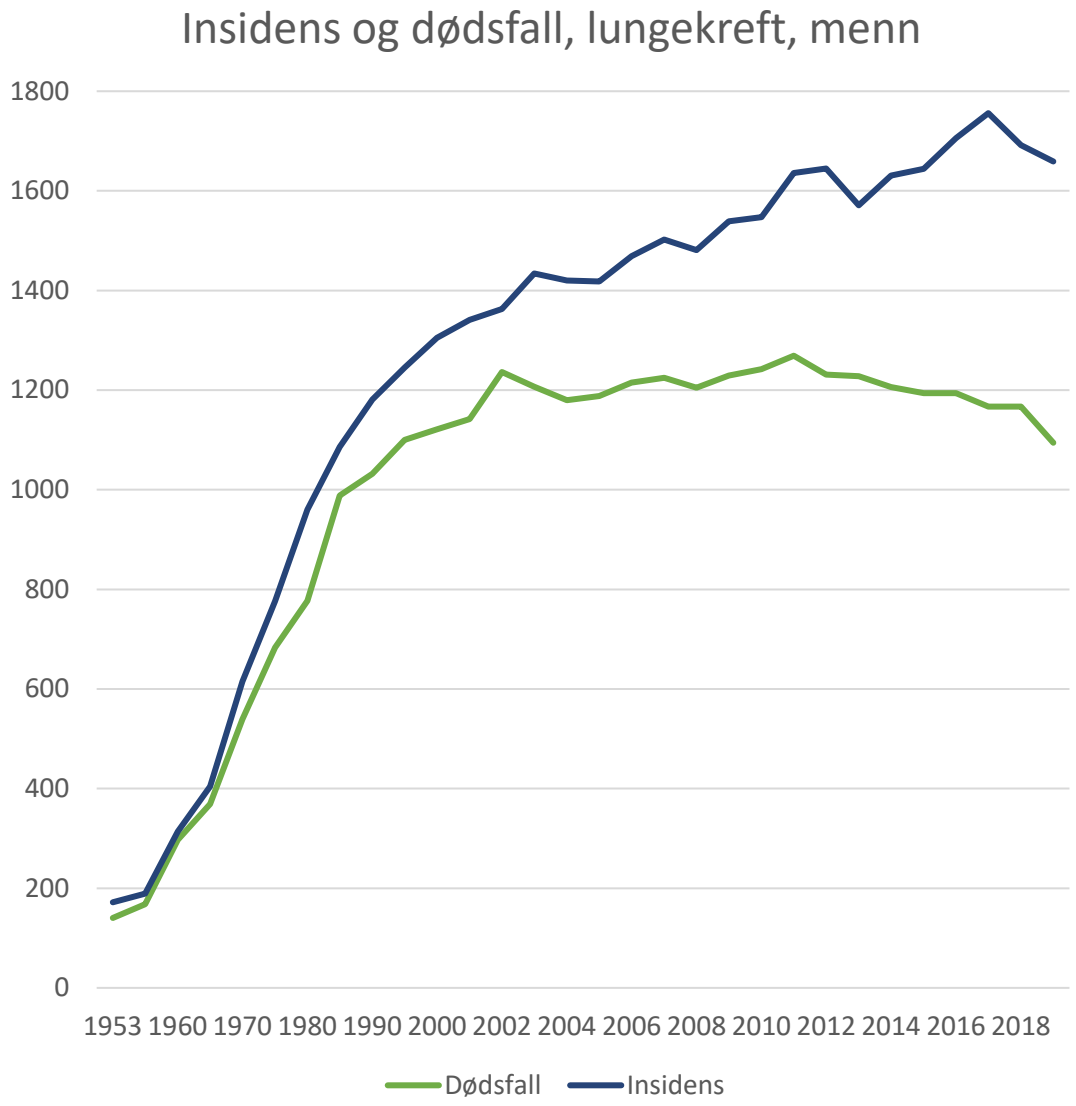
Andel kostnader topp 20 onkologi-legemidler

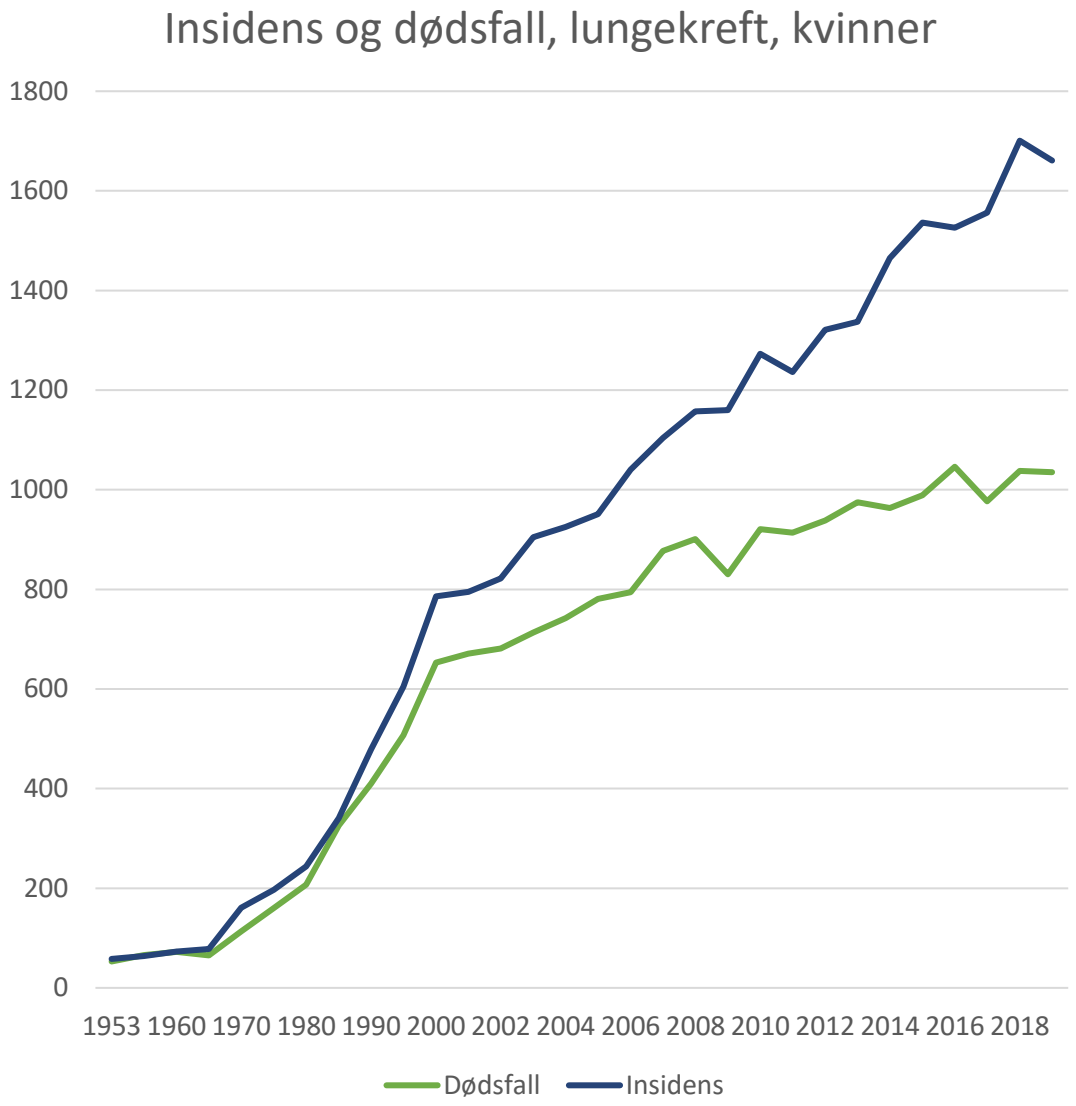


*2020 estimert fra perioden jan-okt 2020

Andel kostnader topp 20 legemidler med HF-finansiering nov 19 – okt 20







Kreftregisteret 2020, Dødsårsaksregisteret 2020

nlcg.no

Nyheter Retningslinjer Studier Publikasjoner Aktiviteter og referater Lenker Om NLCG

Norsk lungekreftgruppe

Nasjonalt handlingsprogram

Publikasjoner

Studier

Kalender
Kommende møter

Nyheter

- **Koronavaksine og kreft** 15.01.21

  Kreftpasienter ble ikke inkluderte i de første koronavaksinestudiene, og det har vært stilt noen spørsmål omkring vaksinering av slike pasienter. Tidsskriftet har idag publisert en artikkel som diskuterer noen aspekter ved dette.

- **Ny versjon av Handlingsprogrammet** 04.01.21

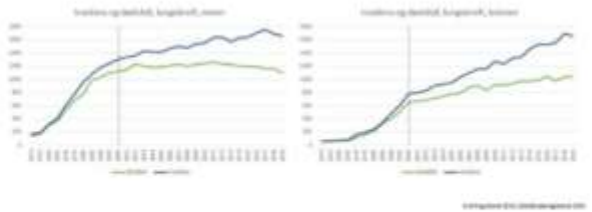
  Etter innføring av lorlatinib som andrelinjebehandling ved ALK-positiv sykdom, er Handlingsprogrammet blitt revidert. Følgende endringer er gjort:

  Lorlatinib (Lorviqua) som andrelinjebehandling for ALK-positiv lungekreft er omtalt, etter at behandlingsmuligheten nå har positivt vedtak i Beslutningsforum – med innføringsdato 15. januar 2021 (avsnitt 8.4.2). Nye resultater ved adjuvant kjemoterapi med inklusjon av cisplatin/pemetreksed som et alternativ til cisplatin/vinorelbin ved ikke-plateepitelkarsinom er også omtalt (avsnitt 7.3.1). Videre er teksten ved hjernemetastaser justert ved at systemisk behandling kan forsøkes i stedet for helhjernebestråling (avsnitt 8.1.2). Endelig er moderne behandlingsprinispper ved dyp venetrombose/lungeemboli beskrevet, idet DOAK er omtalt som behandling i stedet for lavmolekylært heparin (avsnitt 11.5).

  Handlingsprogrammet er nå også publisert på Helsedirektoratets sider.

- **Insidens og dødsfall** 16.12.20

  Antall lungekreftforårsakede dødsfall blant norske menn fortsetter å falle, og har ikke vært så lavt siden 1994, ifølge oppdaterte tall fra Dødsårsaksregisteret. For kvinner er 2019-tallet også såvidt lavere enn i fjor, men det tredje høyeste som er registrert. Gapet mellom insidens og dødsfall fortsetter å øke (tall fra Kreftregisteret 2020, og Dødsårsaksregisteret 2020).



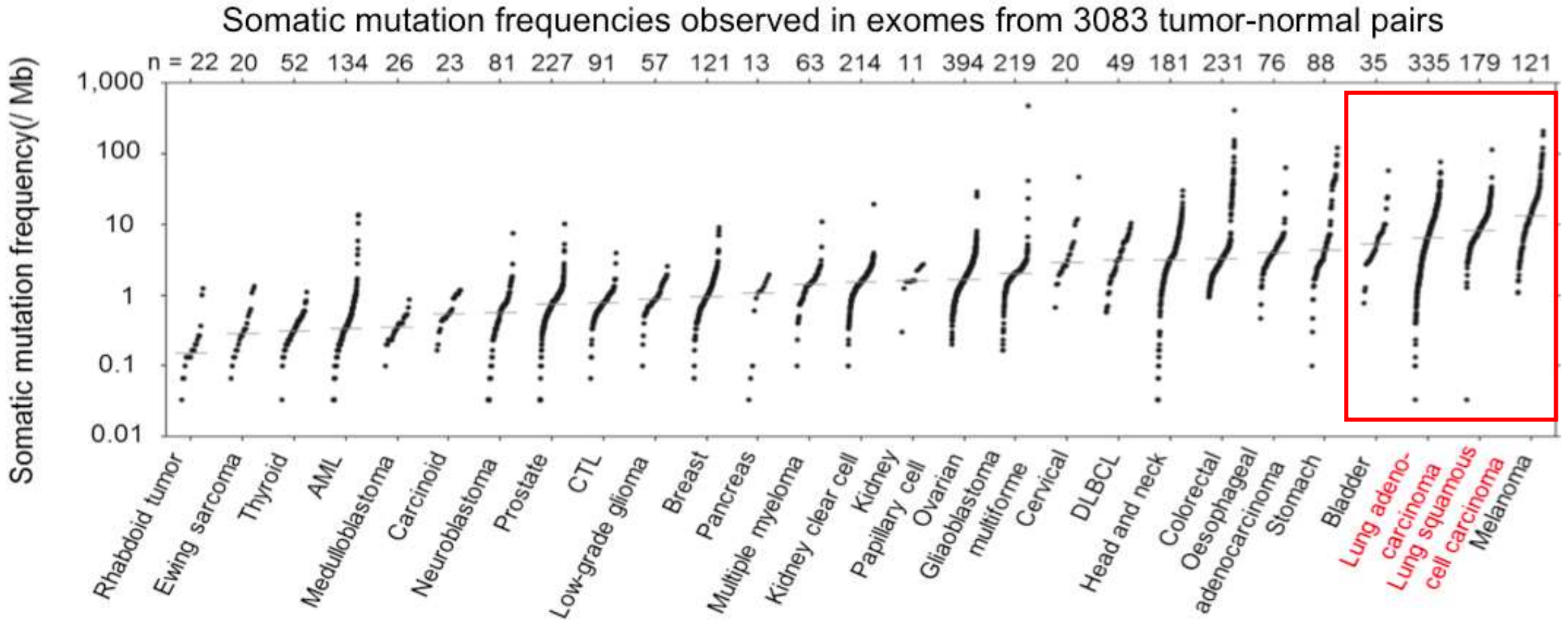
- **Lorlatinib besluttet innført** 14.12.20

  I dagens Beslutningsforum-møte (14.12.20) ble ALK-hemmeren lorlatinib beslutttet innført til behandling av ALK-positiv avansert

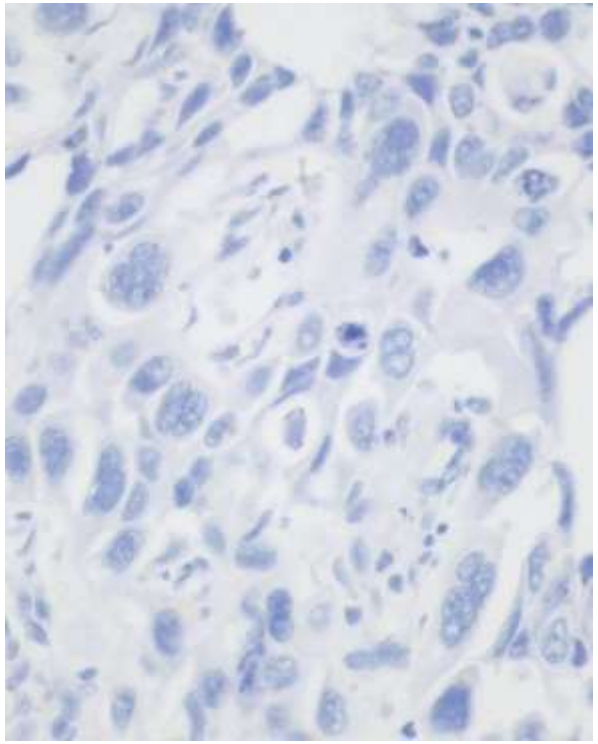
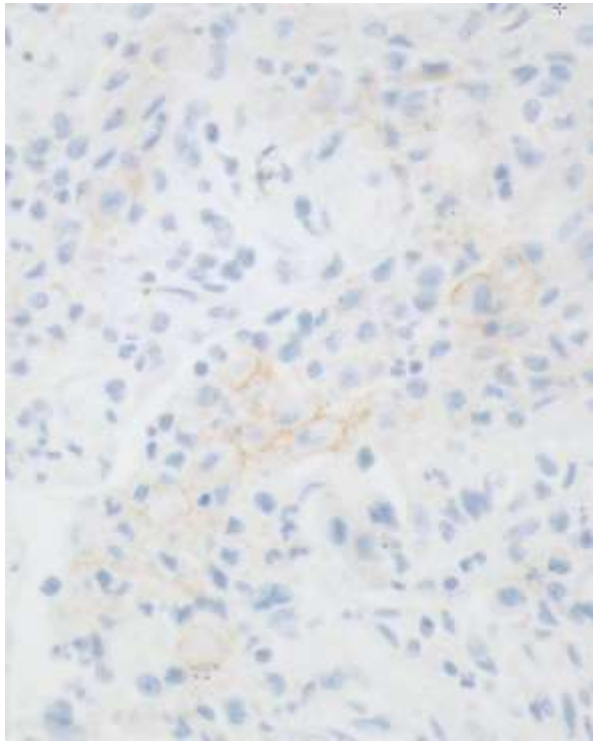
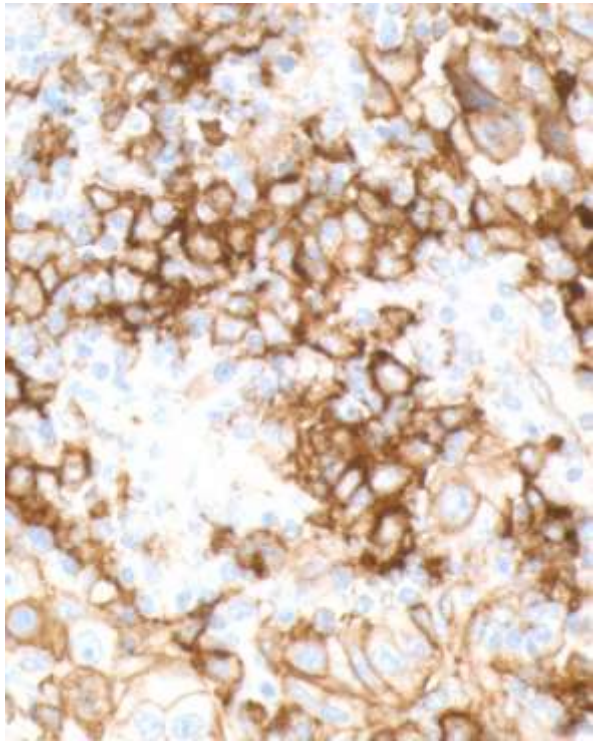
Agenda

- Ørlite diagnostikk
- Immunterapi ved NSCLC
- Immunterapi ved SCLC
- Immunterapi ved mesoteliom
- Studier

Mutasjoner i kreftceller gjør at de blir "fremmede" og synlige for immunsystemet



Immunterapi virker best når PD-L1 er uttrykt på kreftcellene

NSCLC	PD-L1 <1%	PD-L1 1-49%	PD-L1 ≥50%
			
Non-plateepitelkarsinom	Immuno**kjemo**terapi i **1**. linje + Pembro + pemetreksed + karboplatin		Immuno**mono**terapi i 1. linje (pembrolizumab)
Plateepitelkarsinom	Immuno**kjemo**terapi i **1**. linje + Pembro + paklitaksel + karboplatin		

Stadium III NSCLC

Immunterapi etter kjemoradioterapi

PACIFIC: Study Design

Phase 3, Randomized, Double-blind, Placebo-controlled, Multicenter, International Study[1]

- Unresectable, Stage III NSCLC without progression after definitive platinum-based cCRT (≥2 cycles)
- 18 years or older
- WHO PS score 0 or 1
- If available, archived pre-cCRT tumor tissue for PD-L1 testing*

All-comers population (i.e. irrespective of PD-L1 status)

N=713 randomized

1–42 days post-cCRT

R

2:1 randomization, stratified by age, sex, and smoking history

Durvalumab
10 mg/kg q2w for up to 12 months
N=476

Placebo
10 mg/kg q2w for up to 12 months
N=237

Primary endpoints

- PFS by BICR using RECIST v1.1†
- OS

Key secondary endpoints

- ORR, DoR and TTDM by BICR
- PFS2 by investigator
- Safety
- PROs

*Using the Ventana SP263 immunohistochemistry assay

†Defined as the time from randomization until the date of objective disease progression or death by any cause in the absence of progression. BICR, blinded independent central review; cCRT, concurrent CRT; PFS2, time to second progression; RECIST, Response Evaluation Criteria in Solid Tumors; TTDM, time to death or distant metastasis. ClinicalTrials.gov number: NCT02125461

1. Antonia SJ, et al. N Engl J Med 2017;377:1919–29.

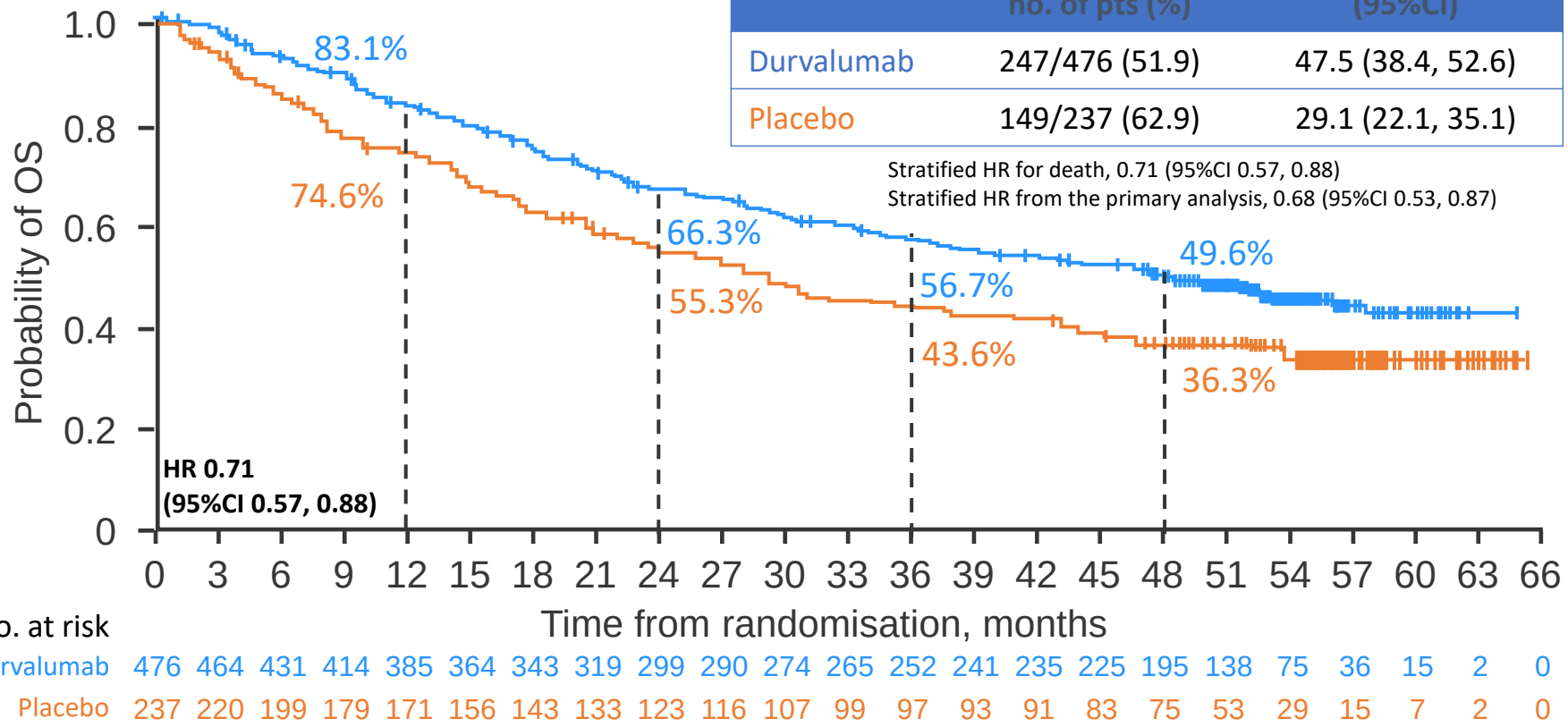
LBA49: Durvalumab after chemoradiotherapy in stage III NSCLC: 4-year survival update from the phase 3 PACIFIC trial – Faivre-Finn C, et al

- **Key results:**

Updated OS (ITT)

	No. events/total no. of pts (%)	Median OS, months (95%CI)
Durvalumab	247/476 (51.9)	47.5 (38.4, 52.6)
Placebo	149/237 (62.9)	29.1 (22.1, 35.1)

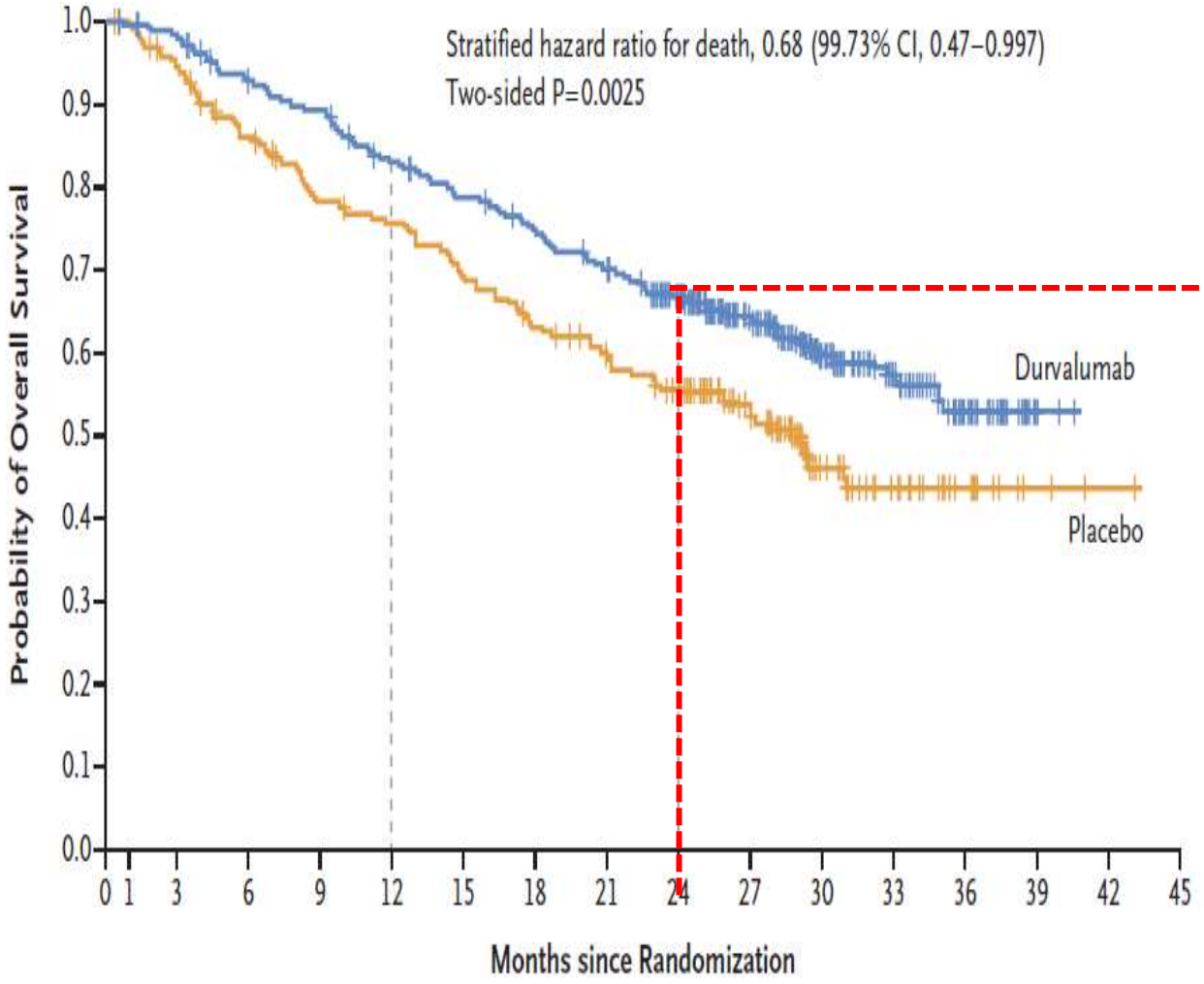
Stratified HR for death, 0.71 (95%CI 0.57, 0.88)
Stratified HR from the primary analysis, 0.68 (95%CI 0.53, 0.87)



Data cut-off: 20 March 2020 (median follow up: 34.2 months [range: 0.2–64.9])

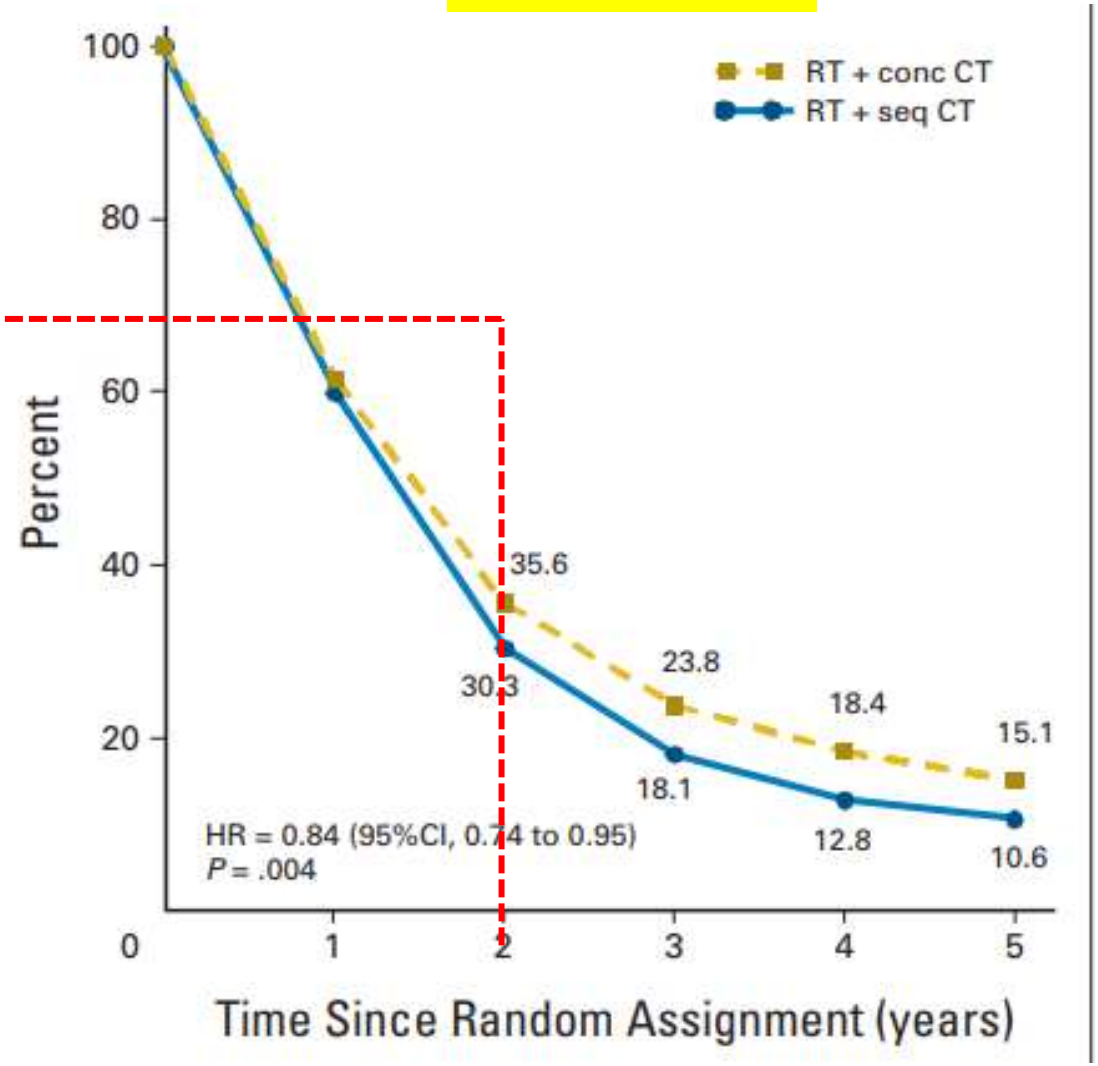
Faivre-Finn C, et al. Ann Oncol 2020;31(suppl):Abstr LBA49

Nytt regime



Antonia et al, NEJM 2018

Gammelt regime



Auperin et al, JCO 2010

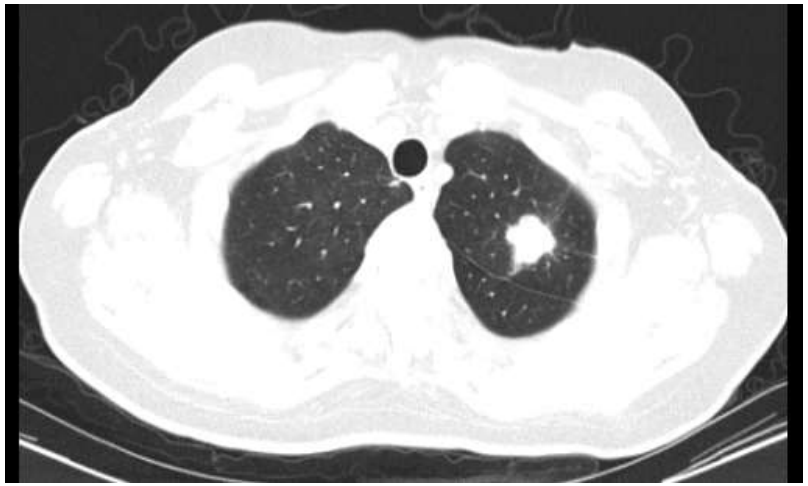
Table 3. Adverse Events of Any Cause.

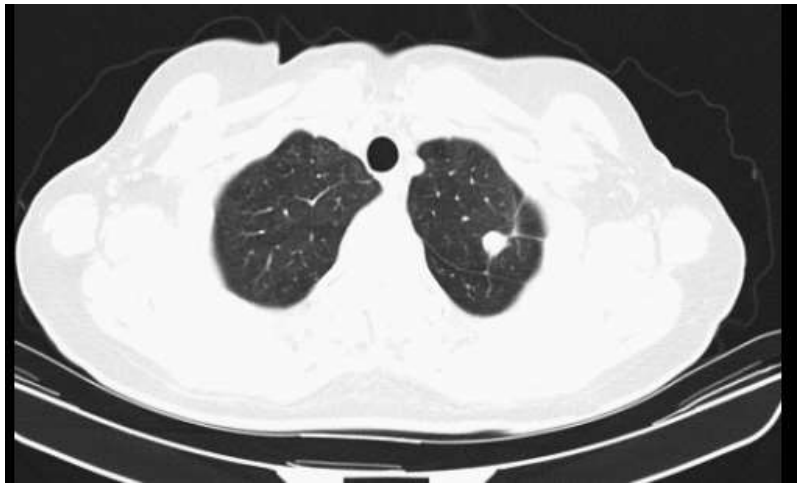
Event	Durvalumab (N = 475)		Placebo (N = 234)	
	Any Grade*	Grade 3 or 4	Any Grade*	Grade 3 or 4
	number of patients with event (percent)			
Any event	460 (96.8)	142 (29.9)	222 (94.9)	61 (26.1)
Cough	168 (35.4)	2 (0.4)	59 (25.2)	1 (0.4)
Pneumonitis or radiation pneumonitis†	161 (33.9)	16 (3.4)	58 (24.8)	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)

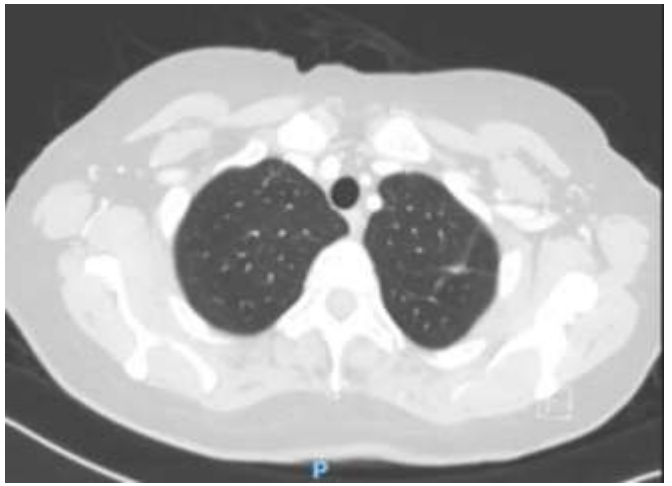
Antonia et al, NEJM 2018

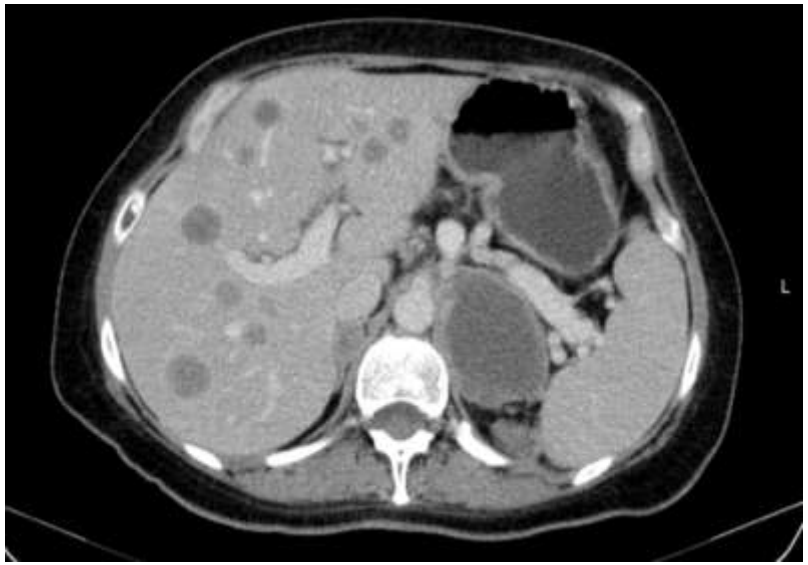
Stadium IV NSCLC

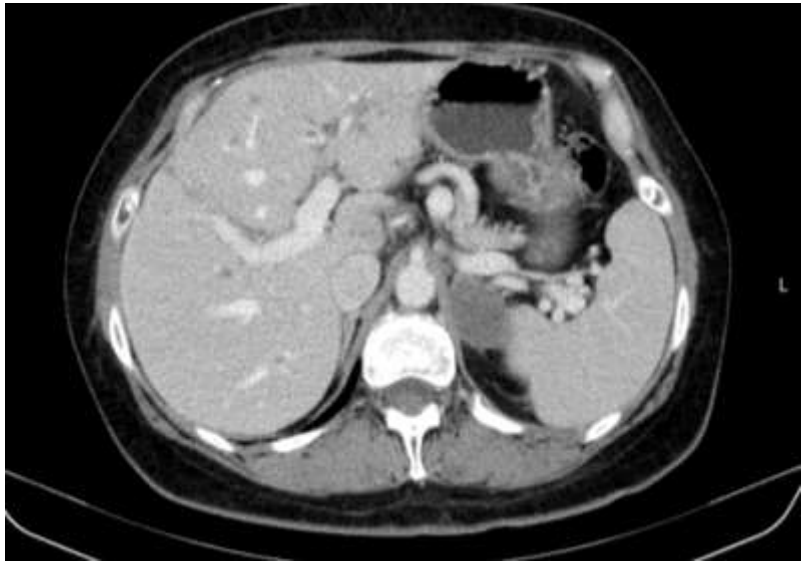
-Monoterapi eller kombinasjon med cytostatika

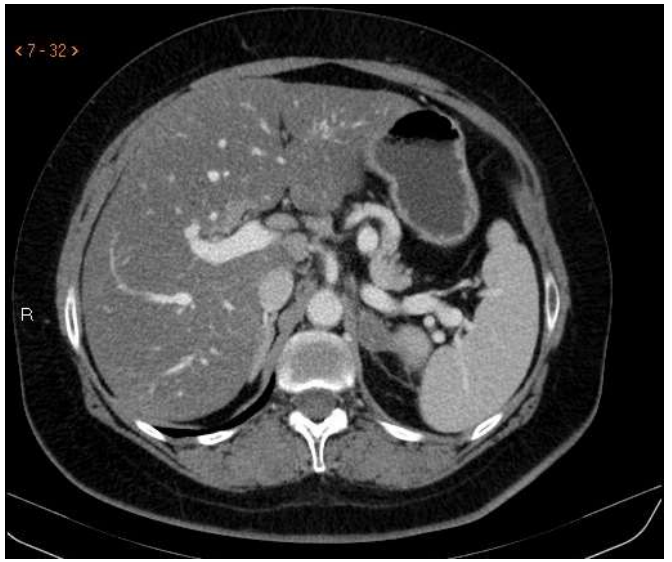










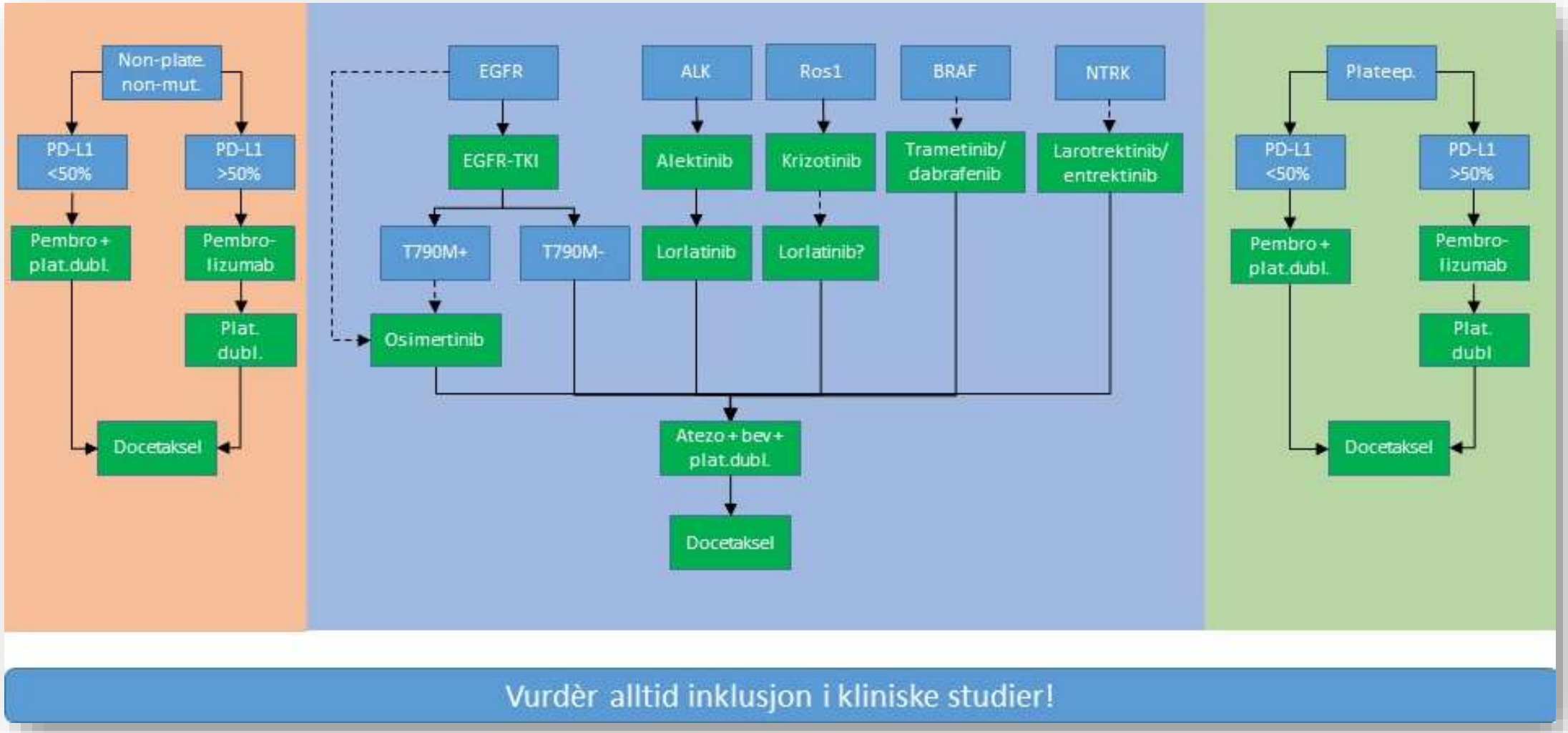


Juli 2015

Nov 2015

Okt 2020

Behandlingsalgoritme, NSCLC

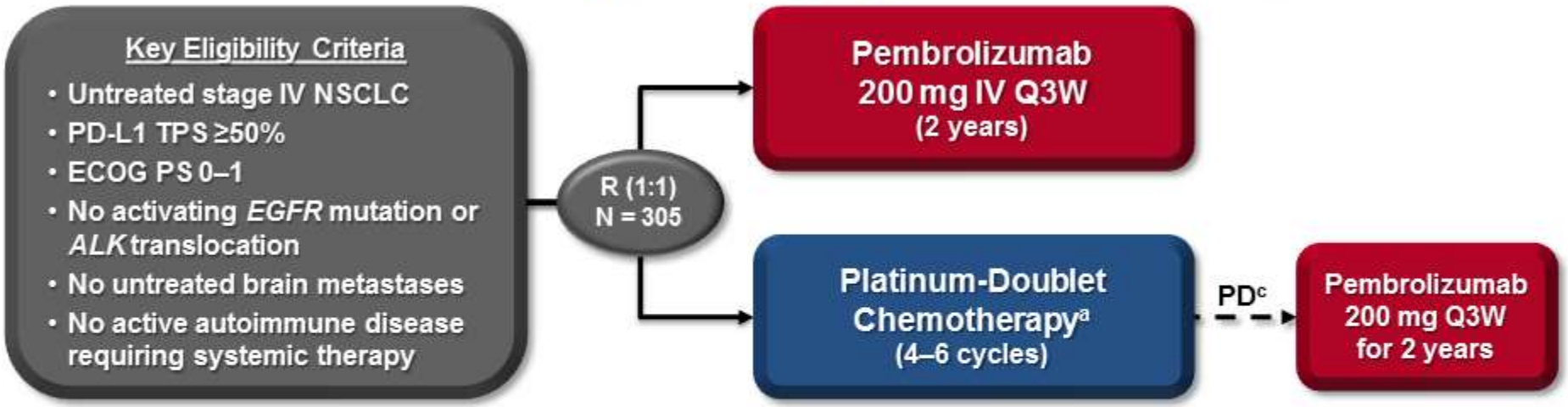


Immunomonoterapi som 1. linje

Alle NSCLC ≥ 50%, uten mutasjoner

Brahmer WCLC 2017

KEYNOTE-024 Study Design (NCT02142738)



End Points

Primary:	PFS (RECIST v1.1, blinded independent central review)
Key secondary:	OS
Secondary:	ORR, safety
Exploratory:	DOR

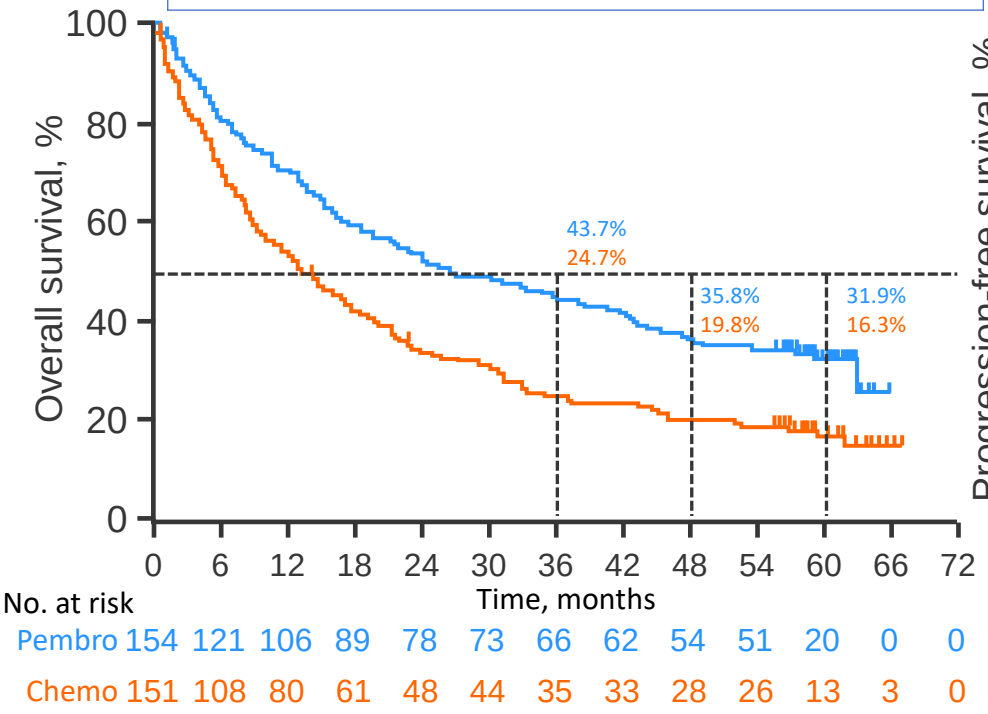
[a]Optional pemetrexed maintenance therapy for nonsquamous disease. [b]Permitted for nonsquamous disease only.
[c]Prior to the DMC recommendation and amendment 6, which permitted those in the chemotherapy arm to be offered pembrolizumab (based on interim analysis 2 data), patients were eligible for crossover when PD was confirmed by blinded, independent central radiology review.

LBA51: KEYNOTE-024 5-year OS update: first-line (1L) pembrolizumab (pembro) vs platinum-based chemotherapy (chemo) in patients (pts) with metastatic NSCLC and PD-L1 tumor proportion score (TPS) ≥50%

- **Key results**

OS

	N	Events, n (%)	Median OS, mo (95%CI)	HR (95%CI)
Pembro	154	103 (66.9)	26.3 (18.3, 40.4)	0.62 (0.48, 0.81)
Chemo*	151	123 (81.5)	13.4 (9.4, 18.3)	



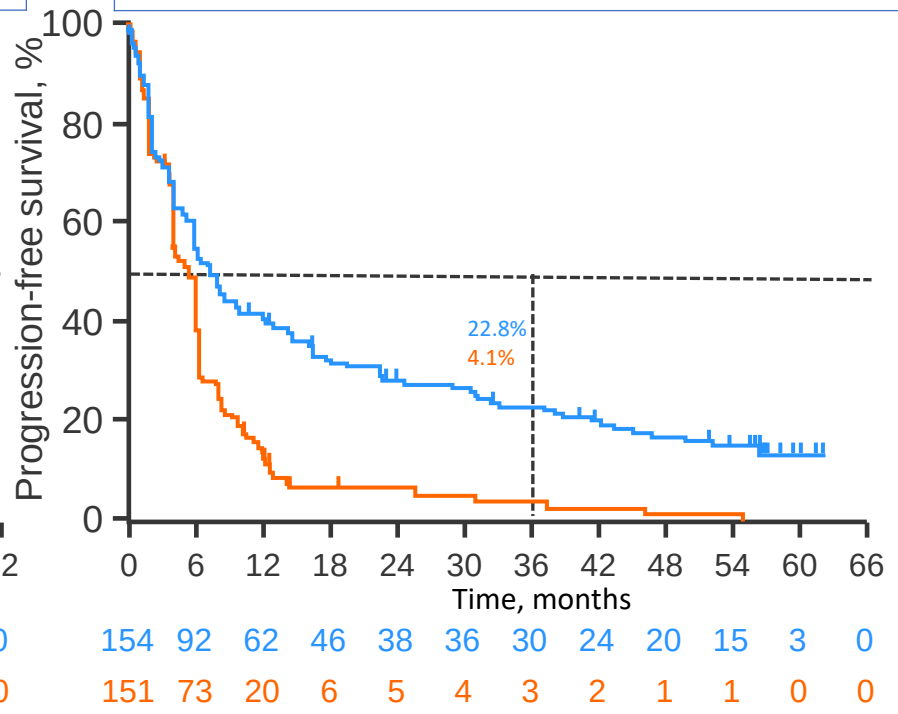
No. at risk

Pembro	154	121	106	89	78	73	66	62	54	51	20	0	0
Chemo	151	108	80	61	48	44	35	33	28	26	13	3	0

*83 patients crossed over to pembro during the study, and 16 patients received subsequent anti-PD-(L)1 therapy outside of crossover, patients may have received >1 subsequent anti-PD-(L)1 therapy

PFS

	N	Events, n (%)	Median PFS, mo (95%CI)	HR (95%CI)
Pembro	154	126 (81.8)	7.7 (6.1, 10.2)	0.50 (0.39, 0.65)
Chemo	151	141 (93.4)	5.5 (4.2, 6.2)	



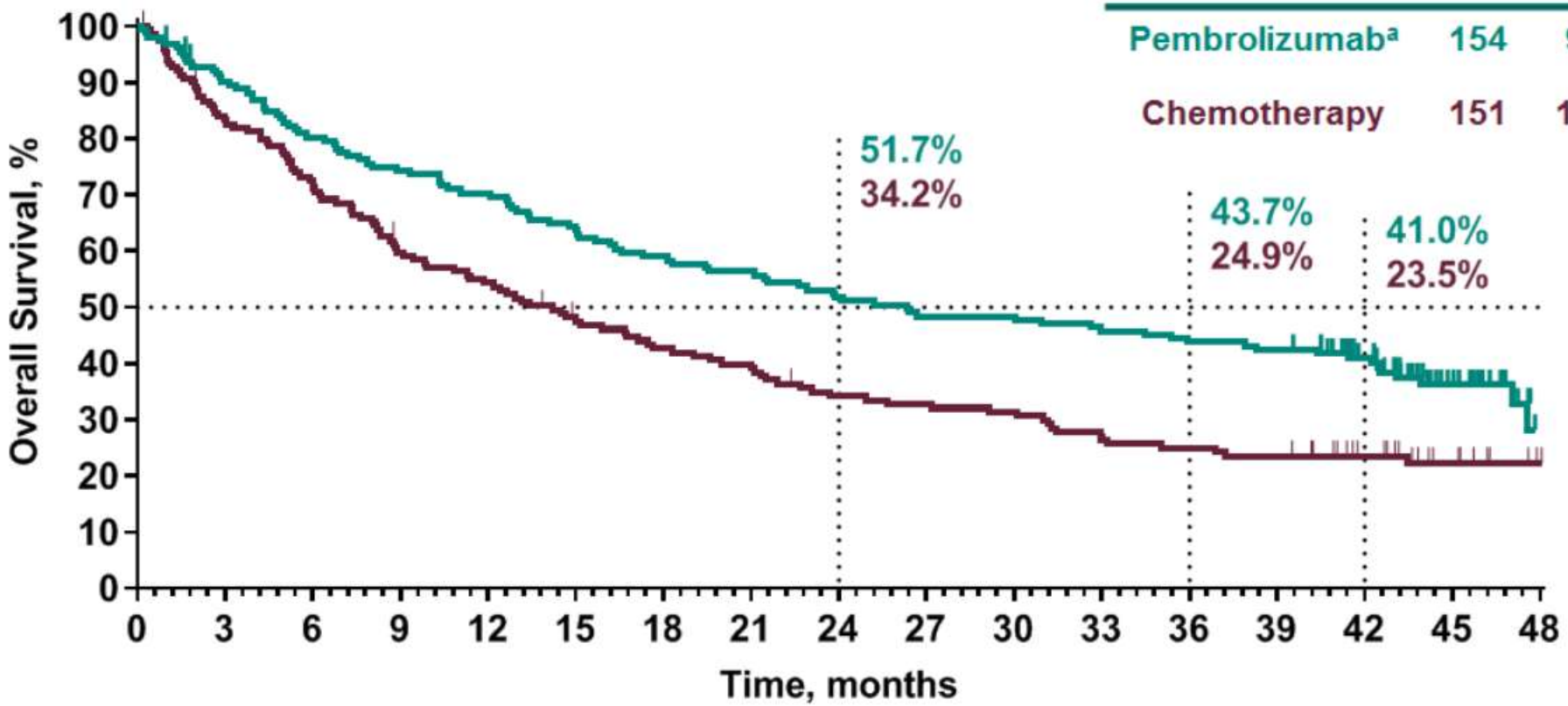
	154	92	62	46	38	36	30	24	20	15	3	0	
	151	73	20	6	5	4	3	2	1	1	0	0	

Median DoR (range), months:
29.1 (2.2–60.8+) vs. 6.3 (3.1–52.4)

Brahmer JR, et al. Ann Oncol 2020;31(suppl):Abstr LBA51

Overall Survival: Updated Analysis

	N	Events, n (%)	HR (95% CI)
Pembrolizumab[a]	154	97 (63)	0.65 (0.50–0.86)
Chemotherapy	151	113 (75)	*P* = 0.001[b]



Median (95% CI)
26.3 mo (18.3–40.4 mo)
14.2 mo (9.8–18.3 mo)

No. at risk																	
Pembrolizumab	154	136	121	112	106	96	89	85	78	73	73	69	66	64	50	24	5
Chemotherapy	151	124	108	88	80	69	61	56	48	46	44	37	35	33	24	14	6

[a]Effective crossover rate from chemotherapy to anti–PD-L1 therapy, 64.9% (98 patients in total crossed over to anti–PD-[L]1 therapy: 83 patients crossed over to pembrolizumab during the study, and 21 patients received subsequent anti–PD-L1 therapy outside of crossover; patients may have received >1 subsequent anti–PD-L1 therapy). [b]Nominal *P* value.
Data cutoff: February 15, 2019.

Oppsummering, NSCLC, PD-L1 >50%

- Enten

Pembrolizumab 200 mg iv hver 3. uke i inntil 2 år

Ved progresjon – vurdere platinum-dublett
Ved non-progresjon – følges med regelmessige kontroller

- Eller

Pembrolizumab 400 mg iv hver 6. uke i inntil 2 år

Kombinasjonsbehandling i 1.-linje

Non-plateepitelkarsinom, PD-L1 <50%

KEYNOTE 189: Randomized, Double-Blind, Phase III Study of Platinum+Pemetrexed Chemotherapy With or Without Pembrolizumab in First Line Metastatic Non-squamous Non-small Cell Lung Cancer Subjects

Key Eligibility Criteria

- Untreated Stage IV non-squamous NSCLC
- No activating EGFR mutation or ALK translocation
- Provision of a sample for PD-L1 assessment
- ECOG PS 0-1

R 2:1

N=410 → Pembrolizumab 200 mg Q3W PLUS Pemetrexed 500 mg/m² plus Cisplatin 75 mg/m2 OR Carboplatin AUC 5 on Day 1 Q3W for 4 cycles → Followed by → Pembrolizumab 200 mg Plus Pemetrexed 500 mg/m² Q3W until PD

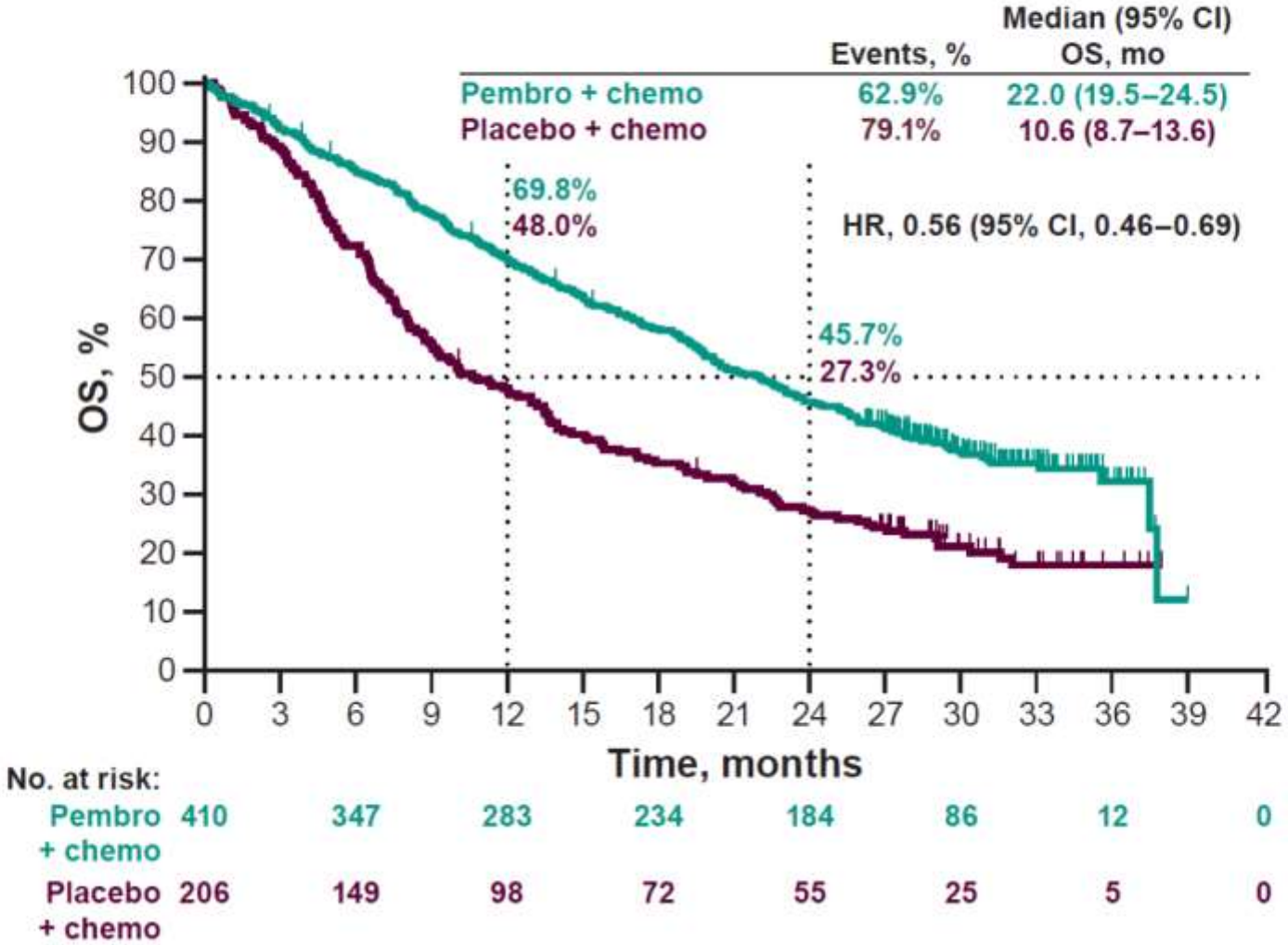
N=206 → Placebo PLUS Pemetrexed 500 mg/m² plus Cisplatin 75 mg/m2 OR Carboplatin AUC 5 on Day 1 Q3W for 4 cycles → Followed by → Placebo Plus Pemetrexed 500 mg/m² Q3W until PD

Stratification Factors:

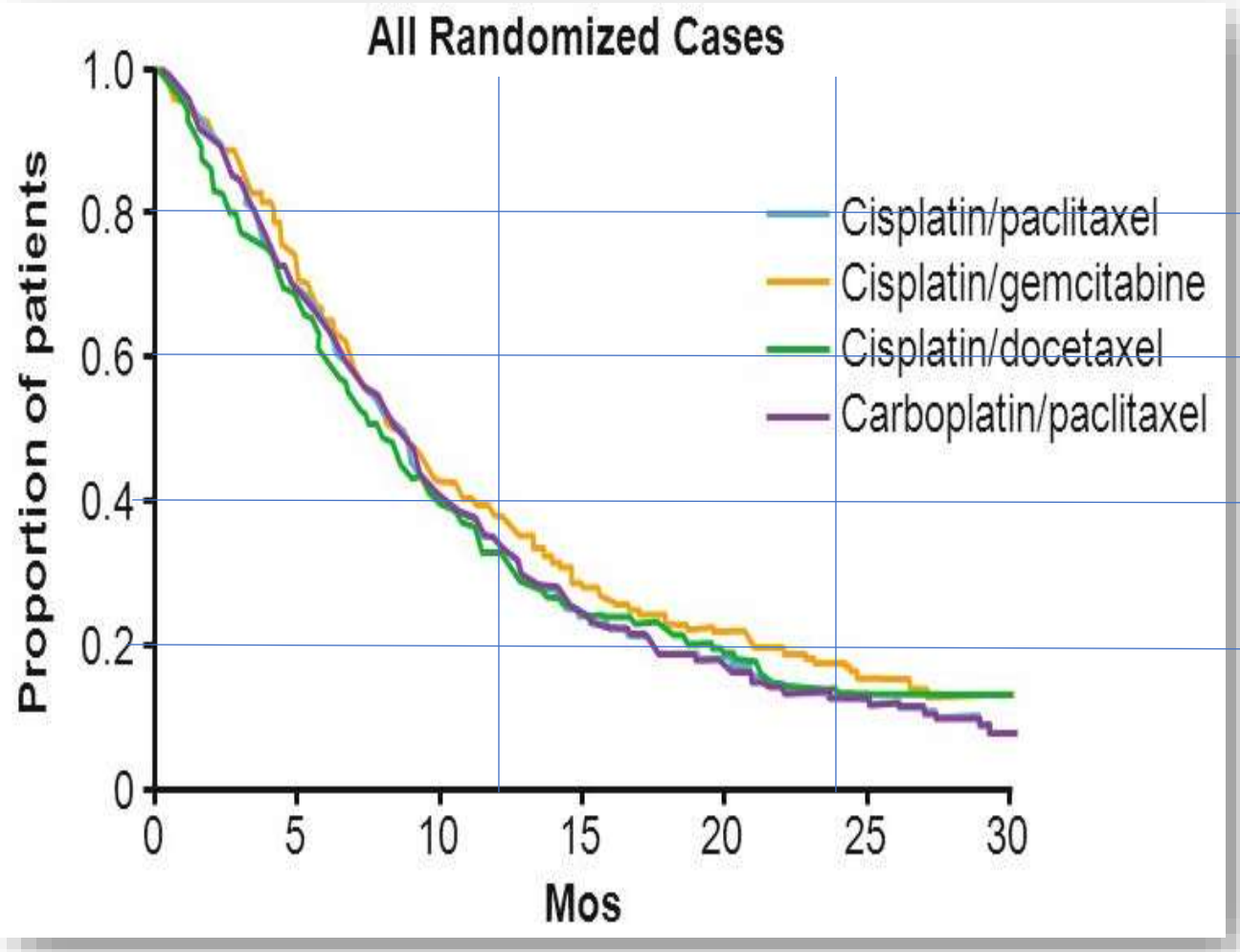
- PDL1 expression (TPS <1% vs ≥1%)
- Platinum (cisplatin vs carboplatin)
- Smoking history (never vs former/current)

Frequency of PDL1 TPS	<1%	1-49%	≥50%	NE
Pembro/Chemo	31	31.2	32.2	5.6
Chemo	30.6	28.2	34	7.3

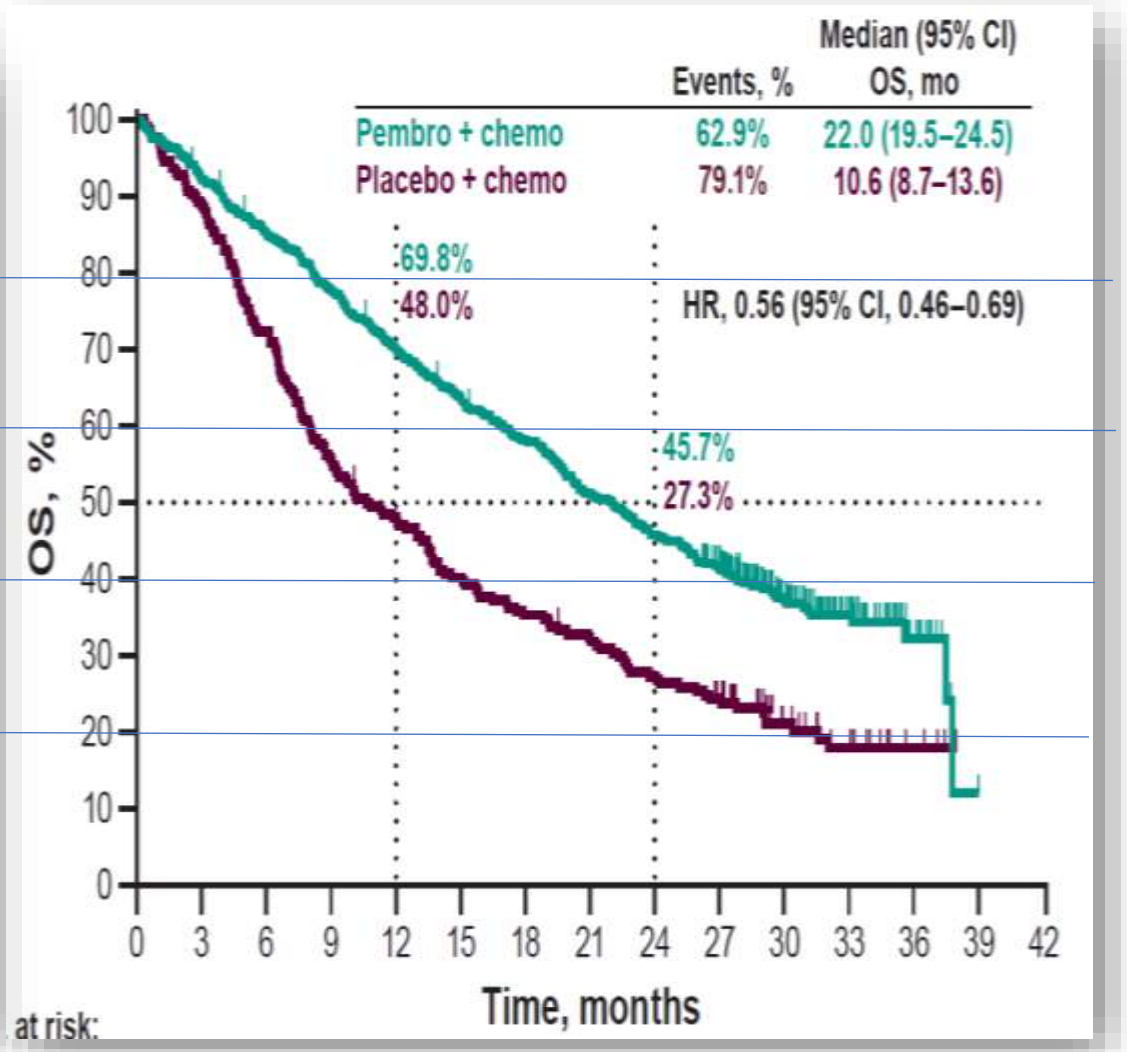
Kaplan-Meier Estimate of OS in the ITT Population



Ny førstelinjes behandling, lungekreft



Schiller et al, NEJM 2002

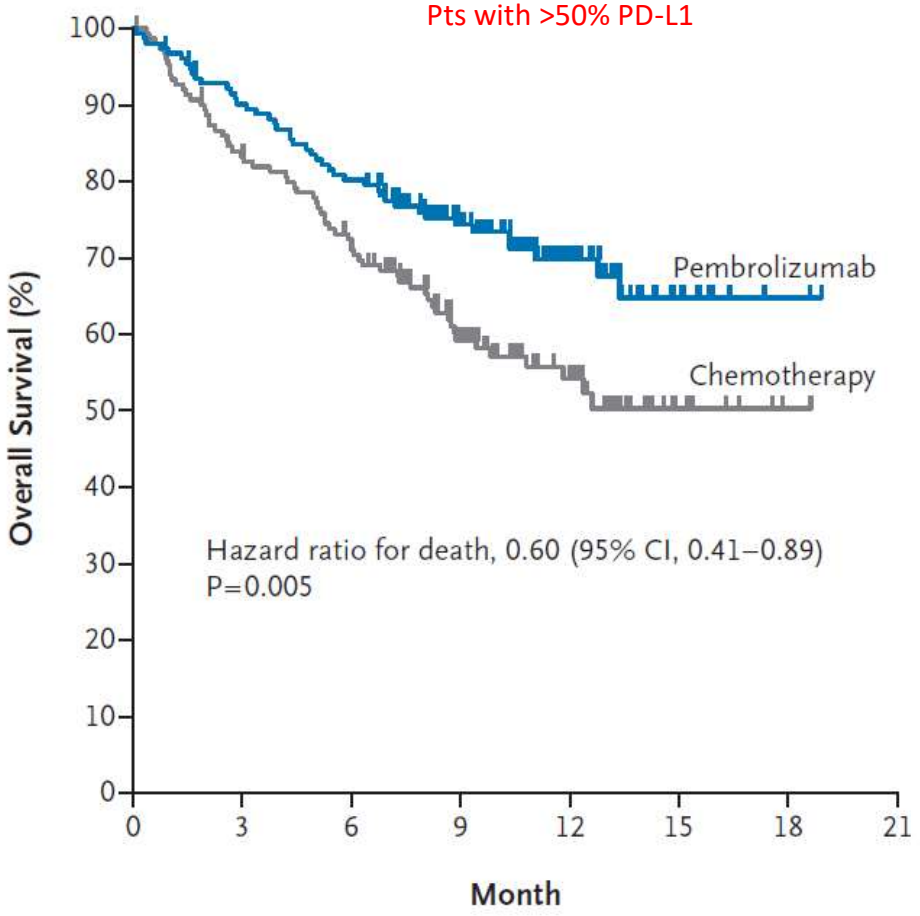


Gandhi et al, NEJM 2018
Rodriguez-Abreu, ASCO 2020

«All-comers» in both studies

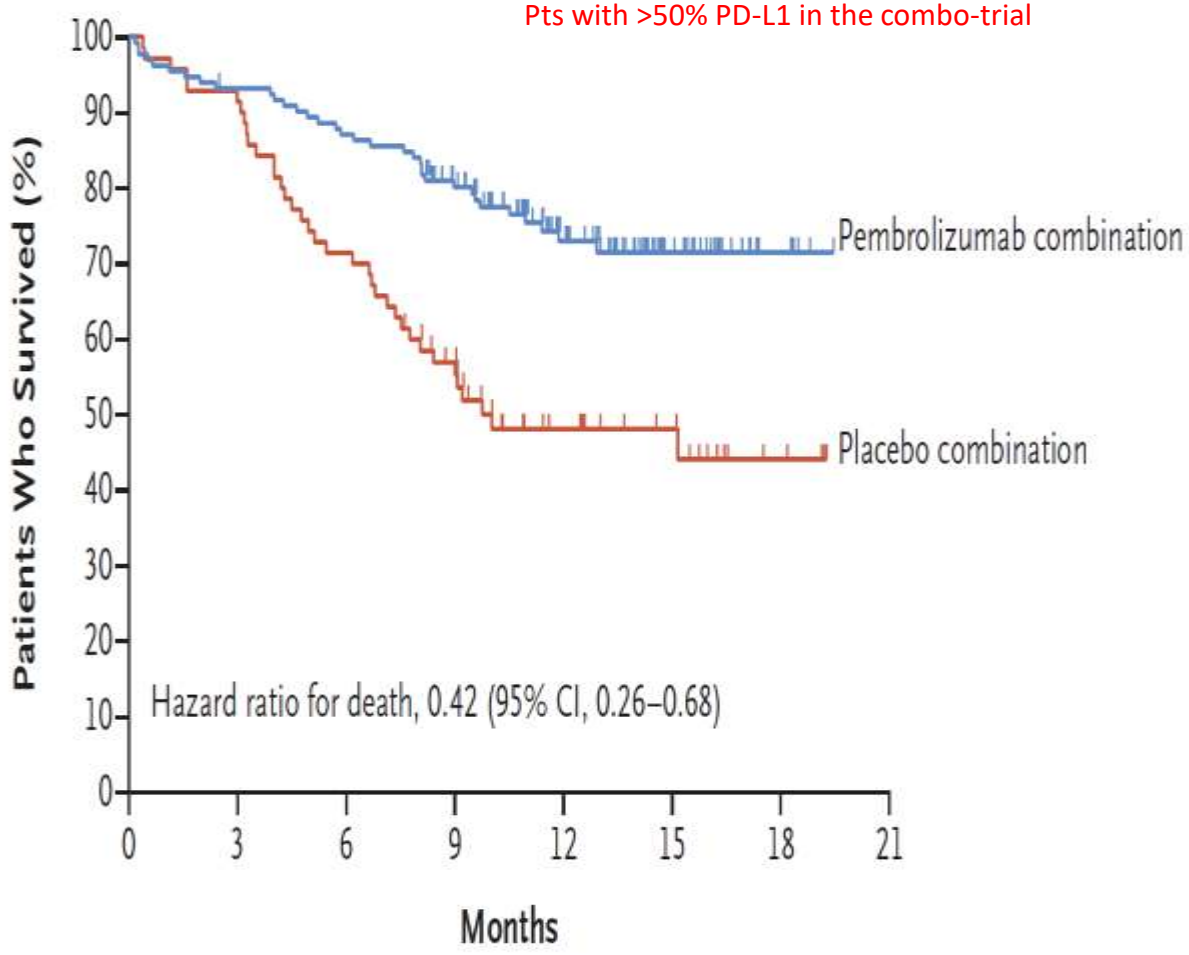
Combo or mono in PD-L1 >50%?

Pts with >50% PD-L1



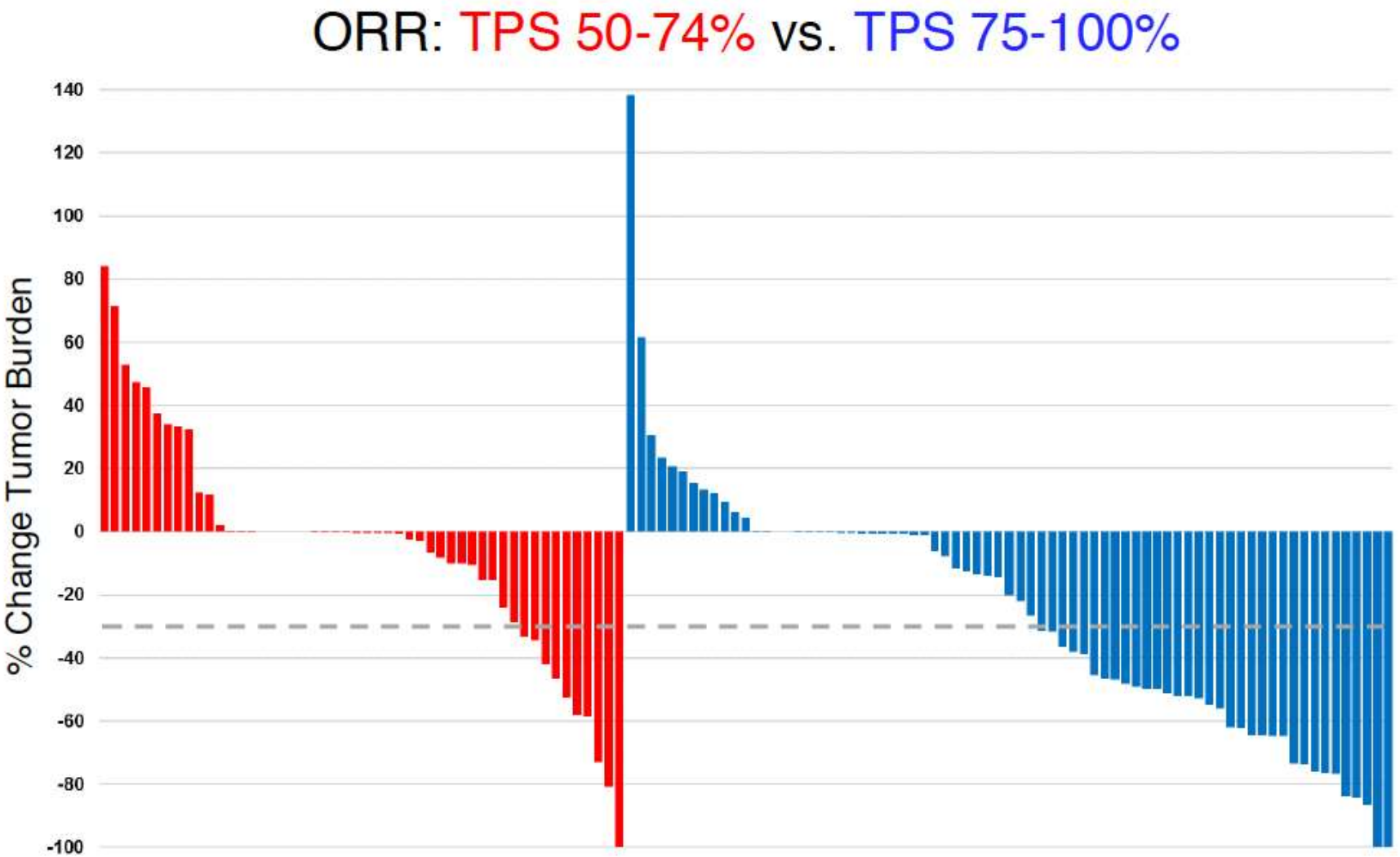
Reck et al, NEJM Nov 2016

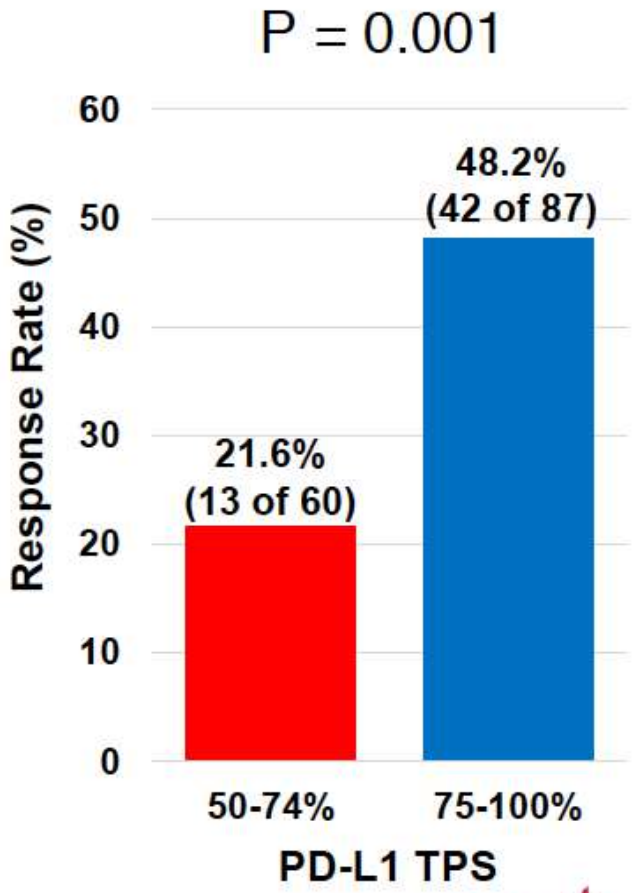
Pts with >50% PD-L1 in the combo-trial



Gandhi et al, NEJM 2018

Pembro monoterapi ved PD-L1 50-74 vs 75-100%

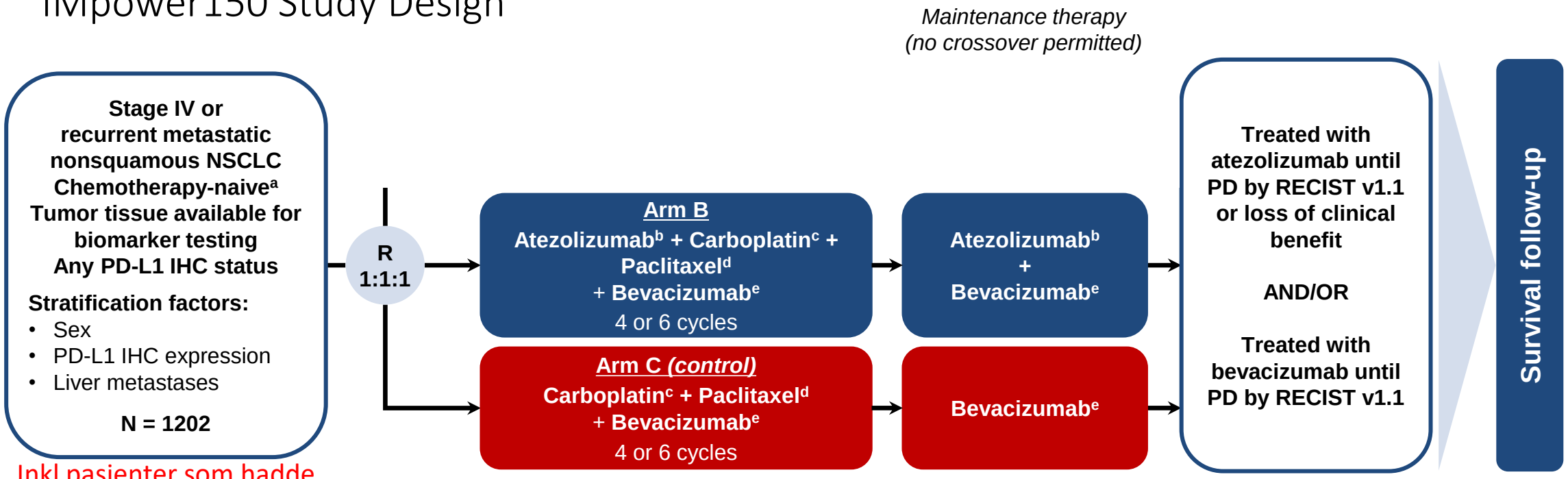




IO in EGFR-mut?

Etter progresjon på EGFR- (eller ALK-) rettet behandling

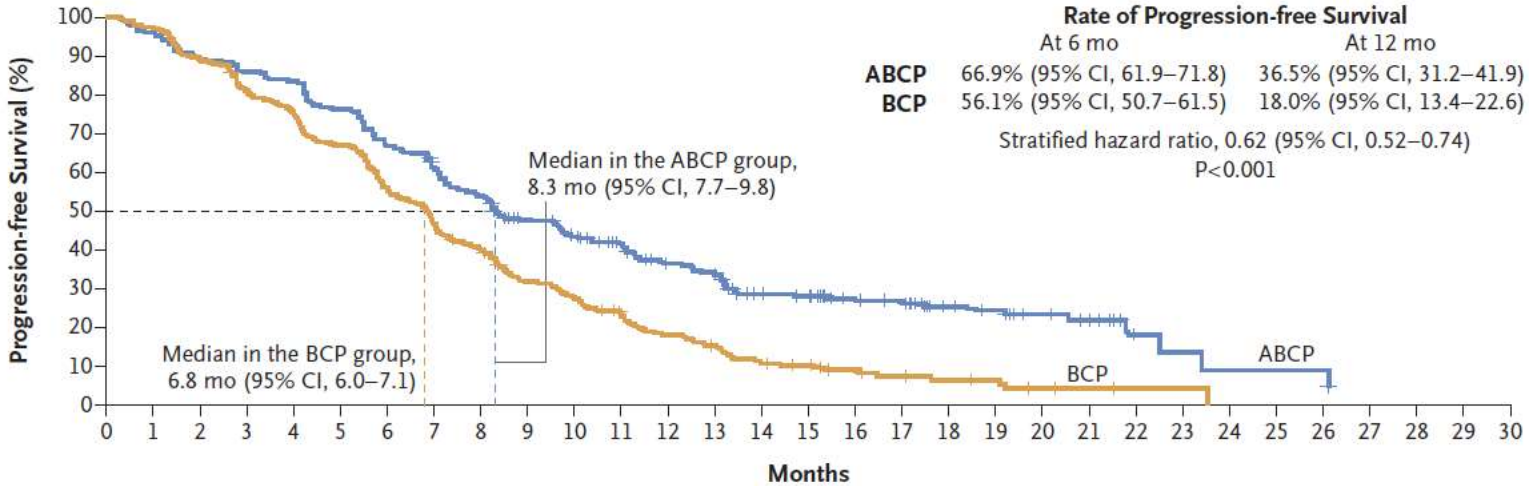
Randomized Trial of Atezolizumab in combination with carboplatin and paclitaxel with bevacizumab
IMpower150 Study Design



Inkl pasienter som hadde progrediert på EGFR-rettet behandling

Dr. Mark Socinski, ASCO 2018, Abstract LBA9000

A Kaplan–Meier Estimates of Progression-free Survival



Rate of Progression-free Survival

	At 6 mo	At 12 mo
ABCP	66.9% (95% CI, 61.9–71.8)	36.5% (95% CI, 31.2–41.9)
BCP	56.1% (95% CI, 50.7–61.5)	18.0% (95% CI, 13.4–22.6)

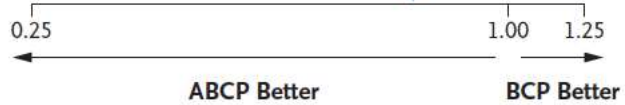
Stratified hazard ratio, 0.62 (95% CI, 0.52–0.74)
P<0.001

No. at Risk

ABCP	356	332	311	298	290	265	232	210	186	151	124	111	87	77	58	55	42	39	27	24	16	12	4	3	2	2	2
BCP	336	321	292	261	243	215	179	147	125	91	69	55	39	32	21	18	12	9	7	6	3	2	1	1			

B Hazard Ratios for Disease Progression or Death in Biomarker Subgroups

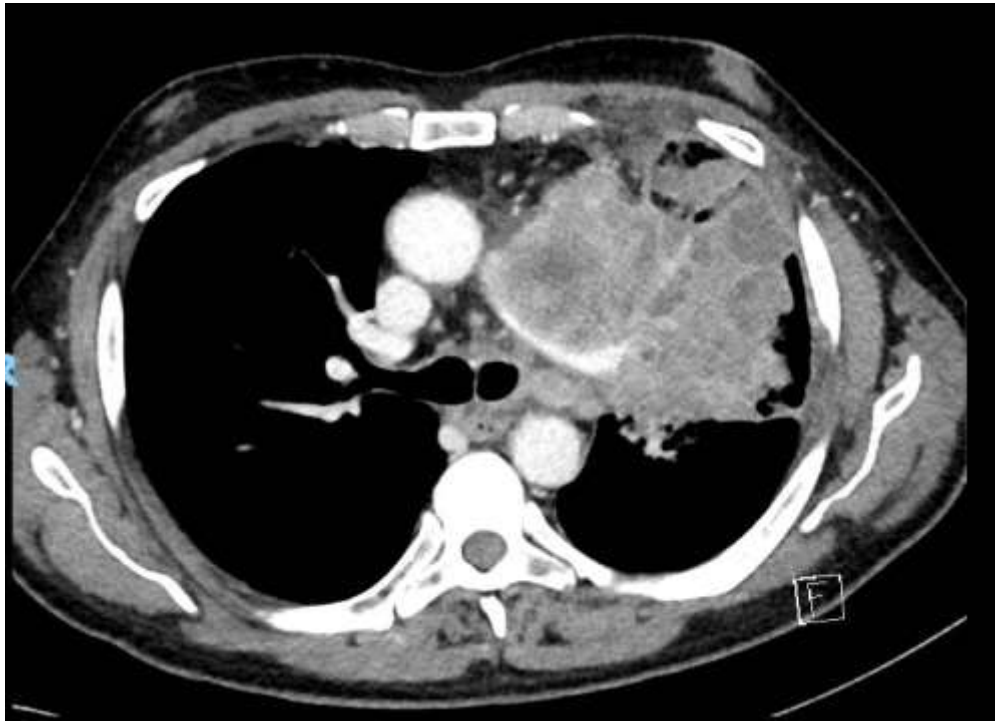
Population	No. of Patients (%)	Median Progression-free Survival (mo)		Hazard Ratio (95% CI)
		ABCP	BCP	
ITT population	800 (100)	8.3	6.8	0.61 (0.52–0.72)
Patients with *EGFR* or *ALK* genetic alternations	108 (14)	9.7	6.1	0.59 (0.37–0.94)
WT population	692 (87)	8.3	6.8	0.62 (0.52–0.74)
PD-L1 subgroups (in the WT population)				
TC3 or IC3	135 (20)	12.6	6.8	0.39 (0.25–0.60)
TC1/2/3 or IC1/2/3	354 (51)	11.0	6.8	0.50 (0.39–0.64)
TC1/2 or IC1/2	224 (32)	8.3	6.6	0.56 (0.41–0.77)
TC0/1/2 and IC0/1/2	557 (80)	8.0	6.8	0.68 (0.56–0.82)
TC0 and IC0	338 (49)	7.1	6.9	0.77 (0.61–0.99)
Teff subgroups (in the WT population)				
High gene-signature expression	284 (43)	11.3	6.8	0.51 (0.38–0.68)
Low gene-signature expression	374 (57)	7.3	7.0	0.76 (0.60–0.96)



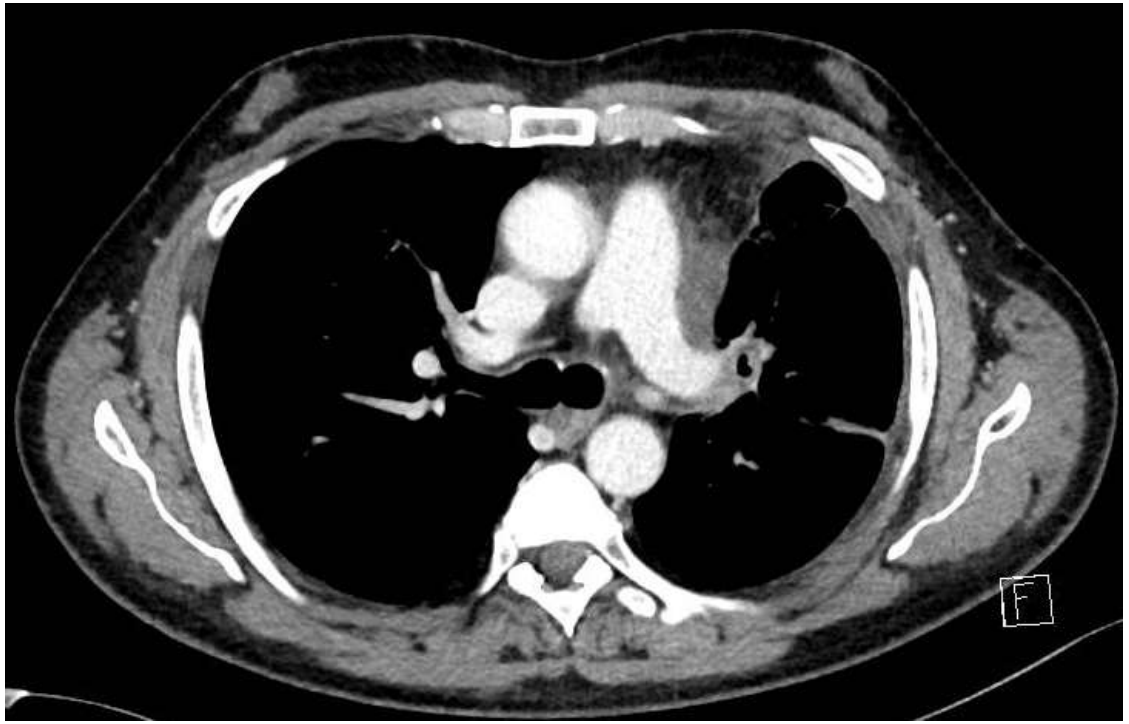
Kombo i plateepitelkarsinom

PD-L1 <50%

Plateepitelkarsinom



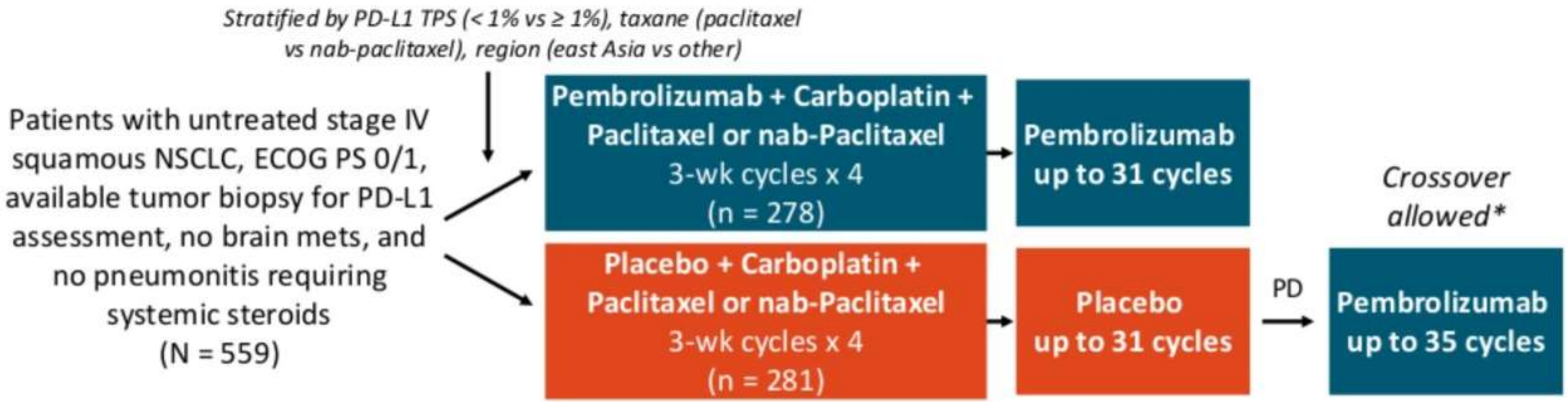
Før start



Etter 4 kurer pembrolizumab+paklitaksel+karboplatin

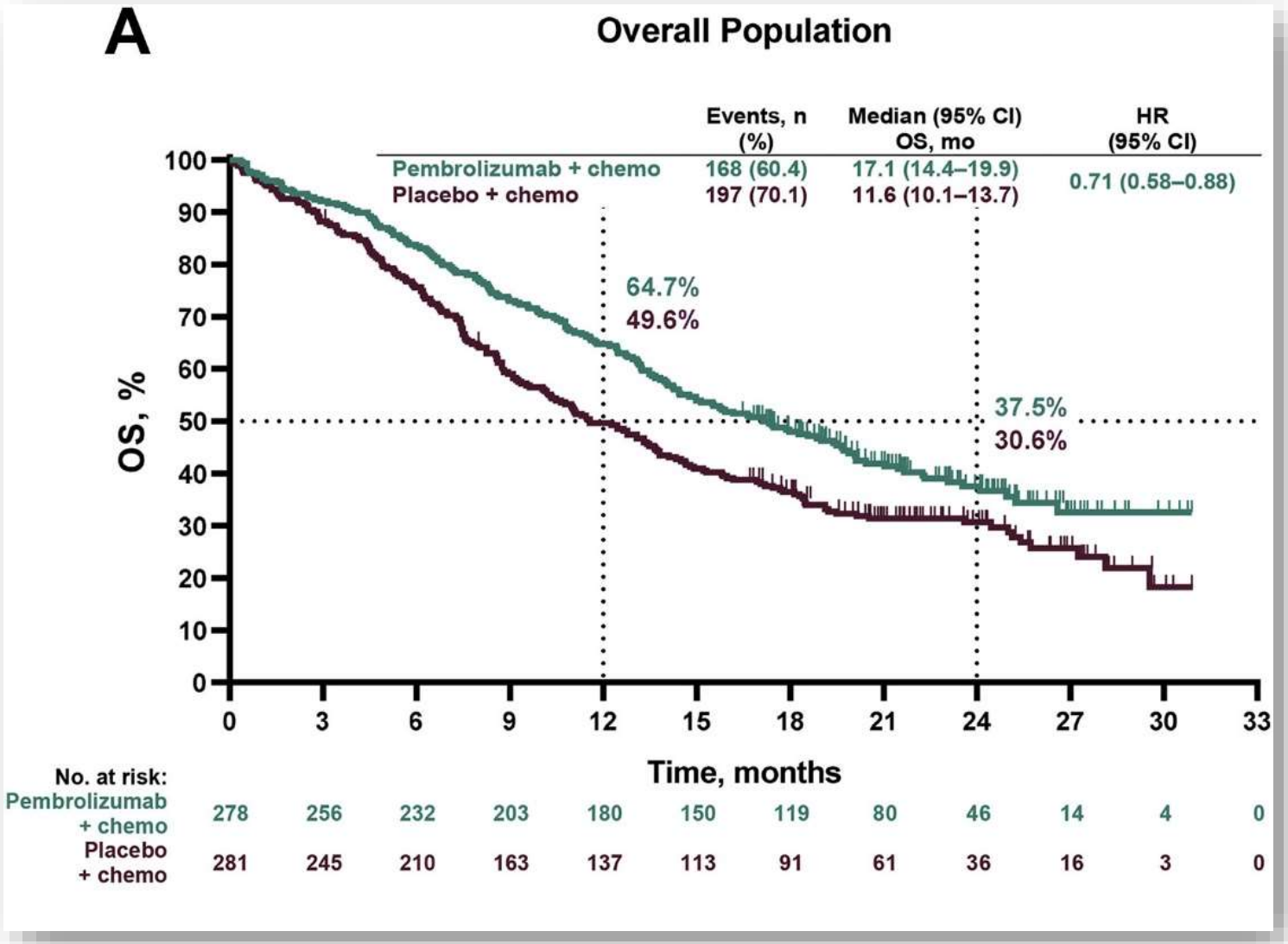
KEYNOTE-407: Study Design

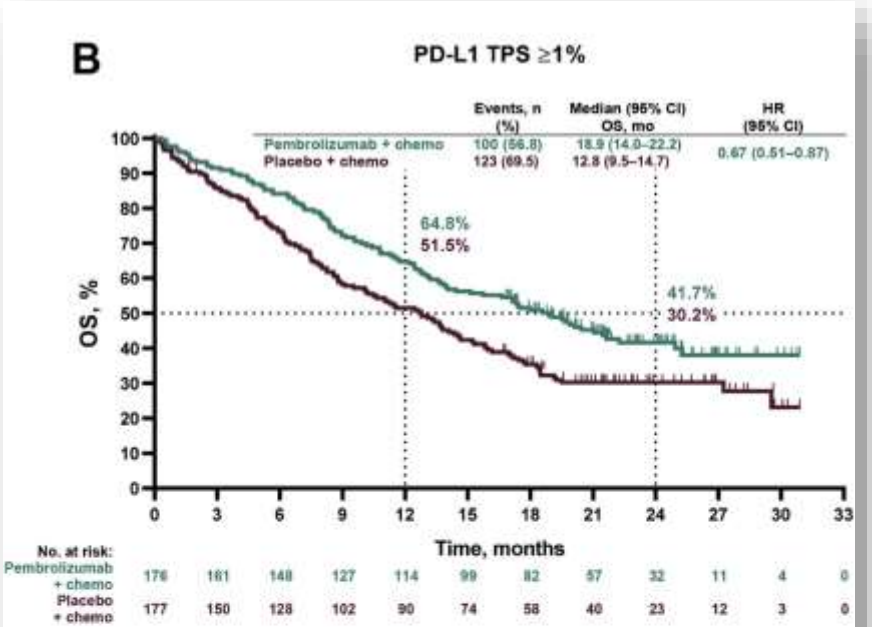
- Randomized, double-blind phase III trial

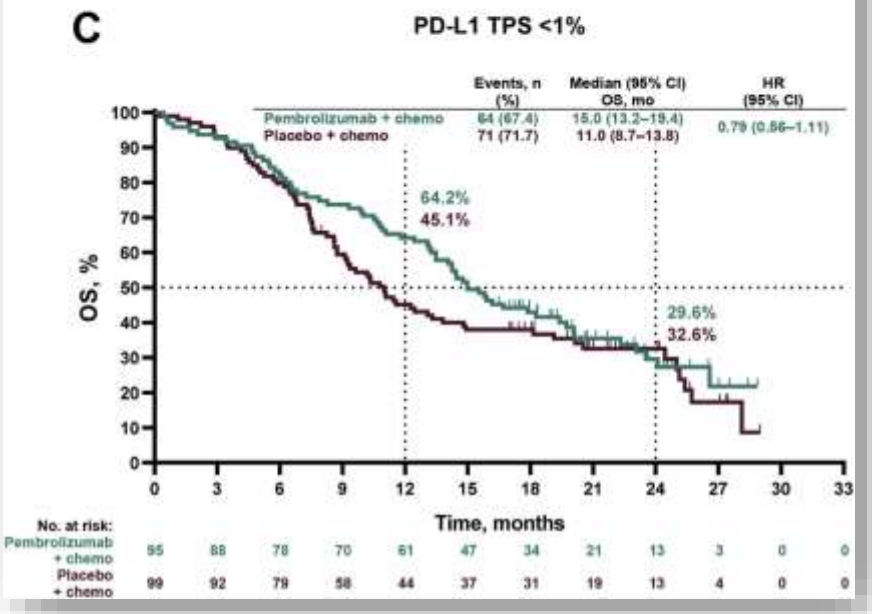


Carboplatin AUC 6 Q3W, nab-paclitaxel 100 mg/m² QW, paclitaxel 200 mg/m² Q3W, pembrolizumab 200 mg Q3W.
*Upon confirmation of PD and safety criteria by BICR, optional crossover could occur during combination or monotherapy.

- Primary endpoint: PFS by RECIST v1.1 (BICR), OS
- Secondary endpoints: ORR and DoR by RECIST v1.1 (BICR), safety







Paz-Ares et al, NEJM 2018
Paz-Ares et al, JTO 2020

Oppsummering, NSCLC PD-L1 <50%

- Non-plateepitelkarsinom uten EGFR/ALK/ROS1, < 50% PD-L1:

Karboplatin x4

Pemetreksed hver 3. uke i inntil 2 år

Pembrolizumab hver 3. uke i inntil 2 år

- Plateepitelkarsinom PD-L1 <50%:

Karboplatin x4

Paklitaksel x4

Pembrolizumab hver 3. uke i inntil 2 år

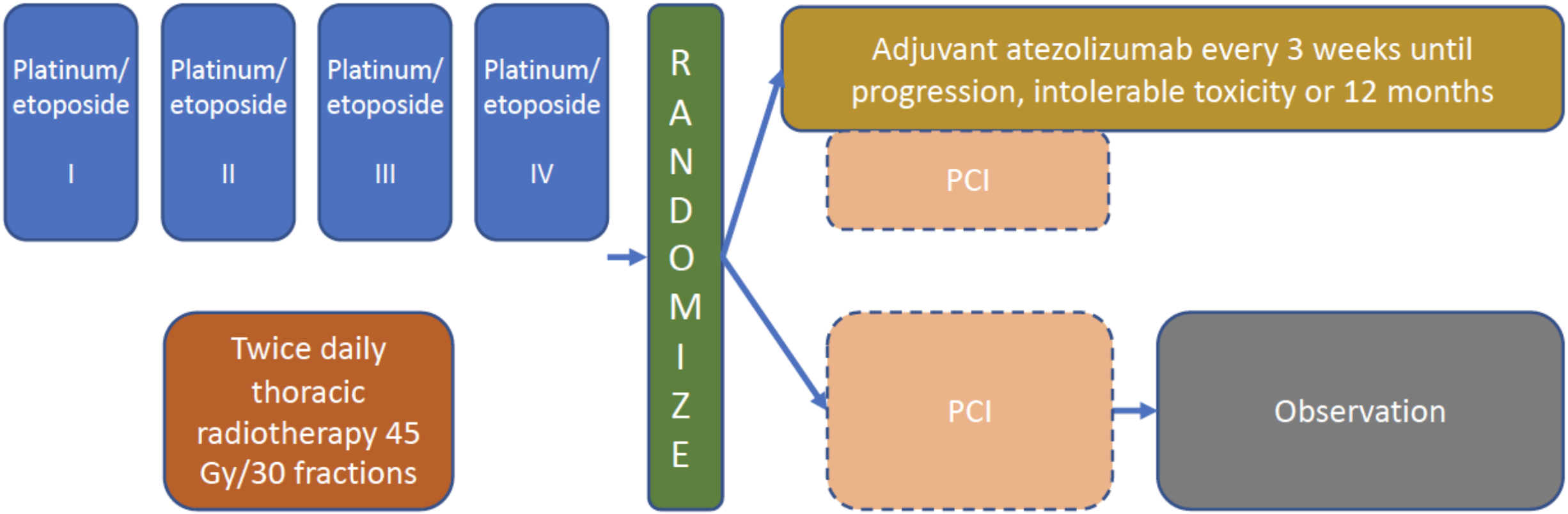
Ved progresjon – vurdere docetaksel
Ved non-progresjon – følges med regelmessige kontroller

Immunterapi ved SCLC-LD

Kun i studie

Nordic Achiles-study for SCLC-LD

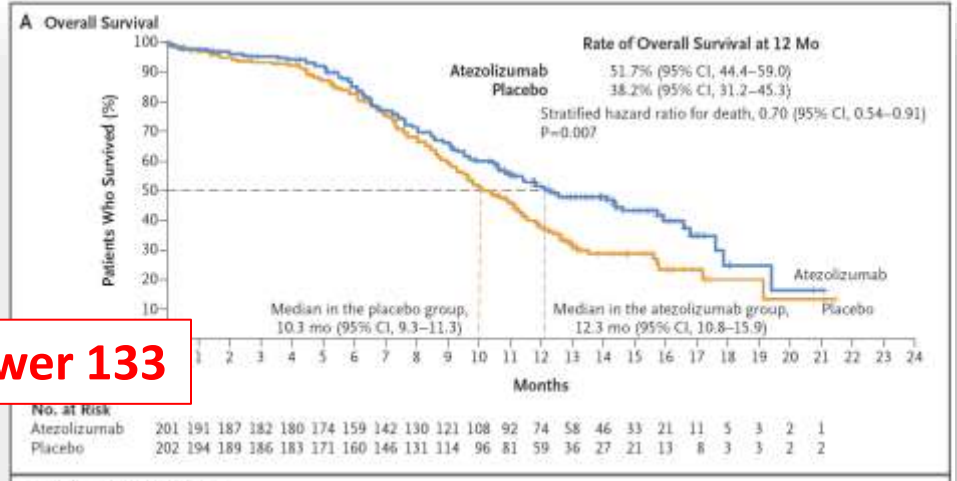
Lead by Norwegian lung cancer study group

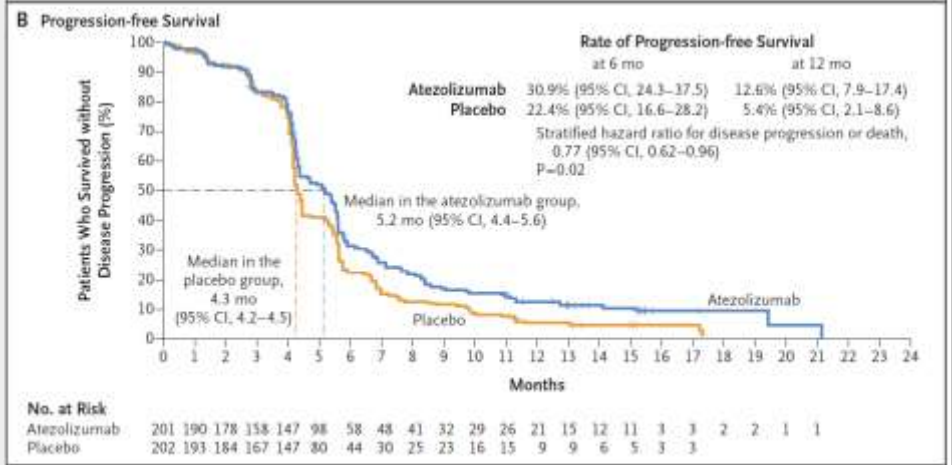


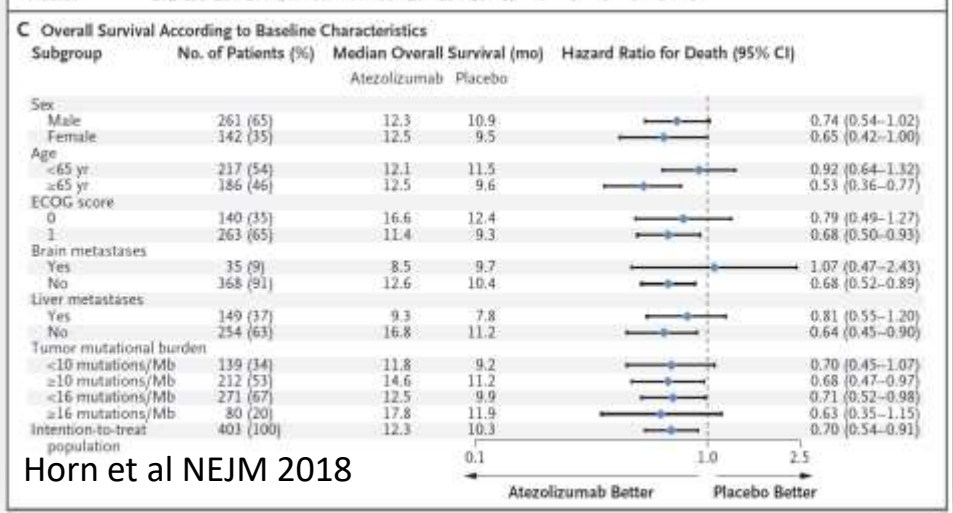
Immunterapi ved SCLC-ED

Foreløpig ikke innført i Norge

IMpower 133

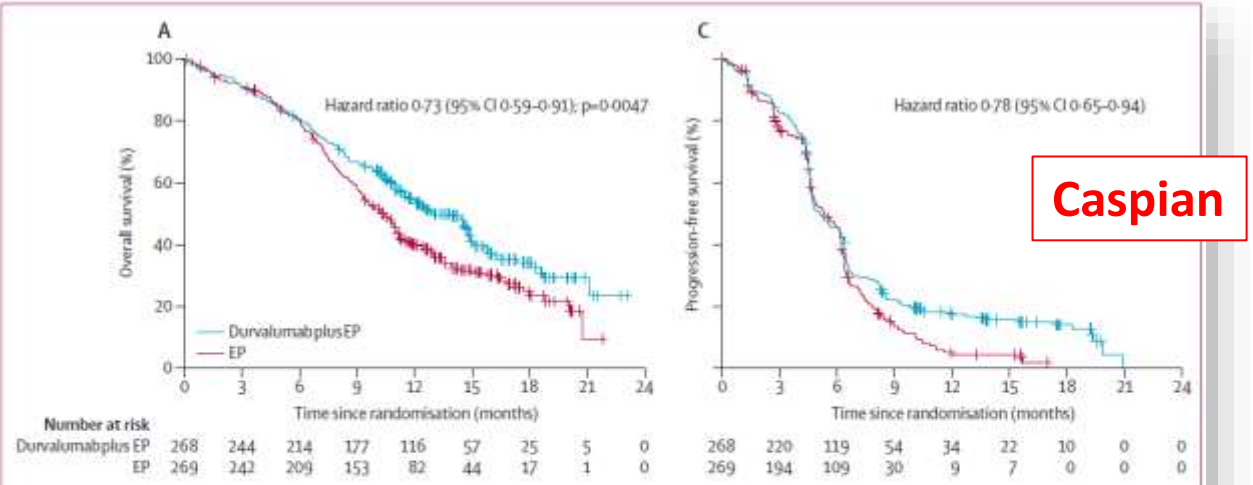


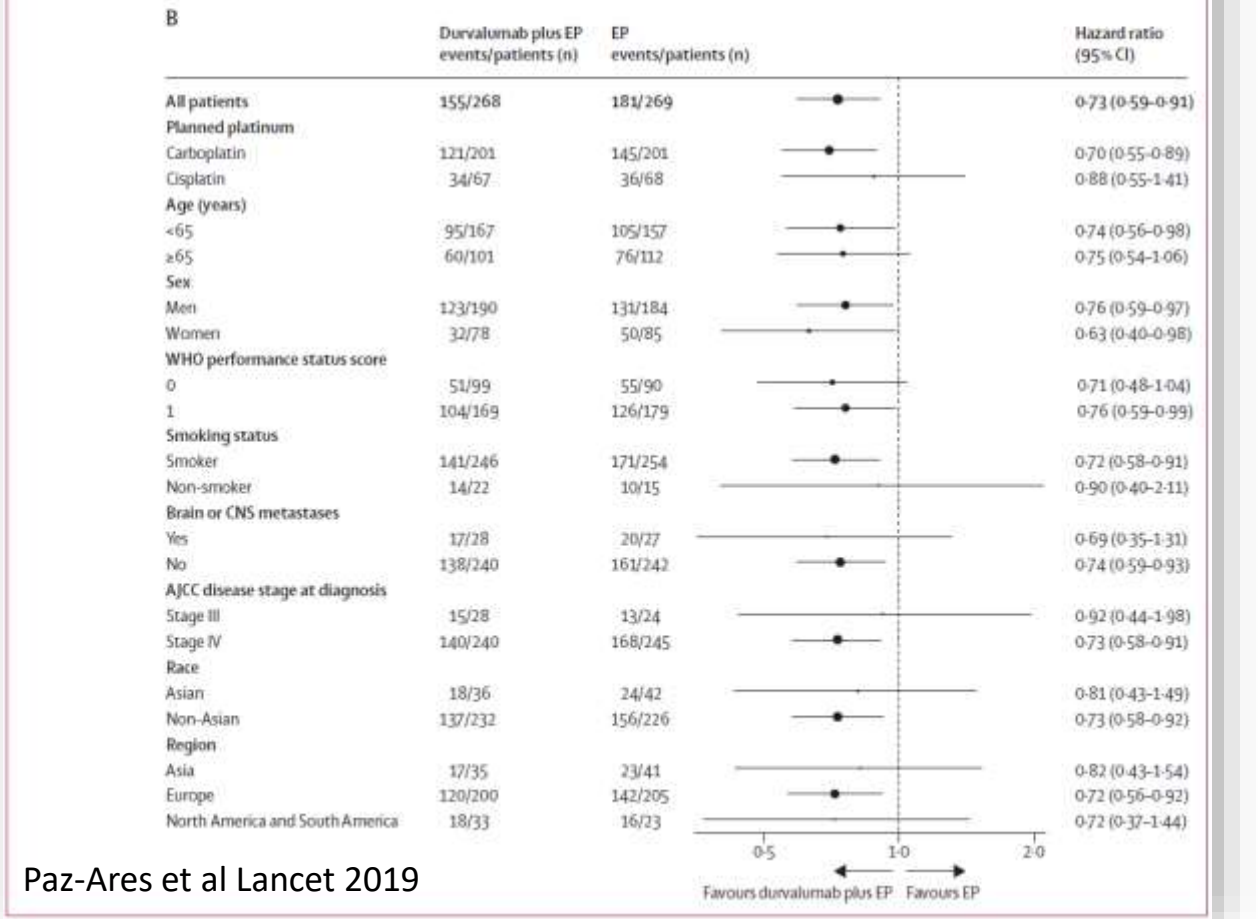




Horn et al NEJM 2018

Caspian





Paz-Ares et al Lancet 2019

Mesoteliom

CheckMate 743 study design[a]

Key Eligibility Criteria
- Unresectable pleural mesothelioma
- No prior systemic therapy
- ECOG performance status 0-1

Stratified by:
histology (epithelioid vs non-epithelioid) and gender

N = 605
R 1:1

n = 303
NIVO 3 mg/kg Q2W + IPI 1 mg/kg Q6W (for up to 2 years)

n = 302
Cisplatin or carboplatin + pemetrexed Q3W[b] (6 cycles)

Until disease progression, unacceptable toxicity *or* for 2 years for immunotherapy arm

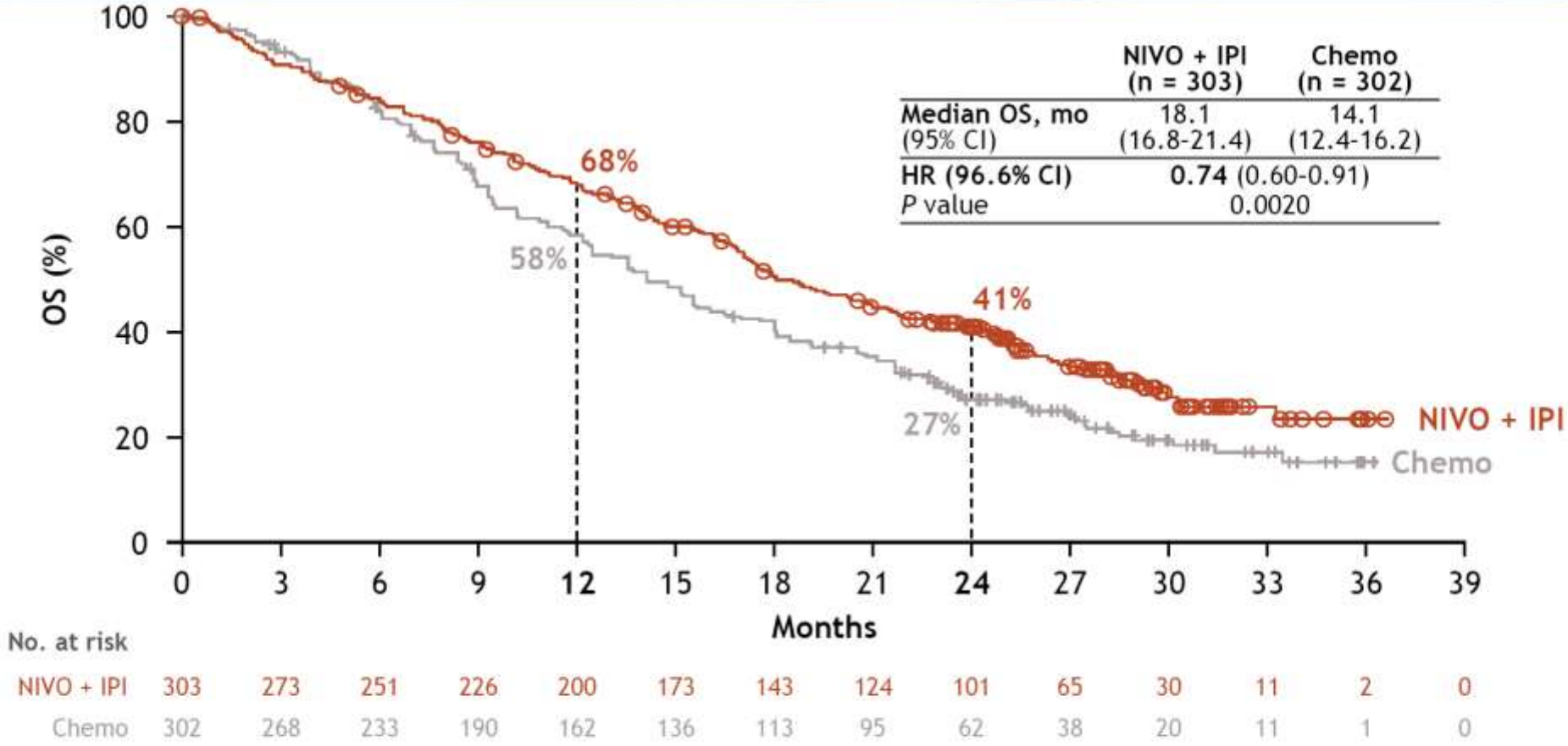
Primary Endpoint
- OS

Secondary Endpoints
- ORR, DCR, and PFS by BICR
- PD-L1[c] expression as a predictive biomarker

Database lock: April 3, 2020; minimum follow-up for OS: 22.1 months; median follow-up: 29.7 months.

[a]NCT02899299; [b]Cisplatin (75 mg/m^2) or carboplatin (AUC 5) + pemetrexed (500 mg/m^2), Q3W for 6 cycles; [c]Determined by PD-L1 IHC 28-8 pharmDx assay from Dako.

Primary endpoint: Overall survival



	NIVO + IPI (n = 303)	Chemo (n = 302)
Median OS, mo (95% CI)	18.1 (16.8-21.4)	14.1 (12.4-16.2)
HR (96.6% CI)	**0.74** (0.60-0.91)	
P value	0.0020	

No. at risk

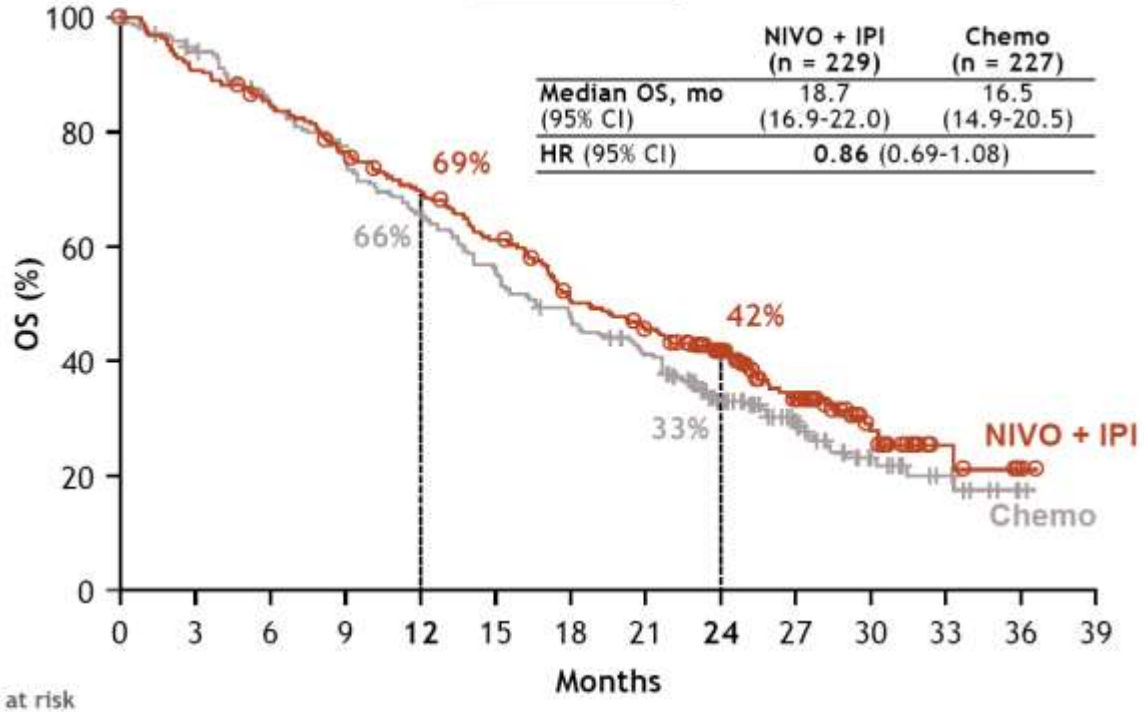
NIVO + IPI	303	273	251	226	200	173	143	124	101	65	30	11	2	0
Chemo	302	268	233	190	162	136	113	95	62	38	20	11	1	0

Minimum follow-up: 22.1 months; median follow-up: 29.7 months.

Subsequent systemic therapy was received by 44% of patients in the NIVO + IPI arm and 41% in the chemo arm; subsequent immunotherapy was received by 3% and 20%, and subsequent chemotherapy by 43% and 32%, respectively.

Overall survival by histology[a]

Epithelioid

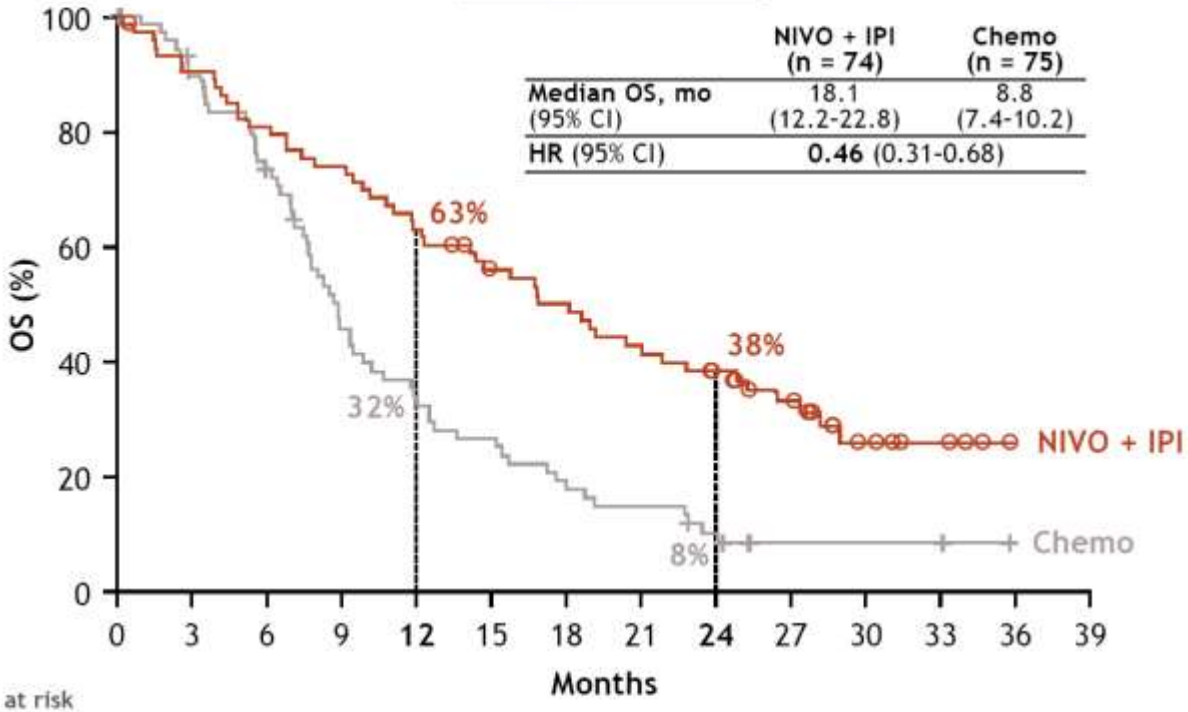


	NIVO + IPI (n = 229)	Chemo (n = 227)
Median OS, mo (95% CI)	18.7 (16.9-22.0)	16.5 (14.9-20.5)
HR (95% CI)	**0.86** (0.69-1.08)	

No. at risk

NIVO + IPI	229	207	192	172	154	135	109	96	77	47	22	6	2	0
Chemo	227	204	182	159	140	118	101	85	57	36	18	9	1	0

Non-epithelioid



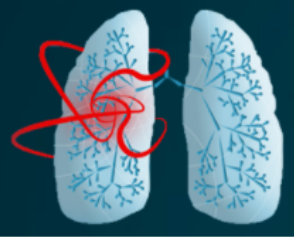
	NIVO + IPI (n = 74)	Chemo (n = 75)
Median OS, mo (95% CI)	18.1 (12.2-22.8)	8.8 (7.4-10.2)
HR (95% CI)	**0.46** (0.31-0.68)	

No. at risk

NIVO + IPI	74	66	59	54	46	38	34	28	24	18	8	5	0	0
Chemo	75	64	51	31	22	18	12	10	5	2	2	2	0	0

Minimum follow-up: 22.1 months; median follow-up: 29.7 months.
Patients were stratified by tumor histology: epithelioid vs non-epithelioid.
OS HR (95% CI) for epithelioid vs non-epithelioid were: NIVO + IPI, 0.93 (0.68-1.28); chemo, 0.47 (0.35-0.63).
[a]Histology per CRF source.

Studier



Norsk lungekreftgruppe

Nasjonalt handlingsprogram

Publikasjoner

Studier

Kalender

Kommende møter

Nyheter

- **Onkologisk forum 2020** 12.11.20

  Onkologisk forum er i år hel-digitalisert. Norsk lungekreftgruppe vil avholde sitt møte via zoom onsdag 18/11 kl 12-16. Alle er invitert til å delta! Klikk her for program og innloggingsinformasjon.

- **Immunterapi også for plateepitelkarsinom med PD-L1<50%** 26.10.20

  Beslutningsforum vedtok 26.10.20 at pembrolizumab (Keytruda) i kombinasjon med karboplatin og enten paklitaksel eller nab-paklitaksel kan innføres ved førstelinjebehandling av metastatisk plateepitel ikke-småcellet lungekreft for pasienter med PD-L1-uttrykk < 50%.

  Dette gjør at alle pasienter med metastatisk ikke-mutert ikke-småcellet lungekreft nå kan få immunterapi i førstelinje, enten som monoterapi (PD-L ≥ 50%), eller i kombinasjon med cellegift.

  Handlingsprogrammet er nå oppdatert og denne siste endringen er omtalt.

- **Bedre prognose for norske lungekreftpasienter** 26.10.20

  Sammenlignet med våre naboland er prognosen ved lungekreft bedre i Norge, viser en studie fra Kreftregisteret, omtalt på forskning.no

- **Ny neste-linjes behandling for ALK-/EGFR-muterte** 21.09.20

  Beslutningsforum besluttet 21. sept. 2020 at kombinasjonsbehandling med atezolizumab/bevacizumab/paklitaksel/karboplatin kan innføres for pasienter med EGFR- eller ALK-positiv NSCLC som har progrediert etter behandling med EGFR- eller ALK-hemmer. Denne behandlingen skal ikke gis som førstelinjes behandling til pasienter med slike genforandringer, men kun etter progresjon på målrettet behandling. Handlingsprogrammet er nå oppdatert og er også publisert på HDir sine sider.

- **Ikke-innførte, EMA-godkjente medikamenter for lungekreft** 20.09.20

  NLCG oppdaterer fortløpende en liste over medikamenter som er EMA-godkjente for lungekreft, men ikke tilgjengelige i det offentlige helsevesen.

- **Atezolizumab godkjent i 2. linje for PD-L1 negativt plateepitelkarsinom** 31.03.20

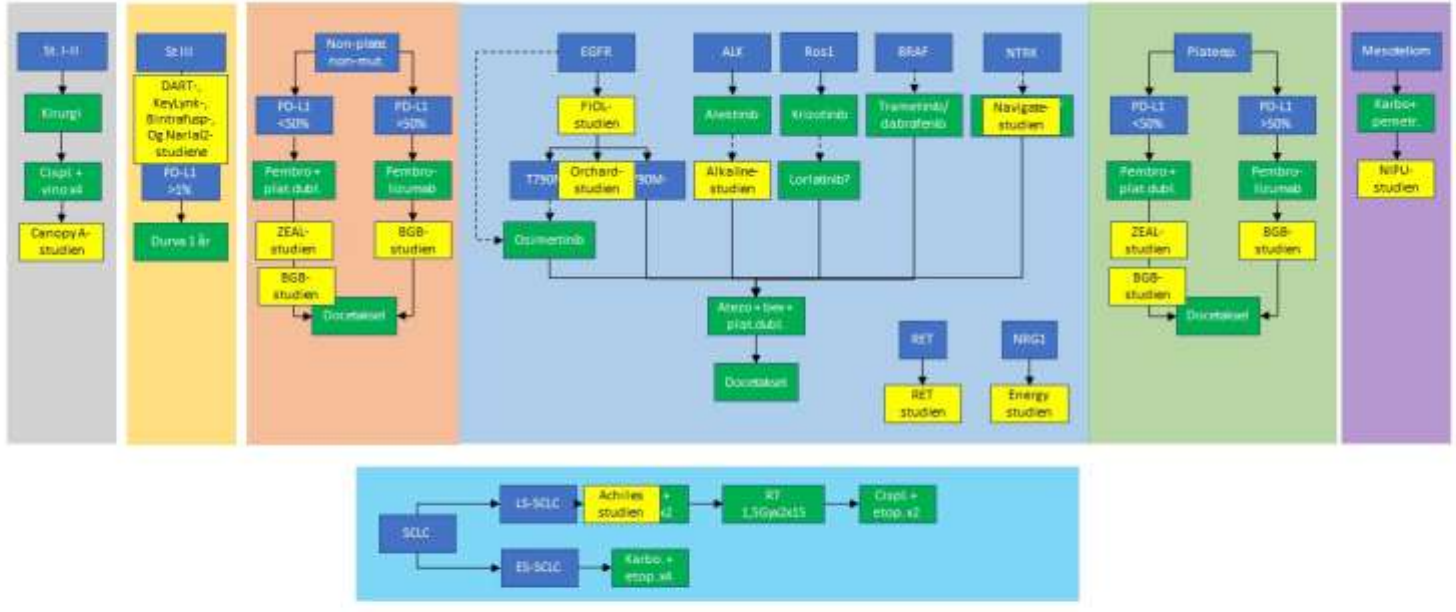
  Beslutningsforum vedtok 30.3.20 at PD-L1-hemmeren atezolizumab kan innføres i 2. linje for PD-L1 negativt

Norsk lungekreftgruppe

Studier

For en oversikt over aktuelle kliniske studier,
se www.icgi.net/studieapp

Behandlingsskjema med studiemuligheter for lungekreft/mesoteliom

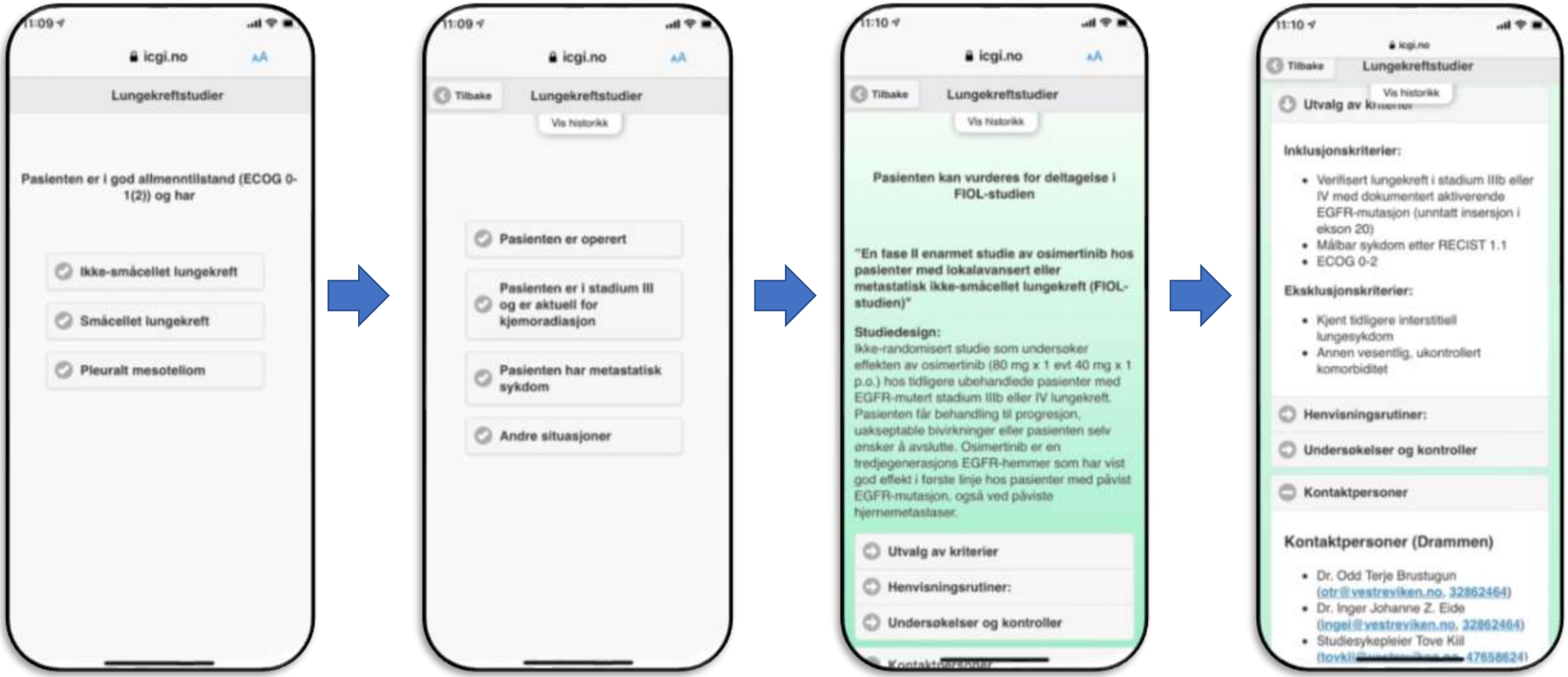


Vurdèr alltid inklusjon i kliniske studier!

Protokoller (utprøver-initierte studier):

Pågående studier

Lungekreft-studieapp: icgi.net/studieapp



Behandlingsalgoritme, NSCLC