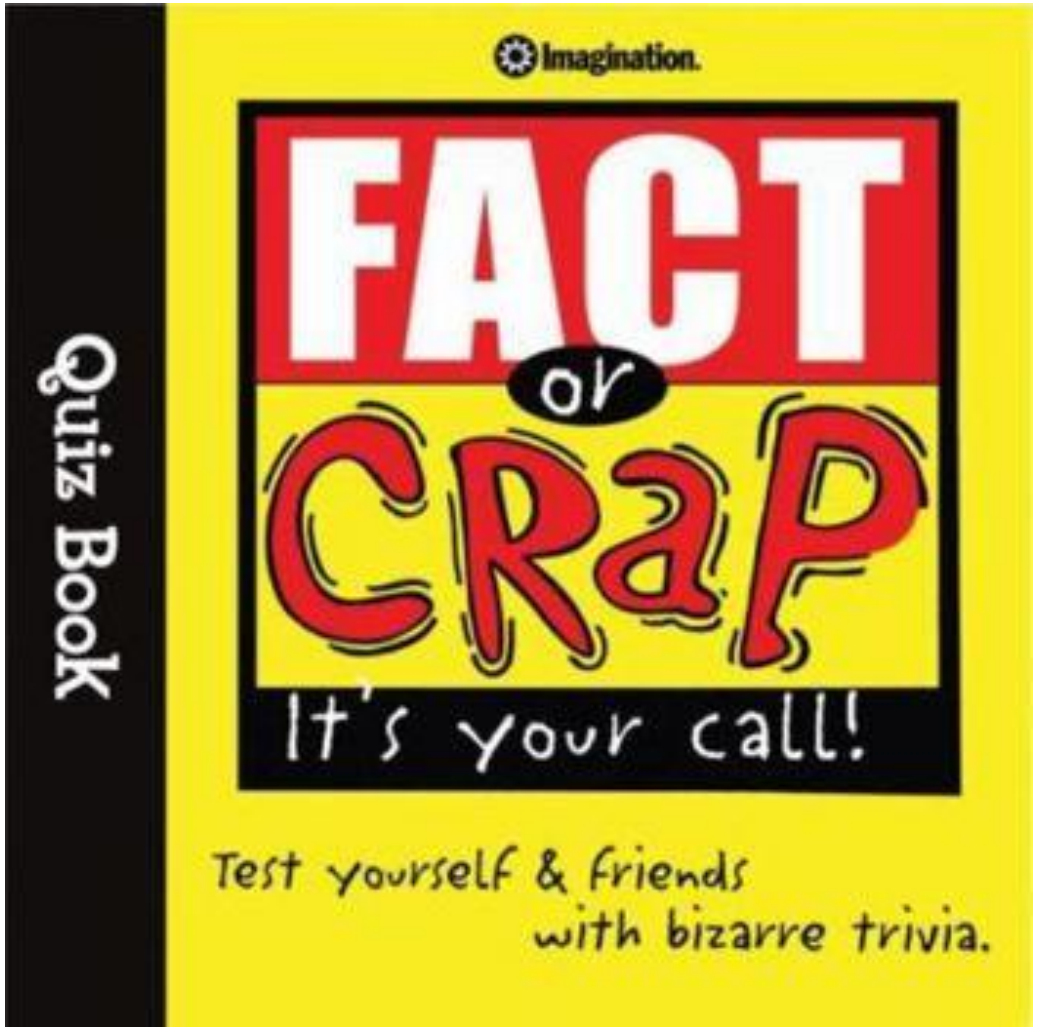
2024-2025 Updates in Radiation Oncology

Brian Lally, MD


Imagination
ALL NEW QUESTIONS
OVER FOUR MILLION GAMES SOLD!
FACT OR CRAP
TRIVIA WIT ATTITU
OBJECT OF THE GAME
SETTING UP THE GAME
PLAYING THE GAME
RUSH HOUR
WINNING THE GAME
ANSWER CARD

Question #1



In patients with limited stage small cell lung cancer, the use of Durvalumab increased overall survival when used after radiation therapy.

BARCELONA 2024 ESMO congress

ORIGINAL ARTICLE

Durvalumab after Chemoradiotherapy in Limited-Stage Small-Cell Lung Cancer

Y. Cheng, D.R. Spigel, B.C. Cho, K.K. Laktionov, J. Fang, Y. Chen, Y. Zenke, K.H. Lee, Q. Wang, A. Navarro, R. Bernabe, E.L. Buchmeier, J.W.-C. Chang, Y. Shiraishi, S.S. Goksu, A. Badzio, A. Shi, D.B. Daniel, N.T.T. Hoa, M. Zemanova, H. Mann, H. Gowda, H. Jiang, and S. Senan, for the ADRIATIC Investigators*

Adriatic Study Design

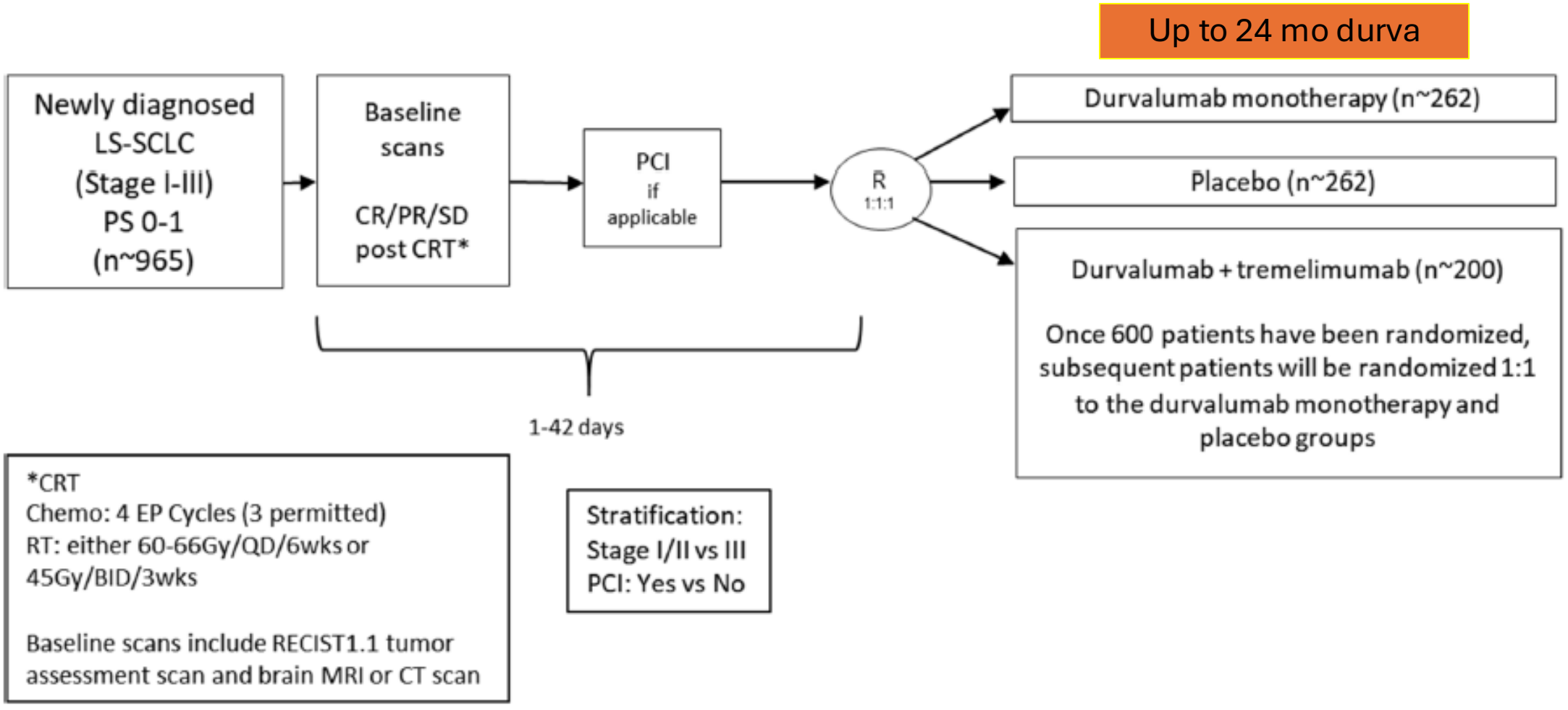
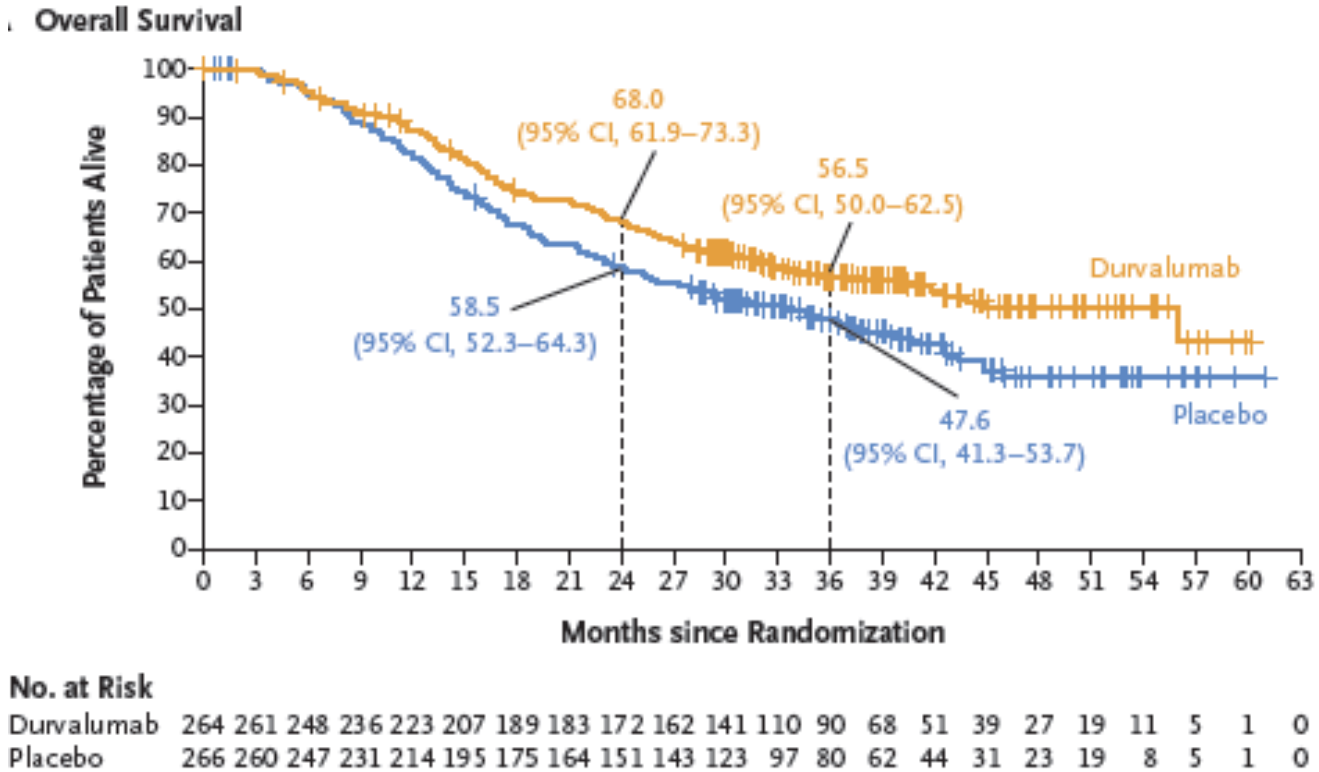


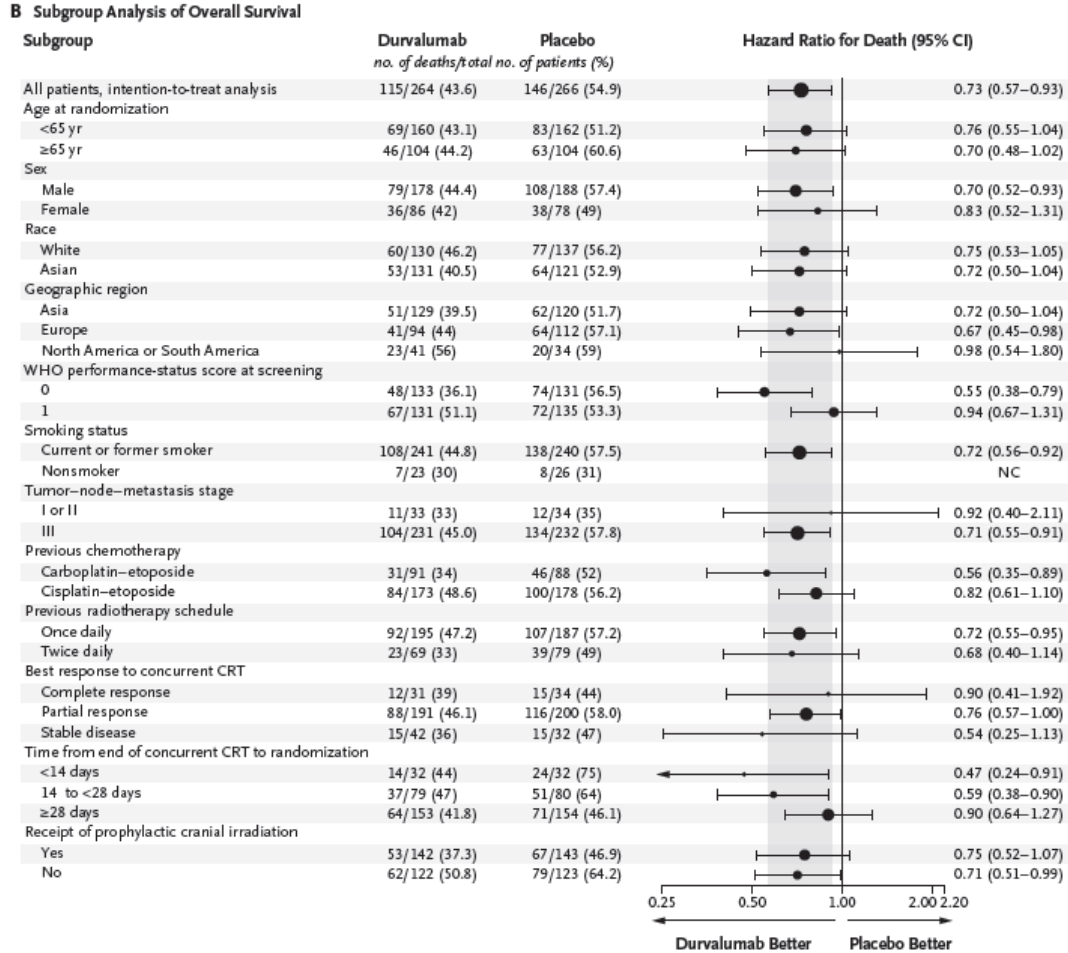
Table 1. Demographic and Disease Characteristics of the Patients at Baseline (Intention-to-Treat Population).*

Characteristic	Durvalumab (N=264)	Placebo (N=266)
Median age (range) — yr	62 (28–84)	62 (28–79)
Male sex — no. (%)	178 (67.4)	188 (70.7)
Race — no. (%)†		
White	130 (49.2)	137 (51.5)
Asian	131 (49.6)	121 (45.5)
Black	1 (0.4)	3 (1.1)
Other	2 (0.8)	5 (1.9)
Geographic region — no. (%)‡		
Asia	129 (48.9)	120 (45.1)
Europe	94 (35.6)	112 (42.1)
North or South America	41 (15.5)	34 (12.8)
WHO performance-status score — no. (%)§		
0	132 (50.0)	126 (47.4)
1	132 (50.0)	140 (52.6)
Former or current smoker — no. (%)	241 (91.3)	240 (90.2)
Tumor–node–metastasis stage at diagnosis — no. (%)¶		
I or II	33 (12.5)	34 (12.8)
III	231 (87.5)	232 (87.2)
Previous concurrent chemoradiotherapy — no. (%)		
Chemotherapy regimen in first cycle		
Cisplatin–etoposide	173 (65.5)	178 (66.9)
Carboplatin–etoposide	91 (34.5)	88 (33.1)
Radiotherapy fractionation schedule		
Once daily	195 (73.9)	187 (70.3)
Twice daily	69 (26.1)	79 (29.7)
Best response		
Complete response	31 (11.7)	34 (12.8)
Partial response	191 (72.3)	200 (75.2)
Stable disease	42 (15.9)	32 (12.0)
Time from end of previous concurrent chemoradiotherapy to randomization — no. (%)		
<14 days	32 (12.1)	32 (12.0)
14 to <28 days	79 (29.9)	80 (30.1)
≥28 days	153 (58.0)	154 (57.9)
Receipt of prophylactic cranial irradiation before randomization — no. (%)¶	142 (53.8)	143 (53.8)

Event	Durvalumab (N=262)†		Placebo (N=265)	
	Any Grade	Grade 3 or 4‡	Any Grade	Grade 3 or 4‡
	number of patients (percent)			
Any adverse event of any cause	247 (94.3)	64 (24.4)	234 (88.3)	64 (24.2)
Any serious adverse event, including events with outcome of death	78 (29.8)	—	64 (24.2)	—
Any adverse event with outcome of death§	7 (2.7)	—	5 (1.9)	—
Any event leading to discontinuation of durvalumab or placebo	43 (16.4)	—	28 (10.6)	—
Any event leading to dose interruption	91 (34.7)	—	76 (28.7)	—
Any immune-mediated adverse event¶	84 (32.1)	14 (5.3)	27 (10.2)	4 (1.5)
Common adverse events occurring at any grade in ≥10% or at a maximum severity of grade 3 or 4 in ≥1% of patients in either group				
Radiation pneumonitis	60 (22.9)	3 (1.1)	62 (23.4)	5 (1.9)
Decreased appetite	44 (16.8)	0	34 (12.8)	0
Hypothyroidism	42 (16.0)	0	10 (3.8)	0
Cough	40 (15.3)	0	32 (12.1)	0
Pruritus	34 (13.0)	0	19 (7.2)	0
Nausea	33 (12.6)	0	29 (10.9)	0
Dizziness	32 (12.2)	0	20 (7.5)	0
Fatigue	32 (12.2)	1 (0.4)	34 (12.8)	4 (1.5)
Diarrhea	29 (11.1)	5 (1.9)	22 (8.3)	0
Pneumonia	29 (11.1)	7 (2.7)	20 (7.5)	9 (3.4)
Pneumonitis	28 (10.7)	3 (1.1)	16 (6.0)	2 (0.8)
Rash	28 (10.7)	1 (0.4)	16 (6.0)	0
Constipation	27 (10.3)	0	26 (9.8)	0
Hyperthyroidism	27 (10.3)	0	4 (1.5)	0
Headache	24 (9.2)	1 (0.4)	35 (13.2)	0
Anemia	23 (8.8)	3 (1.1)	16 (6.0)	3 (1.1)
Arthralgia	18 (6.9)	0	29 (10.9)	1 (0.4)
Hyperglycemia	11 (4.2)	3 (1.1)	10 (3.8)	0
Hypertension	9 (3.4)	3 (1.1)	4 (1.5)	0
Lipase increased	8 (3.1)	5 (1.9)	7 (2.6)	4 (1.5)
Amylase increased	7 (2.7)	3 (1.1)	3 (1.1)	0
Chronic obstructive pulmonary disease	6 (2.3)	1 (0.4)	7 (2.6)	4 (1.5)
Pulmonary embolism	6 (2.3)	5 (1.9)	4 (1.5)	3 (1.1)
Pneumonitis or radiation pneumonitis‖	100 (38.2)**	8 (3.1)	80 (30.2)	7 (2.6)
Pneumonitis or radiation pneumonitis leading to discontinuation of durvalumab or placebo	23 (8.8)	—	8 (3.0)	—

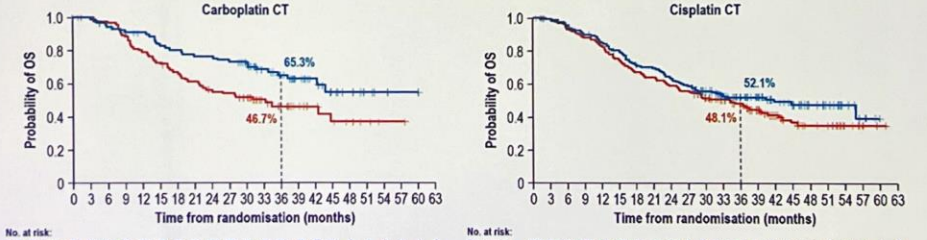
Overall Survival in Adriatic





Carboplatin and cisplatin CT subgroups – OS

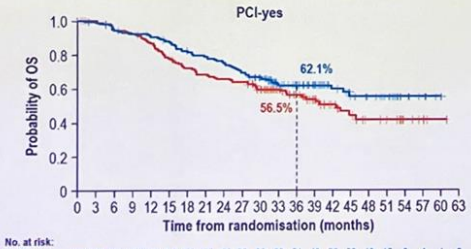
	Carboplatin CT		Cisplatin CT		ITT	
	D (n = 91)	P (n = 88)	D (n = 173)	P (n = 178)	D (n = 264)	P (n = 266)
Median OS (95% CI), months	NR (42.5–NE)	33.4 (21.7–NE)	41.9 (27.7–NE)	34.3 (25.4–40.7)	55.9 (37.3–NE)	33.4 (25.5–39.9)
3-year OS, %	65.3	46.7	52.1	48.1	56.5	47.6
HR (95% CI)	0.56 (0.35–0.89)*		0.82 (0.61–1.10)*		0.73 (0.57–0.93)†	
Multivariable HR (95% CI)	0.55 (0.35–0.87)‡		0.81 (0.60–1.08)‡		–	

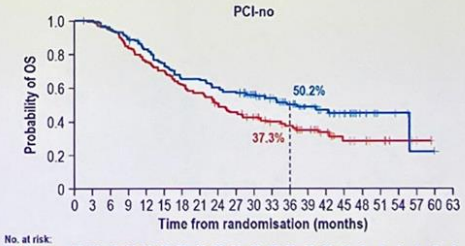


*Subgroup HRs and CIs calculated using an unstratified Cox proportional hazards model.
†ITT HR and CIs calculated using a Cox proportional hazards model stratified by receipt of PCI.
‡Multivariable analysis interaction p-value 0.17.

PCI-yes and PCI-no subgroups – OS

	PCI-yes		PCI-no		ITT	
	D (n = 142)	P (n = 143)	D (n = 122)	P (n = 123)	D (n = 264)	P (n = 266)
Median OS (95% CI), months	NR (43.9–NE)	42.5 (33.4–NE)	37.3 (24.3–NE)	24.1 (18.8–31.1)	55.9 (37.3–NE)	33.4 (25.5–39.9)
3-year OS, %	62.1	56.5	50.2	37.3	56.5	47.6
HR (95% CI)	0.75 (0.52–1.07)*		0.71 (0.51–0.99)*		0.73 (0.57–0.93)†	
Multivariable HR (95% CI)	0.72 (0.50–1.03)‡		0.73 (0.52–1.02)‡		–	





CI, confidence interval; NE, not estimable; NR, not reached; yr, year.

*Subgroup HRs and CIs calculated using an unstratified Cox proportional hazards model.
†ITT HR and CIs calculated using a Cox proportional hazards model stratified by receipt of PCI.
‡Multivariable analysis interaction p-value 0.96.

Following

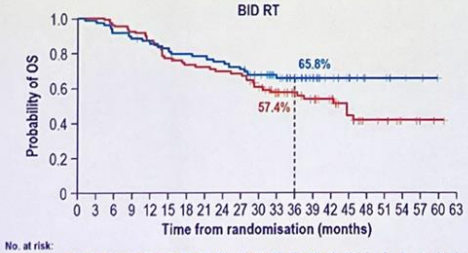
Tom Newsom-Davis

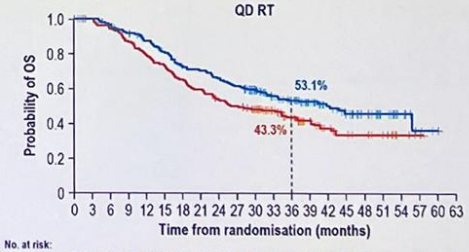
@tnewsomdavis

Thoracic medical oncologist | Consultant @ChelwestFT | Chair Elect @BTOGorg |

BID and QD RT subgroups – OS

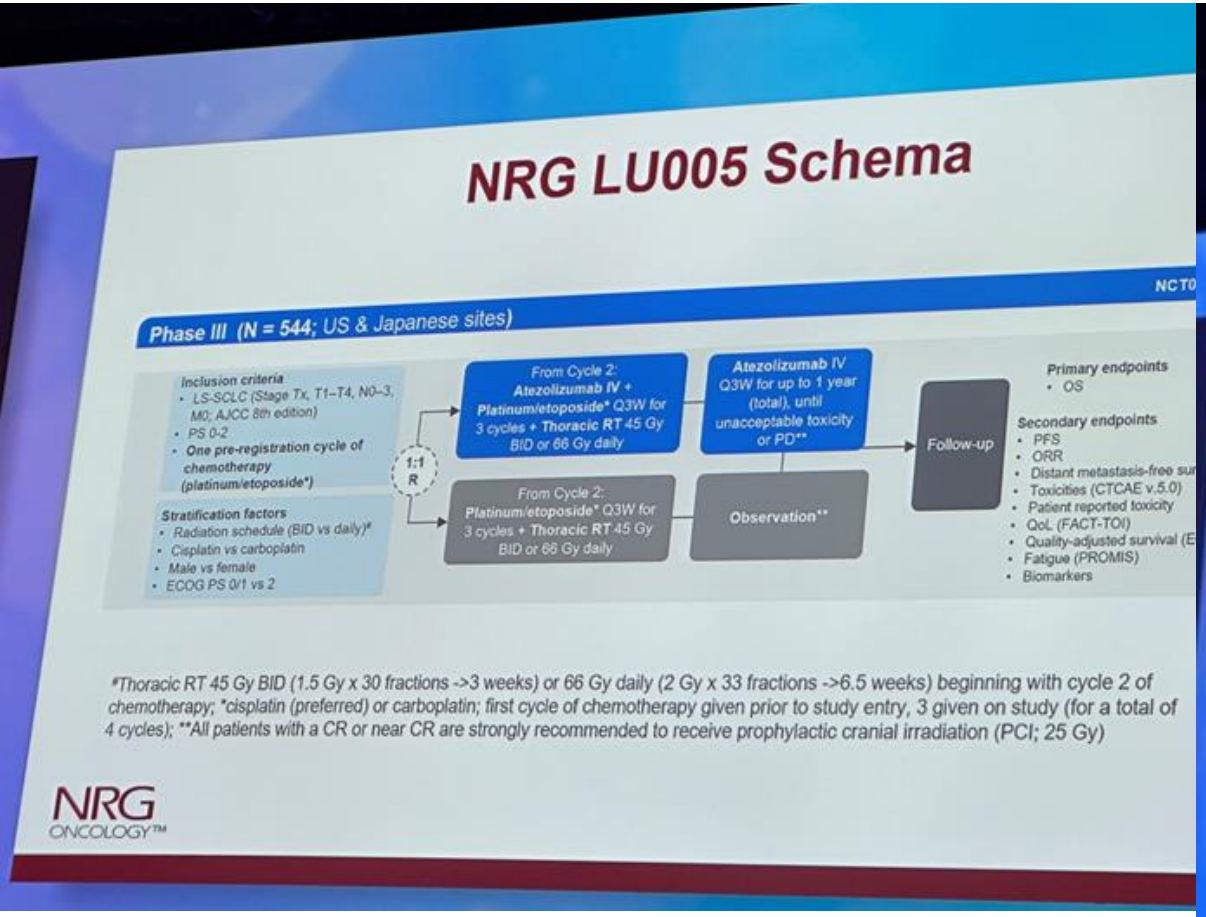
	BID RT		QD RT		ITT	
	D (n = 69)	P (n = 79)	D (n = 195)	P (n = 187)	D (n = 264)	P (n = 266)
Median OS (95% CI), months	NR (NE–NE)	44.8 (29.4–NE)	41.9 (32.0–NE)	26.1 (21.7–36.8)	55.9 (37.3–NE)	33.4 (25.5–39.9)
3-year OS, %	65.8	57.4	53.1	43.3	56.5	47.6
HR (95% CI)	0.68 (0.40–1.14)*		0.72 (0.55–0.96)*		0.73 (0.57–0.93)†	
Multivariable HR (95% CI)	0.71 (0.42–1.18)‡		0.73 (0.55–0.96)‡		–	

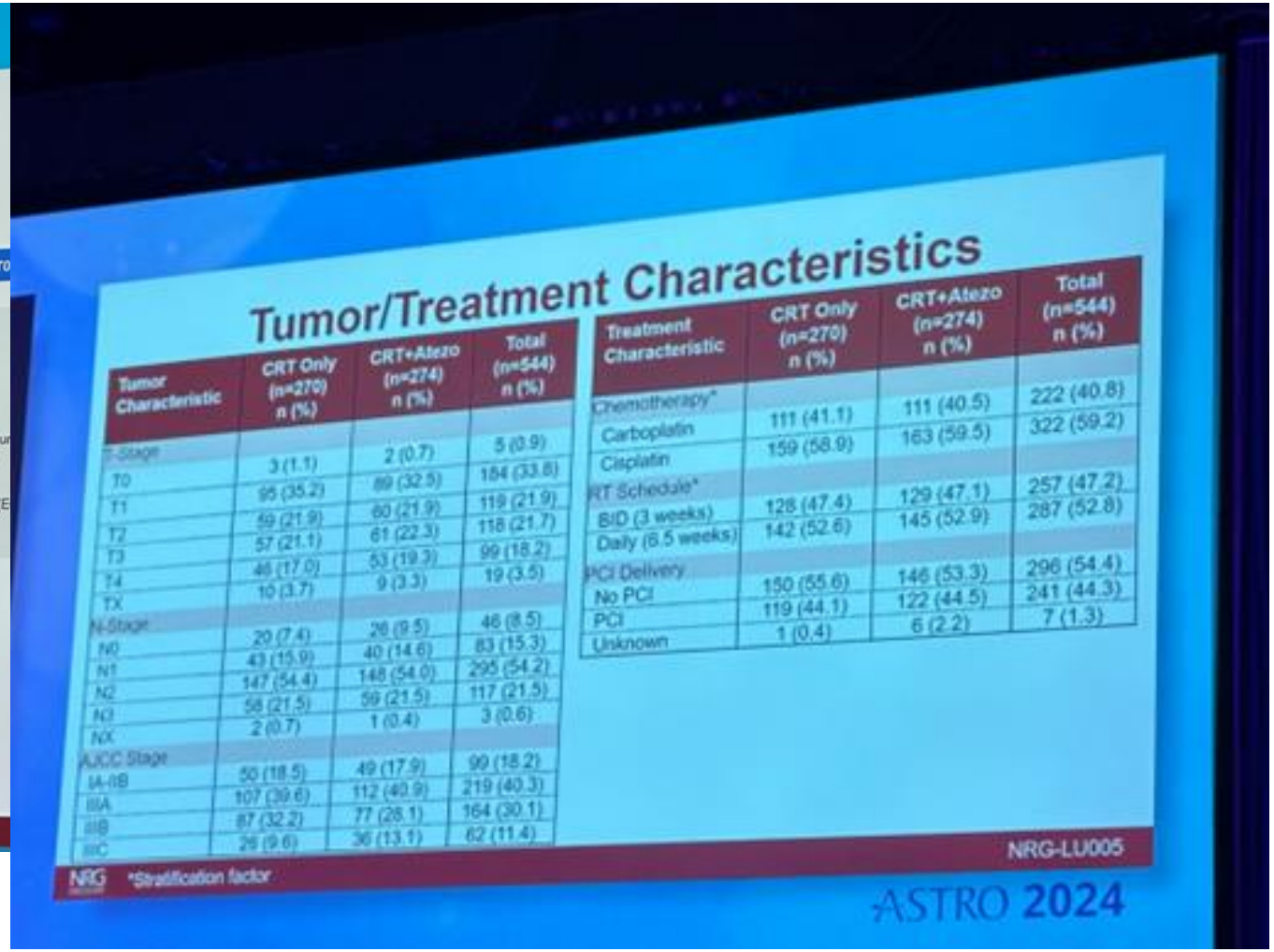




*Subgroup HRs and CIs calculated using an unstratified Cox proportional hazards model.
†ITT HR and CIs calculated using a Cox proportional hazards model stratified by receipt of PCI.
‡Multivariable analysis interaction p-value 0.95.

NRG LU005 ASTRO 2024





Safety

	CRT Only (n = 254)	CRT + Atezo (n = 267)
Any grade AEs	251 (99)	266 (99.6)
Grade 3/4 AEs	235 (92.5)	231 (86.5)
AEs leading to death	4 (1.6)	24 (9)*
Treatment-related AEs leading to death	2 (1)	9 (3)
Grade 3/4 Immune related AEs	16 (6.2)	42 (15.7)
Grade 5 Immune related AEs	0 (0)	4 (1.5)

*Reporting window of 30 days post CRT for control arm and 90 days post end of atezo for experimental arm (11 weeks vs. 15 months)

NRG ONCOLOGY

Pneumonitis

	CRT Only (n = 254)	CRT + Atezo (n = 267)
Any grade	30 (11.8)	70 (26.2)
Grade 3/4	8 (3.2)	13 (4.9)
Grade 5	0 (0)	2 (0.7)

NRG-LU005

ASTRO 2024

Overall Survival

NRG ONCOLOGY

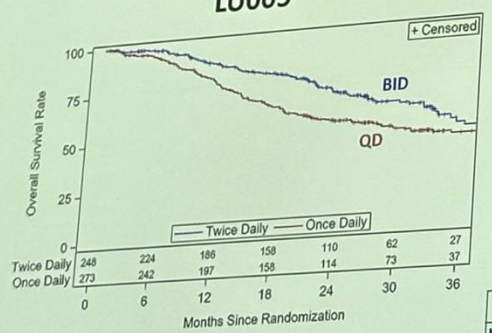
Hazard ratio and one-sided p-value stratified by RT schedule, chemotherapy, and sex

ASTRO 2024

Fractionation- Is BID superior?

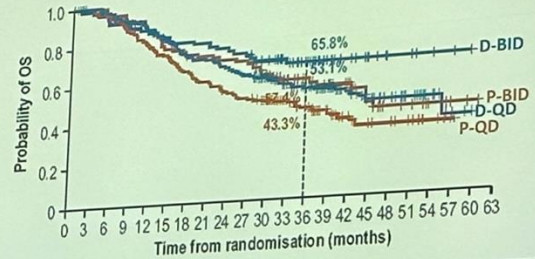
BID correlated with PCI and <14 from CRT

LU005



Not randomized data
Inherent selection bias

ADRIATIC



	BID RT		QD RT	
	D (n = 69)	P (n = 79)	D (n = 195)	P (n = 187)
Median OS (95% CI), months	NR (NE–NE)	44.8 (29.4–NE)	41.9 (32.0–NE)	26.1 (21.7–36.8)
3-year OS, %	65.8	57.4	53.1	43.3
HR (95% CI)	0.68 (0.40–1.14)*		0.72 (0.55–0.96)*	
Multivariable HR (95% CI)	0.71 (0.42–1.18)‡		0.73 (0.55–0.96)‡	

Modified from Senan et al. ESMO 2024

Robert Samstein, MD PhD @RSamstein

- Durvalumab vs Atezolizumab
  - Similar benefit in ES-SCLC studies
- Better outcomes in the control arm of LU005

	LU005 CRT	LU005 CRT+atezo	ADRIATIC CRT	ADRIATIC CRT +durva	Intergroup	CONVERT	CALGB 30610/ RTOG 0538
Median OS	39.5m	33.1m	33.4m	55.9m	23m	25-30m	28.5-30m
2 Year OS	62.9%	50.3%	58.5%	68%	47%	51-56%	57-58%

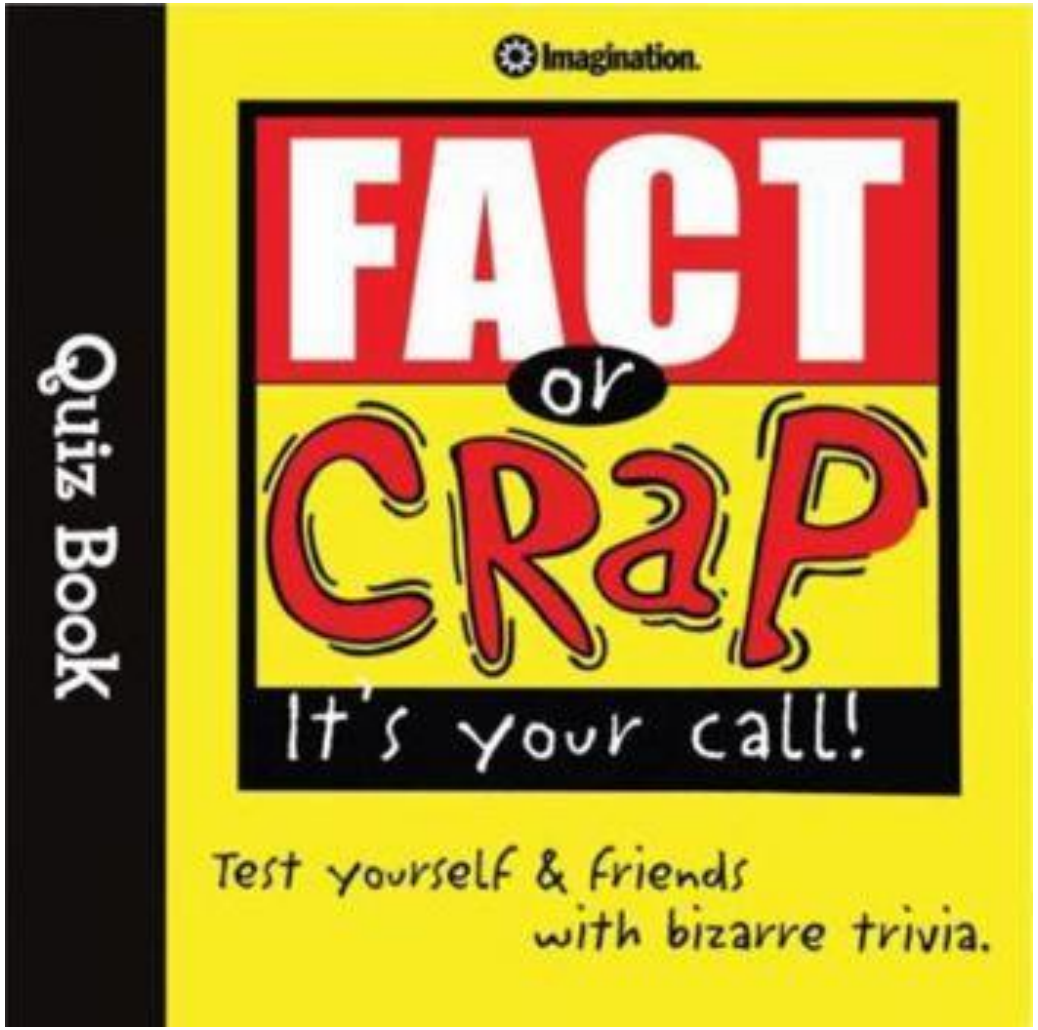
- Distinct cohort - ADRIATIC pts had CR/PR/SD after CRT (completed)

Take Home Message

- Durvalumab led to significantly longer OS and PFS.
- Similar to PACIFIC, the adverse events are minimal.
- Try to do BID when possible.

- New Standard of Care for LS-SCLC

Question #1a



Multiple randomized trials have shown positive results when combining PDL-1 inhibitors concurrently with radiation therapy in NSCLC.

elcc European Lung Cancer Congress 2024

LBA1 – Durvalumab in Combination with Chemoradiotherapy for Patients with Unresectable, Stage III NSCLC: Final Results from PACIFIC-2

Jeffrey D. Bradley,[1] Shunichi Sugawara,[2] Ki Hyeong Lee,[3] Gyula Ostoros,[4] Ahmet Demirkazik,[5] Milada Zemanova,[6] Virote Sriuranpong,[7] Ana Caroline Zimmer Gelatti,[8] Juliana Janoski de Menezes,[9] Bogdan Zurawski,[10] Michael Newton,[11] Pratibha Chander,[11] Nan Jia,[12] Zofia F. Bielecka,[13] Mustafa Özgüroğlu[14]

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Organisers

ESMO GOOD SCIENCE BETTER MEDICINE BEST PRACTICE

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Partners

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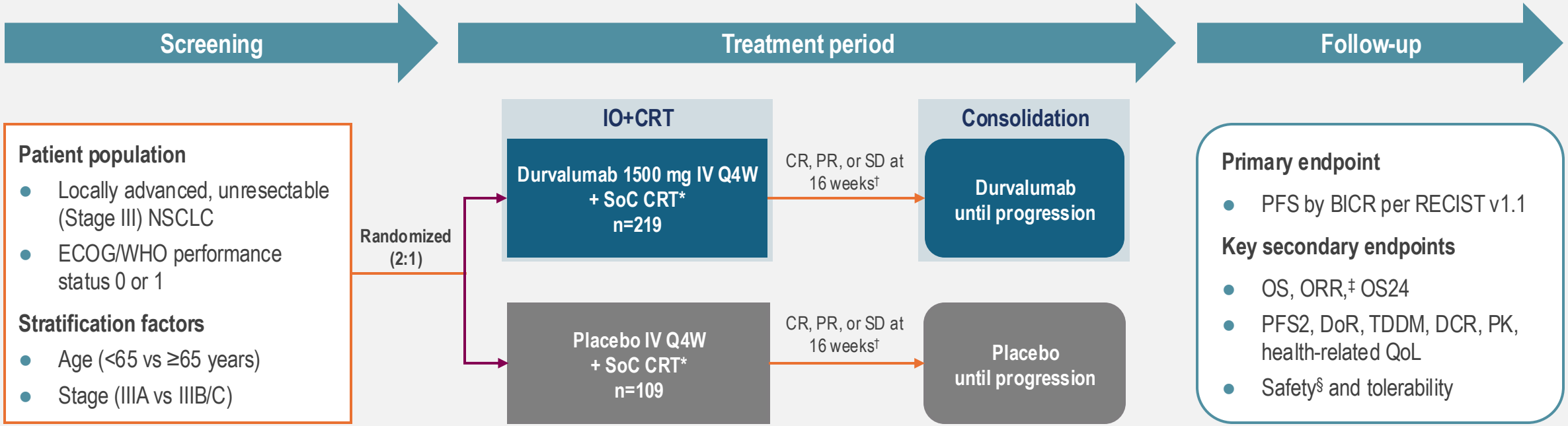
Study design

PACIFIC-2 (NCT03519971) is a phase 3, randomized, double-blind, placebo-controlled, multicenter, global study of durvalumab + CRT followed by durvalumab versus placebo + CRT followed by placebo



Patients were recruited from **29 March 2018** through **24 June 2019** across 106 sites in Asia, Eastern Europe, and the Americas, including: Brazil, Czech Republic, Hungary, India, Japan, Mexico, Peru, Philippines, Poland, Republic of Korea, Russia, Turkey, Thailand, and Vietnam.

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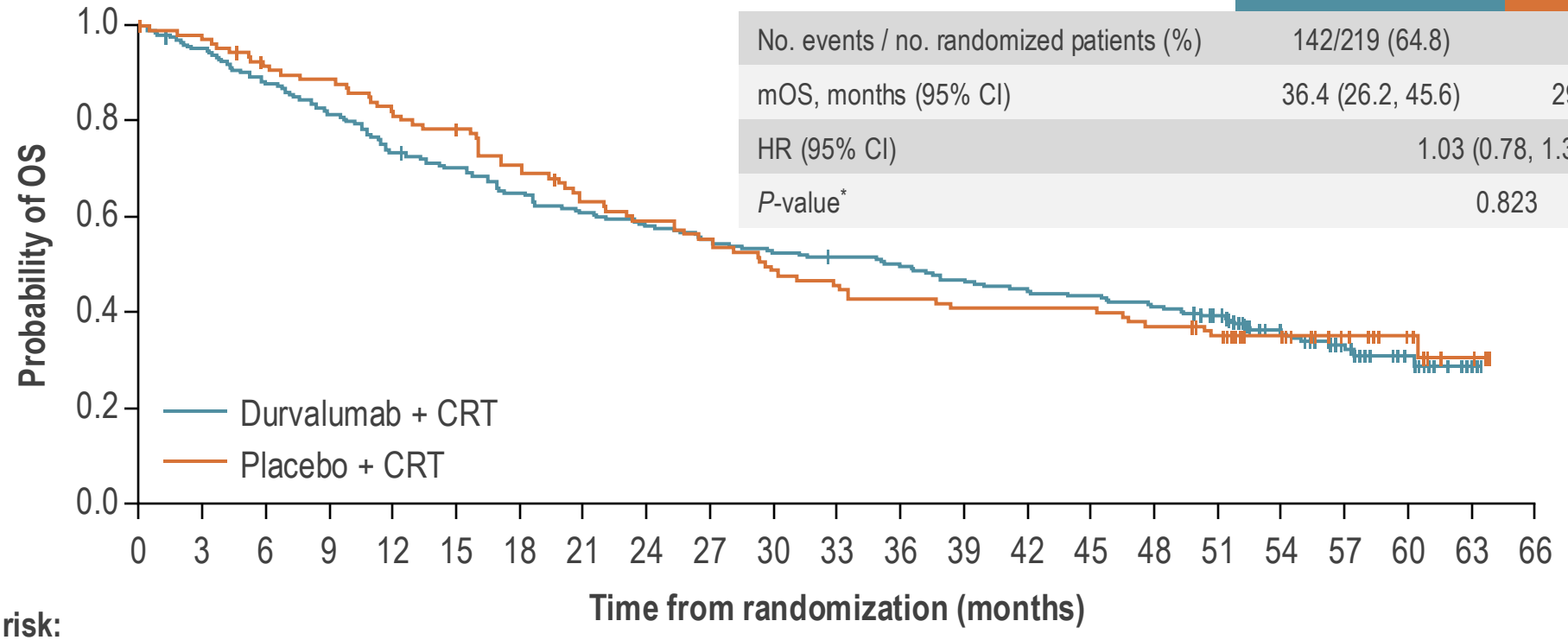
BICR, blinded independent central review; CR, complete response; CRT, chemoradiotherapy; DCR, disease control rate; DoR, duration of response; ECOG, Eastern Cooperative Oncology Group;Gy, gray; IV, intravenous; NSCLC, non-small cell lung cancer; ORR, objective response rate; OS, overall survival; OS24, overall survival at 24 months; PFS, progression-free survival; PFS2, time from randomization to second progression; PK, pharmacokinetics; PR, partial response; Q4W, once every 4 weeks; QoL, quality of life; RECIST, Response Evaluation Criteria in Solid Tumors; SD, stable disease; SoC, standard of care; TDDM, time to death or distant metastasis; WHO, World Health Organization.

*Platinum-based chemotherapy regimens include: cisplatin/etoposide, carboplatin/paclitaxel, pemetrexed/cisplatin (non-squamous only), or pemetrexed/carboplatin (non-squamous only), alongside radiation therapy (5 fractions/week for ~6 weeks [±3 days; total 60 Gy]). †Investigator assessed per RECIST v1.1. ‡Following a protocol amendment, ORR was moved from a primary endpoint to a key secondary endpoint. §Will be reviewed by an independent data monitoring committee in an unblinded manner.

OS and ORR (ITT population)

	Durvalumab + CRT	Placebo + CRT
No. events / no. randomized patients (%)	142/219 (64.8)	69/109 (63.3)
mOS, months (95% CI)	36.4 (26.2, 45.6)	29.5 (23.2, 45.1)
HR (95% CI)	1.03 (0.78, 1.39)	
P-value*	0.823	



No. at risk:																						
Durvalumab + CRT	219	207	191	177	160	152	141	132	126	120	114	111	107	100	95	94	89	75	49	31	15	1	0
Placebo + CRT	109	106	98	95	87	83	75	66	62	57	51	47	45	43	43	43	39	35	27	17	9	2	0

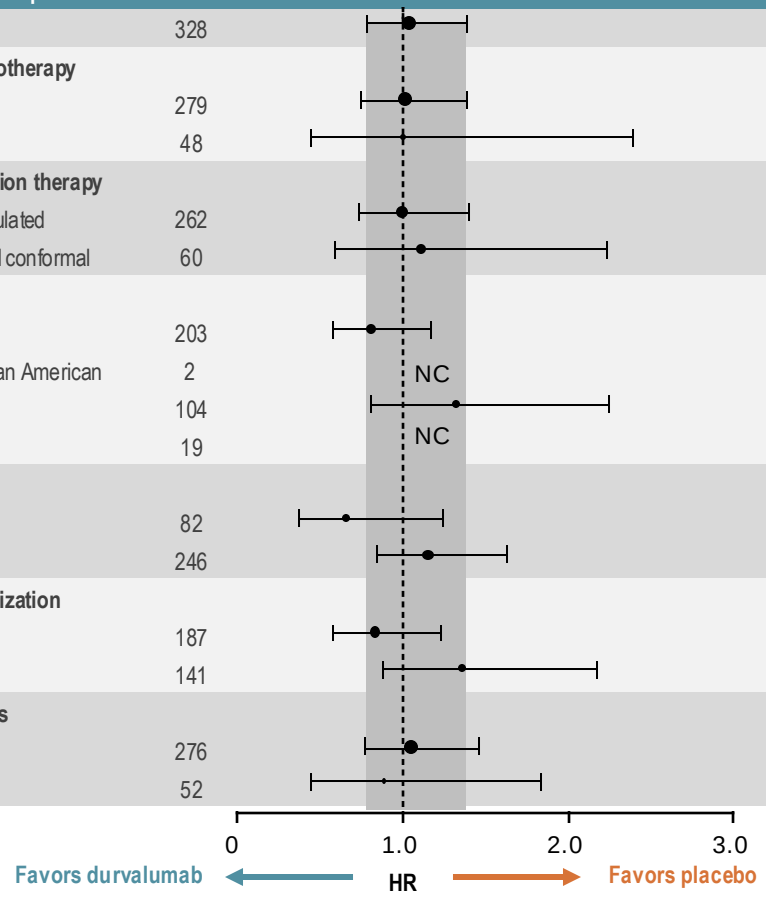
There was no difference in ORR between the durvalumab (60.7%; 95% CI: 53.9, 67.2) and placebo (60.6%; 95% CI: 50.7, 69.8) arms (p=0.976).

CI, confidence interval; HR, hazard ratio; ITT, intention-to-treat; mOS, median OS; OS, overall survival; ORR, objective response rate.

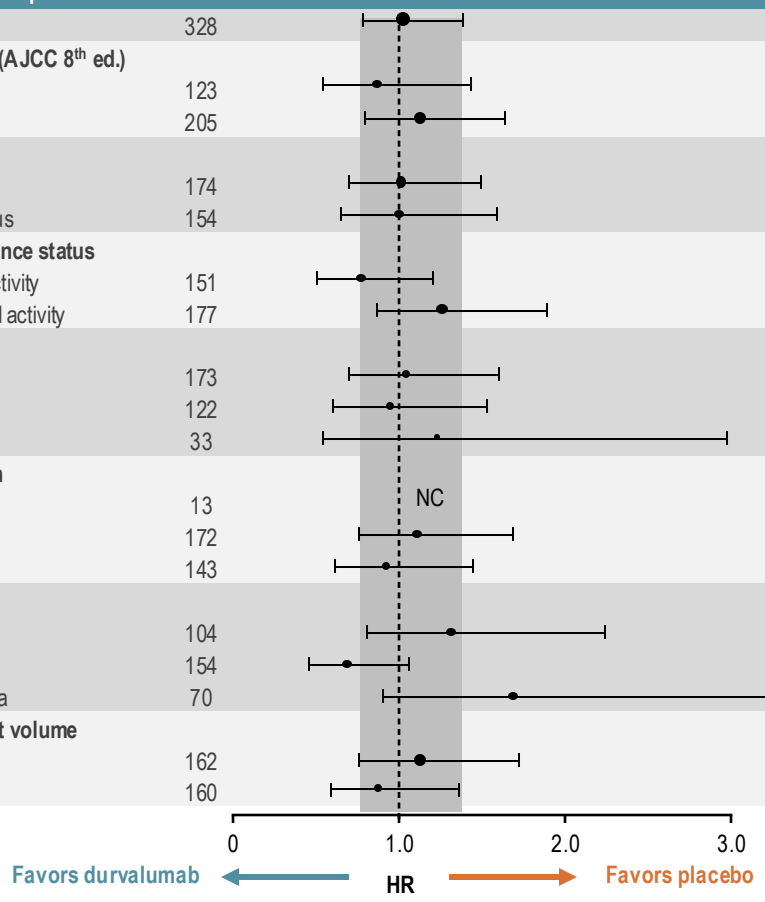
Tick marks on the curves indicate censored observations.
*The 2-sided p value boundary for declaring statistical significance is 4.5% or 5% depending on the previous levels of the multiple testing procedure.

OS (ITT population), subgroup analysis

Subgroup	n	HR (95% CI)*
All patients	328	1.03 (0.78, 1.39)
Planned chemotherapy		
Carboplatin	279	1.01 (0.75, 1.38)
Cisplatin	48	1.00 (0.45, 2.38)
Planned radiation therapy		
Intensity-modulated	262	1.00 (0.73, 1.39)
3-dimensional conformal	60	1.11 (0.58, 2.24)
Race		
White	203	0.81 (0.57, 1.17)
Black or African American	2	NC
Asian	104	1.32 (0.80, 2.24)
Other	19	NC
Sex		
Female	82	0.66 (0.36, 1.23)
Male	246	1.16 (0.84, 1.62)
Age at randomization		
<65 years	187	0.83 (0.57, 1.23)
≥65 years	141	1.36 (0.88, 2.17)
Smoking status		
Smoker	276	1.05 (0.77, 1.45)
Non-smoker	52	0.89 (0.45, 1.84)



Subgroup	n	HR (95% CI)*
All patients	328	1.03 (0.78, 1.39)
Disease stage (AJCC 8th ed.)		
IIIA	123	0.87 (0.55, 1.43)
IIIB/C	205	1.13 (0.80, 1.64)
Histology		
Squamous	174	1.02 (0.71, 1.50)
Non-squamous	154	1.01 (0.65, 1.60)
WHO performance status		
0 – Normal activity	151	0.78 (0.51, 1.21)
1 – Restricted activity	177	1.27 (0.87, 1.90)
PD-L1 status		
≥1%	173	1.05 (0.70, 1.60)
<1%	122	0.95 (0.61, 1.53)
Unknown	33	1.24 (0.54, 2.98)
***EGFR* mutation**		
Positive	13	NC
Negative	172	1.12 (0.75, 1.70)
Unknown	143	0.93 (0.61, 1.45)
Region		
Asia	104	1.32 (0.80, 2.24)
Europe	154	0.69 (0.46, 1.05)
South America	70	1.69 (0.90, 3.41)
Planning target volume		
≥450 cm^3	162	1.14 (0.77, 1.73)
<450 cm^3	160	0.89 (0.59, 1.36)



CI, confidence interval; ITT, intention to treat; NC, not calculable; HR, hazard ratio; OS, overall survival.

A HR of <1 favors durvalumab and is associated with a longer event-free survival than placebo.
The size of circle is proportional to the number of events. The gray band represents the 95% CI for the main OS HR.
For all patients, the analysis is based on the main stratified analysis while, for the subgroups, the HR and CI were calculated using an unstratified Cox proportional hazards model, with treatment as the only covariate and ties handled by Efron approach.
*HRs and 95% CIs were not calculated if a subgroup had fewer than 5 events in each treatment arm.

Summary of AEs (safety population)

AE category, n (%)	Durvalumab + CRT (n=219)	Placebo + CRT (n=108)
Any AE	216 (98.6)	108 (100)
Maximum grade 3 or 4*	117 (53.4)	64 (59.3)
Outcome of death	30 (13.7)	11 (10.2)
SAE	103 (47.0)	56 (51.9)
Any AE leading to discontinuation of durvalumab/placebo†	56 (25.6)	13 (12.0)
0 to ≤4 months from start of treatment **(approximates the duration of IO+CRT and ends at the first post-baseline scan)**	31 (14.2)	6 (5.6)
>4 to ≤16 months from start of treatment (approximates the duration of consolidation IO in the SoC PACIFIC regimen)	12 (5.5)	6 (5.6)
>16 months from start of treatment (approximates treatment beyond the duration of consolidation IO in the SoC PACIFIC regimen)	13 (5.9)	1 (0.9)

- The most common treatment-emergent AEs with **durvalumab** + SoC CRT were:
  - Anemia (42.0%), pneumonitis or radiation pneumonitis (28.8%), neutropenia (27.4%), and nausea (25.6%)
- The most common treatment-emergent AEs with **placebo** + SoC CRT were:
  - Anemia (38.0%), constipation (28.7%), pneumonitis or radiation pneumonitis (28.7%), and neutropenia (25.9%)
- Combined rates of pneumonitis or radiation pneumonitis were similar in the **durvalumab** arm (28.8%) and **placebo** arm (28.7%)
  - Grade ≥3 pneumonitis or radiation pneumonitis occurred in 10 patients (4.6%) in the **durvalumab** arm and 6 (5.6%) in the **placebo** arm

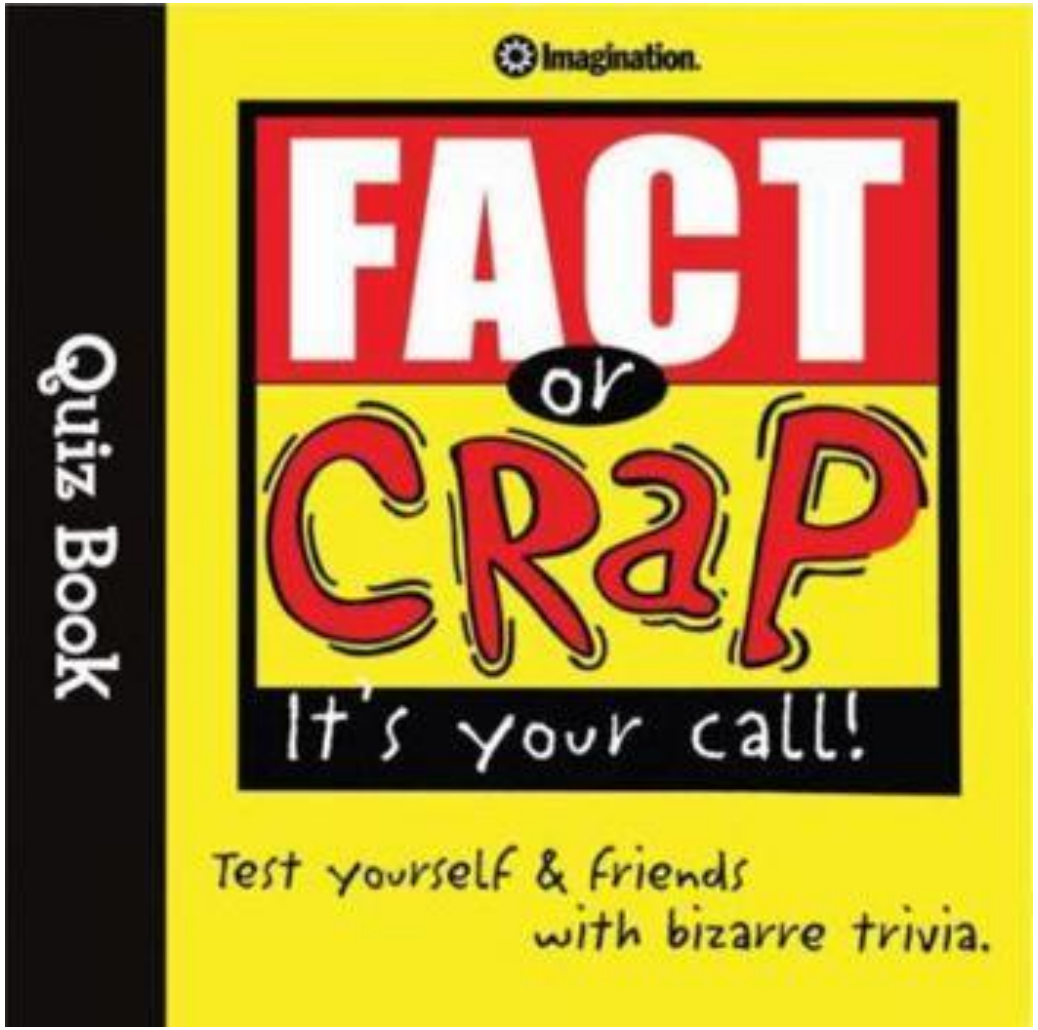
AE, adverse event; CRT, chemoradiotherapy; CTCAE, Common Terminology Criteria for Adverse Events; IO, immunotherapy; SAE, serious adverse event; SoC, standard of care.

Per CTCAE v5.0.
*Excludes any patients who experienced any AE of maximum CTCAE grade 5.
†At any time, regardless of discontinuation of CRT.

Take Home Message

- Need to figure out how to better integrate immune checkpoint inhibitors with radiation therapy.

Question #2



In patients with GEJ cancer, two randomized trials, ESOPEC and TOPGEAR, showed:

1) Identical results
2) Utilized immunotherapy
3) Have both been published
4) Caused NCCN to be updated

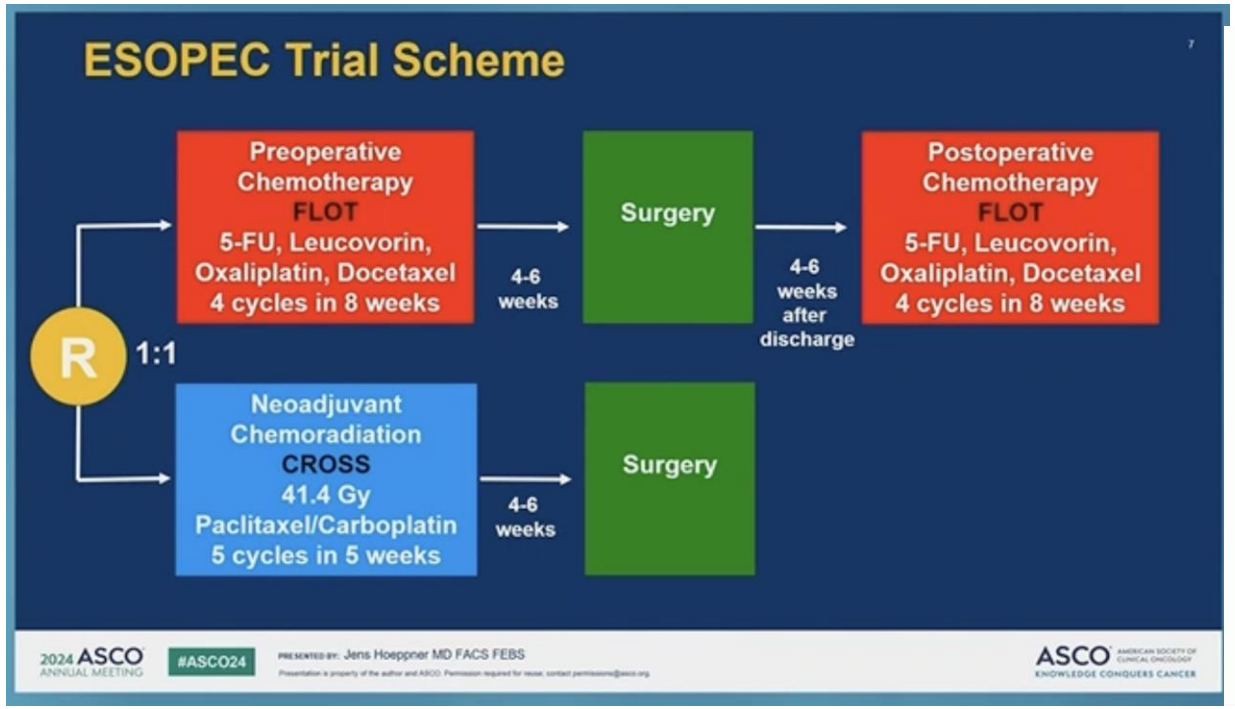
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

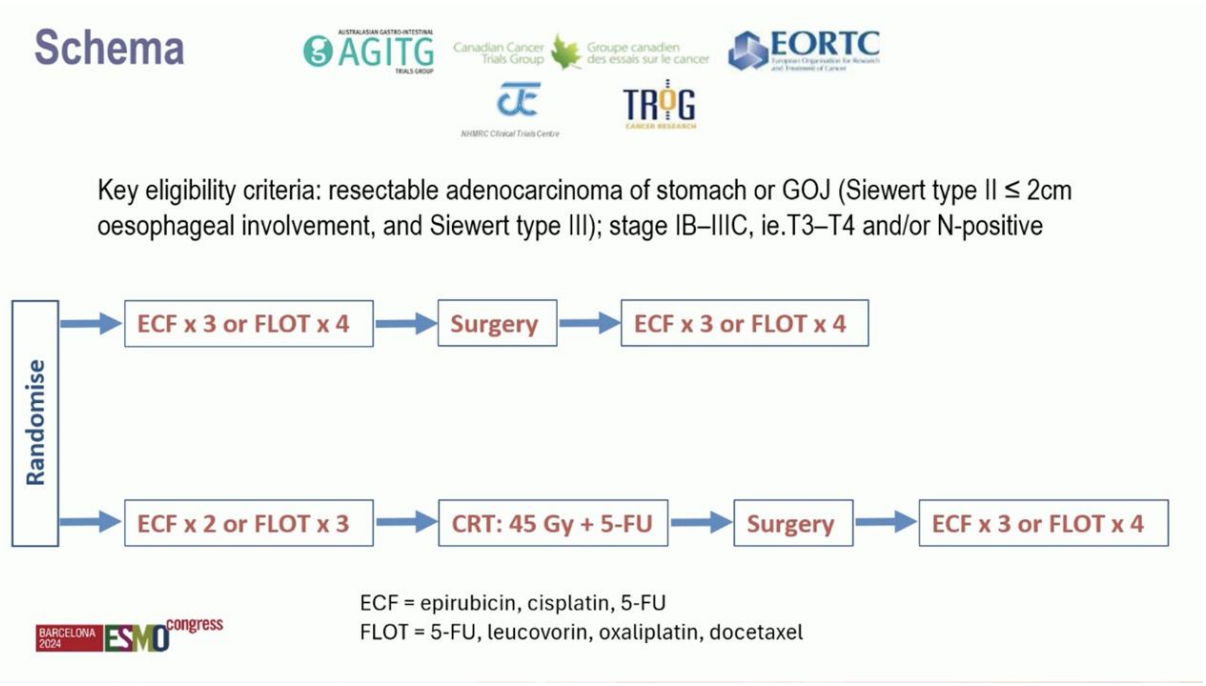
Preoperative Chemoradiotherapy for Resectable Gastric Cancer

T. Leong, B.M. Smithers, M. Michael, K. Haustermans, R. Wong, V. Gebski, R.L. O'Connell, J. Zalcberg, A. Boussioutas, M. Findlay, D. Willis, A. Moore, W.K. Murray, F. Lordick, C. O'Callaghan, C. Swallow, G. Darling, D. Miller, A. Strickland, M. Liberman, L. Mineur, and J. Simes, for the Australasian Gastro-Intestinal Trials Group, National Health and Medical Research Council Clinical Trials Centre, Trans-Tasman Radiation Oncology Group, European Organisation for Research and Treatment of Cancer, and Canadian Cancer Trials Group*

Two Studies Investigating GEJ Cancer

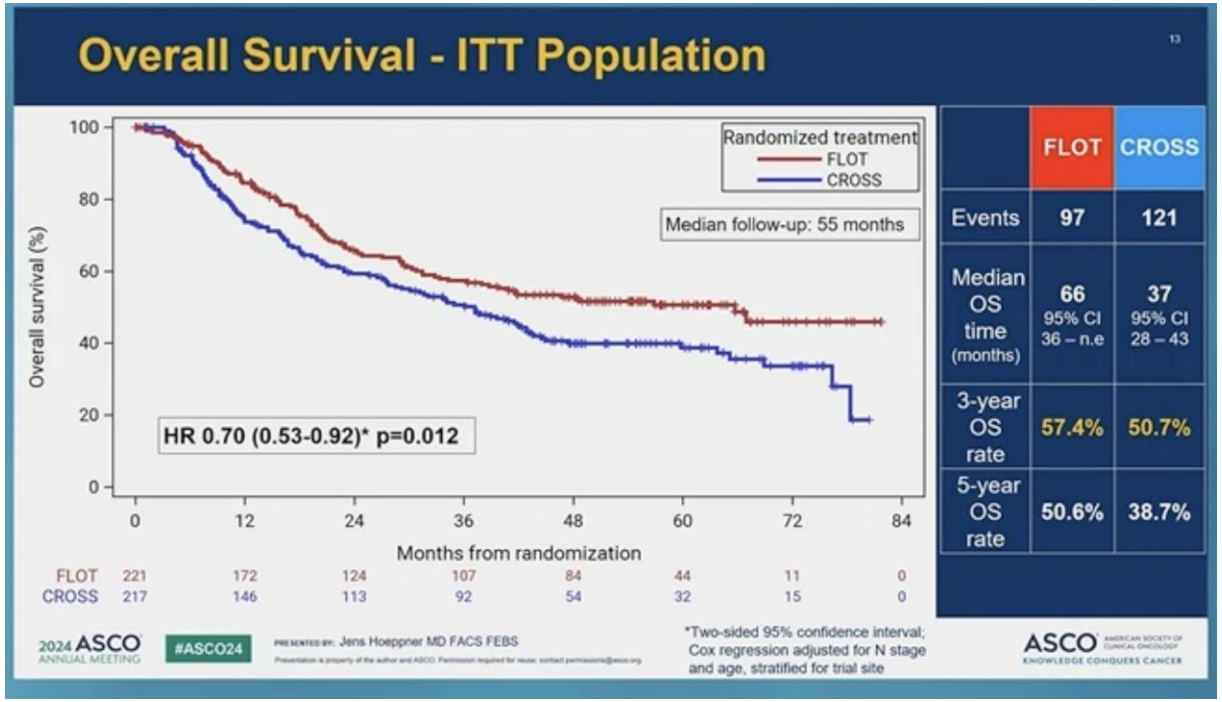


FLOT vs CROSS

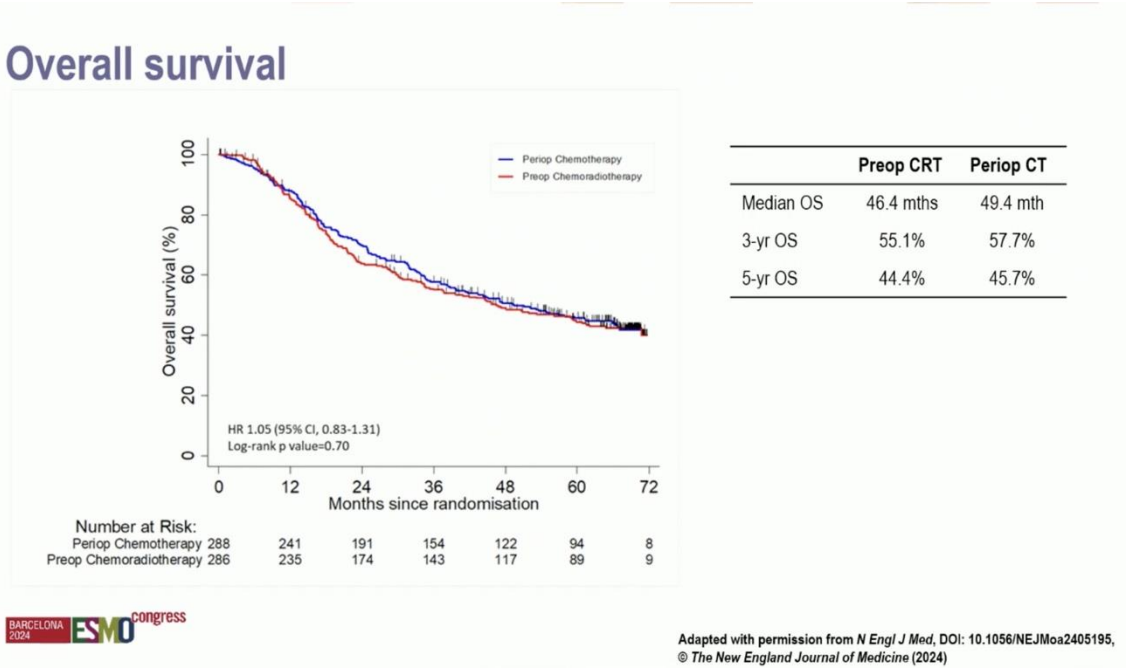


FLOT vs CROSS+FLOT

Two Studies Investigating GEJ Cancer

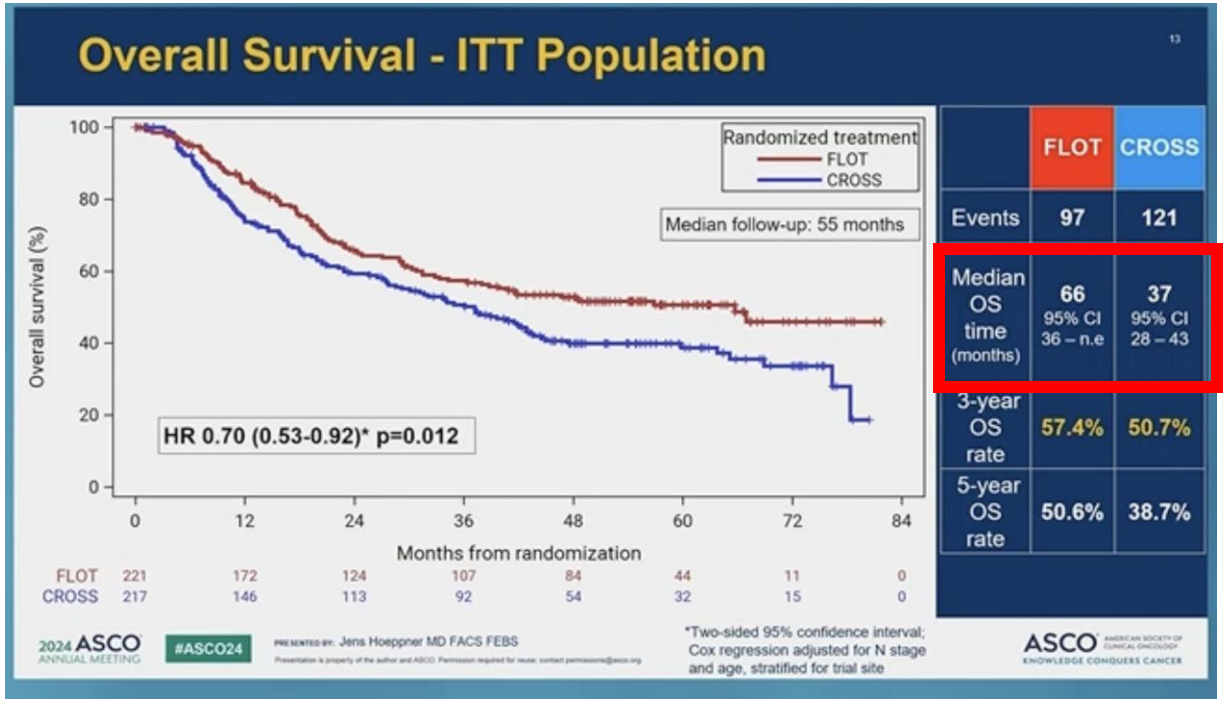


ESOPEC

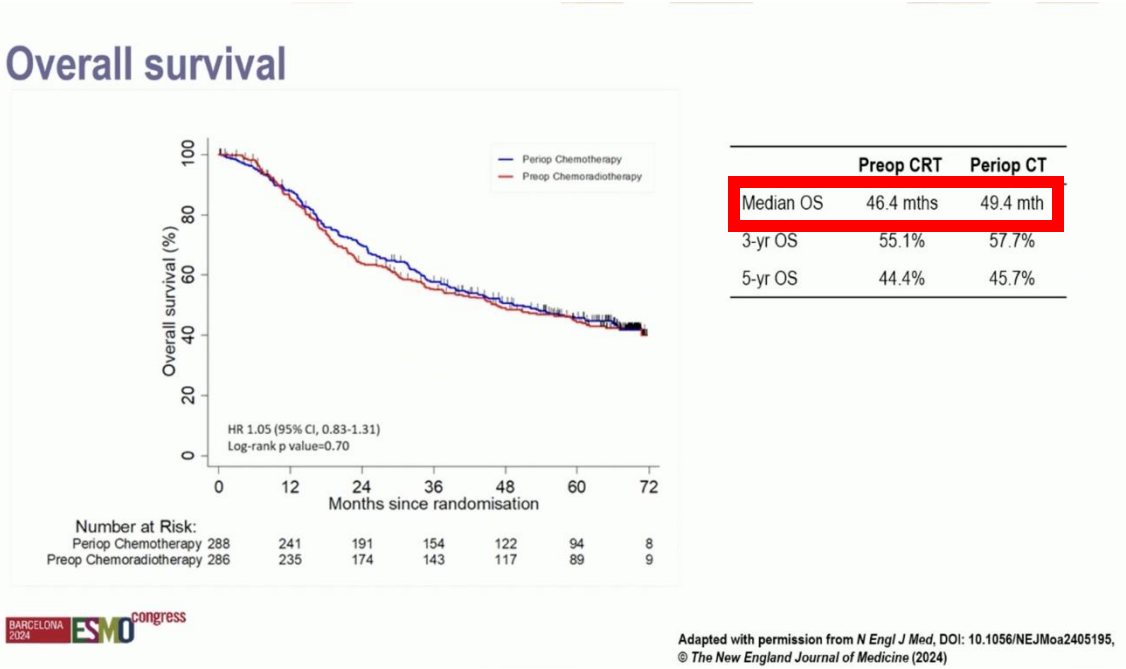


TOPGEAR

Two Studies Investigating GEJ Cancer



ESOPEC

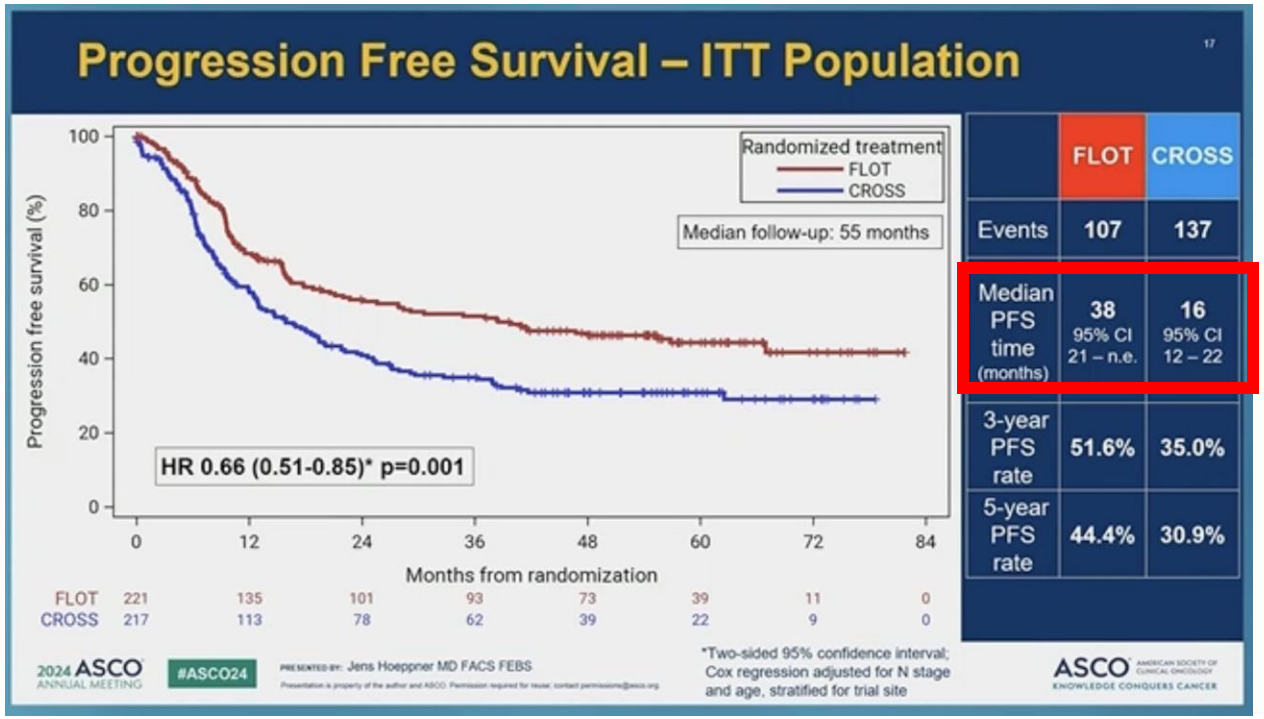


	Preop CRT	Periop CT
Median OS	46.4 mths	49.4 mth
3-yr OS	55.1%	57.7%
5-yr OS	44.4%	45.7%

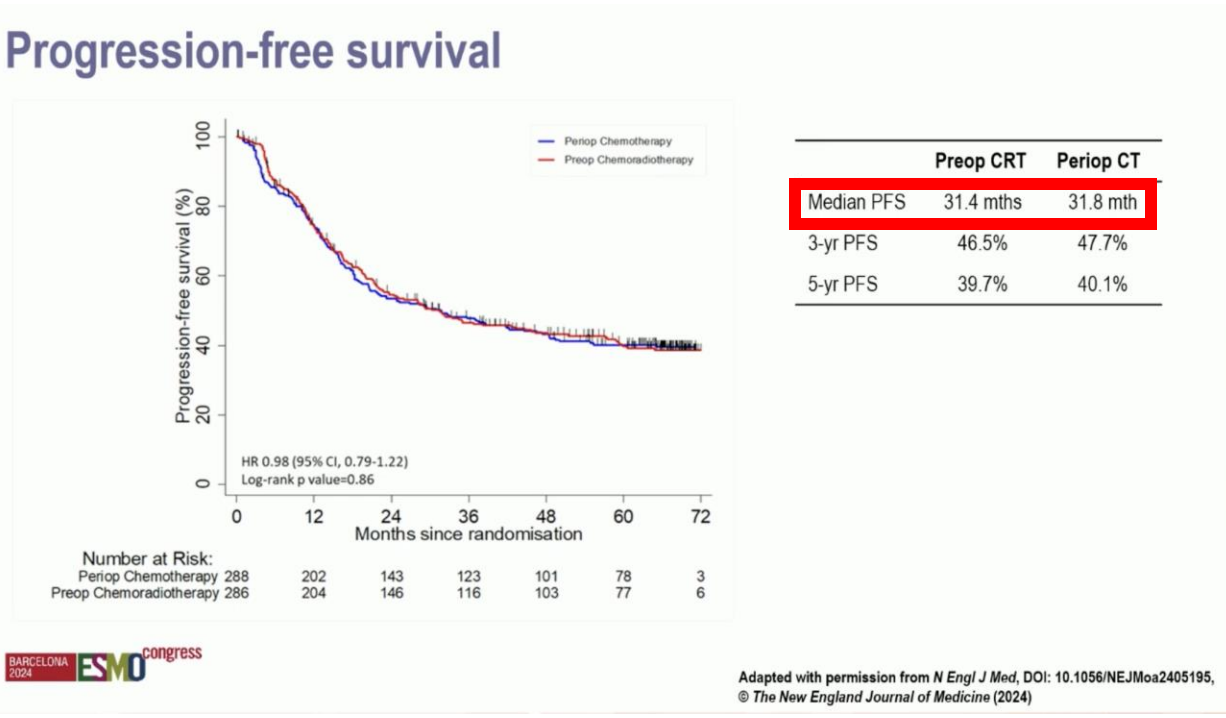
TOPGEAR

In ESOPEC, CROSS under performed and the FLOT over performed.

Two Studies Investigating GEJ Cancer



ESOPEC



	Preop CRT	Periop CT
Median PFS	31.4 mths	31.8 mth
3-yr PFS	46.5%	47.7%
5-yr PFS	39.7%	40.1%

TOPGEAR

In ESOPEC, CROSS under performed and the FLOT over performed.

Two Studies Investigating GEJ Cancer

Pathology Results – Surgery Population

	FLOT Group	CROSS Group
N	191	180
Resection status		
No resection	0.5%	1.1%
R0	94.2%	95.0%
R1	5.2%	3.9%
Postoperative N-Stage		
ypN-	50.8%	54.4%
ypN+	48.7%	44.4%
Pathological complete remission		
ypT0 ypN0	16.8%	10.0%
Tumor regression grade (Becker[1])		
Complete regression	18.3%	13.3%
Near complete regression (<10% vital tumor)	25.1%	39.4%

per local pathology assessment

2024 ASCO ANNUAL MEETING #ASCO24 PRESENTED BY: Jens Hoeppner MD FACS FEBS

1. Becker K Cancers 2003

ASCO KNOWLEDGE CONQUERS CANCER

ESOPEC

Surgical and pathological outcomes

	Preop CRT N=286	Periop CT N=288	P-value
D1+ or D2 lymphadenectomy	188 (83.6%)	192 (81.0%)	
RO resection	208 (92.4%)	206 (87.7%)	0.09
R1 resection	15 (6.7%)	29 (12.3%)	
ypTNM stage:	(N=231)	(N=247)	
ypT0, ypTis	38 (16.5%)	18 (7.3%)	<0.001
ypT1/2	73 (31.6%)	62 (25.2%)	
ypT3/4	120 (51.9%)	166 (67.5%)	
ypN negative	125 (54.1%)	104 (42.3%)‡	<0.01
ypN positive	106 (45.9%)	142 (57.7%)	
Pathological Response:			
Grade 1a: 0% residual tumour (pCR)	36 (16.8%)	18 (8.0%)	<0.0001
Grade 1b: <10% residual tumour	70 (32.7%)	48 (21.3%)	
Grade 2: 10-50% residual tumour	61 (28.5%)	69 (30.7%)	
Grade 3: >50% residual tumour	47 (22.0%)	90 (40.0%)	

BARCELONA 2024 ESMO congress

Adapted with permission from *N Engl J Med*, DOI: 10.1056/NEJMoa2405195, © *The New England Journal of Medicine* (2024)

TOPGEAR

Difference ypT0 and ypN- between studies

The Details

- In ESOPEC , while 93.7% of patients began FLOT therapy and 87.3% completed FLOT therapy, the completion rates were lower than expected in the CROSS group at 67.7% out of 90.3% of patients who started therapy.

- The timing of surgery.

- Neither study used immunotherapy as in CheckMate 577.

National Comprehensive Cancer Network®

NCCN Guidelines Version 5.2024
Esophageal and Esophagogastric Junction Cancers

NCCN Guidelines Index
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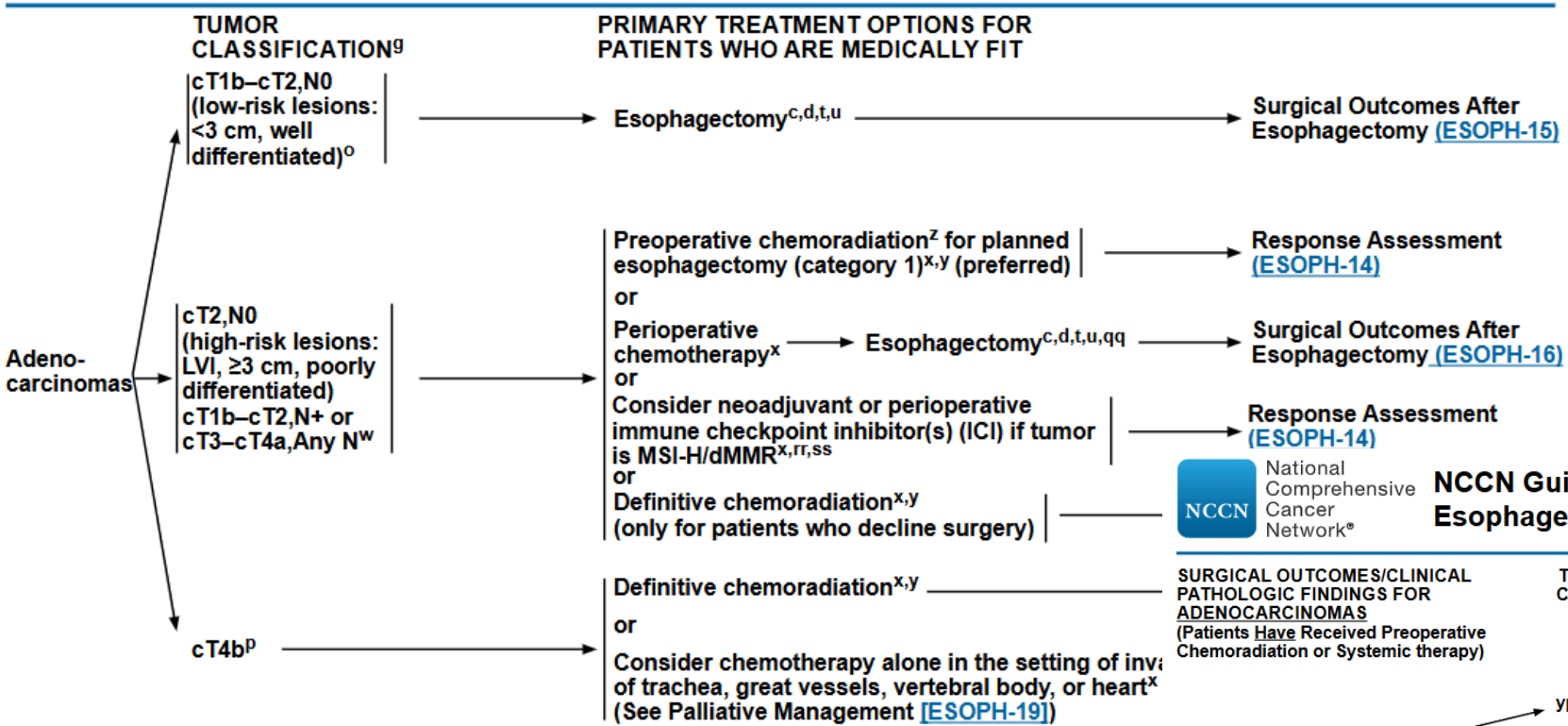

Remember, this is for Adenocarcinomas.

SqCC still gets CROSS.

National Comprehensive Cancer Network®

NCCN Guidelines Version 5.2024
Esophageal and Esophagogastric Junction Cancers

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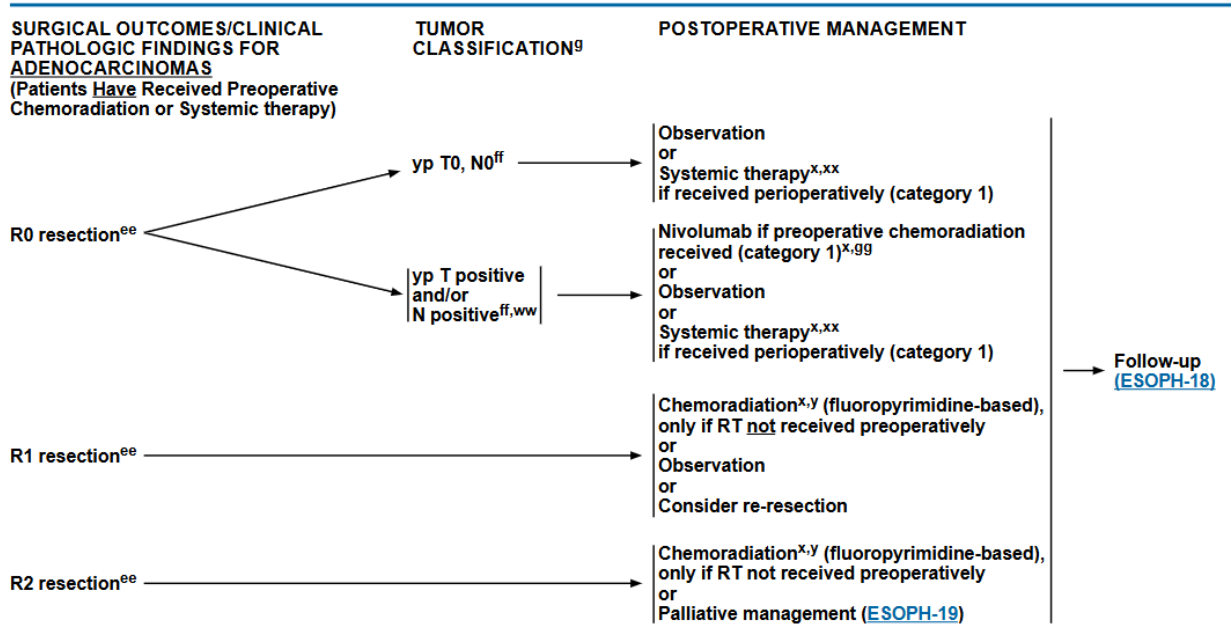
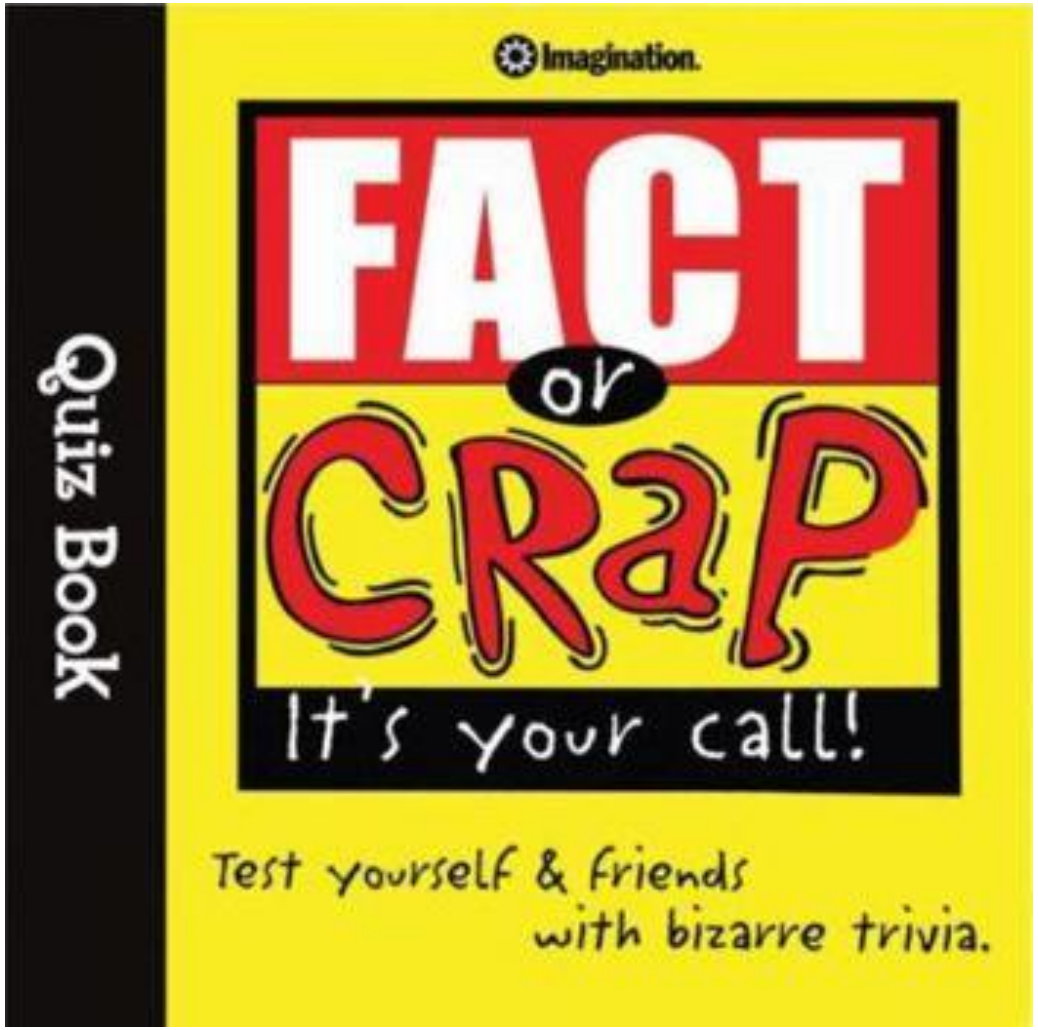


Take Home Message

- TOPGEAR much better name than ESOPEC
- Hard to ignore the benefit of FLOT with a MS=66 months.
- Survival still needs to improve.
- How is organ preservation integrated into the treatment paradigm?

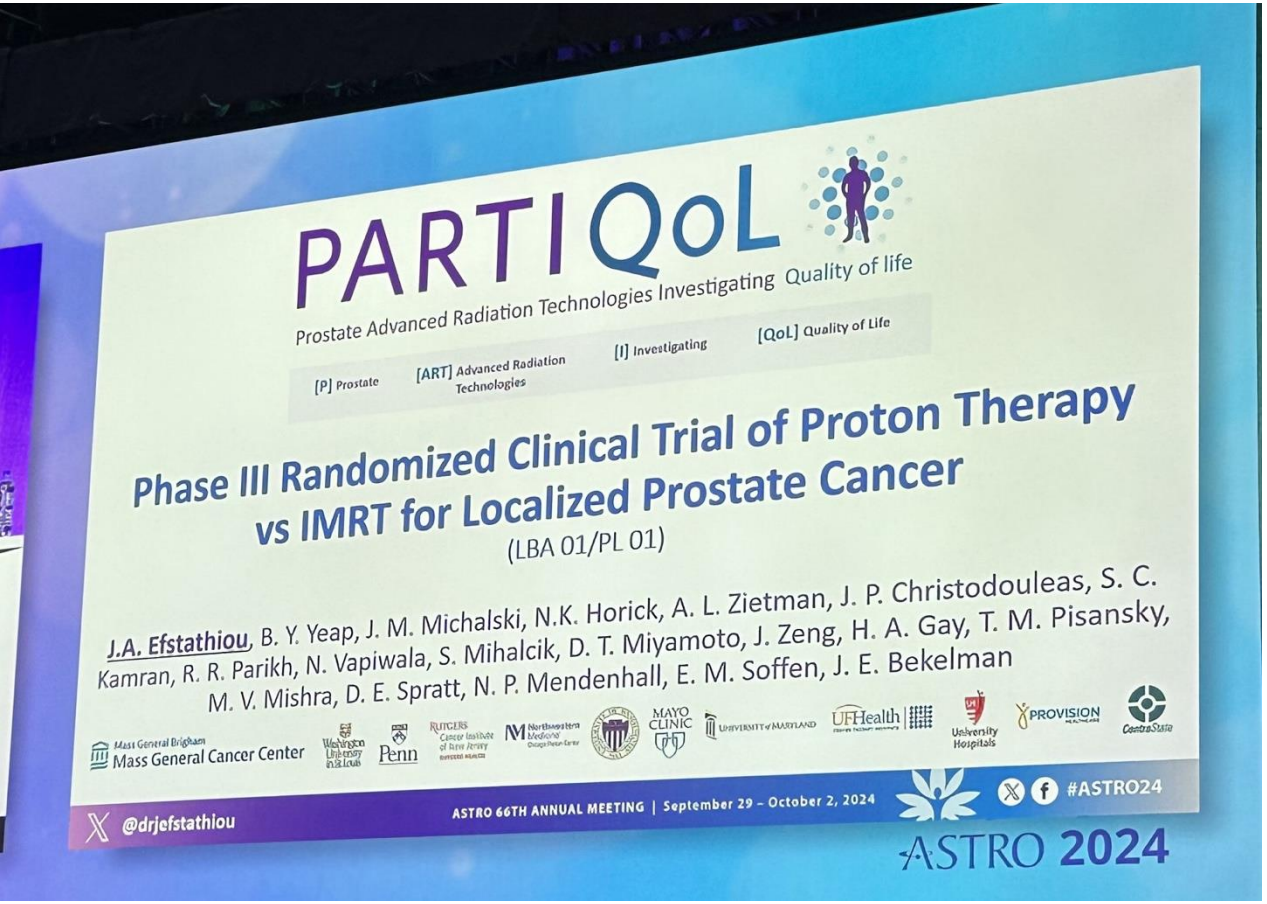
Question #3



Dr. Raez's favorite question, the Proton vs Photon Debate.

In patients with low-,intermediate-risk prostate cancer, randomized trials have shown protons to be superior.

ASTRO 2024


PARTIQoL
Prostate Advanced Radiation Technologies Investigating Quality of life
[P] Prostate
[ART] Advanced Radiation Technologies
[I] Investigating
[QoL] Quality of Life
Phase III Randomized Clinical Trial of Proton Therapy vs IMRT for Localized Prostate Cancer
(LBA 01/PL 01)
J.A. Efstathiou, B. Y. Yeap, J. M. Michalski, N.K. Horick, A. L. Zietman, J. P. Christodouleas, S. C. Kamran, R. R. Parikh, N. Vapiwala, S. Mihalcik, D. T. Miyamoto, J. Zeng, H. A. Gay, T. M. Pisansky, M. V. Mishra, D. E. Spratt, N. P. Mendenhall, E. M. Soffen, J. E. Bekelman
Mass General Brigham Mass General Cancer Center
Penn
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UFHealth
University Hospitals
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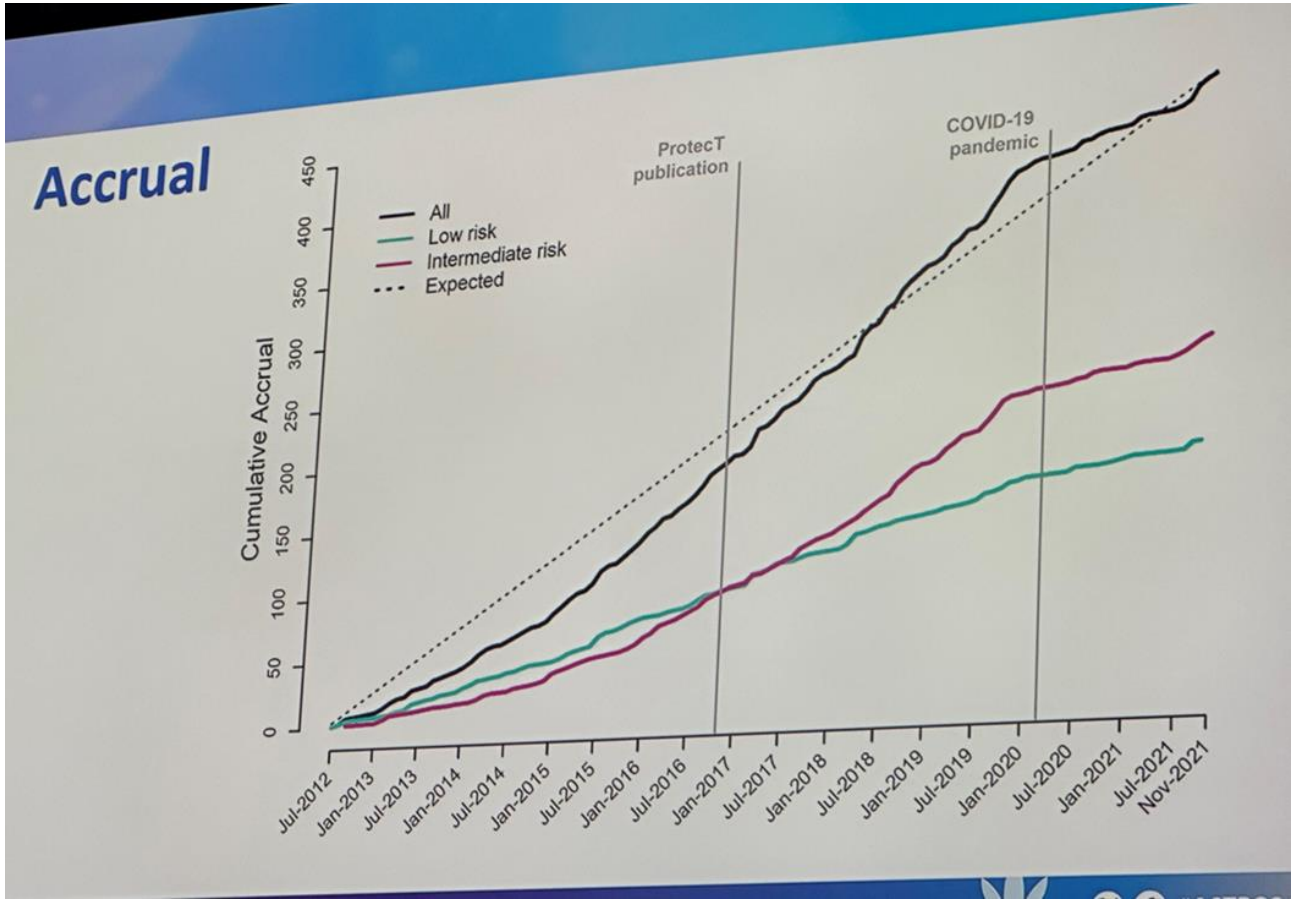
Accrual
ProtecT publication
COVID-19 pandemic
All
Low risk
Intermediate risk
Expected
Cumulative Accrual
0
50
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150
200
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Jan-2021
Jul-2021
Nov-2021

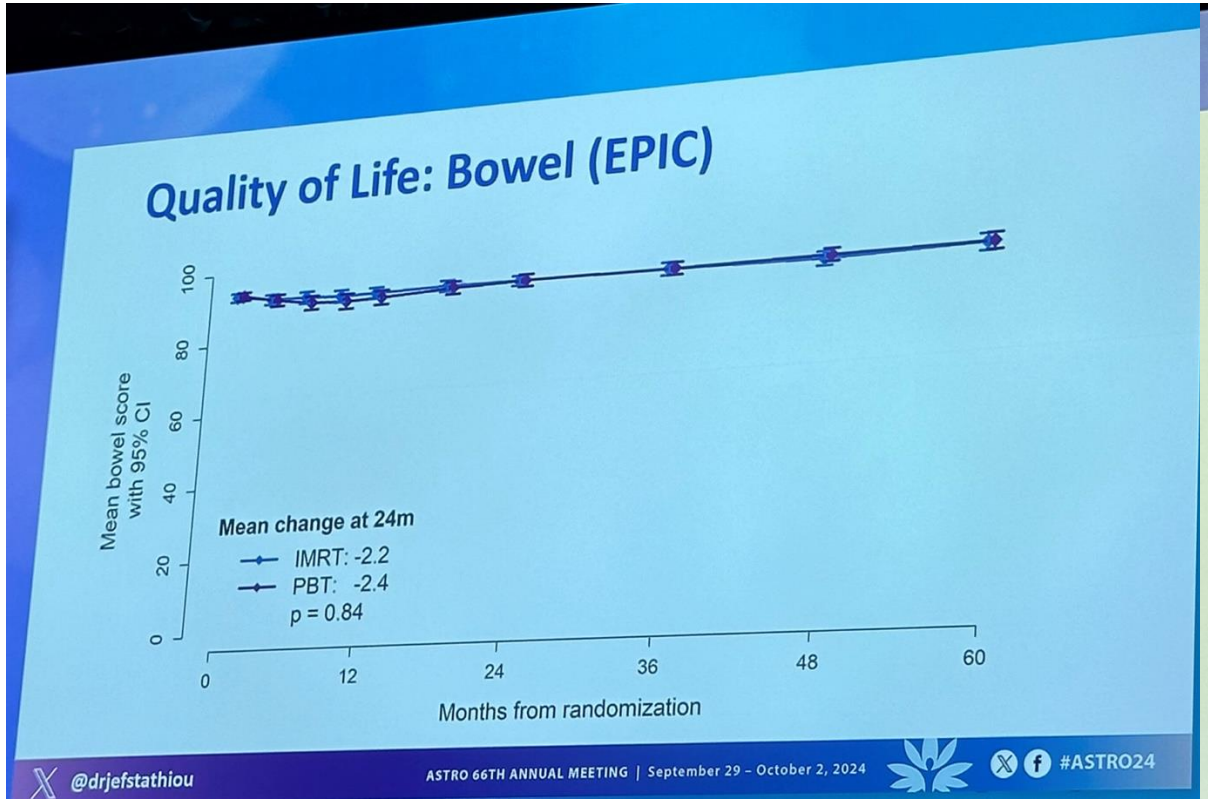
Baseline Characteristics

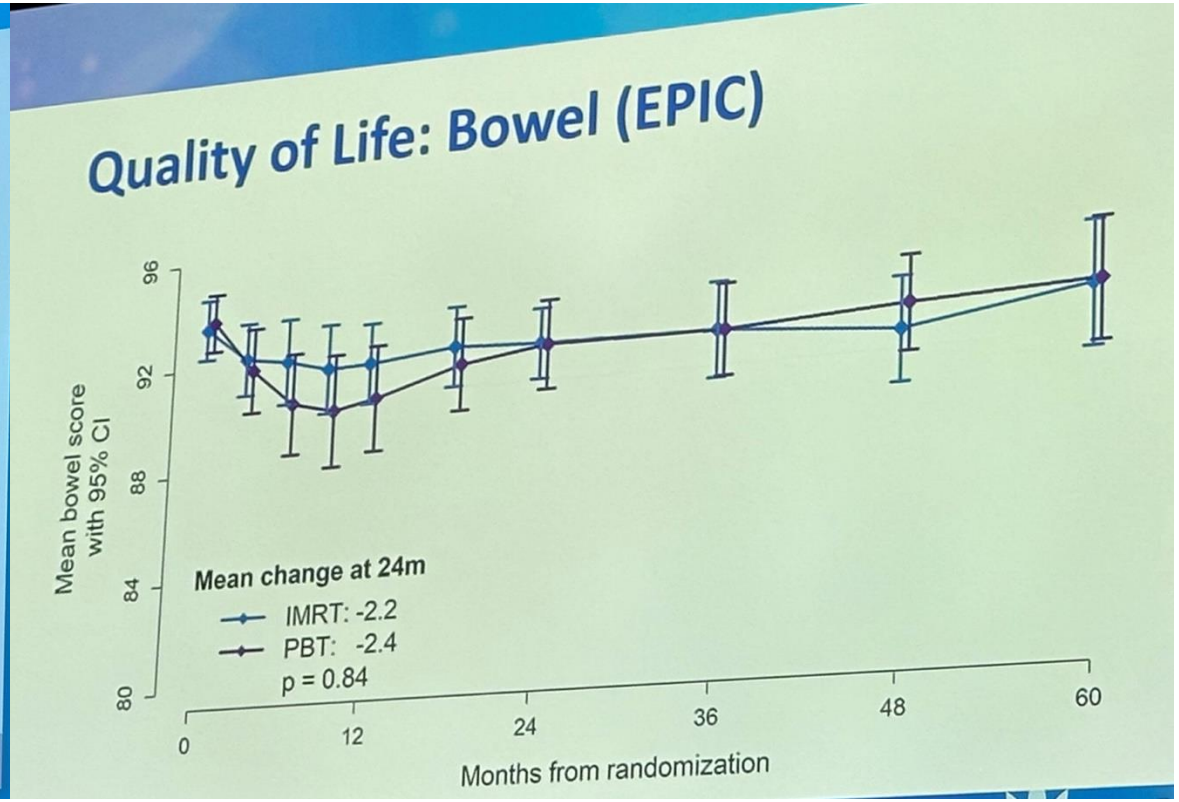
Characteristic, N (%)	Proton Beam Therapy (n=221)	Intensity Modulated Radiotherapy (n=216)
Followup, mo, median (range)	60.8 (4.1-123.9)	58.9 (3.1-135.1)
Age, y, median (range)	68 (46-89)	68 (48-84)
Race		
White	181 (82%)	170 (79%)
Black	27 (12%)	29 (13%)
Other	13 (6%)	17 (8%)
ECOG performance status 0	213 (96%)	208 (96%)
Low risk	91 (41%)	89 (41%)
Intermediate favorable risk	96 (43%)	102 (47%)
Intermediate unfavorable risk	34 (15%)	25 (12%)
PSA, ng/mL, median (range)	6.4 (1.6-18.9)	6.1 (1.1-17.5)

Baseline Characteristics

Characteristic, N (%)	Proton Beam Therapy (n=221)	Intensity Modulated Radiotherapy (n=216)
Clinical tumor stage		
cT1c	181 (82%)	174 (81%)
cT2a	36 (16%)	39 (18%)
cT2b	4 (2%)	2 (1%)
cT2c	0	1 (<1%)
Gleason score		
3+3	106 (48%)	114 (53%)
3+4	100 (45%)	93 (43%)
4+3	15 (7%)	9 (4%)
Rectal spacer	109 (49%)	102 (47%)
Hypofractionation	105 (48%)	119 (55%)
Pencil beam scanning	107 (48%)	

PARTIQoL Primary Endpoint



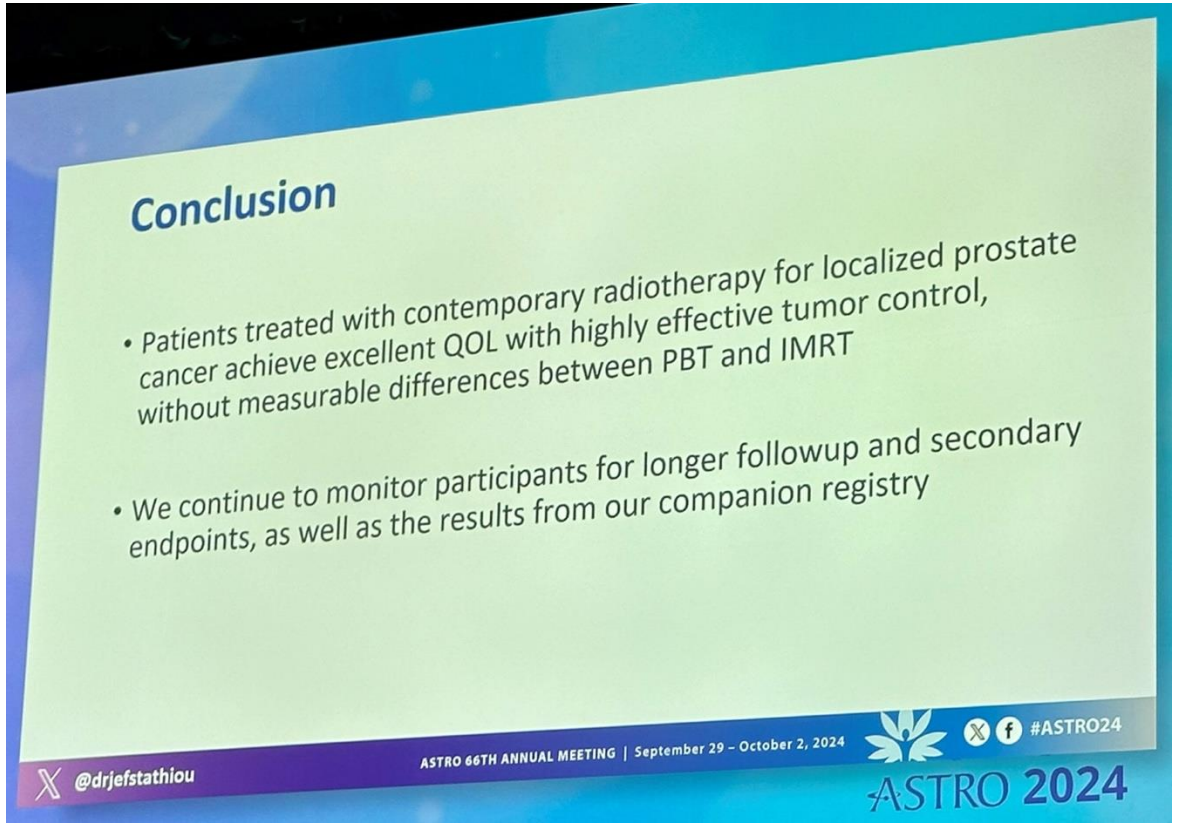


PARTIQoL Secondary Endpoints

- Urinary Incontinence
- Urinary Irritation
- Sexual (EPIC)
- Biochemical Failure Time
- Clinical Failure Time
- Progression Free Survival

- Subgroups by
  - Age
  - Disease Risk
  - Rectal Spacer Use
  - Fractionation Schedule
  - Proton Delivery Method

PARTIQoL



- Main Take Home Message here is that photon therapy has significantly improved.

Thank you for your time.