

# Finally, Something Practice Changing in Esophageal Carcinoma PRIMO 2025

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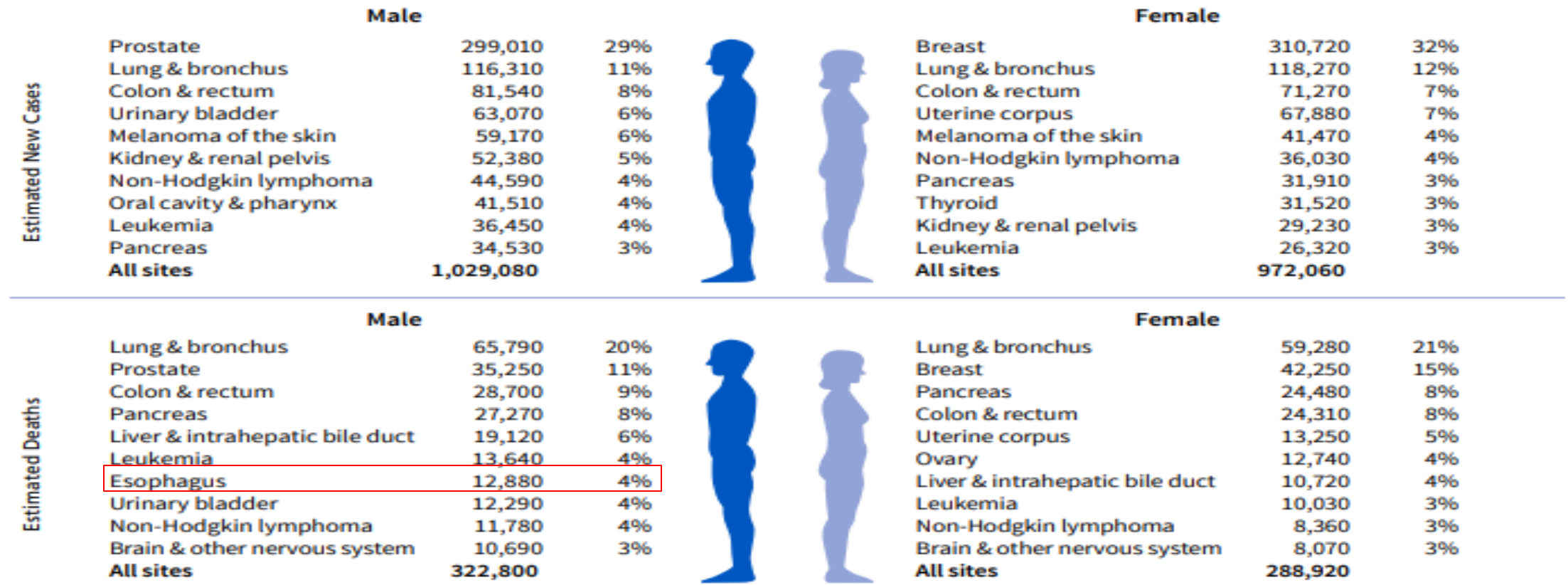
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University of Alabama, Birmingham

2-6-2025

# ACS 2024: Esophageal Cancer

Figure 3. Leading Sites of New Cancer Cases and Deaths – 2024 Estimates



Estimates are rounded to the nearest 10, and cases exclude basal cell and squamous cell skin cancers and in situ carcinoma except urinary bladder. Estimates do not include Puerto Rico or other US territories. Ranking is based on modeled projections and may differ from the most recent observed data.

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# Learning Objectives

- Metastatic Esophageal carcinoma
  - Squamous cell carcinoma: CM-648, KN-590
  - Adenocarcinoma
    - Biomarkers: PDL1, HER2, CLDN18.2, MMR
    - CM-649, Rationale-305
- Adjuvant Esophageal carcinoma
  - CheckMate - 577
- Neoadjuvant Esophageal carcinoma
  - Esopec, Topgear, Matterhorn, Neonipiga

# CheckMate 648 study design

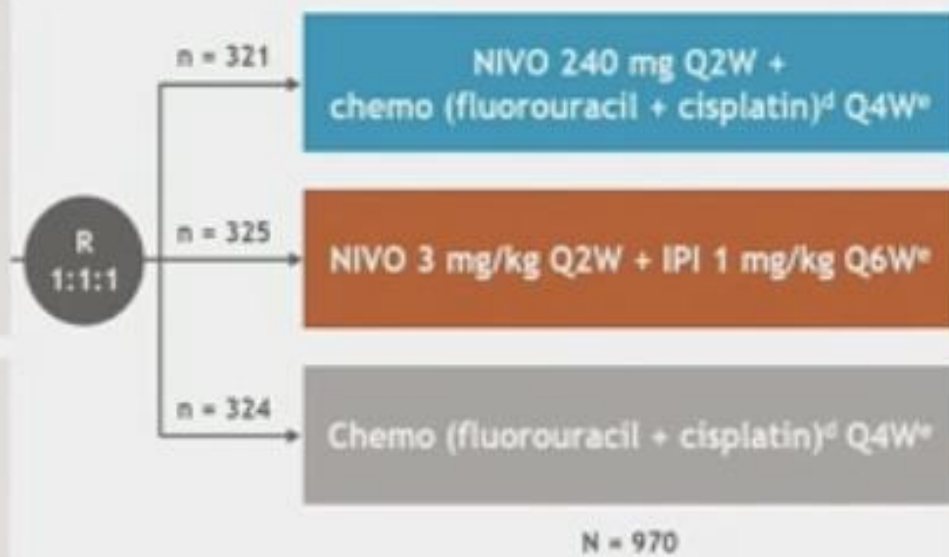
- CheckMate 648 is a global, randomized, open-label phase 3 study<sup>a</sup>

## Key eligibility criteria

- Unresectable advanced, recurrent, or metastatic ESCC
- ECOG PS 0-1
- No prior systemic treatment for advanced disease
- Measurable disease

## Stratification factors

- Tumor cell PD-L1 expression ( $\geq 1\%$  vs  $< 1\%$ )<sup>b</sup>
- Region (East Asia<sup>c</sup> vs rest of Asia vs ROW)
- ECOG PS (0 vs 1)
- Number of organs with metastases ( $\leq 1$  vs  $\geq 2$ )



## Primary endpoints:

- OS and PFS<sup>f</sup> (tumor cell PD-L1  $\geq 1\%$ )

## Secondary endpoints:

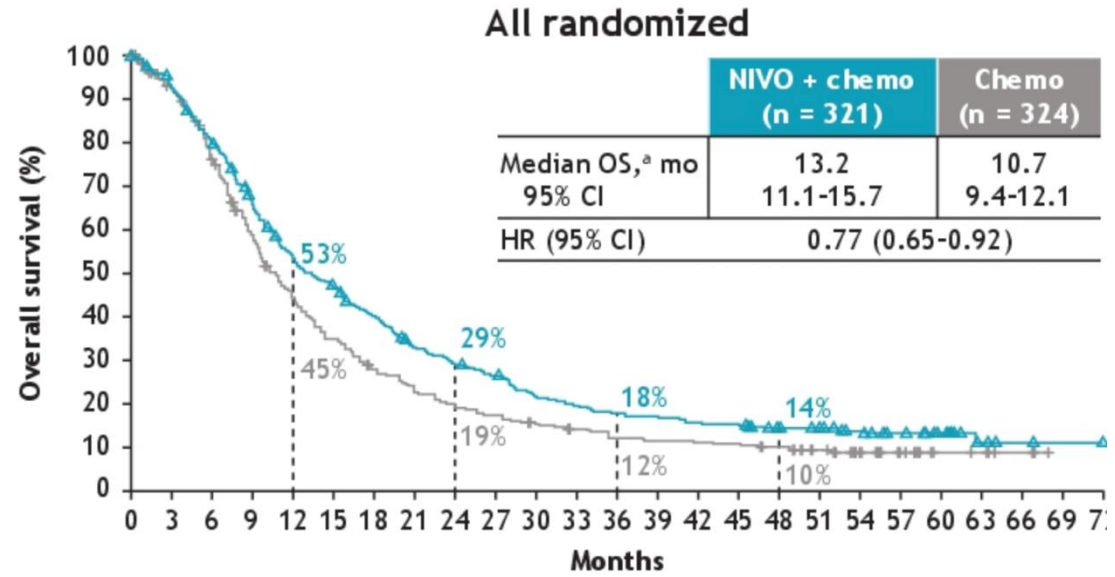
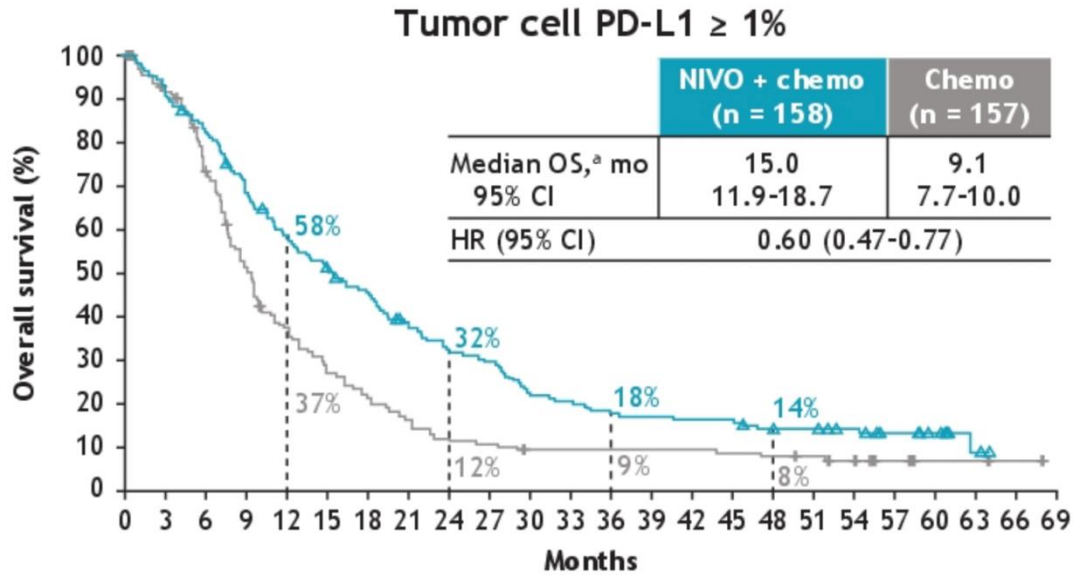
- OS and PFS<sup>f</sup> (all randomized)
- ORR<sup>f</sup> (tumor cell PD-L1  $\geq 1\%$  and all randomized)

## Exploratory endpoint:

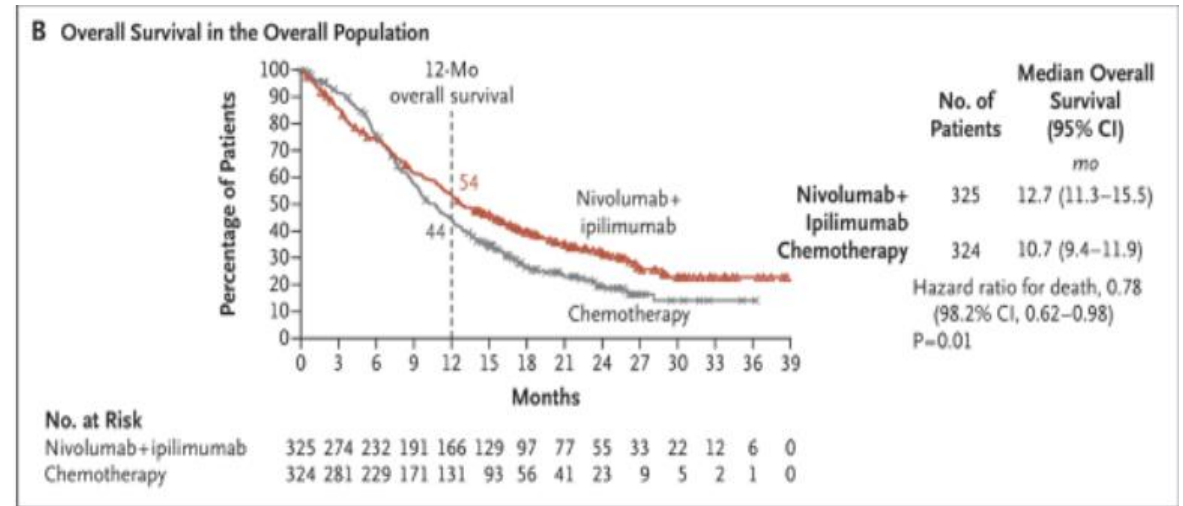
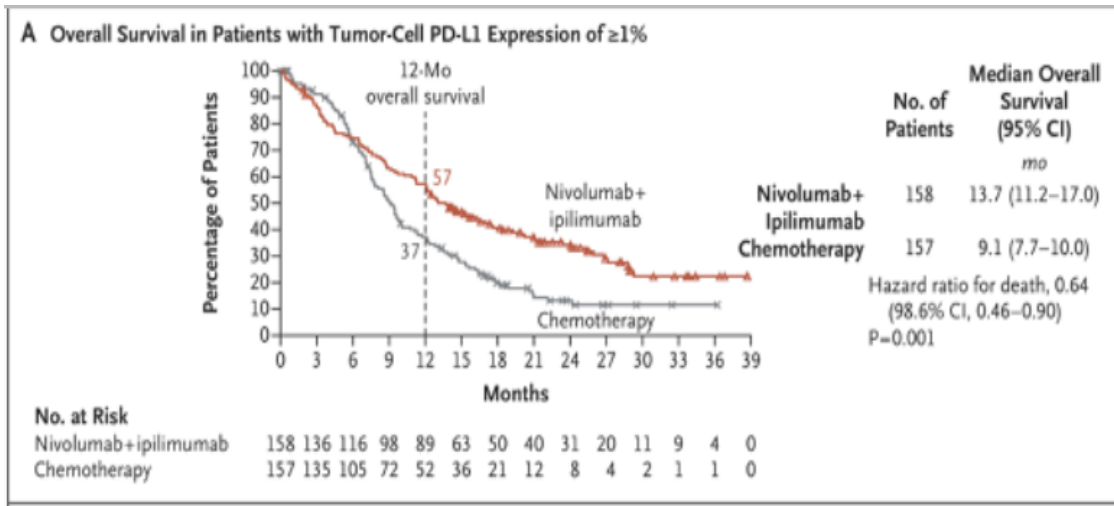
- Biomarkers

- At data cutoff (May 17, 2022), the minimum follow-up<sup>g</sup> was 29 months
- Biomarker methods:
  - Gene expression signatures (GES) were assessed by RNA sequencing of baseline tumor tissue<sup>h</sup>
  - TMB and select gene alterations were assessed by whole exome sequencing (WES) of baseline tumor tissue and matching blood samples<sup>i</sup>

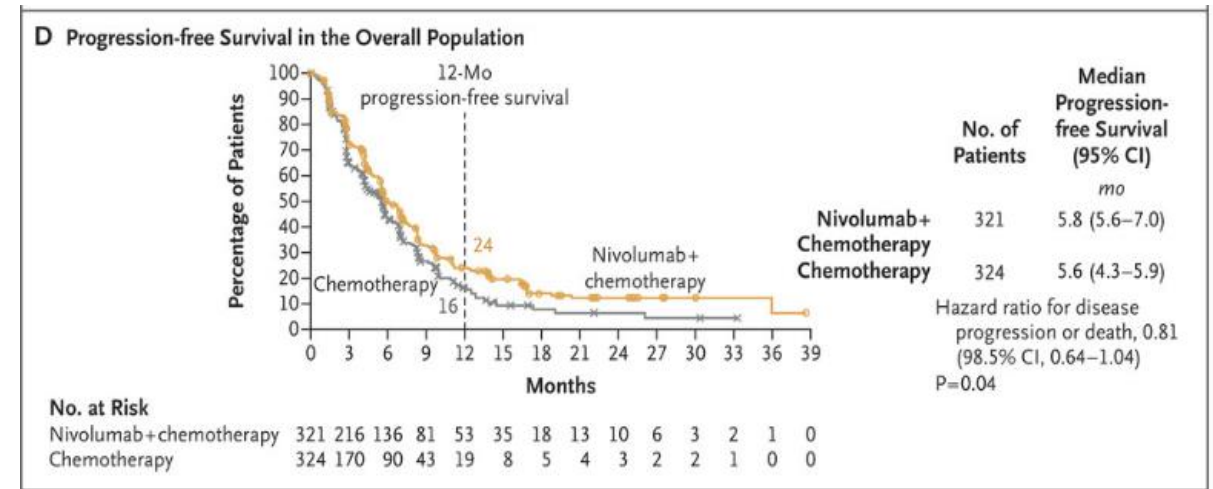
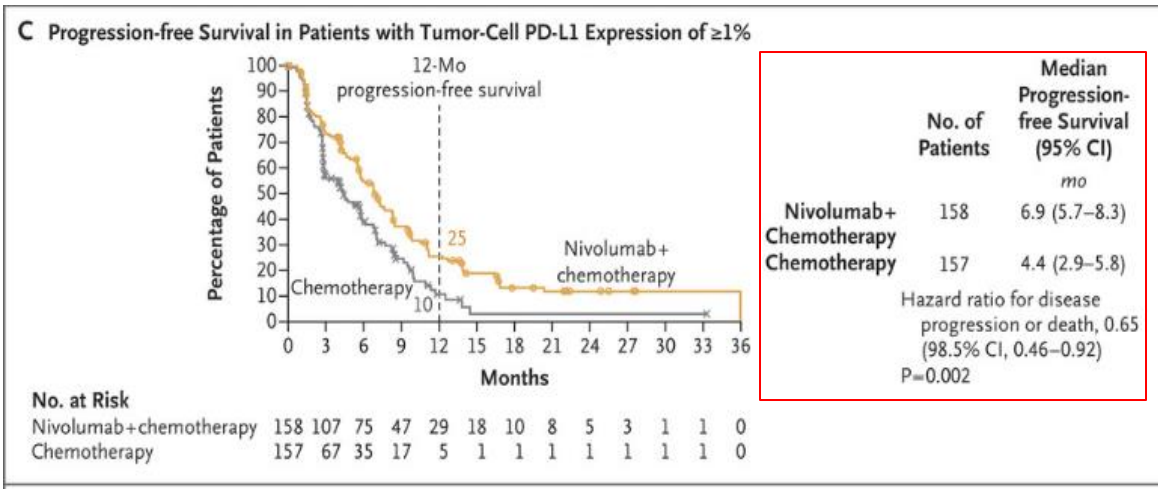
# OS: Nivolumab + Chemo vs Chemo



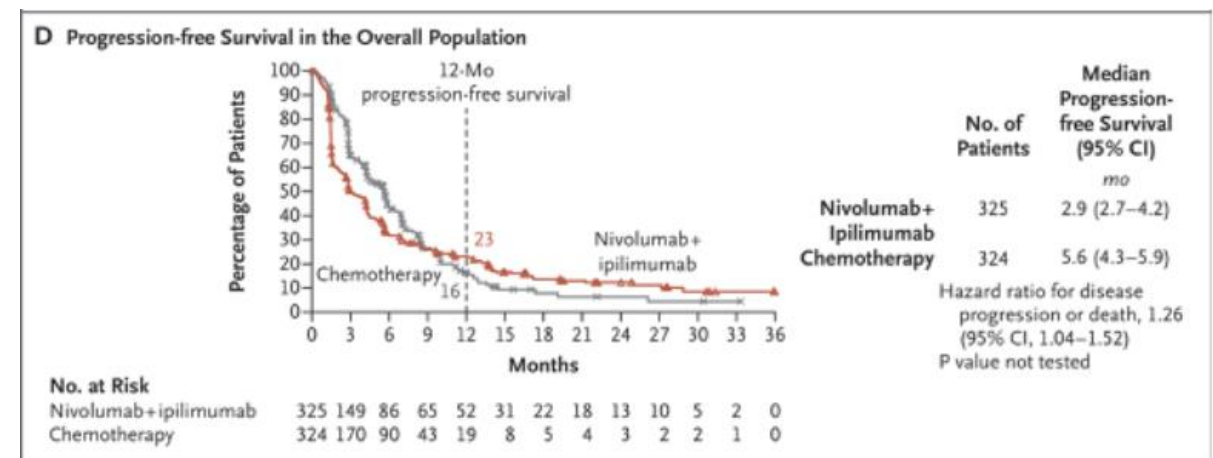
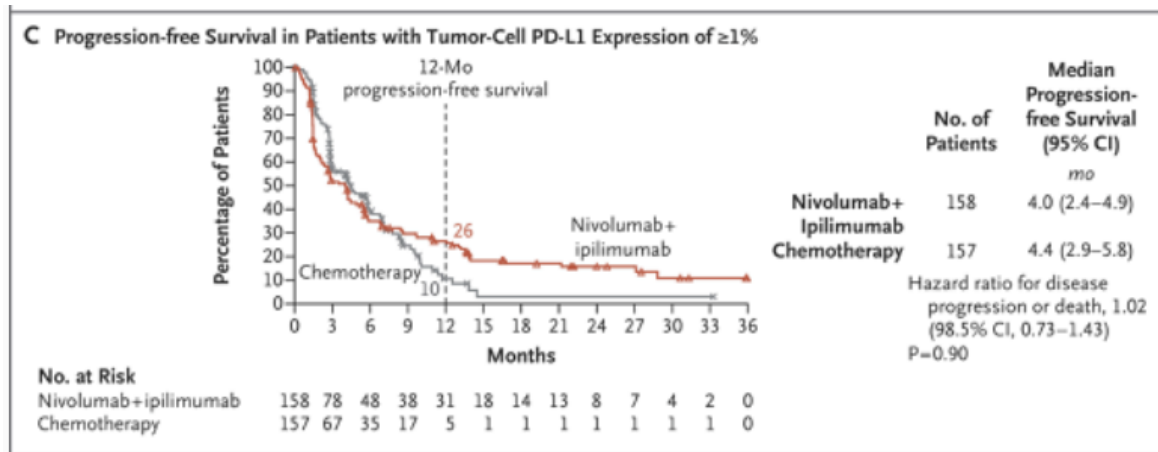
# OS: Nivolumab + Ipilimumab vs Chemo



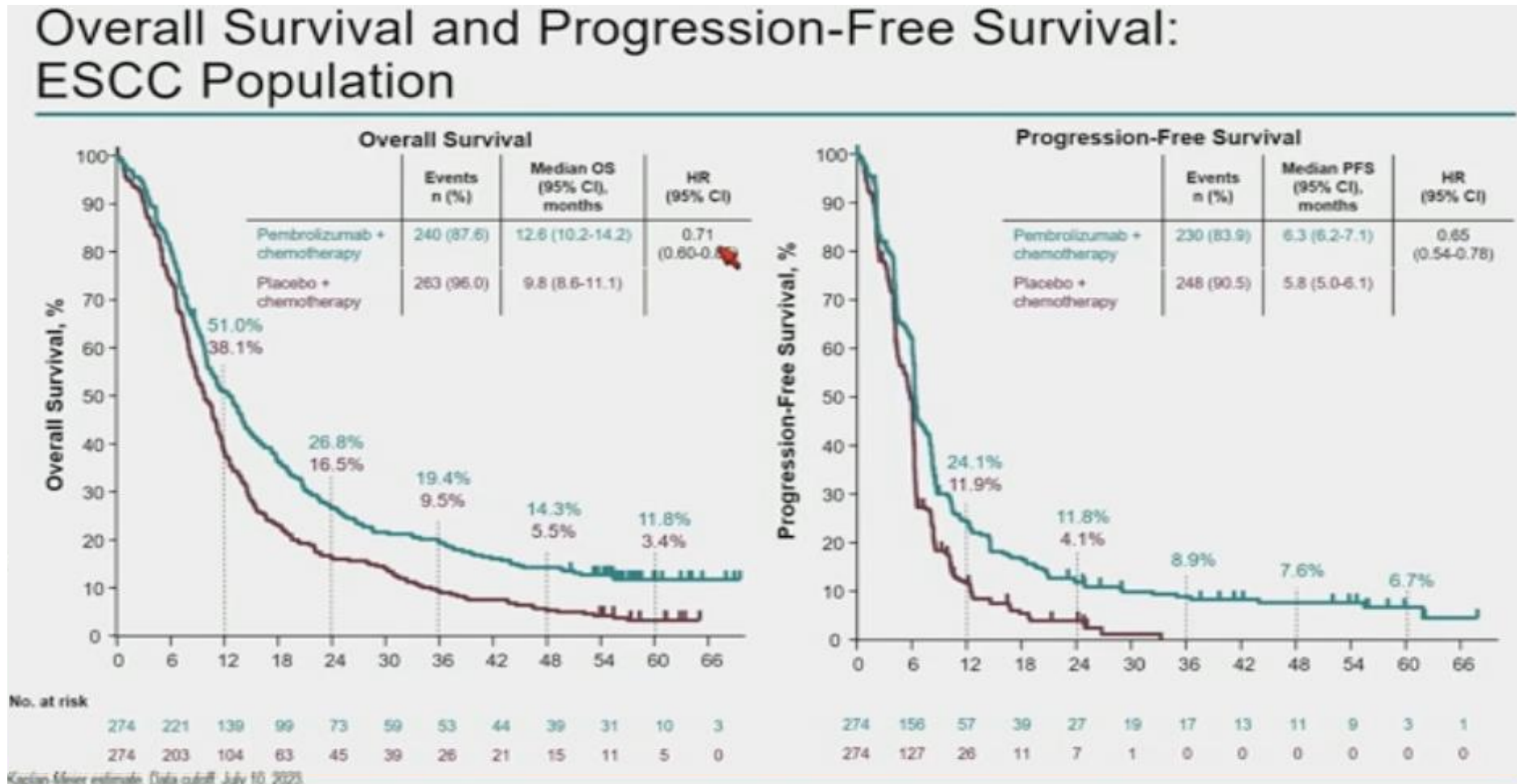
# PFS: Nivolumab + Chemo vs Chemo



# PFS: Nivolumab + Ipilimumab vs Chemo



# ESCC: KN-590 5-Year Survival Outcomes



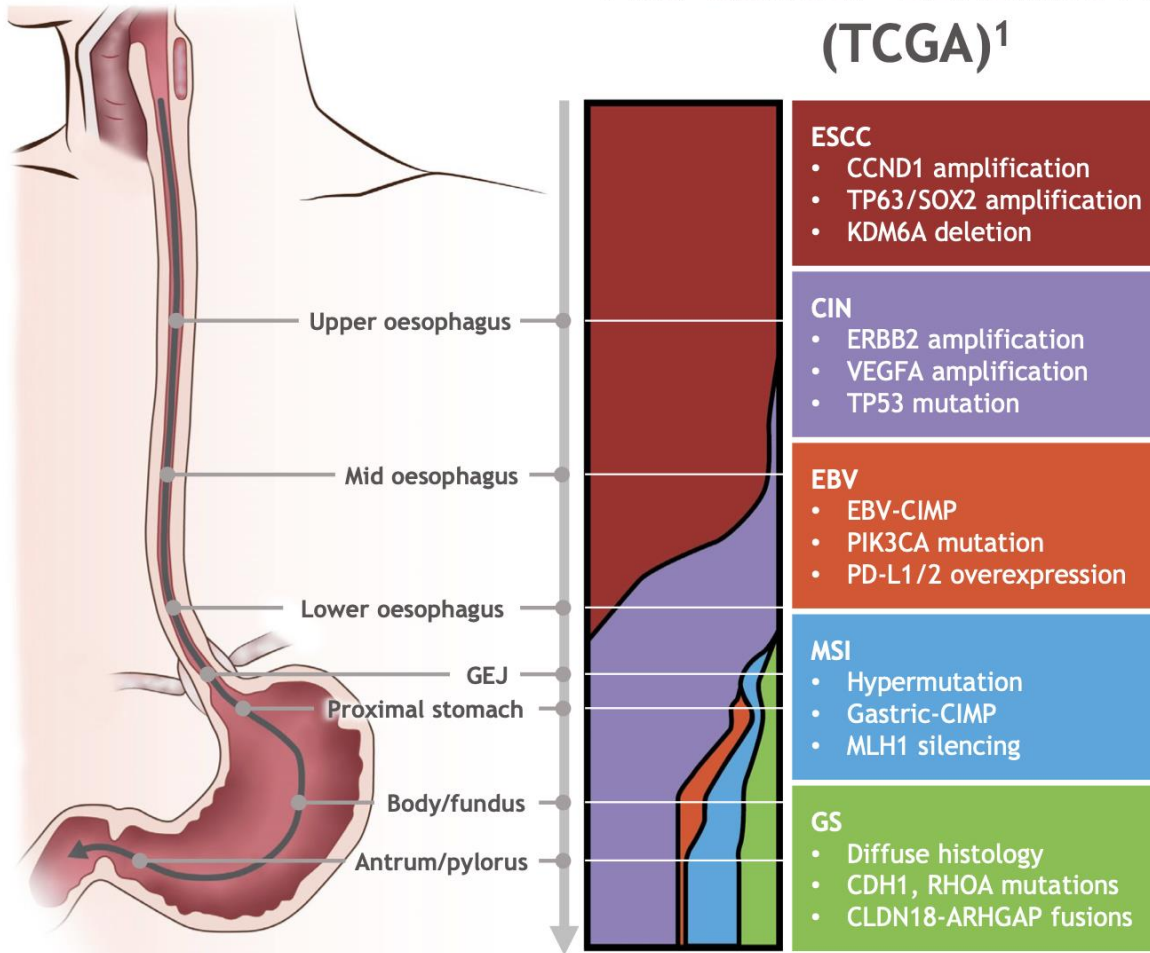
# NCCN 5.2024

SQUAMOUS CELL CARCINOMA	SQUAMOUS CELL CARCINOMA
<p><b>First-Line Therapy</b></p> <ul style="list-style-type: none"> <li>Oxaliplatin is preferred over cisplatin due to lower toxicity.</li> </ul>	<p><b>Second-Line or Subsequent Therapy</b></p> <ul style="list-style-type: none"> <li>Dependent on prior therapy and PS</li> </ul>
<p><b>Preferred Regimens</b></p> <ul style="list-style-type: none"> <li>Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin, and nivolumab (category 1)<sup>e,g,55</sup></li> <li>Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin, and pembrolizumab (category 2A for PD-L1 CPS ≥ 10; category 2B for PD-L1 CPS &lt;10)<sup>e,g,27</sup></li> <li>Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine) and oxaliplatin<sup>31-33</sup></li> <li>Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), cisplatin, and nivolumab (category 1)<sup>e,g,55</sup></li> <li>Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), cisplatin, and pembrolizumab (category 1 for PD-L1 CPS ≥ 10; category 2B for PD-L1 CPS &lt;10)<sup>e,g,27</sup></li> <li>Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine) and cisplatin<sup>31,34-36</sup></li> <li>Nivolumab and ipilimumab<sup>e,g,55</sup></li> <li>MSI-H/dMMR tumors (independent of PD-L1 status)<sup>d</sup> <ul style="list-style-type: none"> <li>Pembrolizumab<sup>e,g,37-39</sup></li> <li>Dostarlimab-gxly<sup>e,g,40</sup></li> <li>Nivolumab and ipilimumab<sup>e,g,26</sup></li> <li>Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin, and nivolumab<sup>e,g,26</sup></li> <li>Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin, and pembrolizumab<sup>e,g,27</sup></li> </ul> </li> </ul>	<p><b>Preferred Regimens</b></p> <ul style="list-style-type: none"> <li>Nivolumab (category 1)<sup>e,g,76</sup></li> <li>Pembrolizumab<sup>e,g</sup> for tumors with PD-L1 expression levels by CPS of ≥10 (category 1)<sup>77</sup></li> <li>Docetaxel (category 1)<sup>49,50</sup></li> <li>Paclitaxel (category 1)<sup>45,46,58</sup></li> <li>Irinotecan (category 1)<sup>58-61</sup></li> <li>Tislelizumab-jsgr (category 1)<sup>e,l,78,79</sup></li> <li>Fluorouracil<sup>b,h</sup> and irinotecan<sup>59,62,63</sup></li> </ul>
<p><b>Other Recommended Regimens</b></p> <ul style="list-style-type: none"> <li>Fluorouracil<sup>b,h</sup> and irinotecan<sup>41</sup></li> <li>Paclitaxel with or without carboplatin or cisplatin<sup>42-46</sup></li> <li>Docetaxel with or without cisplatin<sup>47-50</sup></li> <li>Fluoropyrimidine<sup>35,51,52</sup> (fluorouracil<sup>b</sup> or capecitabine)</li> <li>Docetaxel, cisplatin or oxaliplatin, and fluorouracil<sup>b,53,54</sup></li> </ul>	<p><b>Other Recommended Regimens</b></p> <ul style="list-style-type: none"> <li>Irinotecan and cisplatin<sup>32,66</sup></li> <li>Docetaxel and irinotecan (category 2B)<sup>69</sup></li> </ul> <p><b>Useful in Certain Circumstances<sup>d</sup></b></p> <ul style="list-style-type: none"> <li>Entrectinib, larotrectinib, or repotrectinib<sup>j</sup> for <i>NTRK</i> gene fusion-positive tumors<sup>70-72</sup></li> <li>Pembrolizumab<sup>e,g</sup> for MSI-H/dMMR tumors<sup>37-39</sup></li> <li>Nivolumab and ipilimumab<sup>e,g</sup> for MSI-H/dMMR tumors<sup>26</sup></li> <li>Pembrolizumab<sup>e,g</sup> for TMB high (≥10 mutations/megabase) tumors<sup>73</sup></li> <li>Dostarlimab-gxly<sup>e,g,k</sup> for MSI-H/dMMR tumors<sup>40</sup></li> <li>Dabrafenib and trametinib for <i>BRAF</i> V600E mutated tumors<sup>74</sup></li> <li>Selpercatinib for <i>RET</i> gene fusion-positive tumors<sup>75</sup></li> </ul>

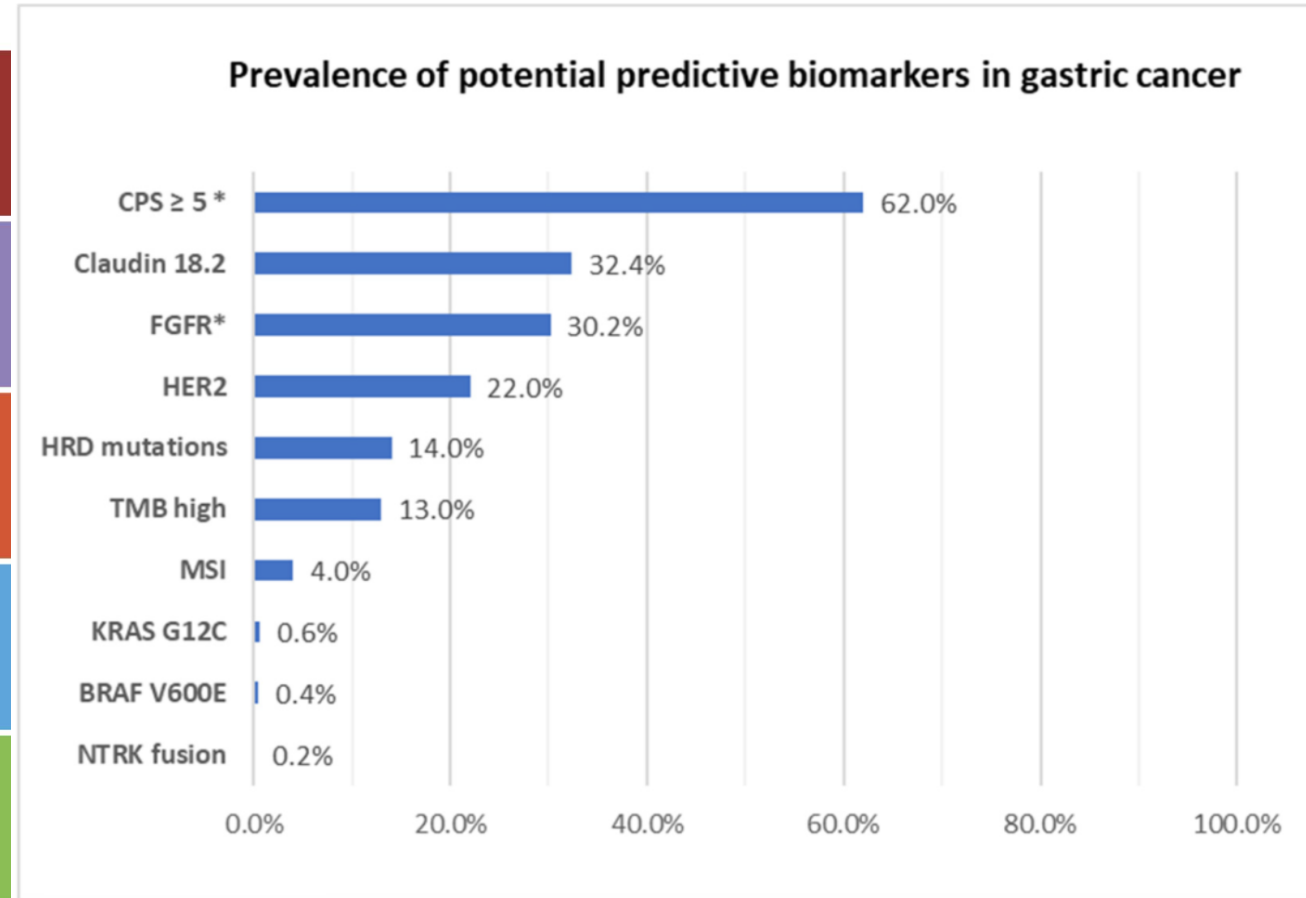


# Biomarkers in Upper GI Cancers

## The Cancer Genomic Atlas (TCGA)<sup>1</sup>



## Prevalence of potential predictive biomarkers in gastric cancer



Cancer Genomic Atlas Research Network, Analysis Working Group, et al. *Nature*. 2017;541(7636):169–175.

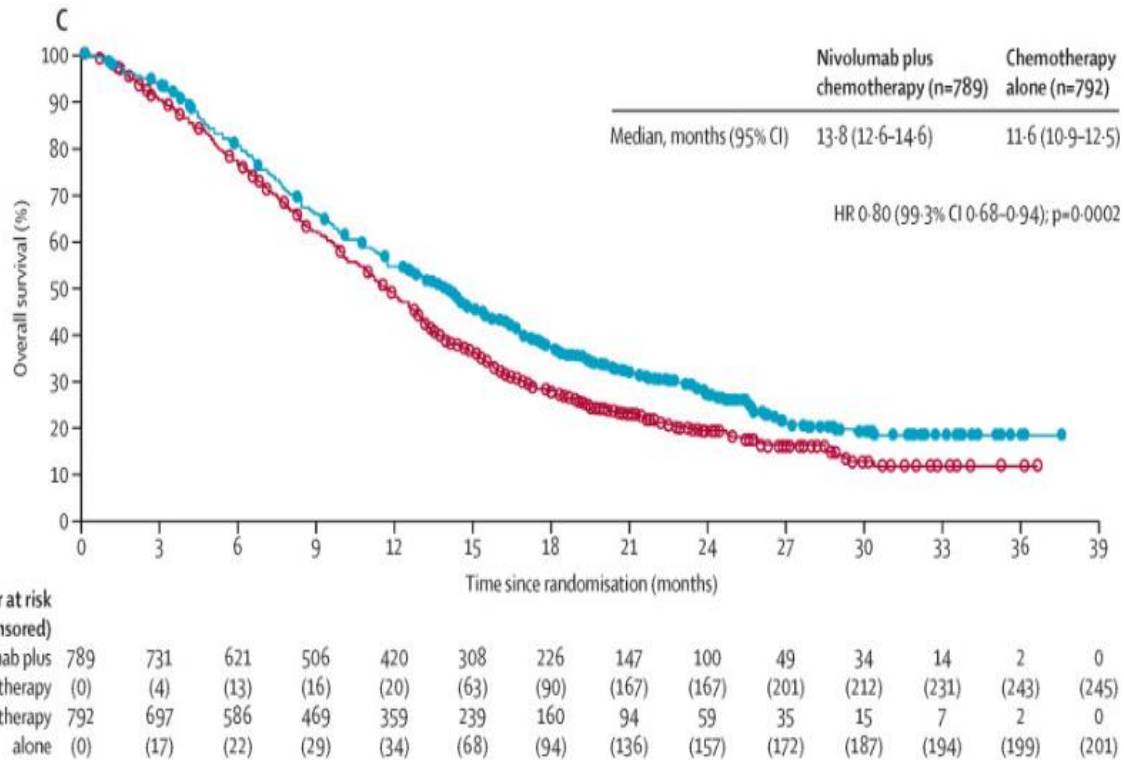
Malla M, Fuqua J, et al. Optimal First-Line Therapy for Metastatic Adenocarcinoma of the Esophagus. *Curr Treat Options Oncol*. 2022 Dec;23(12):1748-1760.

Pihlak R, et al. *Cancers (Basel)*. 2023;15(12):3248

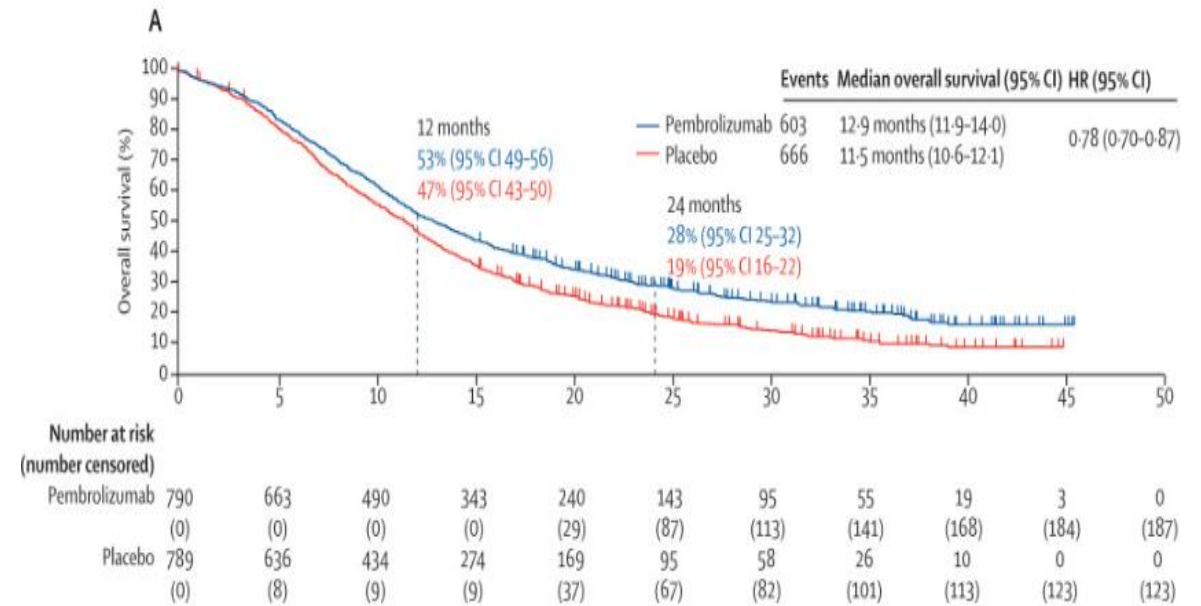
# Frontline Chemo-IO Studies

Study	CM-649	ATTRACTION 4	ORIENT 16	KN-859	KN-590	RATIONALE-305
ICI Agent	Nivolumab	Nivolumab	Sintilimab	Pembrolizumab	Pembrolizumab	Tislelizumab
Location	G/GEJ	G/GEJ	G/GEJ	G/GEJ	Esophageal	G/GEJ
Chemotherapy	CAPOX/FOLFOLX	CAPOX/SOX	CAPOX	CAPOX/CF	CF	CAPOX/CF
PDL-1 Test	28-8 Dako	28-8 Dako	NA	22C3	22C3	SP263 (TAP score)
CPS	≥5: 60%	≥1: 16%	≥5: 61%	≥10: 35%	≥10: 50%	≥5: 55%
Primary endpoint	OS, PFS	OS, PFS	OS	OS, PFS	OS, PFS	OS
Median OS (M)	13.7 vs 11.6 14.4 vs 11.1 (CPS ≥5)	17.5 vs 17.1	15.2 vs 12.3	12.9 vs 11.5	11.6 vs 9.9	15 vs 12.9 17.2 vs 12.6 (TAP ≥5)

# CHECKMATE -649



# KN-859



# RATIONALE -305

## Baseline Characteristics in the PD-L1+ Analysis Set

		TIS + Chemo (n=274)	Placebo + Chemo (n=272)
<b>Median age, years (range)</b>		61.0 (23.0-83.0)	62.0 (30.0-84.0)
<b>Male sex, % (n)</b>		70.4 (193)	73.9 (201)
<b>Region, % (n)</b>	<b>East Asia<sup>a</sup></b>	73.7 (202)	73.9 (201)
	<b>Rest of world<sup>b</sup></b>	26.3 (72)	26.1 (71)
<b>ECOG PS, % (n)</b>	<b>0</b>	35.8 (98)	31.6 (86)
	<b>1</b>	64.2 (176)	68.4 (186)
<b>Primary location, % (n)</b>	<b>Stomach</b>	81.4 (223)	78.7 (214)
	<b>GEJC</b>	18.6 (51)	21.3 (58)
<b>Investigator-chosen chemo, % (n)</b>	<b>XELOX</b>	92.7 (254)	93.4 (254)
	<b>FP</b>	7.3 (20)	6.6 (18)
<b>Metastatic diseases, % (n)</b>		98.5 (270)	98.5 (268)
<b>Peritoneal metastasis, % (n)</b>		41.2 (113)	40.1 (109)
<b>Prior adjuvant/neoadjuvant treatment, % (n)</b>		13.5 (37)	14.0 (38)

Data cutoff: October 08, 2021. Median follow up was 15.9 months in the TIS + chemo arm and 16.8 months in the placebo + chemo arm.

In the ITT population, 54.7% of patients in the TIS + chemo arm and 54.8% of patients in the placebo + chemo arm had a PD-L1 score of  $\geq 5\%$  and were included in the PD-L1+ analysis set.

<sup>a</sup>East Asia includes China (including Taiwan), Japan, and South Korea; <sup>b</sup>Rest of world includes US and EU.

# PDL1 –Positive GC/GEJC

## Overall Survival (OS)

Figure 1. OS in Patients Without Peritoneal Metastasis

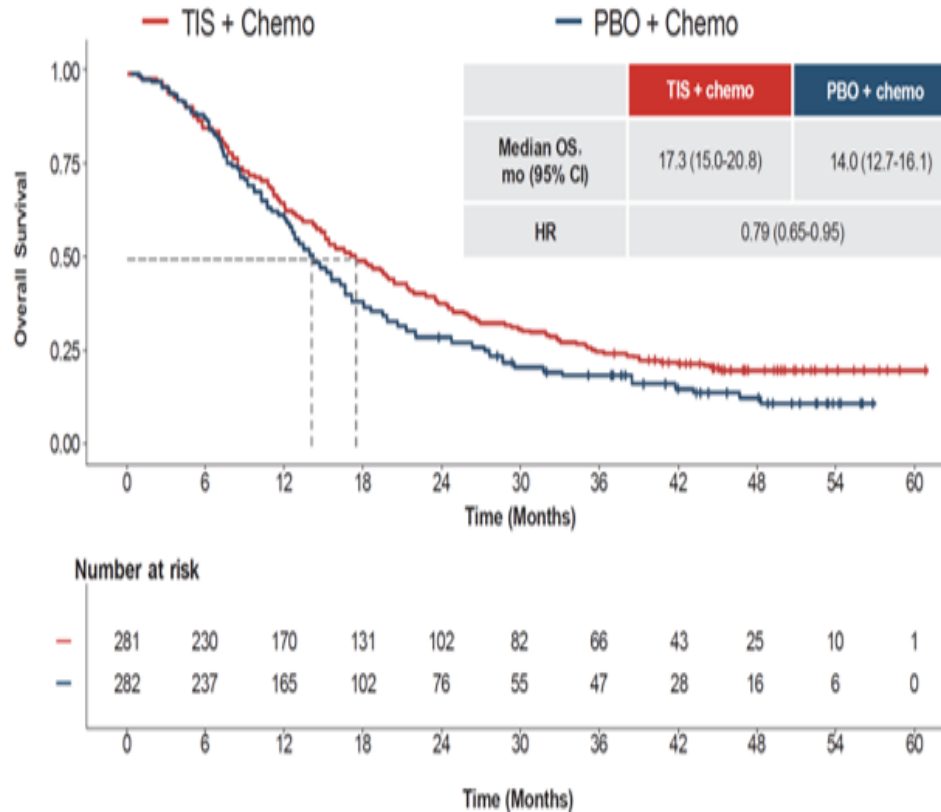
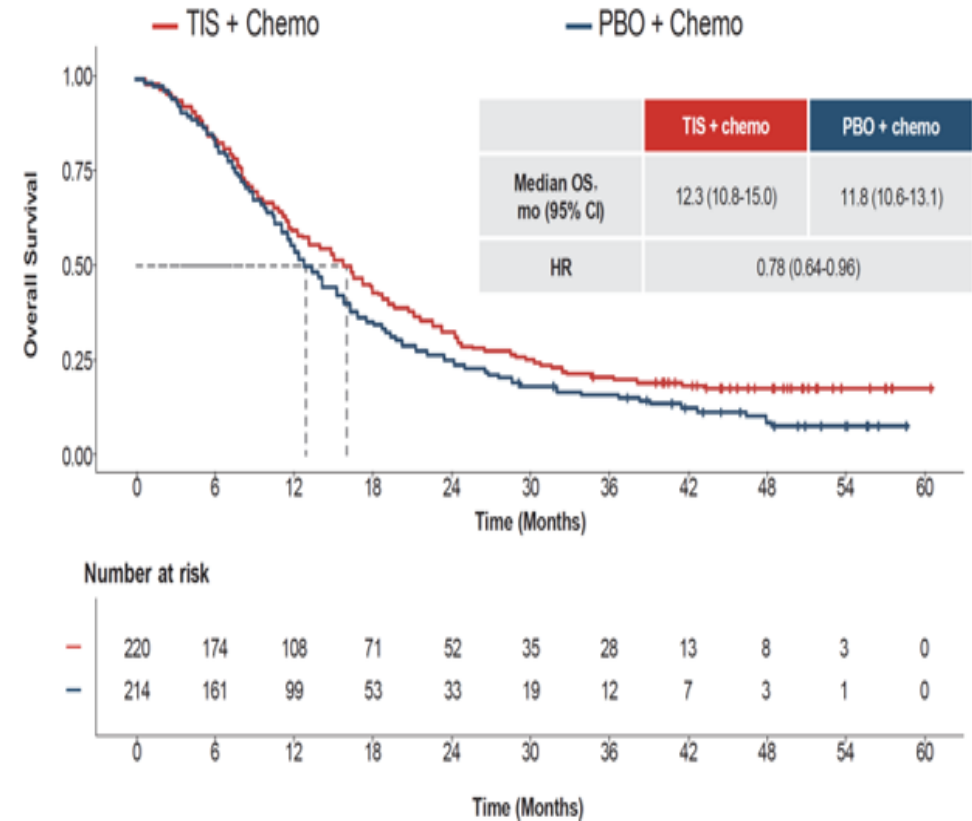


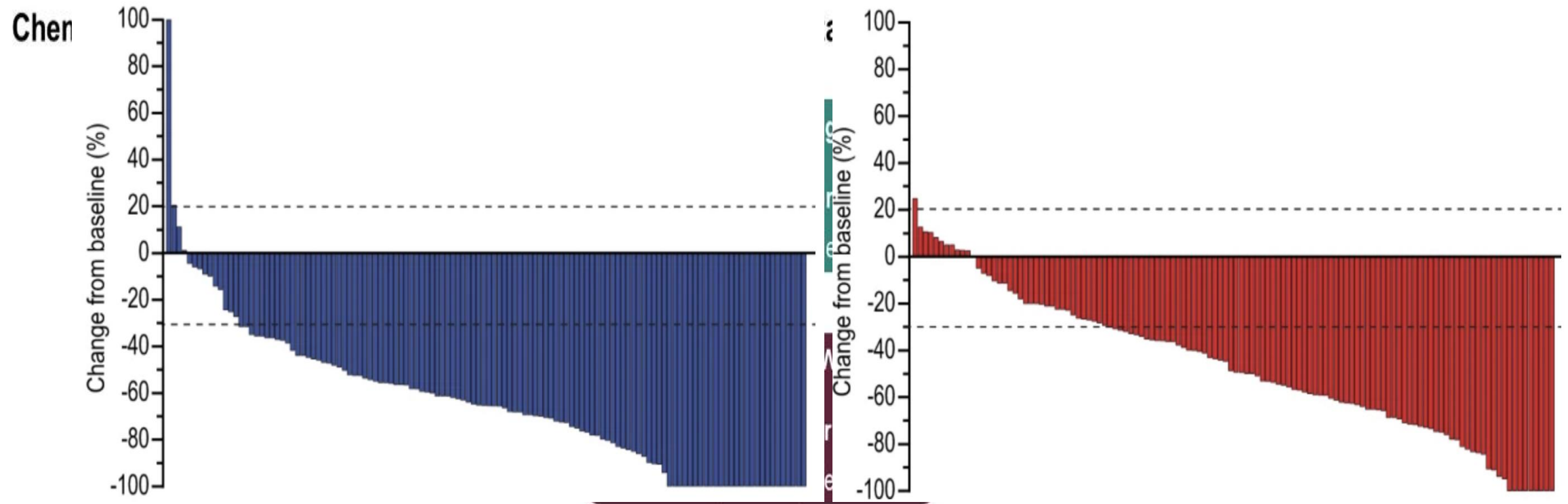
Figure 2. OS in Patients With Peritoneal Metastasis



received subsequent anticancer systemic therapies, respectively. Of those, 19 (6.9%) patients and 38 (14.0%) patients received immunotherapy.

# HER-2 GEJ/Gastric Cancers

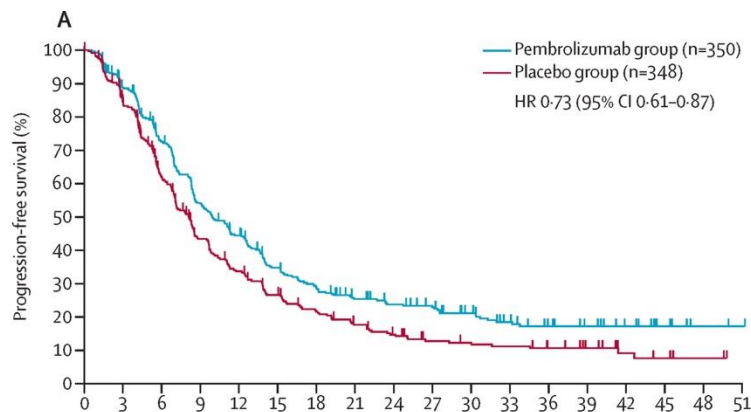
	Experimental arm (N-124)	Placebo arm (N-122)
ORR	74%	52%



<sup>a</sup>Trastuzumab dose: 6 mg/kg IV Q3W following an 8 mg/kg loading dose. FP dose: 5-fluorouracil 800 mg/m<sup>2</sup> IV on D1-5 Q3W + cisplatin 80 mg/m<sup>2</sup> IV Q3W. CAPOX dose: capecitabine 1000 mg/m<sup>2</sup> BID on D1-14 Q3W + oxaliplatin 130 mg/m<sup>2</sup> IV Q3W.

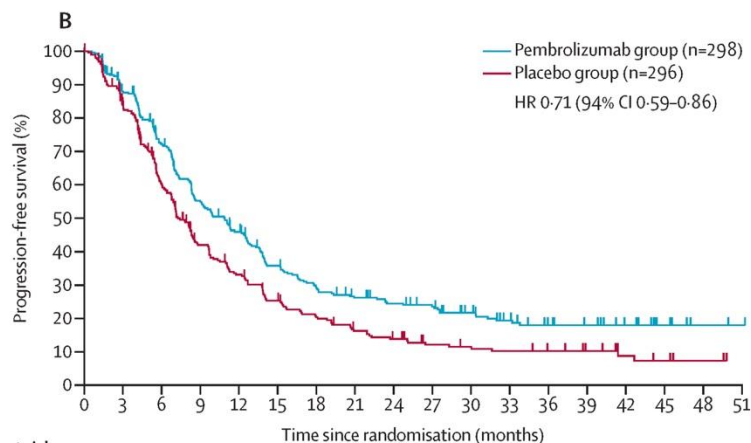
BICR, blinded independent central review; CPS, combined positive score (number of PD-L1-staining cells [tumor cells, lymphocytes, macrophages] divided by the total number of viable tumor cells, multiplied by 100).

## Overall Survival at Final Analysis (ITT)



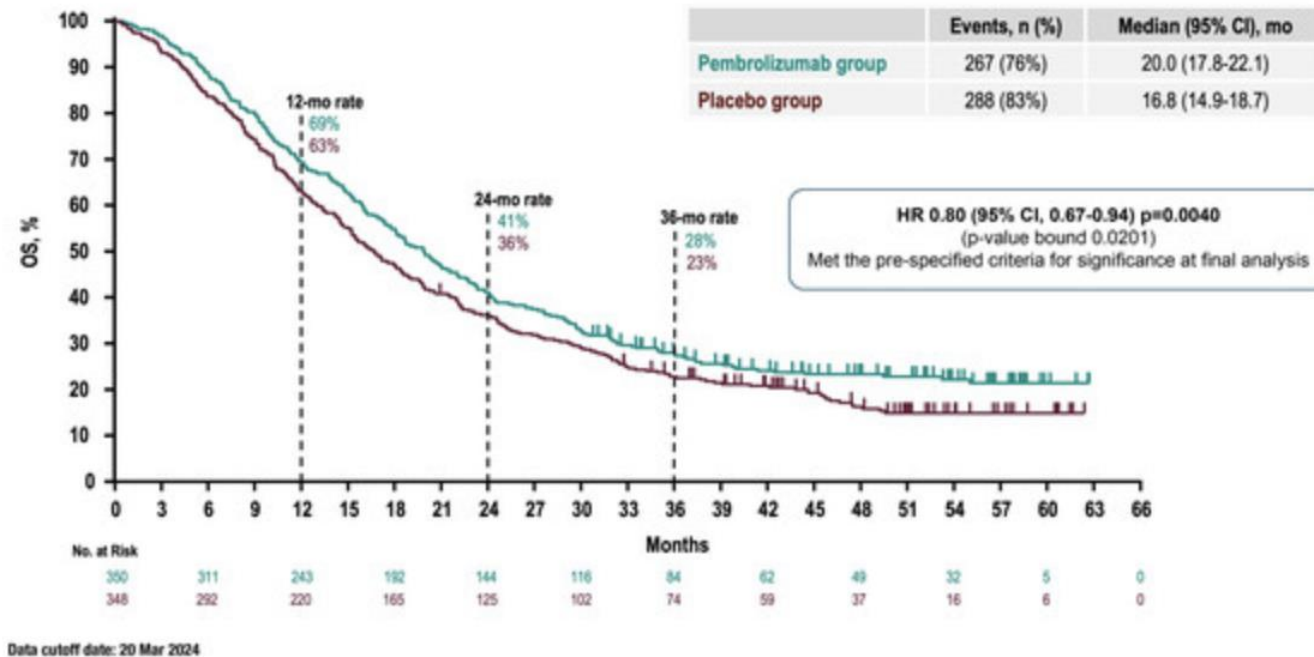
Number at risk (number censored)

Time (months)	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51
Pembrolizumab group	350 (0)	296 (16)	234 (25)	173 (28)	139 (31)	102 (39)	84 (40)	67 (47)	59 (51)	53 (55)	41 (63)	31 (68)	24 (73)	20 (77)	14 (83)	6 (91)	2 (85)	1 (96)
Placebo group	348 (0)	274 (22)	184 (43)	121 (52)	93 (53)	71 (56)	55 (59)	43 (61)	34 (63)	25 (68)	23 (69)	21 (72)	17 (78)	11 (82)	6 (83)	4 (85)	2 (85)	0 (87)



Number at risk (number censored)

Time since randomisation (months)	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51
Pembrolizumab group	298 (0)	250 (13)	200 (19)	151 (21)	123 (24)	91 (30)	74 (31)	63 (34)	56 (37)	51 (40)	39 (48)	30 (53)	23 (58)	20 (61)	14 (67)	6 (75)	2 (79)	1 (80)
Placebo group	296 (0)	231 (19)	152 (36)	100 (43)	78 (44)	58 (46)	45 (50)	34 (51)	28 (56)	20 (57)	18 (57)	16 (59)	14 (63)	10 (66)	6 (67)	4 (69)	2 (69)	0 (71)



**TABLE 1:** Survival Status by PD-L1 CPS Level From KEYNOTE-811

	PD-L1 CPS ≥ 1		PD-L1 CPS < 1	
	Pembro Group (n = 298)	Placebo Group (n = 296)	Pembro Group (n = 52)	Placebo Group (n = 52)
Median PFS	10.9 months	7.3 months	9.5 months	9.5 months
Hazard ratio	0.72		0.99	
Median OS	20.1 months	15.7 months	18.2 months	20.4 months
Hazard ratio	0.79		1.10	

CPS = combined positive score; OS = overall survival; Pembro = pembrolizumab; PFS = progression-free survival.

# Zanidatamab



**Simultaneously binds two HER2 epitopes:**

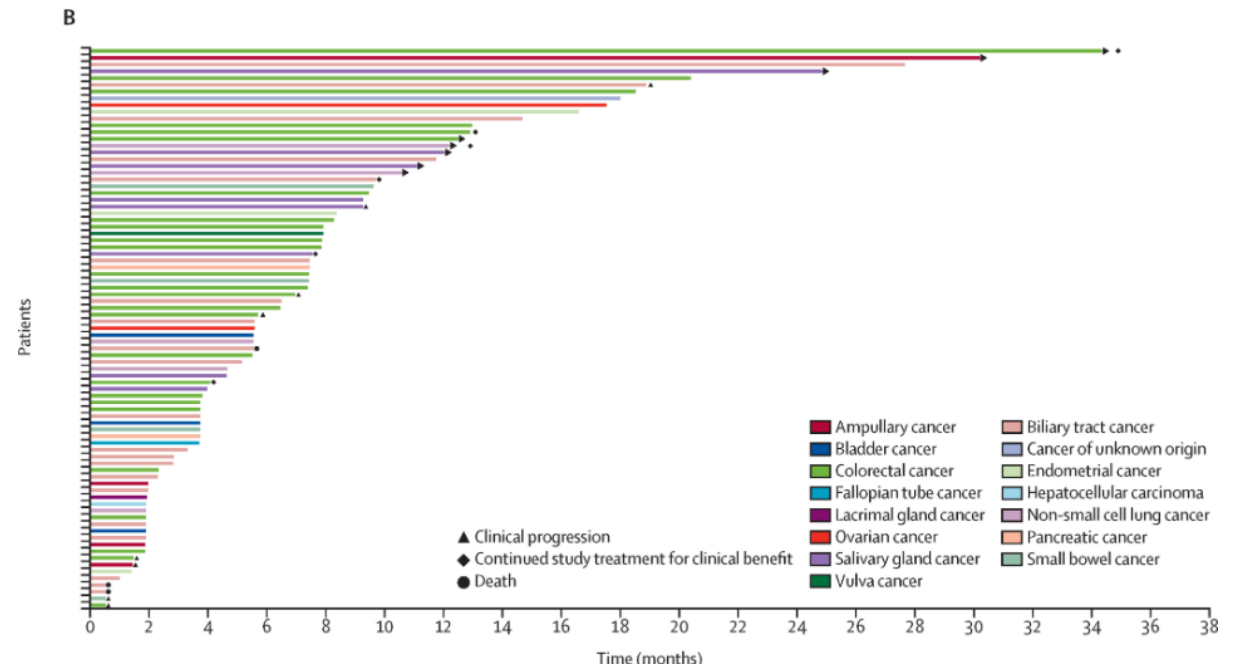
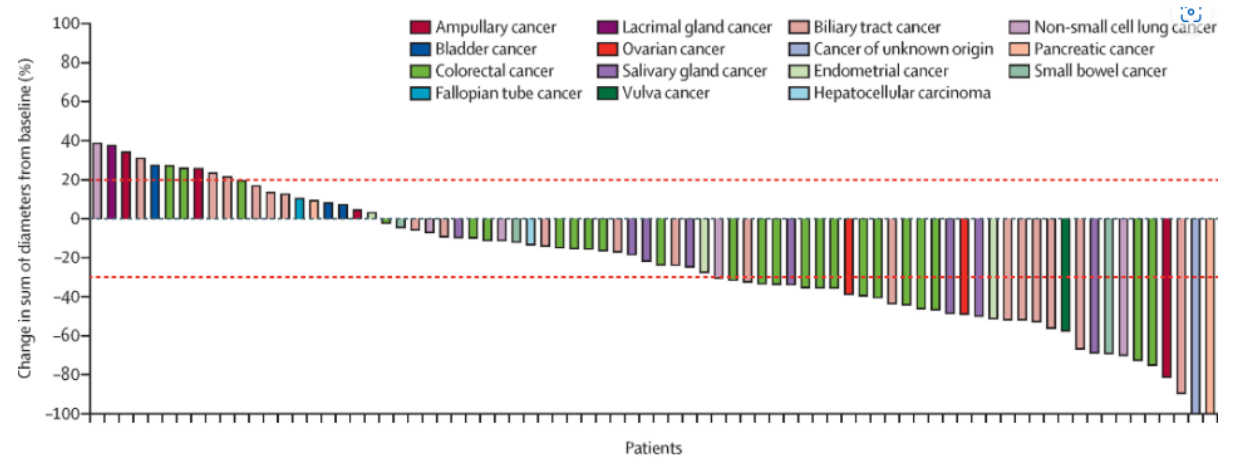
- ECD4 - trastuzumab binding domain
- ECD2 - pertuzumab binding domain

**Multiple mechanisms of action:**

- Improved binding, clustering & receptor internalization
- Inhibition of ligand-dependent & independent proliferation
- Potent activation of ADCC

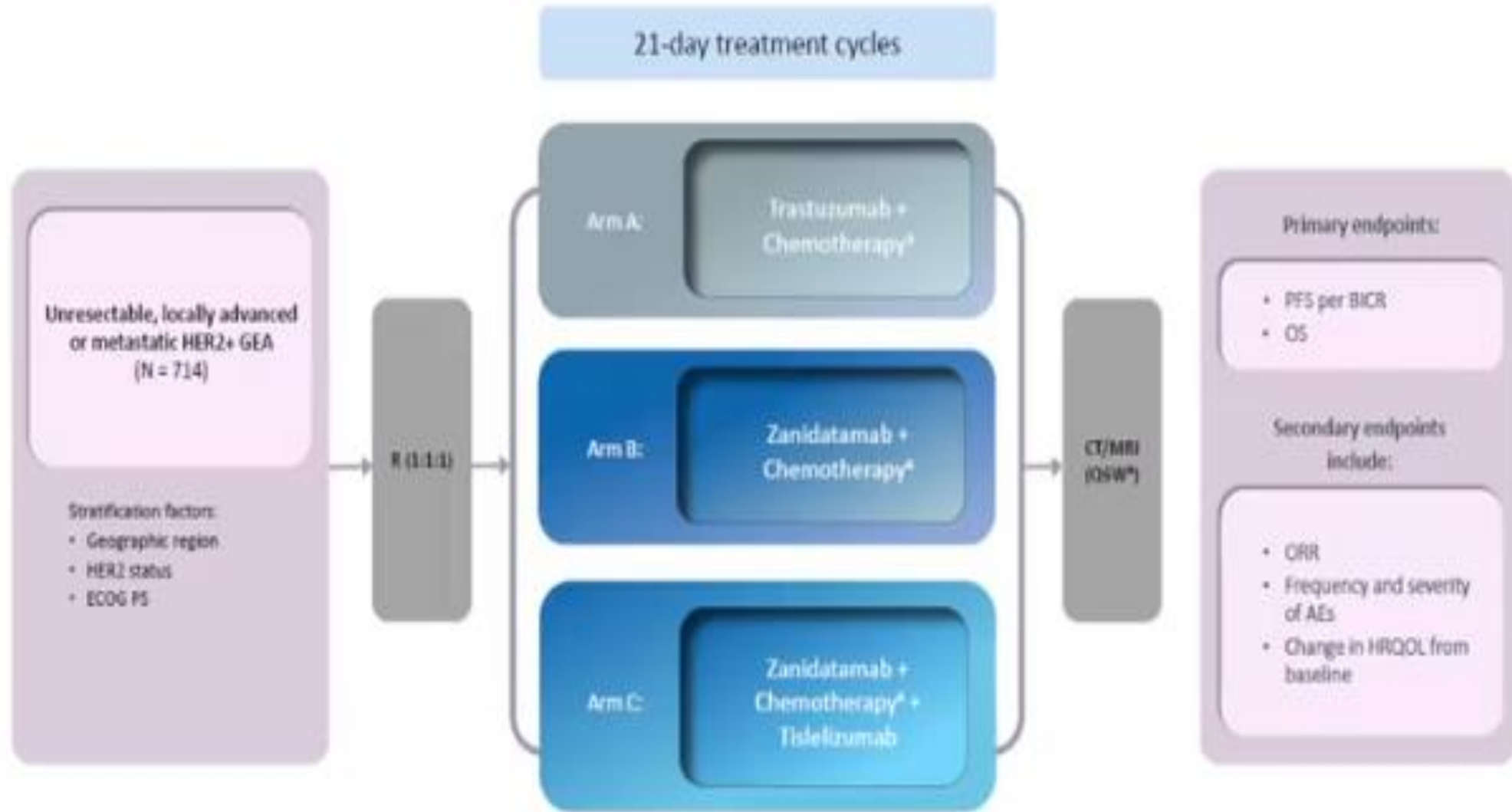
Meric-Bernstam F, et al. *Lancet Oncol.* 2022;23(12):1558-1570.

## Activity Across Tumor Types

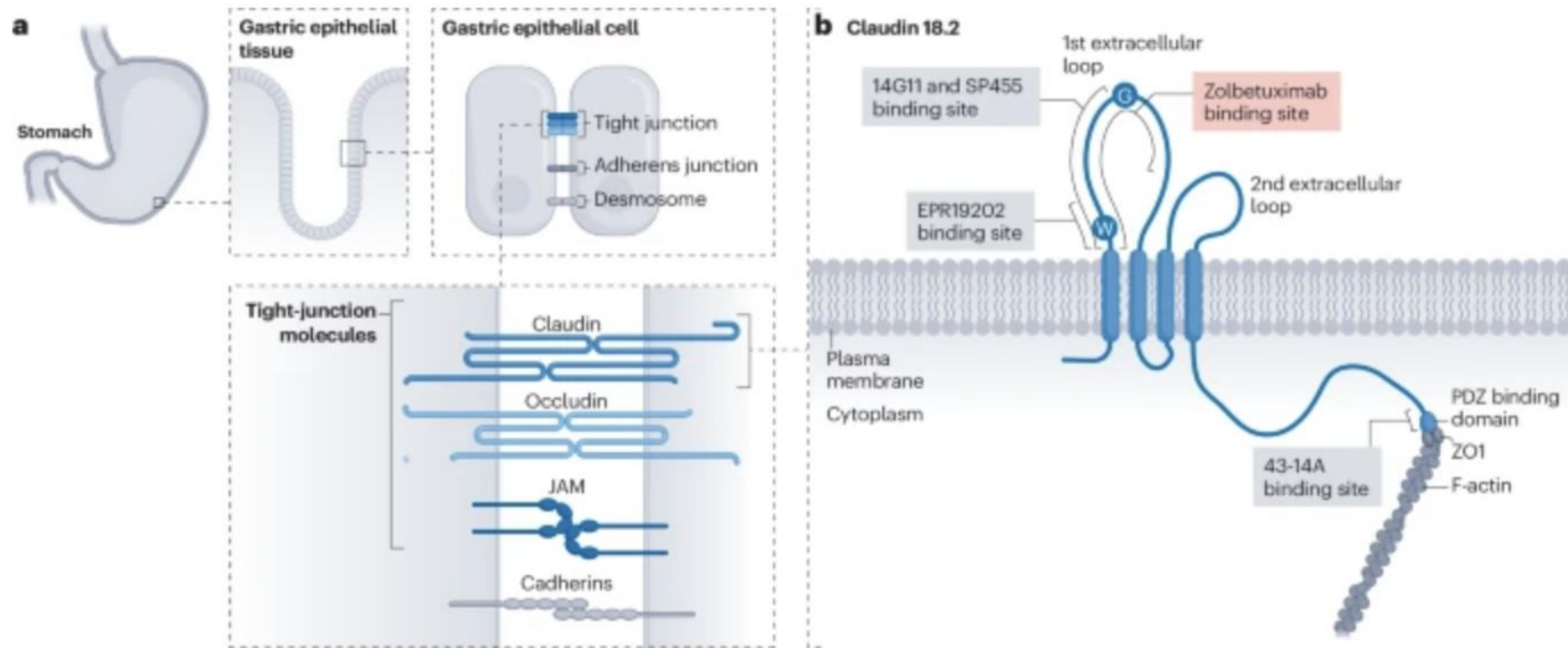




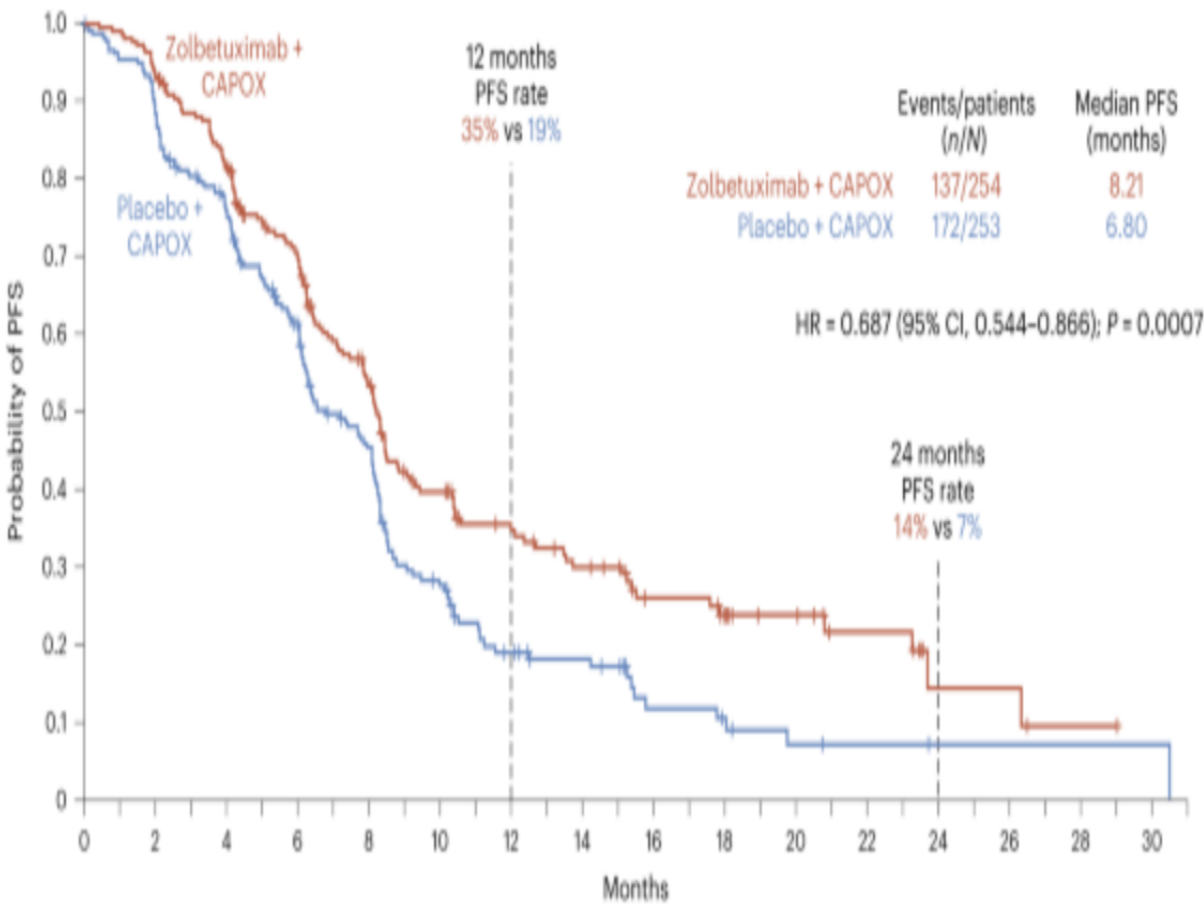
# HERIZON-GEA-01: Phase III



# CLDN 18.2



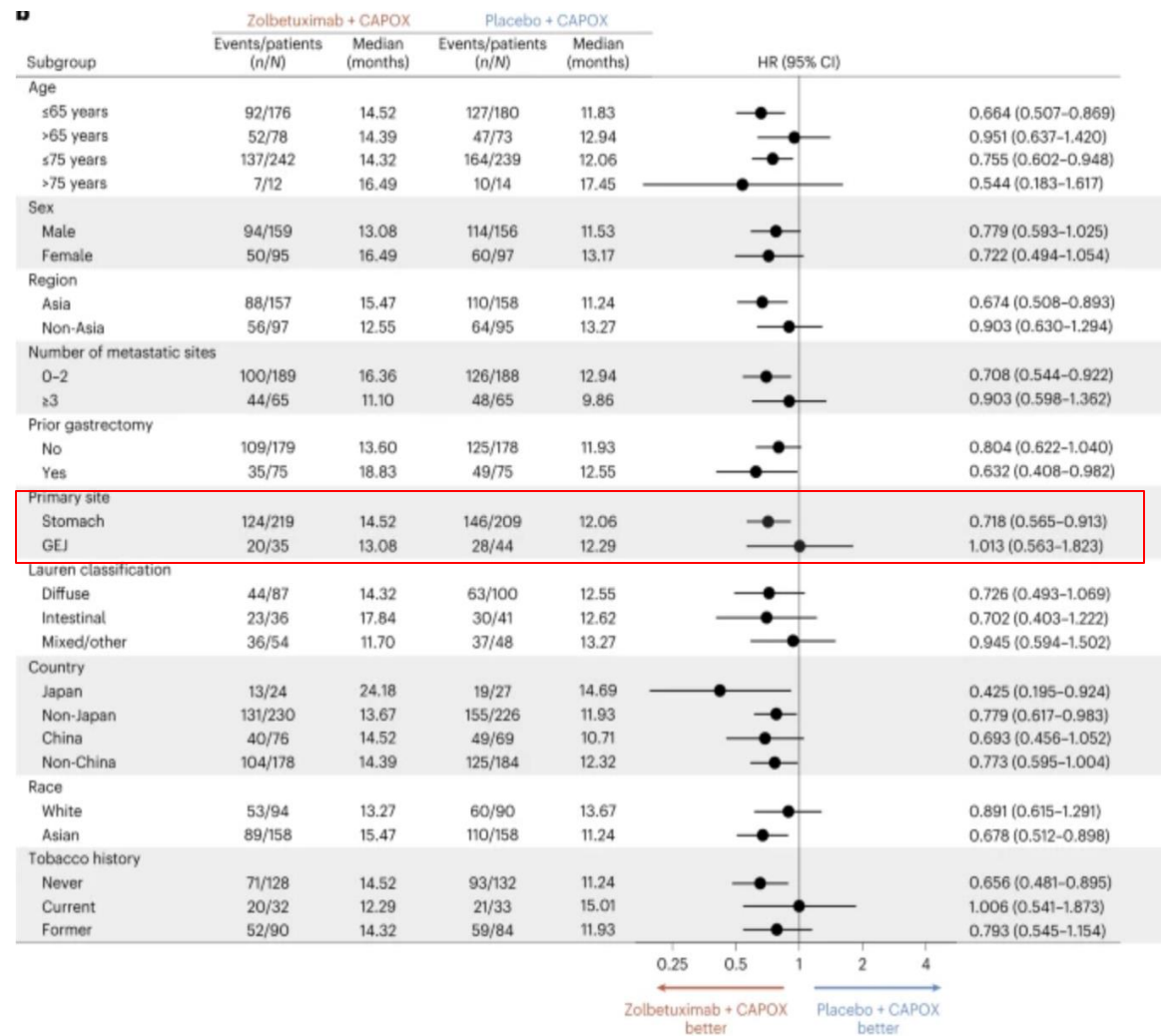
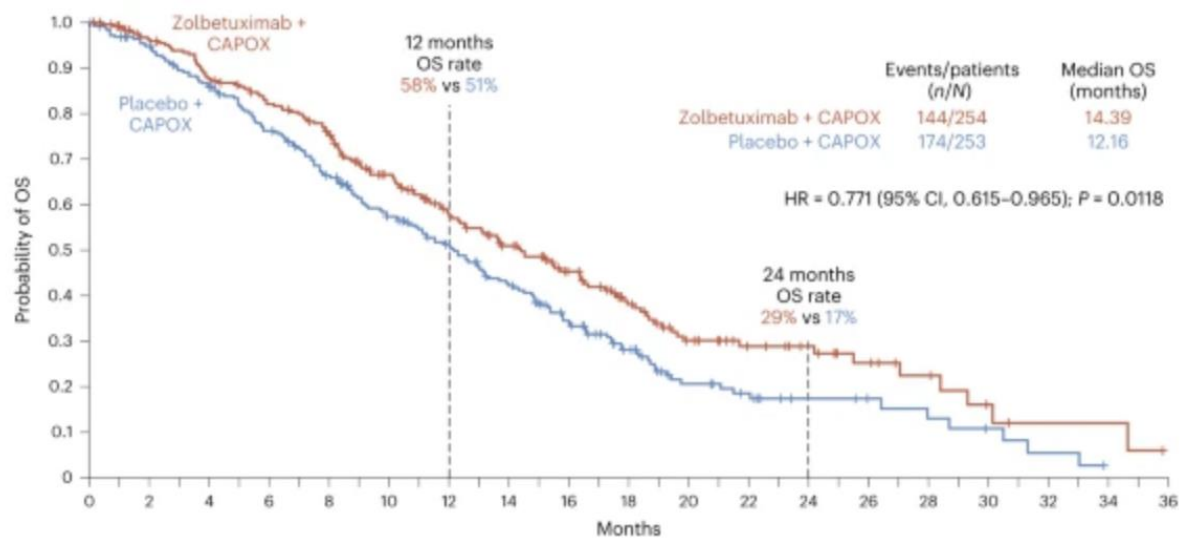
# GLOW: CLDN 18.2



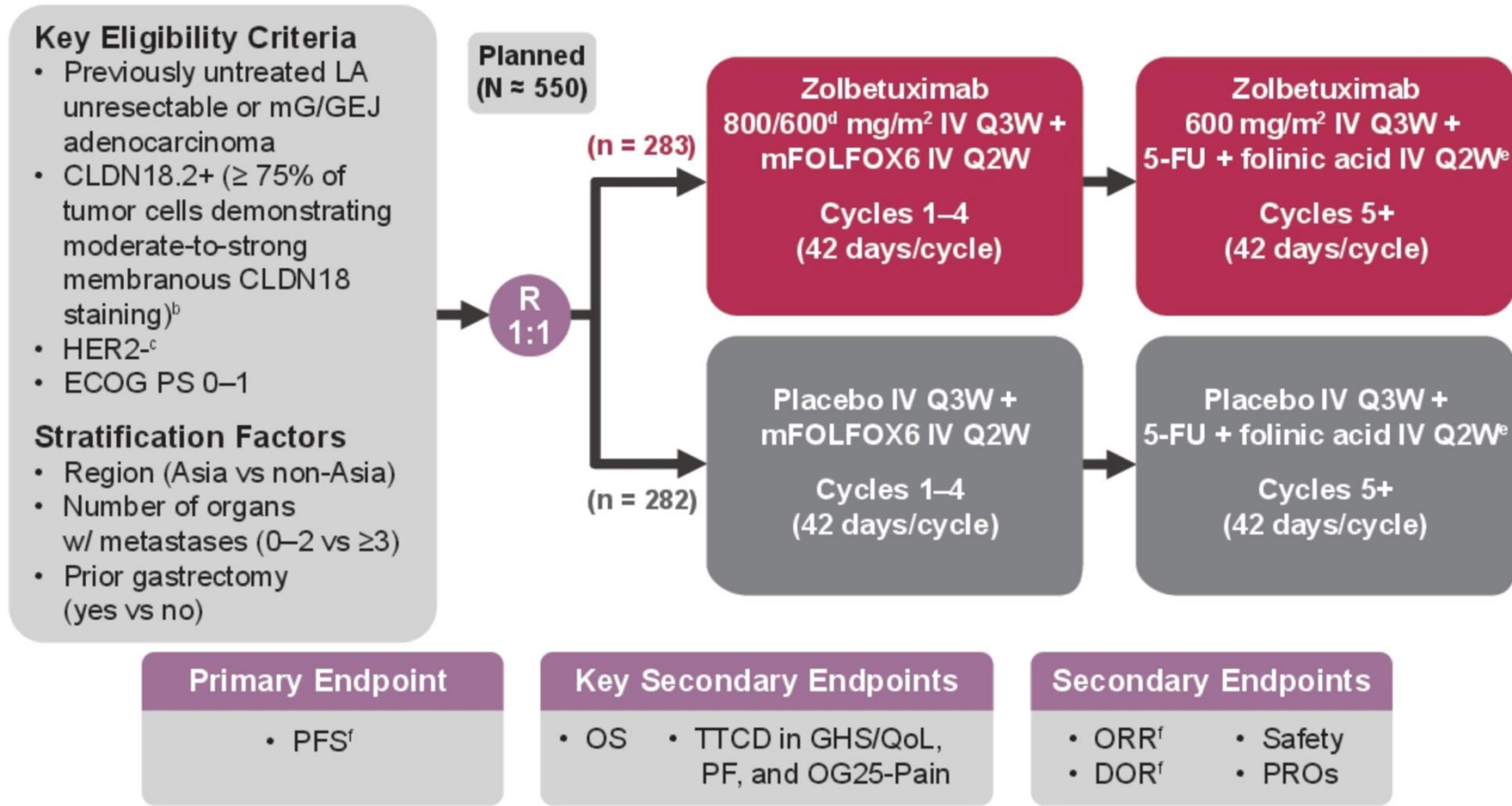
Subgroup	Zolbetuximab + CAPOX		Placebo + CAPOX		HR (95% CI)
	Events/patients (n/N)	Median (months)	Events/patients (n/N)	Median (months)	
<b>Age</b>					
≤65 years	92/176	8.31	130/180	6.44	0.606 (0.463-0.794)
>65 years	45/78	7.13	42/73	8.21	0.917 (0.596-1.410)
≤75 years	134/242	8.18	165/239	6.51	0.698 (0.554-0.879)
>75 years	3/12	NE	7/14	10.25	0.435 (0.111-1.713)
<b>Sex</b>					
Male	92/159	8.18	110/156	6.28	0.679 (0.513-0.898)
Female	45/95	8.31	62/97	8.08	0.700 (0.474-1.035)
<b>Region</b>					
Asia	82/157	8.48	109/158	6.31	0.583 (0.436-0.781)
Non-Asia	55/97	7.95	63/95	8.11	0.928 (0.645-1.336)
<b>Number of metastatic sites</b>					
0-2	97/189	8.31	125/188	7.69	0.691 (0.529-0.904)
≥3	40/65	7.89	47/65	6.05	0.682 (0.445-1.045)
<b>Prior gastrectomy</b>					
No	97/179	8.21	125/178	6.54	0.696 (0.533-0.909)
Yes	40/75	8.28	47/75	7.75	0.726 (0.472-1.114)
<b>Primary site</b>					
Stomach	116/219	8.31	149/209	6.37	0.619 (0.484-0.791)
GEJ	21/35	6.24	23/44	9.23	1.351 (0.731-2.496)
<b>Lauren classification</b>					
Diffuse	38/87	10.41	60/100	8.08	0.620 (0.411-0.936)
Intestinal	21/36	8.11	26/41	6.11	0.675 (0.375-1.217)
Mixed/other	28/54	7.46	36/48	6.37	0.824 (0.499-1.358)
<b>Country</b>					
Japan	7/24	20.80	16/27	8.28	0.253 (0.095-0.674)
Non-Japan	130/230	8.08	156/226	6.51	0.738 (0.584-0.933)
China	39/76	8.31	48/69	6.11	0.594 (0.387-0.910)
Non-China	98/178	8.21	124/184	7.75	0.719 (0.550-0.941)
<b>Race</b>					
White	52/94	7.98	58/90	8.11	0.918 (0.629-1.339)
Asian	83/158	8.44	109/158	6.31	0.587 (0.440-0.785)
<b>Tobacco history</b>					
Never	73/128	8.31	87/132	6.54	0.684 (0.499-0.938)
Current	20/32	8.15	24/33	7.95	0.742 (0.404-1.362)
Former	43/90	8.51	61/84	6.51	0.622 (0.418-0.927)

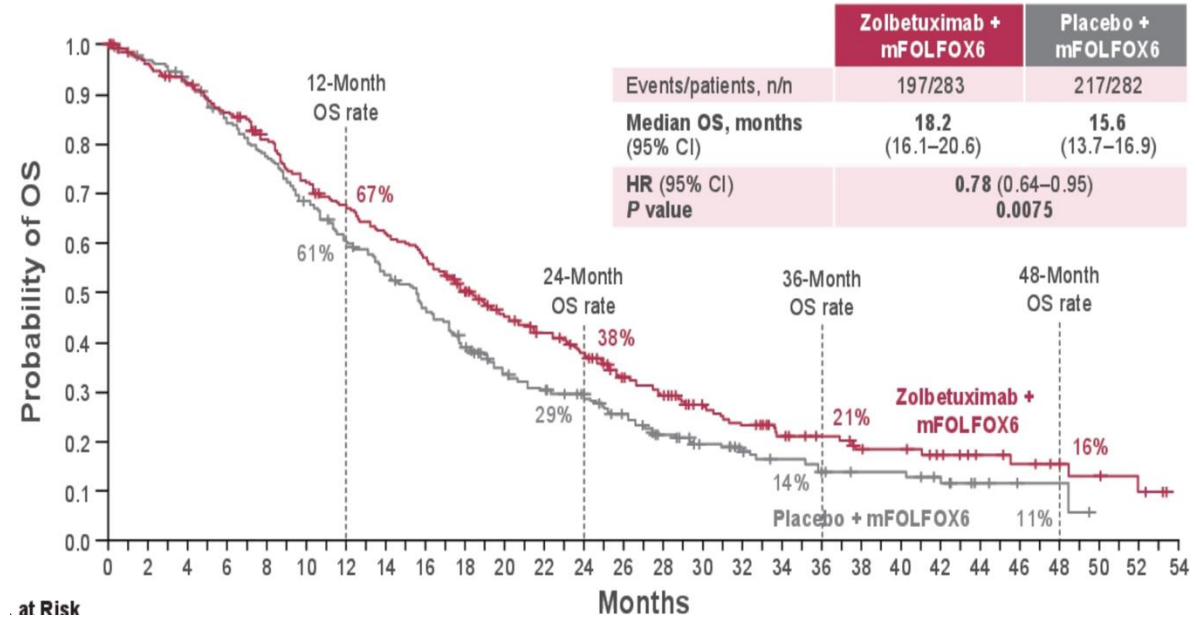
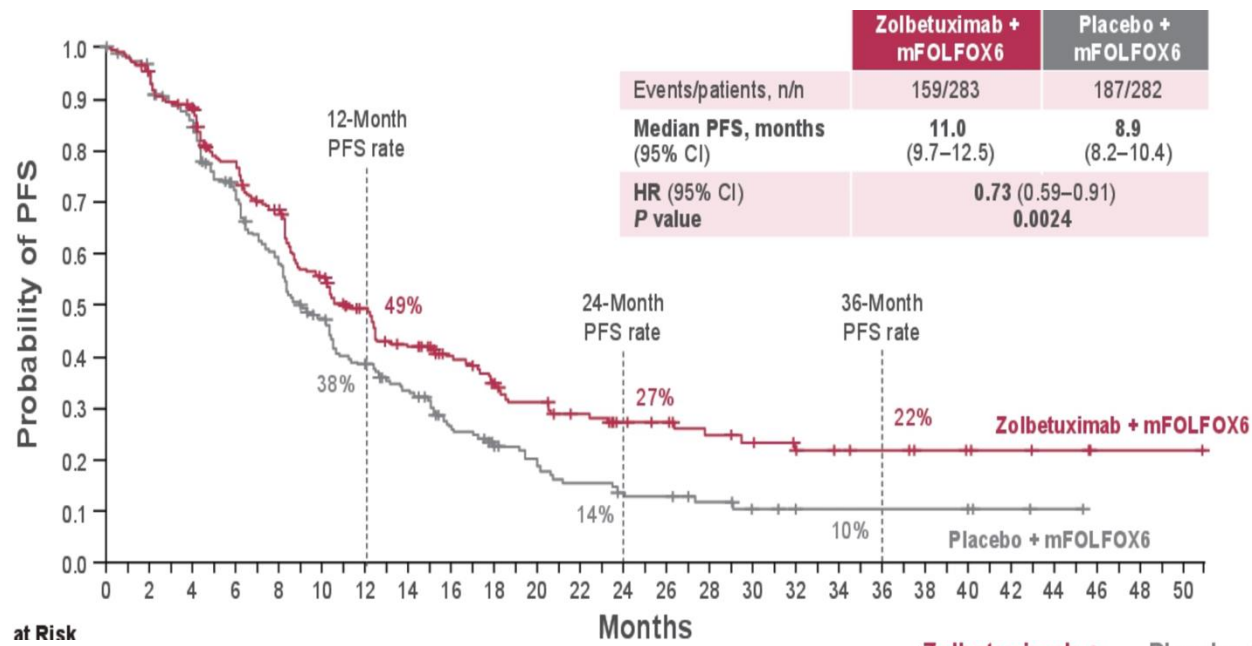
Shah, M. A., Shitara, K., Ajani, J. A., Bang, Y. J., Enzinger, P., Ilson, D., ... & Xu, R. H. (2023). Zolbetuximab plus CAPOX in CLDN18. 2-positive gastric or gastroesophageal junction adenocarcinoma: the randomized, phase 3 GLOW trial. *Nature medicine*, 29(8), 2133-2141.

# GLOW: Overall Survival



# SPOTLIGHT





Subgroup	HR (95% CI)		Zolbetuximab + mFOLFOX6 Events/patients (n/n)	Placebo + mFOLFOX6 Events/patients (n/n)
<b>Age, years</b>				
≤ 65	0.76 (0.59–1.00)		102/181	118/181
> 65	0.68 (0.48–0.97)		57/102	69/101
<b>Sex</b>				
Male	0.71 (0.55–0.93)		103/176	123/175
Female	0.77 (0.54–1.11)		56/107	64/107
<b>Region</b>				
Asia	0.55 (0.37–0.83)		45/88	49/89
Non-Asia	0.81 (0.64–1.04)		114/195	138/193
<b>Number of metastatic sites</b>				
0–2	0.71 (0.56–0.91)		119/219	140/219
≥ 3	0.80 (0.53–1.23)		40/64	47/63
<b>Prior gastrectomy</b>				
No	0.82 (0.64–1.05)		116/199	129/200
Yes	0.57 (0.38–0.84)		43/84	58/82
<b>Primary site</b>				
Stomach	0.66 (0.52–0.85)		118/219	138/210
GEJ	1.05 (0.69–1.59)		41/64	49/72
<b>Lauren classification</b>				
Diffuse	0.79 (0.54–1.16)		45/82	68/117
Intestinal	0.60 (0.40–0.91)		44/70	49/66
Mixed/other <sup>c</sup>	0.85 (0.56–1.28)		51/81	42/55

Subgroup	HR (95% CI)		Zolbetuximab + mFOLFOX6 Events/patients (n/n)	Placebo + mFOLFOX6 Events/patients (n/n)
<b>Age, years</b>				
≤ 65	0.82 (0.64–1.05)		126/181	135/181
> 65	0.73 (0.53–1.00)		71/102	82/101
<b>Sex</b>				
Male	0.77 (0.61–0.99)		124/176	139/175
Female	0.82 (0.59–1.12)		73/107	78/107
<b>Region</b>				
Asia	0.70 (0.49–1.00)		55/88	66/89
Non-Asia	0.83 (0.66–1.05)		142/195	151/193
<b>Number of metastatic sites</b>				
0–2	0.81 (0.65–1.02)		145/219	159/219
≥ 3	0.68 (0.47–1.00)		52/64	58/63
<b>Prior gastrectomy</b>				
No	0.92 (0.73–1.15)		147/199	154/200
Yes	0.57 (0.39–0.83)		50/84	63/82
<b>Primary site</b>				
Stomach	0.73 (0.58–0.91)		148/219	161/210
GEJ	1.02 (0.69–1.51)		49/64	56/72
<b>Lauren classification</b>				
Diffuse	0.91 (0.66–1.27)		63/82	86/117
Intestinal	0.57 (0.38–0.84)		48/70	57/66
Mixed/other <sup>c</sup>	0.89 (0.60–1.32)		57/81	44/55



**PRINCIPLES OF SYSTEMIC THERAPY**  
**Systemic Therapy for Unresectable Locally Advanced, Recurrent, or Metastatic Disease (where local therapy is not indicated)**

**ADENOCARCINOMA**

**First-Line Therapy**

- Oxaliplatin is preferred over cisplatin due to lower toxicity.

**Preferred Regimens**

- **HER2 overexpression positive<sup>d</sup>**
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin, and trastuzumab<sup>a</sup>
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin, trastuzumab<sup>a</sup> and pembrolizumab for PD-L1 CPS ≥ 1 (category 1)<sup>e,g,23,24</sup>
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), cisplatin, and trastuzumab (category 1)<sup>a,25</sup>
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), cisplatin, trastuzumab<sup>a</sup> and pembrolizumab for PD-L1 CPS ≥ 1 (category 1)<sup>e,g,23,24</sup>
- **HER2 overexpression negative<sup>d</sup>**
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin, and nivolumab (category 1 for PD-L1 CPS ≥ 5; category 2B for PD-L1 CPS < 5)<sup>e,g,26</sup>
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin, and pembrolizumab for PD-L1 CPS ≥ 1 (category 1 for PD-L1 CPS ≥ 10; category 2B for PD-L1 CPS 1 to < 10)<sup>e,g,27,28</sup>
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin and zolbetuximab-clzb for CLDN18.2 positive<sup>d</sup> (category 1 for EGJ adenocarcinoma; category 2A for esophageal adenocarcinoma)<sup>29,30</sup>
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine) and oxaliplatin<sup>31-33</sup>
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), cisplatin, and pembrolizumab for PD-L1 CPS ≥ 1 (category 1 for PD-L1 CPS ≥ 10; category 2B for PD-L1 CPS 1 to < 10)<sup>e,g,27,28</sup>
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine) and cisplatin<sup>31,34-36</sup>
- **MSI-H/dMMR tumors (independent of PD-L1 status)<sup>d</sup>**
  - ▶ Pembrolizumab<sup>e,g,37-39</sup>
  - ▶ Dostarlimab-gxly<sup>e,g,40</sup>
  - ▶ Nivolumab and ipilimumab<sup>e,g,26</sup>
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin, and nivolumab<sup>e,g,26</sup>
  - ▶ Fluoropyrimidine (fluorouracil<sup>b</sup> or capecitabine), oxaliplatin, and pembrolizumab<sup>e,g,27</sup>

**Other Recommended Regimens**

- Fluorouracil<sup>b,h</sup> and irinotecan<sup>i,41</sup>
- Paclitaxel with or without carboplatin or cisplatin<sup>i,42-46</sup>
- Docetaxel with or without cisplatin<sup>i,47-50</sup>
- Fluoropyrimidine<sup>i,35,51,52</sup> (fluorouracil<sup>b</sup> or capecitabine)
- Docetaxel, cisplatin or oxaliplatin, and fluorouracil<sup>b,i,53,54</sup>

<sup>a</sup> An FDA-approved biosimilar is an appropriate substitute for trastuzumab.

<sup>b</sup> Leucovorin is indicated with certain fluorouracil-based regimens. Depending on availability, these regimens may be used with or without leucovorin. For important information regarding the leucovorin shortage, please see the [Discussion](#).

<sup>d</sup> [Principles of Pathologic Review and Biomarker Testing \(ESOPH-B\)](#).

<sup>e</sup> See [NCCN Guidelines for Management of Immunotherapy-Related Toxicities](#).

<sup>g</sup> If no prior tumor progression while on therapy with a checkpoint inhibitor.

<sup>h</sup> Capecitabine cannot be used interchangeably with fluorouracil in regimens containing irinotecan.

<sup>i</sup> Trastuzumab should be added to first-line chemotherapy for HER2 overexpression positive adenocarcinoma. An FDA-approved biosimilar is an appropriate substitute for trastuzumab.

**Note: All recommendations are category 2A unless otherwise indicated.**

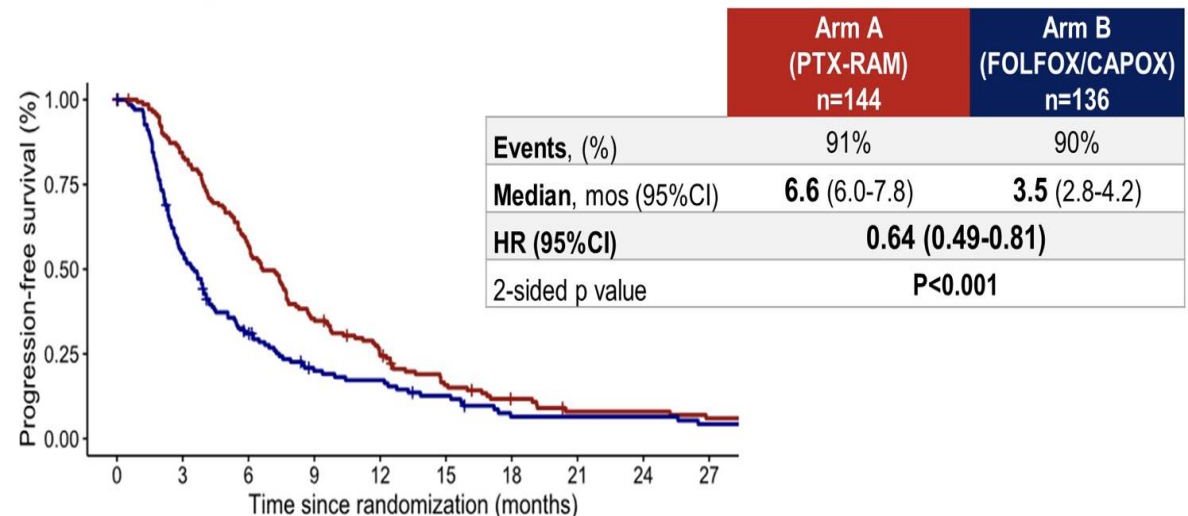


# Biomarker Negative

- Her 2 Negative
- PDL1 Negative
- CLDN 18.2 Negative
  
- Frontline: Chemotherapy alone
- Median OS: <12 months
- % of patients receiving II-line therapy: 40%
- Ramucirumab + Paclitaxel: II-line SOC

# SWITCH MAINTENANCE: ARMANI

## Primary endpoint: PFS

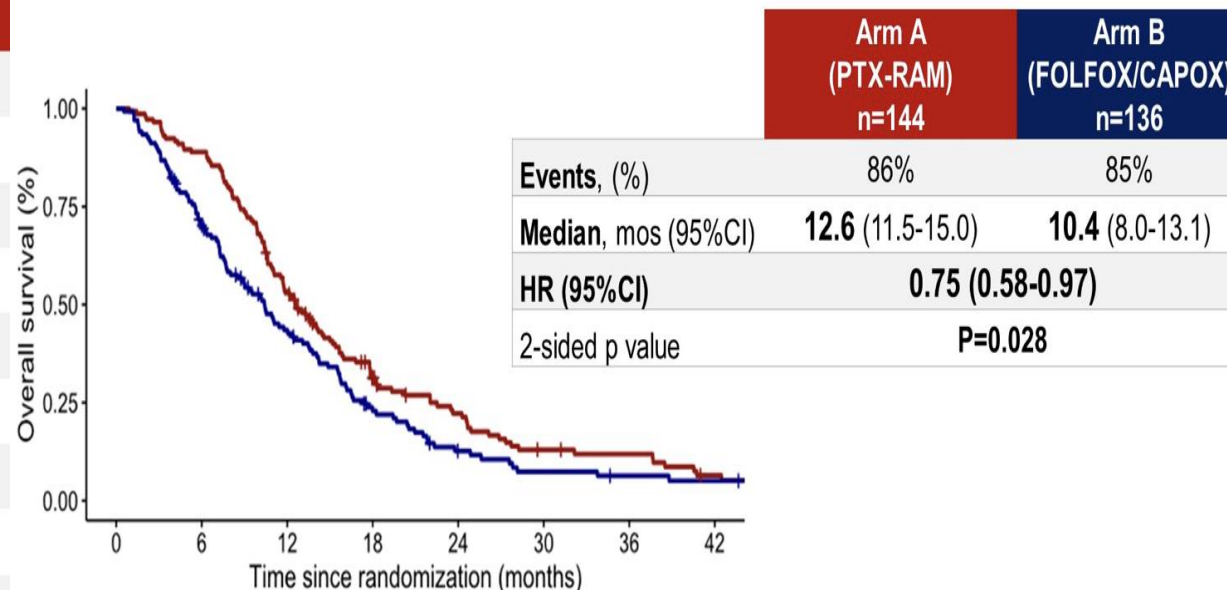


Number at risk

—	144	117	80	50	33	20	13	8	8	6
—	136	73	39	22	19	13	6	6	6	4

24-month RMST analysis showed a 2.4-mos average increment in PFS, which was statistically significant ( $p=0.002$ ).

## Key secondary endpoint: OS



Number at risk

—	144	128	76	37	24	13	11	5
—	136	91	52	25	12	7	5	4

The reported numbers are % in the ITT

# SWITCH MAINTENANCE: ARMANI

## K Safety analysis

ORR

DCR

CR

PR

SD

PD

NE<sup>b</sup>



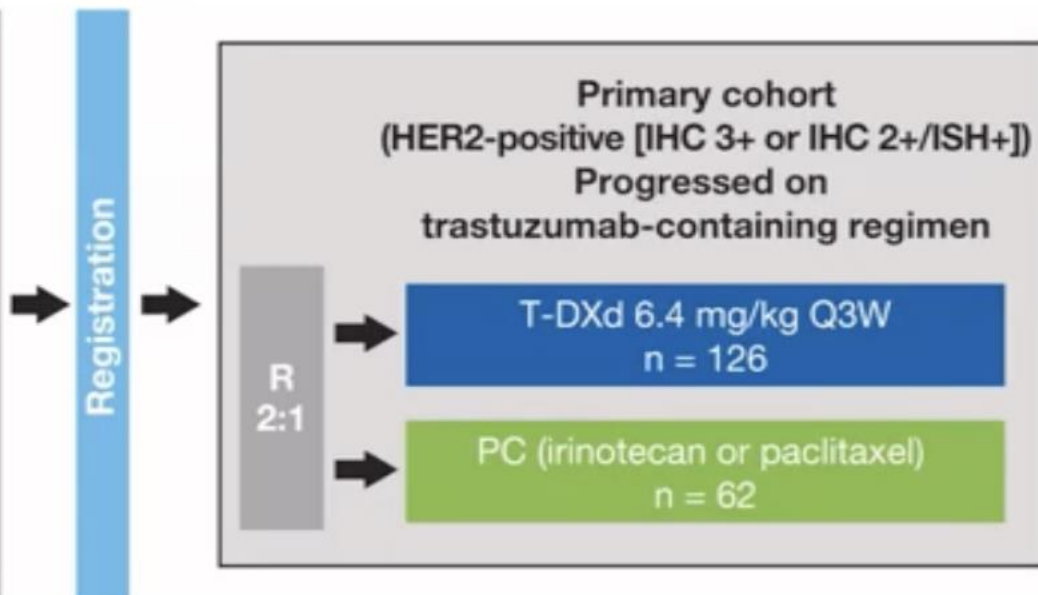
Adverse Events	Arm A (PTX-RAM) N= 141		Arm B (FOLFOX/CAPOX) N = 135	
	Any Grade (%)	Grade ≥ 3 (%)	Any Grade (%)	Grade ≥ 3 (%)
Stomatitis/Oral mucositis	14.2	1.4	14.0	1.5
Nausea	12.8	0	18.5	0
Vomiting	6.4	0	6.7	0
Diarrhea	16.3	0	8.9	0
Hand-foot syndrome	1.4	0	11.8	0
Peripheral Neuropathy	61.7	5.7	45.2	6.7
Neutropenia	55.3	26.2	23.0	9.6
Febrile neutropenia	1.4	1.4	0	0
Anemia	27.7	2.1	13.3	3.0
Thrombocytopenia	14.2	0	28.1	0
Hypertension	23.4	6.4	0.7	0
Venous thromboembolism	5.7	2.8	2.2	0

Grade 3 or higher treatment-related adverse events were observed in **40.4%** of patients in the PTX-RAM arm versus **20.7%** of patients in the FOLFOX/CAPOX arm

# DESTINY-GASTRIC 01: Japan, S.Korea

## Study population

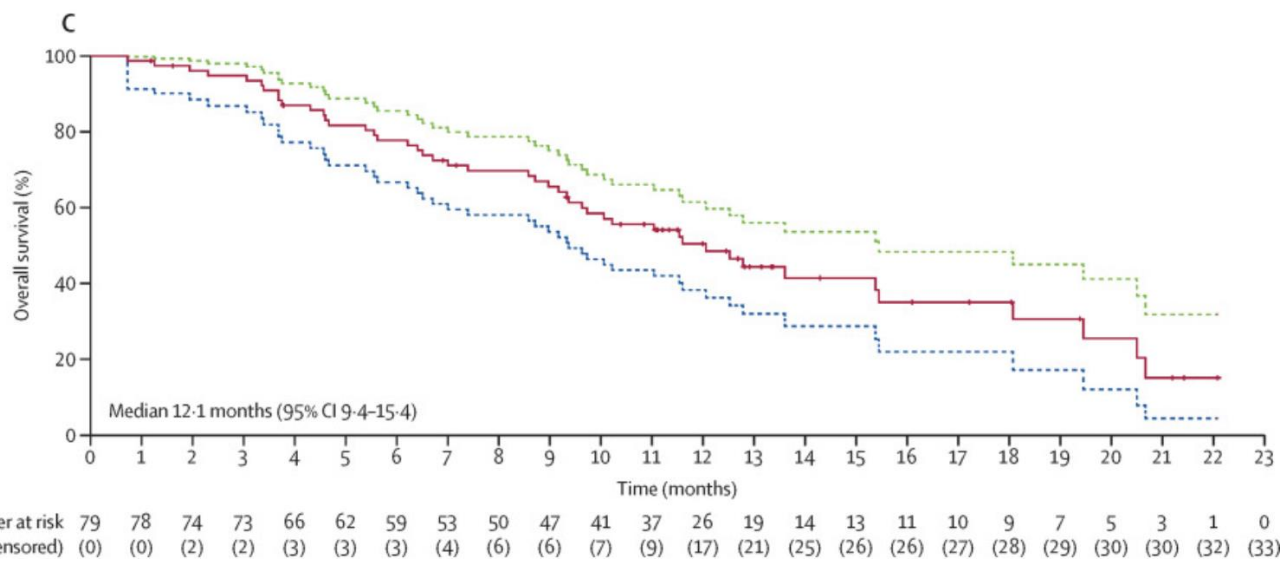
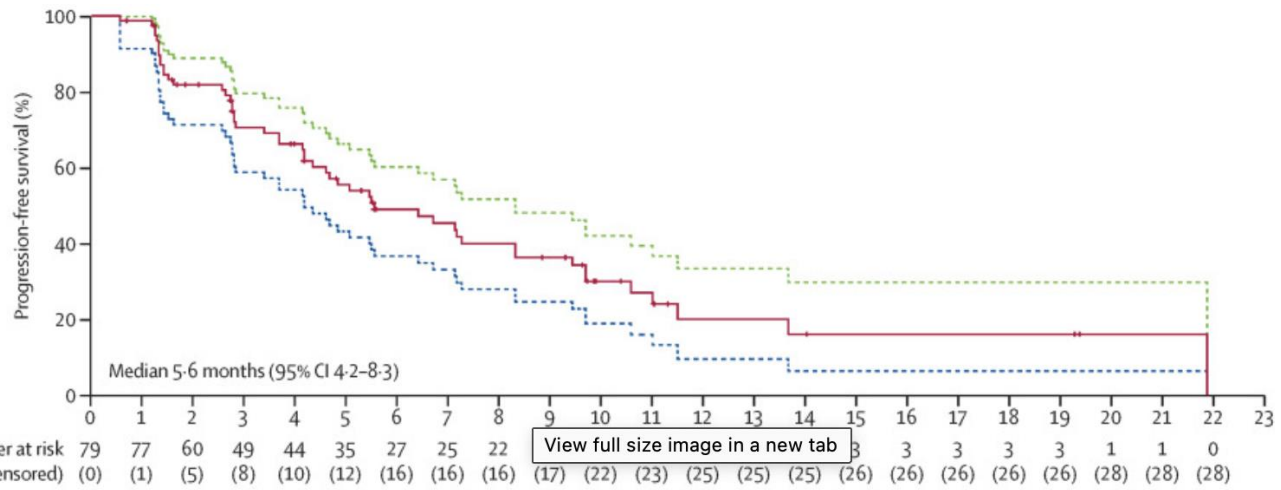
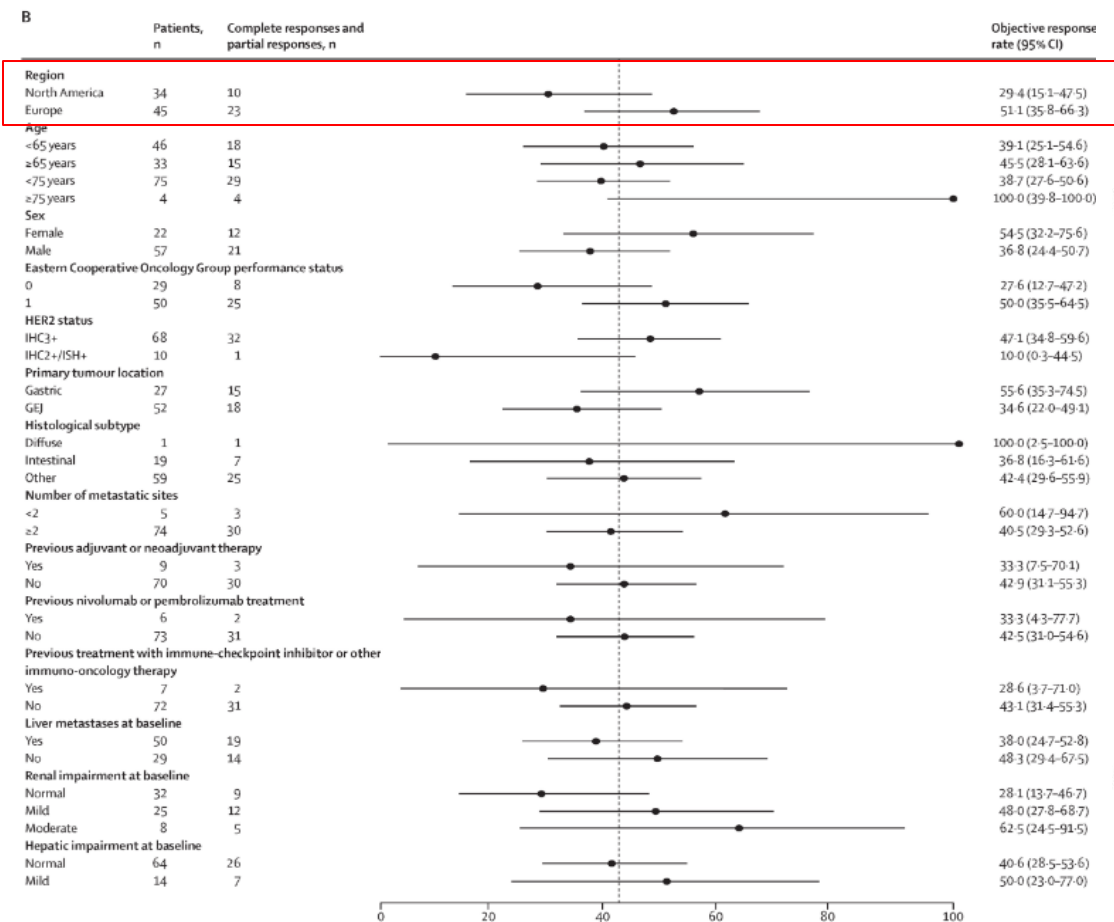
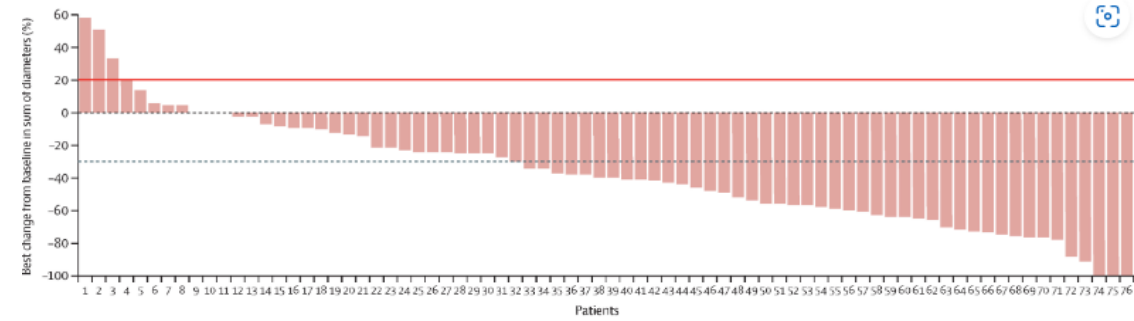
- HER2-expressing advanced gastric or GEJ adenocarcinoma
- ≥2 prior regimens; must include fluoropyrimidine and a platinum agent



Primary results <sup>a</sup>	T-DXd n = 119	PC chemotherapy n = 56
ORR by ICR, % (95% CI)	51 (42-61) <sup>b</sup>	14 (6-26)
Confirmed ORR by ICR, % (95% CI)	43 (34-52)	12 (5-24)
OS, mo, median (95% CI) HR, 0.59 (95% CI, 0.39-0.88) <sup>c</sup>	12.5 (9.6-14.3)	8.4 (6.9-10.7)
PFS, mo, median (95% CI) HR, 0.47 (95% CI, 0.31-0.71)	5.6 (4.3-6.9)	3.5 (2.0-4.3)

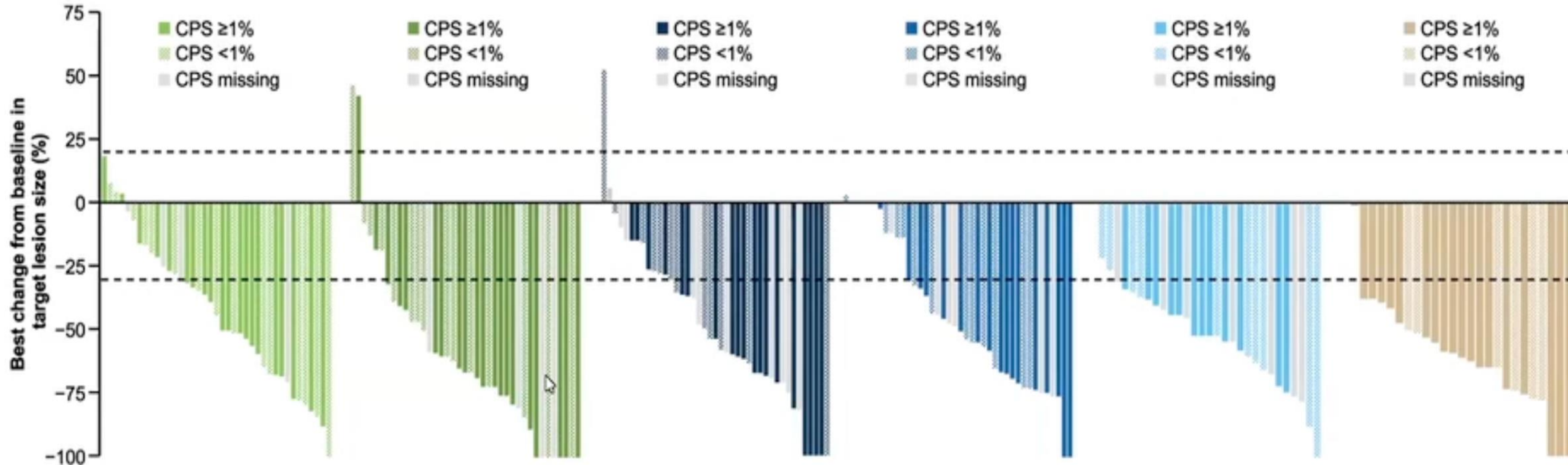
Demographic Variable	T-DXd n = 125	PC Overall n = 62
Median age (range), <sup>a</sup> years	65.0 (34.0-82.0)	66.0 (28.0-82.0)
Female, %	24.0	24.2
Region, %		
Japan/Korea	79.2/20.8	80.6/19.4

# DESTINY-GASTRIC 02: USA, Europe



# DESTINY-Gastric03

	T-DXd 6.4 mg/kg n=43	T-DXd 6.4 mg/kg + 5-FU/cape 1000 mg/m <sup>2</sup> n=41	T-DXd 6.4 mg/kg + 5-FU/cape 1000 mg/m <sup>2</sup> + pembro n=43	T-DXd 6.4 mg/kg + pembro n=41	T-DXd 5.4 mg/kg + 5-FU/cape 750 mg/m <sup>2</sup> + pembro n=32	SOC - trastuzumab + 5-FU/cape + cisplatin/oxaliplatin n=29
mFollow up, months	17	21	17	15	5	18
mDOR, months (95% CI)	18 (6, 30)	20 (12, 28)	17 (8, NE)	18 (5, 21)	NE (2, NE)	14 (5, 20)
Confirmed ORR, % (95% CI)	49 (33, 65)	78 (62, 90)	58 (42, 73)	63 (46, 78)	59 (40, 77)	76 (56, 90)
CPS ≥1%	57	77	70	78	62	85
CPS <1%	53	73	39	44	46	71



Assessments were by Investigator using RECIST 1.1. Best percentage change is the maximum reduction or minimum increase from baseline in the target lesion size; the dashed lines at -30% and 20% change in target lesion size indicate the thresholds for partial response and progressive disease, respectively.

	T-DXd 6.4 mg/kg n=42 <sup>*</sup>	T-DXd 6.4 mg/kg + 5-FU/cape 1000 mg/m <sup>2</sup> n=42	T-DXd 6.4 mg/kg + 5-FU/cape 1000 mg/m <sup>2</sup> + pembro n=43 <sup>*</sup>	T-DXd 6.4 mg/kg + pembro n=41	T-DXd 5.4 mg/kg + 5-FU/cape 750 mg/m <sup>2</sup> + pembro n=32
<b>Median follow up, months</b>	17	21	17	15	5
<b>All-causality AEs, n (%)</b>	42 (100)	42 (100)	43 (100)	41 (100)	27 (84)
Grade ≥3 AEs	27 (64)	<b>32 (76)</b>	<b>39 (91)</b>	33 (80)	<b>11 (34)</b>
<b>Most common all-causality Grade ≥3 AEs (≥10% in any arm), n (%)</b>					
Anemia	11 (26)	3 (7)	11 (26)	8 (20)	2 (6)
Diarrhea	1 (2)	2 (5)	7 (16)	4 (10)	0
Fatigue <sup>†</sup>	2 (5)	3 (7)	1 (2)	8 (20)	0
Febrile neutropenia	1 (2)	0	5 (12)	1 (2)	0
Hypokalemia	0	3 (7)	8 (19)	0	0
Leukopenia <sup>†</sup>	1 (2)	0	5 (12)	0	0
Lipase increased	0	2 (5)	2 (5)	3 (7)	0
Nausea	1 (2)	1 (2)	8 (19)	3 (7)	1 (3)
Neutropenia <sup>†</sup>	11 (26)	18 (43)	11 (26)	8 (20)	5 (16)
Thrombocytopenia <sup>†</sup>	2 (5)	3 (7)	5 (12)	1 (2)	1 (3)
<b>Treatment-related SAEs,<sup>‡</sup> n (%)</b>	8 (19)	7 (17)	<b>22 (51)</b>	<b>14 (34)</b>	1 (3)
<b>Treatment-related deaths,<sup>‡</sup> n (%)</b>	0	1 (2)	4 (9)	4 (10)	0
<b>Adverse events of special interest, n (%)</b>					
<b>Adjudicated drug-related ILD/pneumonitis<sup>§</sup></b>	4 (10)	5 (12)	8 (19)	5 (12)	0
Grade ≥3 drug-related ILD/pneumonitis	0	0	3 (7)	1 (2)	0
Death due to drug-related ILD/pneumonitis	0	0	2 (5)	1 (2)	0
<b>Left ventricular dysfunction</b>	1 (2)	2 (5)	3 (7)	2 (5)	1 (3)

Safety analysis set. Neutropenic sepsis; T-DXd 6.4 mg/kg + 5-FU/cape + pembro: n=1. \*One patient allocated to T-DXd 6.4 mg/kg received 5-FU/cape in error and is included in T-DXd 6.4 mg/kg + 5-FU/cape + pembro; <sup>†</sup>grouped terms; <sup>‡</sup>assessed by the investigator as possibly related to any of the investigational products; <sup>§</sup>includes ILD/pneumonitis with an onset date / worsening on or after the date of first dose

# Adjuvant

## CheckMate 577 study design

### Baseline characteristics

	Nivolumab (n = 532)	Placebo (n = 262)
Median age (range), years	62 (26-82)	61 (26-86)
Male, %	84	85
Race, <sup>a</sup> %		
White	81	82
Asian	16	13
ECOG PS, %		
0	58	60
1	42	40
Disease stage at initial diagnosis, <sup>b</sup> %		
II	34	38
III	66	62
Tumor location, %		
EC	60	59
GEJC	40	41
Histology, <sup>c</sup> %		
Squamous cell carcinoma	29	29
Adenocarcinoma	71	71
Pathologic lymph node status $\geq$ ypN1, %	57	58
Tumor-cell PD-L1 expression, <sup>d,e</sup> %		
$\geq$ 1%	17	15
< 1%	70	75
Time from complete resection to randomization, %		
< 10 weeks	34	28
$\geq$ 10 weeks	66	72

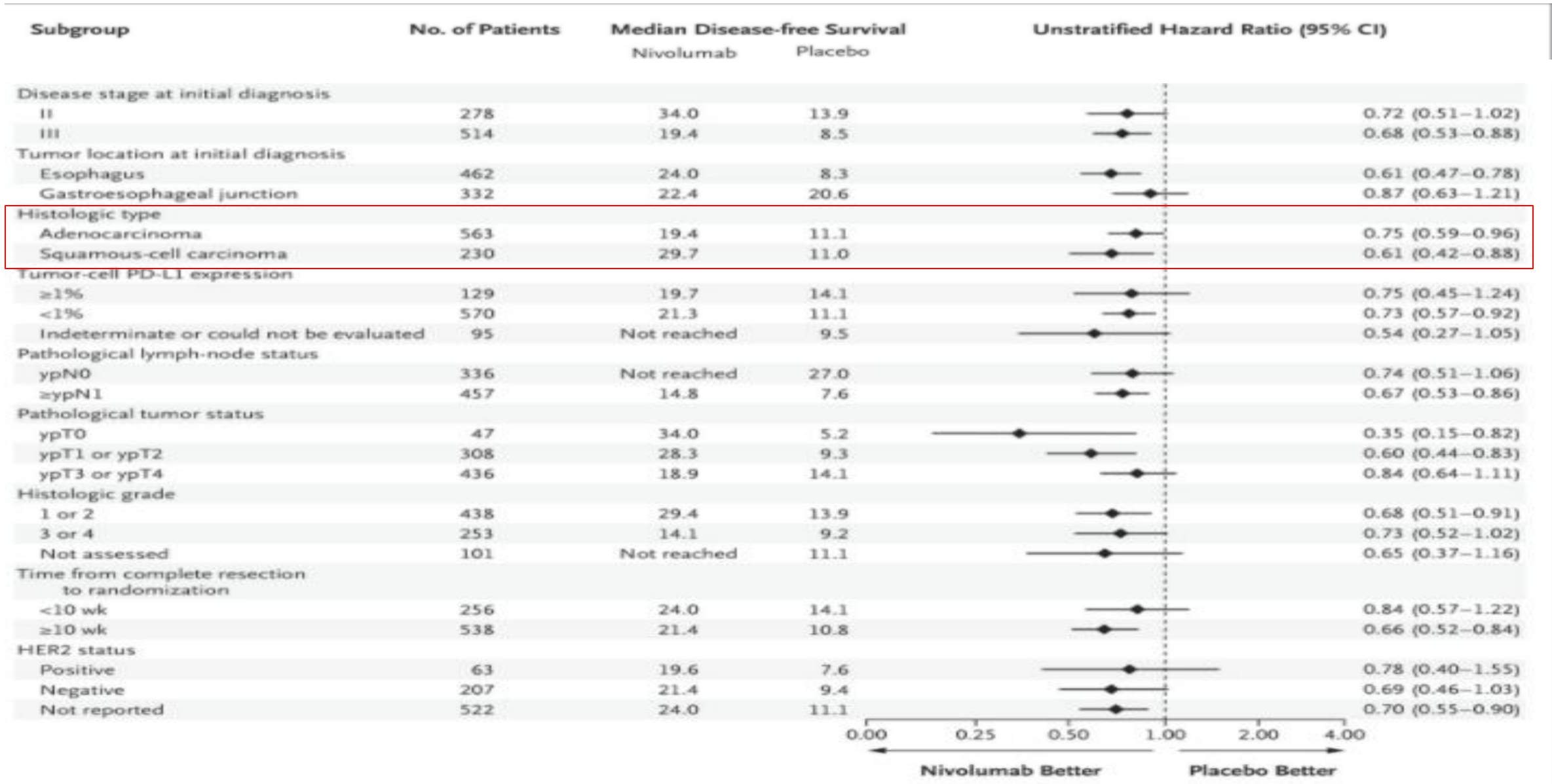
- In a post hoc analysis, a baseline PD-L1 CPS of 5 or higher was observed in 246 of 435 patients (57%) in the nivolumab arm and in 125 of 231 patients (54%) in the placebo arm

<sup>a</sup>Other races not shown; <sup>b</sup>< 1% not reported in the nivolumab arm; <sup>c</sup>< 1% had other histology in the nivolumab arm; <sup>d</sup>PD-L1 expression determined from tumor tissue specimen by the PD-L1 IHC 28-8 pharmDx assay (Dako), which for most patients, was obtained after completion of chemoradiotherapy; <sup>e</sup>13% and 10% of patients had PD-L1 indeterminate or nonevaluable in the nivolumab and placebo arms, respectively.

Kelly RJ, et al. *N Engl J Med* 2021;384:1191-1203.

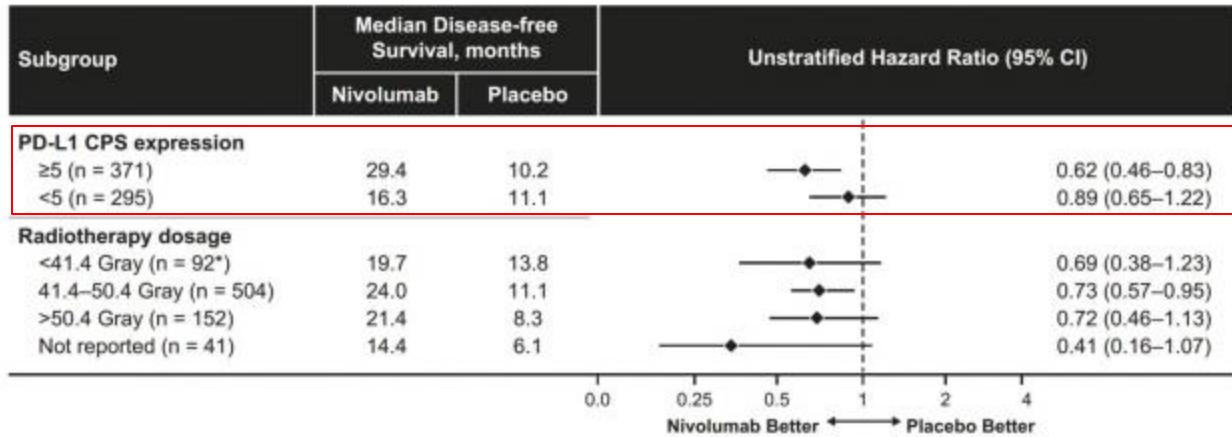


# CheckMate 577



# CheckMate-577

Figure S2. Post Hoc Assessment of Disease-free Survival by Subgroups.



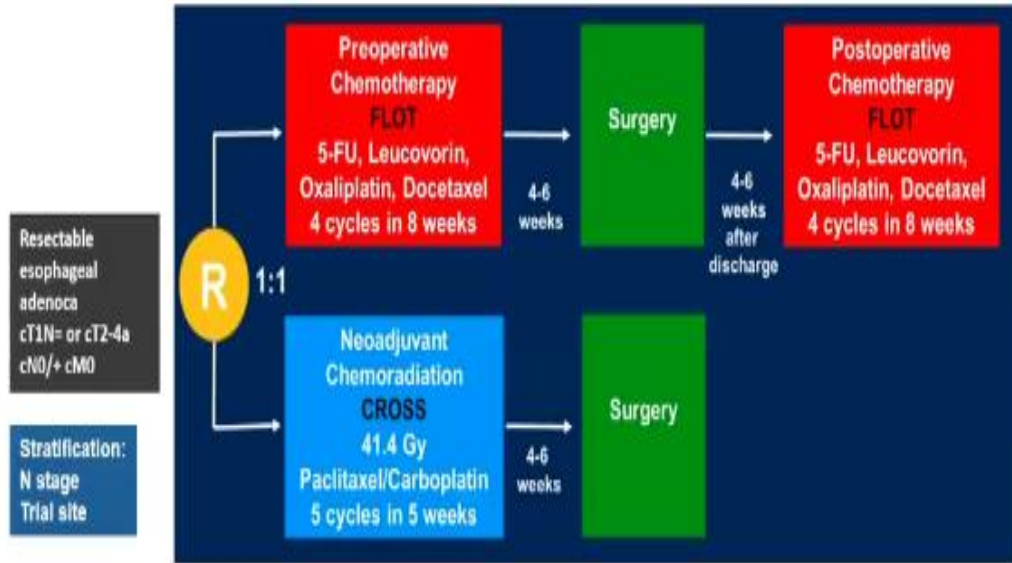
CI denotes confidence interval; CPS, combined positive score; PD-L1, programmed death ligand 1.

\* 10 patients (seven in the nivolumab group and three in the placebo group) received total exposure less than 40 Gray (following database lock, investigators amended the total dose of radiotherapy for seven of these patients to 41.4–50.4 Gray).

## TRAEs with potential immunologic etiology

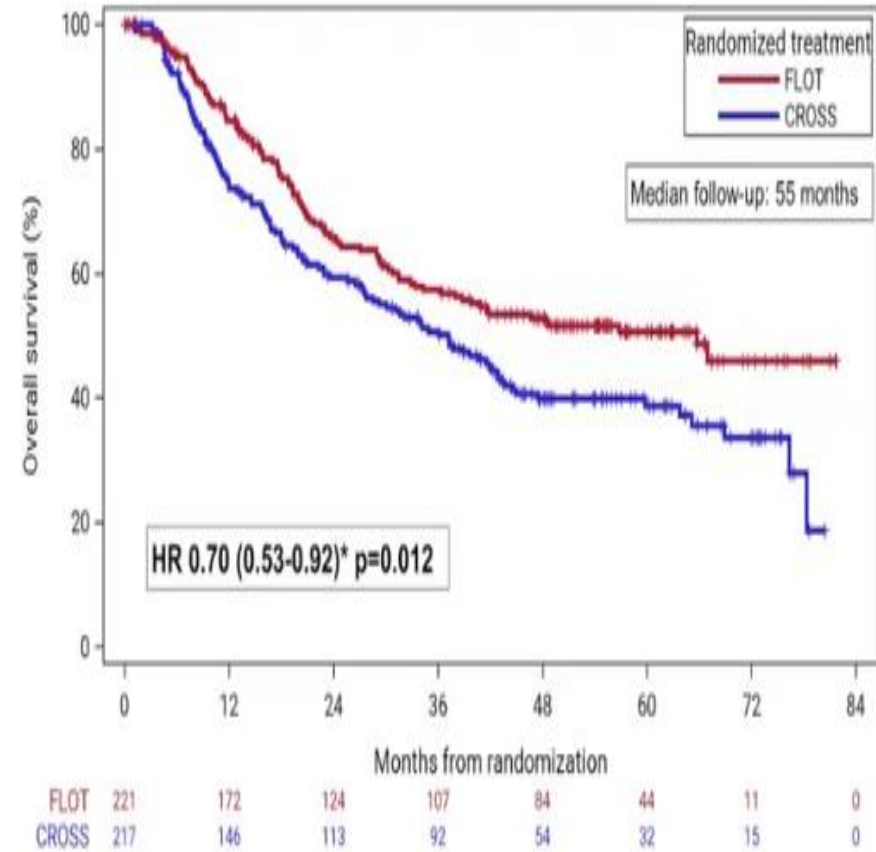
Select TRAEs, <sup>a,b</sup> n (%)	Nivolumab (n = 532) <sup>c</sup>	
	Any grade	Grade 3-4
Endocrine	93 (17)	5 (<1)
Gastrointestinal	91 (17)	4 (<1)
Hepatic	49 (9)	6 (1)
Pulmonary	23 (4)	6 (1)
Renal	7 (1)	1 (<1)
Skin	130 (24)	7 (1)

# Neoadjuvant : ESOPEC Study Design



**Primary Endpoint: OS**

**Secondary Endpoints:**  
PFS, pathological stage,  
post-op complications

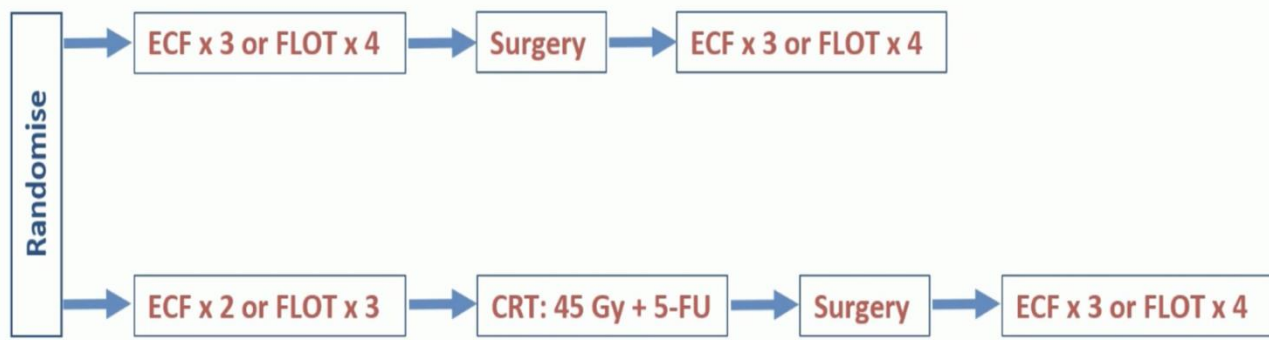


	FLOT	CROSS
Events	97	121
Median OS time (months)	66 95% CI 36 - n.e	37 95% CI 28 - 43
3-year OS rate	57.4%	50.7%
5-year OS rate	50.6%	38.7%

# TOPGEAR

## Does CRT Offer Additional Benefit to Peri-op Chemo?

Key eligibility criteria: resectable adenocarcinoma of stomach or GOJ (Siewert type II  $\leq$  2cm oesophageal involvement, and Siewert type III); stage IB–IIIC, ie.T3–T4 and/or N-positive



ECF = epirubicin, cisplatin, 5-FU  
 FLOT = 5-FU, leucovorin, oxaliplatin, docetaxel



### Surgical and pathological outcomes

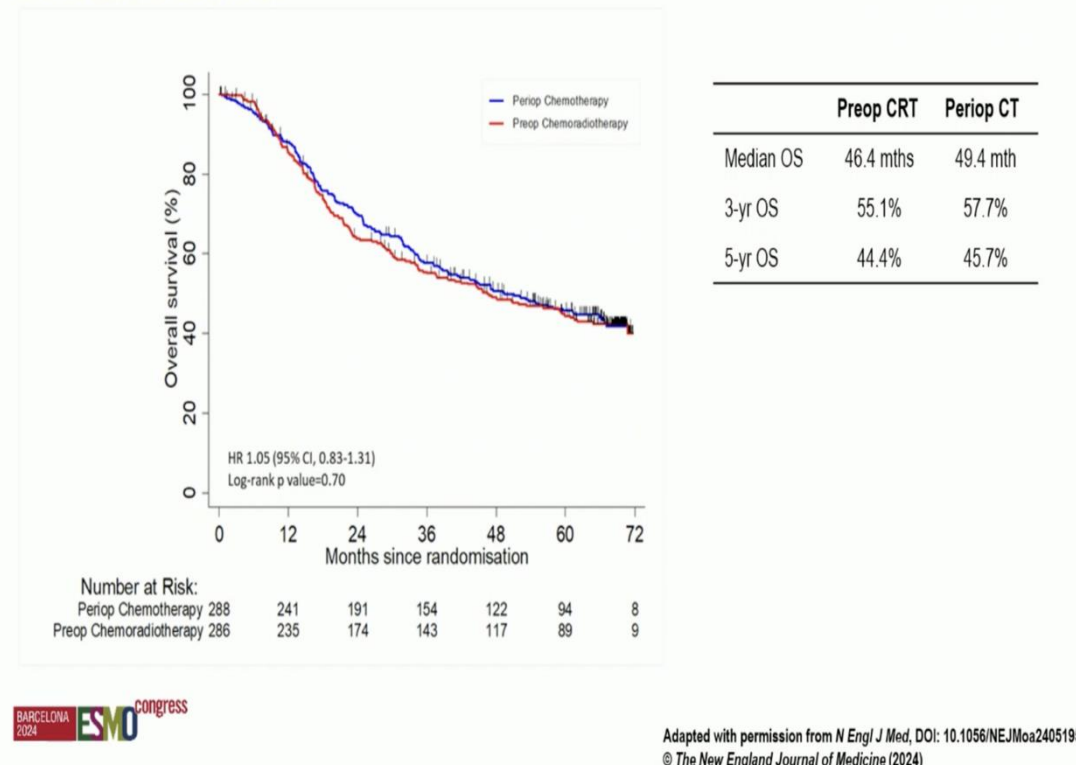
	Preop CRT N=286	Periop CT N=288	P-value
D1+ or D2 lymphadenectomy	188 (83.6%)	192 (81.0%)	
RO resection	208 (92.4%)	206 (87.7%)	0.09
R1 resection	15 (6.7%)	29 (12.3%)	
ypTNM stage: (N=231)		(N=247)	
ypT0, ypTis	38 (16.5%)	18 (7.3%)	<0.001
ypT1/2	73 (31.6%)	62 (25.2%)	
ypT3/4	120 (51.9%)	166 (67.5%)	
ypN negative	125 (54.1%)	104 (42.3%) <sup>‡</sup>	<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%)	



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

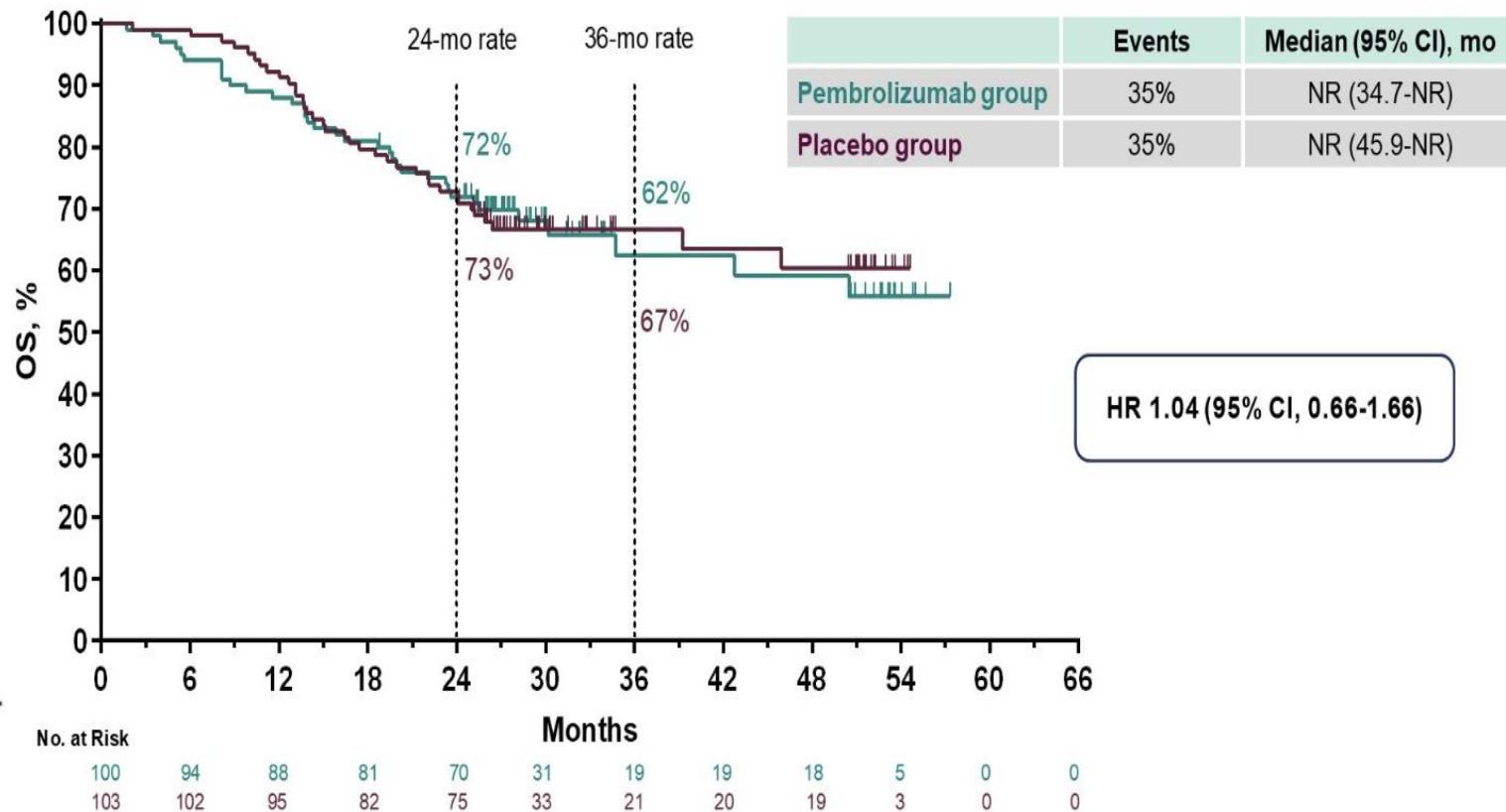
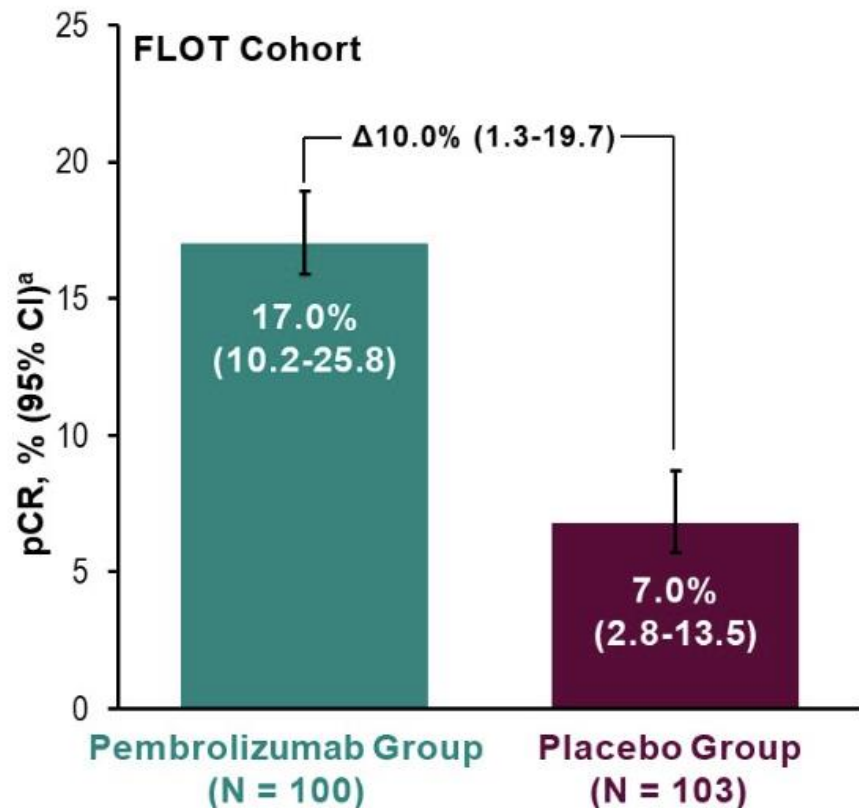
# TOPGEAR

## Overall survival



- No Additional benefit with CRT to peri-operative Chemo
- Increased pCR with XRT didn't lead to improved OS
- Peri-operative chemo: SOC for Es/GJ/G Adenocarcinoma

# KEYNOTE-585 Study Design



## Stratification factors

- Geographic region (Asia versus non-Asia)
- Tumor staging (II vs III vs IVa)
- Chemotherapy backbone (XP/FP vs FLOT)

## Endpoints:

- Primary: safety
- Key secondary: pathCR rate per BICR, EFS per investigator, OS

# MATTERHORN

## Baseline characteristics

Study population		Durvalumab plus FLOT (n=474)	Placebo plus FLOT (n=474)
• Gastric cancer	Age (years), median (range)	62 (26–84)	63 (28–83)
• Stage II, III, IV (>T2 N0)	Male, n (%)	326 (69)	356 (75)
• No evidence of distant disease	ECOG PS, n (%)	337 (71)	366 (77)
• No prior systemic therapy	Primary tumor location, n (%)		
• ECOG PS 0-1	Gastric	324 (68)	316 (67)
• Global enrollment (North America, Europe, Asia)	GEJ	150 (32)	158 (33)
	Siewert status, n (%)		
	Type 1	44 (9)	55 (12)
	Type 2	72 (15)	68 (14)
	Type 3	34 (7)	35 (7)
	Primary tumor stage, n (%)		
	T0–T2	50 (11)	36 (8)
	T3	307 (65)	321 (68)
	T4	117 (25)	117 (25)
	Clinical lymph node status,* n (%)		
	Positive	329 (69)	330 (70)
	<1%*	48 (10)	47 (10)
	≥1%*	426 (90)	427 (90)
	<5%	236 (50)	230 (49)
	≥5%	238 (50)	244 (51)
	<10%	372 (78)	373 (79)
	≥10%	102 (22)	101 (21)
	PD-L1 expression status by TAP,† n (%)		
	MSI status,‡ n / N (%)		
	MSI-high	25 / 326 (8)	24 / 334 (7)
	Non-MSI-high	301 / 326 (92)	310 / 334 (93)
	Histology type, n (%)		
	Intestinal	174 (37)	168 (35)
	Diffuse	104 (22)	85 (18)
	Unspecified adenocarcinoma or other	196 (41)	221 (47)

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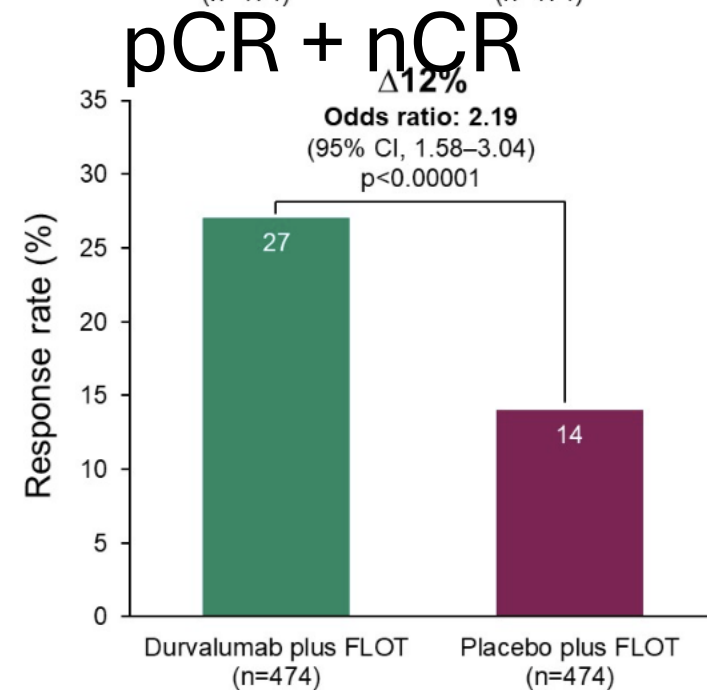
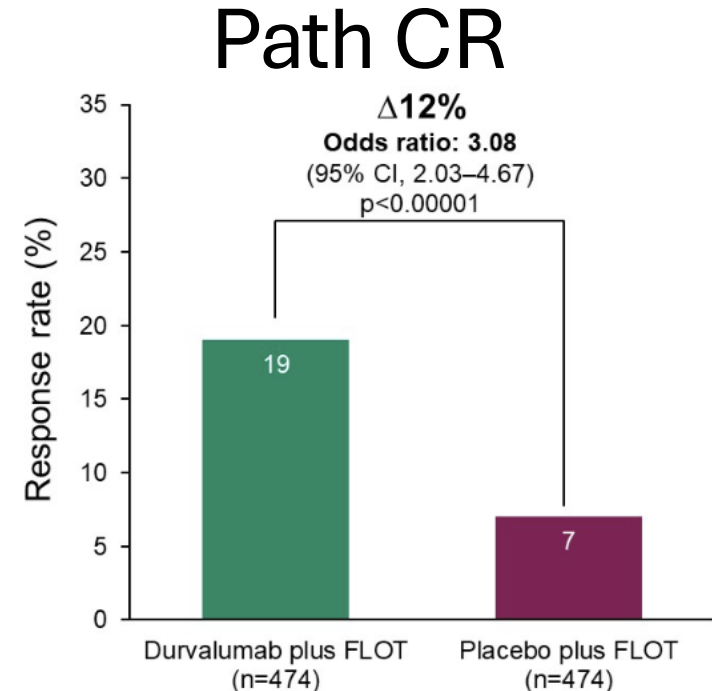
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# MATTERHORN

## Pathological staging of participants who underwent surgery

A higher percentage of participants achieved T0 and N0 with durvalumab plus FLOT versus placebo plus FLOT

Stage	Durvalumab plus FLOT (n=430)	Placebo plus FLOT (n=422)
T0, n (%)	98 (23)	45 (11)
N0, n (%)	223 (52)	154 (36)
<b>T stage, n (%)</b>		
≤T1	153 (36)	98 (23)
T2	54 (13)	46 (11)
T3	131 (30)	165 (39)
T4	48 (11)	65 (15)
M1, n (%)	4 (1)	7 (2)
Missing, n (%)	40 (9)	47 (11)

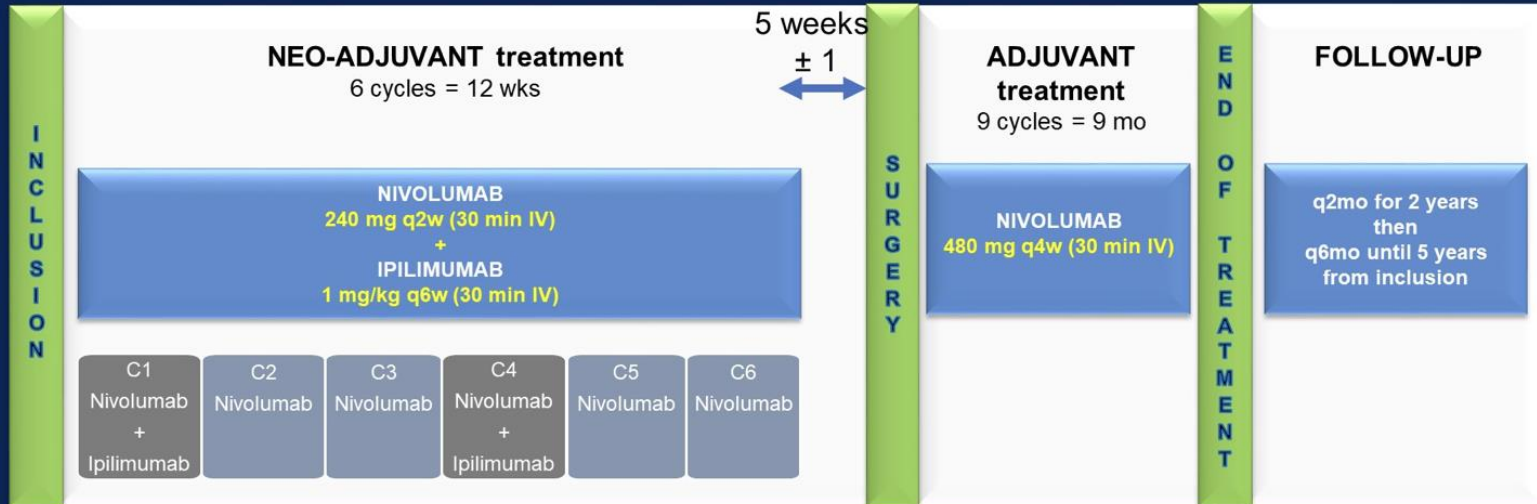




# MSI-H

## NEONIPIGA: Study design/metods

- Phase II study evaluating efficacy of neo-adjuvant nivolumab and ipilimumab followed by adjuvant nivolumab in pts with resectable OGA MSI/dMMR, T2-T4 NxM0
- The primary objective was pathological complete response rate (pCRR).



ClinicalTrials.gov: NCT04006262

Overall Population (n=32)		
	n	%
Male/Female	23/9	72/28
Age, median (min-max) Yrs	65	40-84
Tumor localisation		
Gastric/ Gastro-esophageal Junction	16/16	50/50
Histological type		
Intestinal	24	75
Diffuse	6	19
Missing	2	6
Echo-Endoscopy		
uT2/uT3/not done	4/22/6	12/69/19
dMMR (Immunochemistry)	32/32	100
loss of MLH1 and/or PMS2	26	81.25
loss of MSH2 and/or MSH6	6	18.75
MSI (PCR)	9/9	100
Lynch syndrome		
Yes/No (germline)/ongoing or unknown	6/21/5	19/68/13
ECOG PS at baseline		
0/1	19/13	59/41

- Pathologic Complete Response rate: 59%
- ~94% patients: DFS @ 12months
- 25%:  $\geq$ Gr  $\frac{3}{4}$  AE

# Conclusions

- Esophageal, GEJ, Gastric Cancers: Heterogenous
  - Biomarkers: Personalized management (PDL1, CLDN 18.2, HER2, MMR)
- PDL1 Positive (CPS  $\geq 1$ ):
  - PDL1 + SCC: Chemo + ICI, Doublet ICI, Chemo alone
  - PDL1 + Adeno: Chemo + ICI, Chemo alone
- CLDN 18.2 Positive:
  - GEJ/Gastric: Chemo + Zolbetuximab
    - GI-toxicities
- HER2 Positive: Chemo + Trastuzumab + ICI
- Biomarker negative:
  - Chemotherapy alone
    - Switch maintenance

# Conclusions Contd.

- Neoadjuvant:
  - ESOPEC: Peri-op Chemo (FLOT) is superior to CRT in EC/GEJ adenocarcinoma
  - TOPGEAR: No benefit of additional CRT to peri-op CRT
  - Non-surgical candidates: CRT
  - FLOT + ICI: Improved pCR, Pending mature OS results
  - MSI-H: Nivolumab + Ipilimumab
- Adjuvant
  - Nivolumab: EC, GEJ adenocarcinoma
  - Neoadjuvant CRT with CROSS
  - CRT → Surgery → Nivo: Option for patients who can't tolerate peri-op FLOT

# Thank you

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