

OVERVIEW OF GASTRIC & ESOPHAGEAL CANCERS

***Winter Cancer Symposium
March 2022***

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Medicine

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Real Life stories !!

➤ Case 1: John

- 62 y/o AA male with HTN, HLD, previously smoker with dysphagia, 10 lb weight loss
- EGD/EUS : T4N1 Esophageal Ca: SCC
- Staging Scans: No mets
- ECOG : 0-1

➤ Case 2 : Beth

- 58 y/o WF with Mild obesity, HTN, GERD
- Presented dysphagia, wght Loss 10-12lbs
- EGD/EUS: T3N2 Esoph Ca, Adeno. Heur2 (-), PDL1 CPS 2
- Staging Scans/PET scan: No distant Mets
- Increase uptake GE Junction



OVERVIEW OF GASTRIC & ESOPHAGEAL CANCERS

- ▶ **Review of the Genomics of Esophageal and Gastric cancer**
- ▶ **Mutidisciplinary approach Localized & Locally advanced Esoph and Gastric cancer**
- ▶ **Case Presentation**
- ▶ **Management of advanced Esoph. And Gastric cancers beyond cytotoxic agents**

Genomic Profiling for Esoph. & Gastric Cancers

GS: Genomically stable

- Most are Lauren diffuse type
- Non-cohesion, invasion, dissemination
- *CDH1* and *RHOA* mutations
- *CLDN18-ARHGAP26/6* fusions

MSI: Microsatellite instability

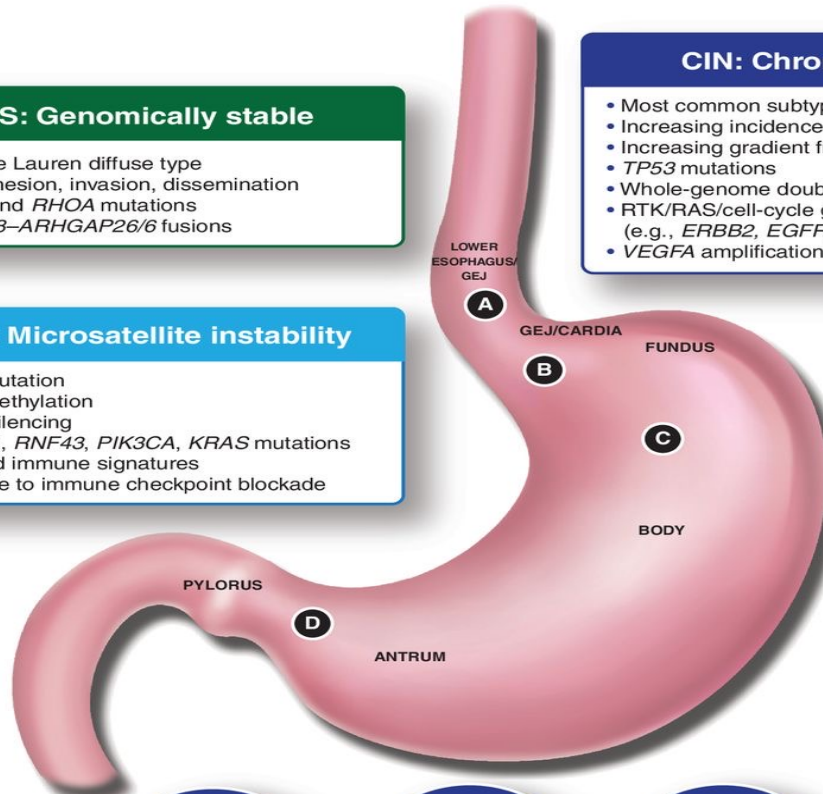
- Hypermutation
- Hypermethylation
- *MLH1* silencing
- *ARID1A*, *RNF43*, *PIK3CA*, *KRAS* mutations
- Elevated immune signatures
- Sensitive to immune checkpoint blockade

CIN: Chromosomal instability

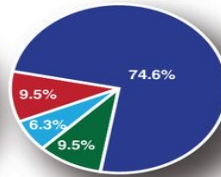
- Most common subtype
- Increasing incidence
- Increasing gradient from distal to proximal stomach
- *TP53* mutations
- Whole-genome doubling
- RTK/RAS/cell-cycle gene amplifications (e.g., *ERBB2*, *EGFR*, *KRAS*, *CCNE1*, *CCND1/2/3*, *CDK6*)
- *VEGFA* amplification common in EAC

EBV⁺: Epstein-Barr virus

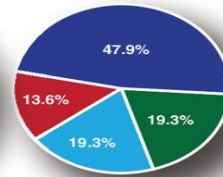
- Hypermethylation
- *CDKN2A* silencing
- *PIK3CA*, *ARID1A*, *BCOR* mutations
- *PD-L1/2* overexpression
- Prominent immune signatures
- Sensitive to immune checkpoint blockade



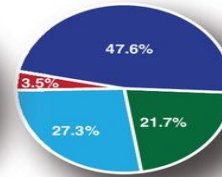
A



B

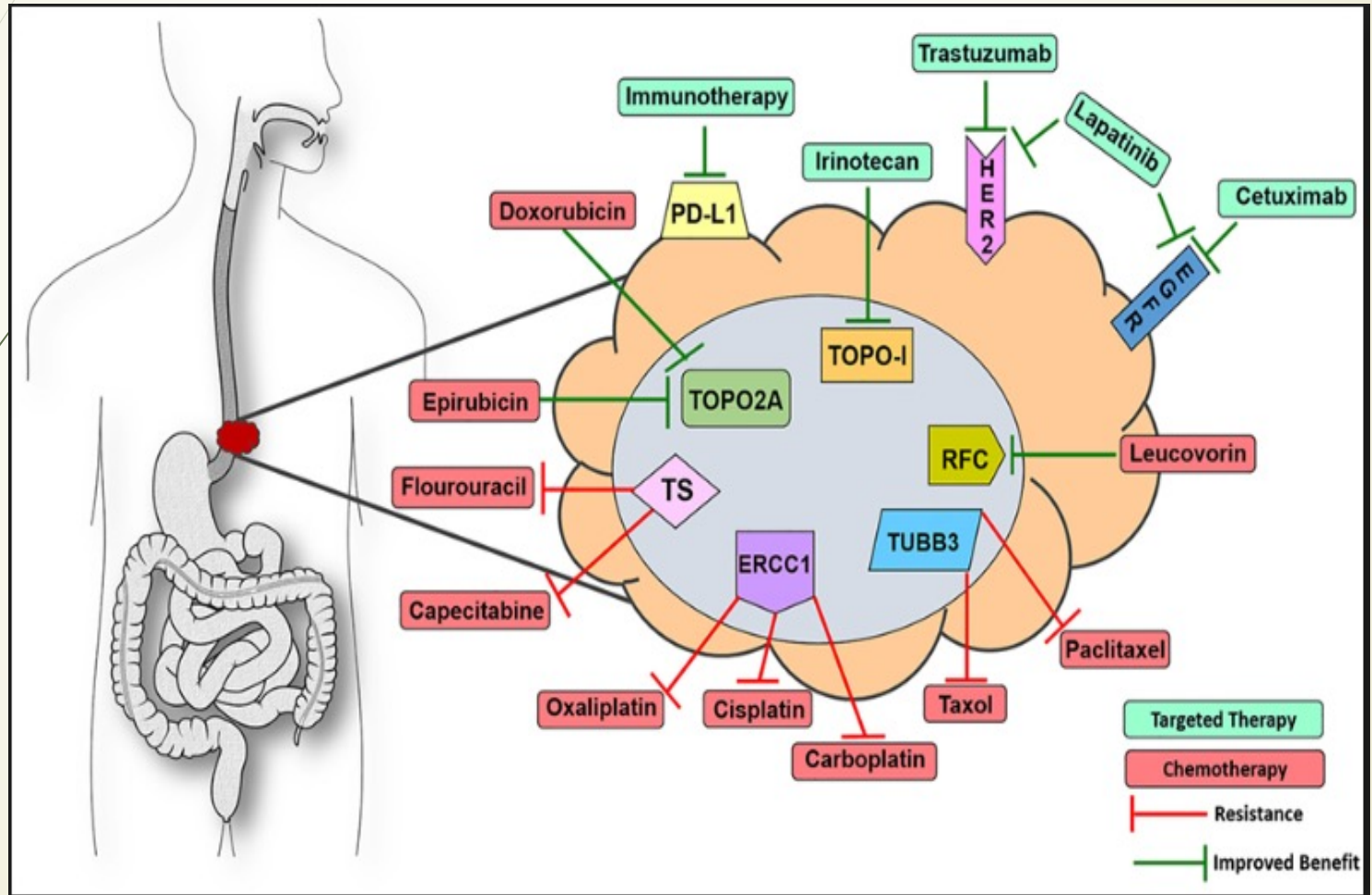


C



D

Pharmacogenomic for systemic Therapy





NCCN Guidelines Version 2.0222 Esophageal and Esophagogastric Junction Cancers

[NCCN Guidelines Index](#)
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HISTOLOGY	TUMOR CLASSIFICATION ⁹	PRIMARY TREATMENT OPTIONS FOR MEDICALLY FIT PATIENTS
Squamous cell carcinoma	cT1b–cT2, N0 (low-risk lesions: <3 cm, well differentiated) ⁹	Esophagectomy ^{c,d,t,u} (for non-cervical esophagus) → See Surgical Outcomes After Esophagectomy (ESOPH-6)
	cT2, N0 (high-risk lesions: LVI, ≥3 cm, poorly differentiated) cT1b–cT2, N+ or cT3–cT4a, Any N ^w	Preoperative chemoradiation ^{x,y} (for non-cervical esophagus) → See Response Assessment (ESOPH-5)
		or Definitive chemoradiation ^{x,y} (for cervical esophagus) → Follow-up (See ESOPH-9)
cT4b ^p	Definitive chemoradiation ^{x,y} → See Response Assessment (ESOPH-5) or Consider chemotherapy alone in the setting of invasion of trachea, great vessels, vertebral body, or heart ^x See Palliative Management (ESOPH-10)	



NCCN Guidelines Version 2.0222 Esophageal and Esophagogastric Junction Cancers

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PRIMARY TREATMENT FOR MEDICALLY FIT PATIENTS WITH SQUAMOUS CELL CARCINOMA	RESPONSE ASSESSMENT	OUTCOME	ADDITIONAL MANAGEMENT
Preoperative chemoradiation ^{x,y}	<ul style="list-style-type: none"> • FDG-PET/CT (preferred) or FDG-PET² • Chest/abdominal CT scan with contrast (not required if FDG-PET/CT is done)^{aa} • Upper GI endoscopy and biopsy^{bb} (optional if surgery is planned) 	No evidence of disease ^{cc}	Esophagectomy ^{c,d,t,u} or Surveillance ^{bb} (category 2B) → See Follow-up (ESOPH-9)
		Persistent local disease	Esophagectomy ^{c,d,t,u} (preferred) or See Palliative Management (ESOPH-10)
Definitive chemoradiation ^{x,y}	<ul style="list-style-type: none"> • FDG-PET/CT (preferred) or FDG-PET² • Chest/abdominal CT scan with contrast (not required if FDG-PET/CT is done)^{aa} • Upper GI endoscopy and biopsy^{bb} 	Unresectable or Metastatic disease	→ See Palliative Management (ESOPH-10)
		New metastatic disease	→ See Palliative Management (ESOPH-10)

^c See Principles of Pathologic Review and Biomarker Testing (ESOPH-B).

^d See Principles of Surgery (ESOPH-C).

^t Transhiatal or transthoracic, or minimally invasive; gastric reconstruction preferred.

Options to Navigate for Esophag. Adeno & GE cancer

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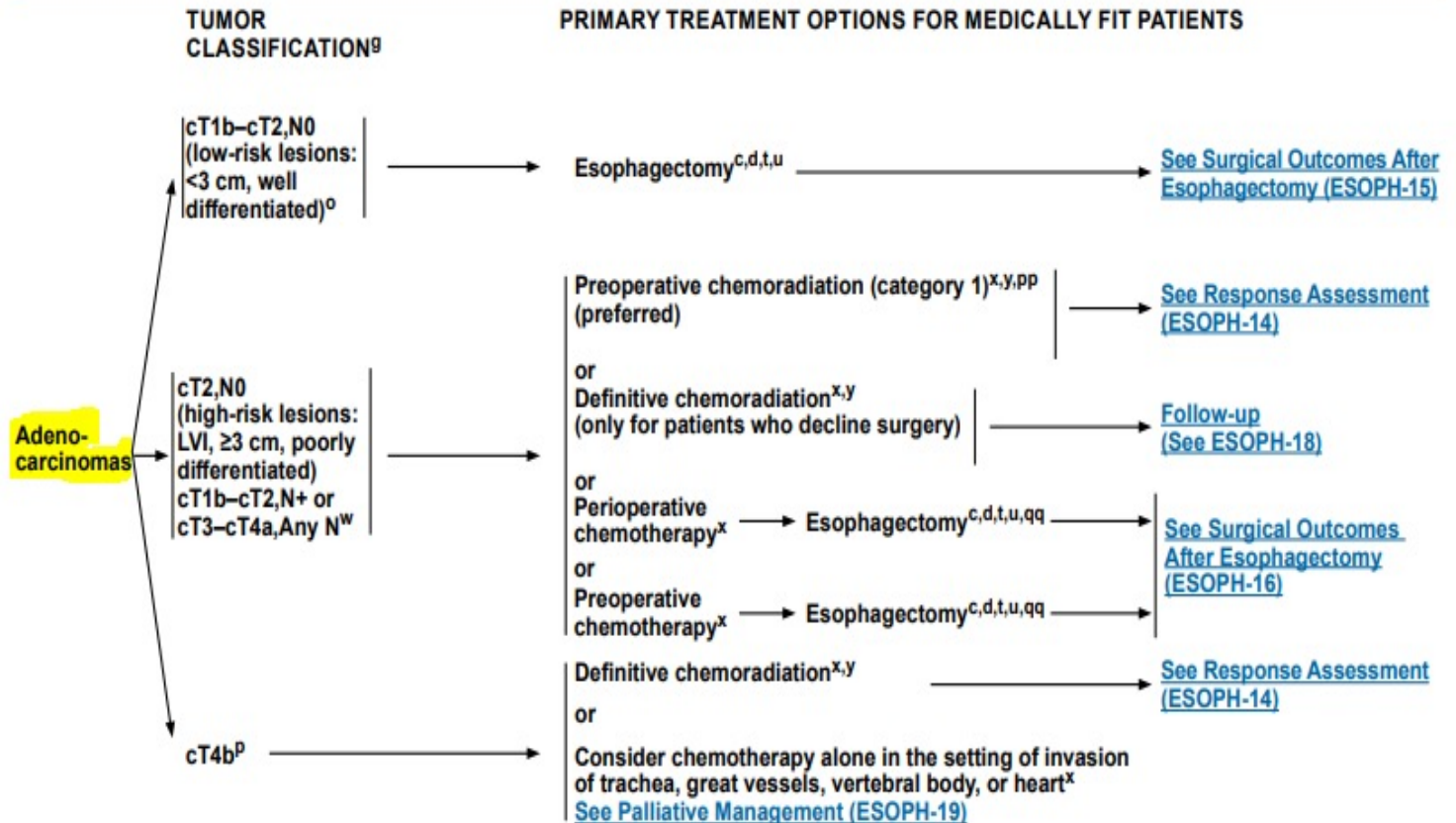


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NCCN Guidelines Version 2.2022

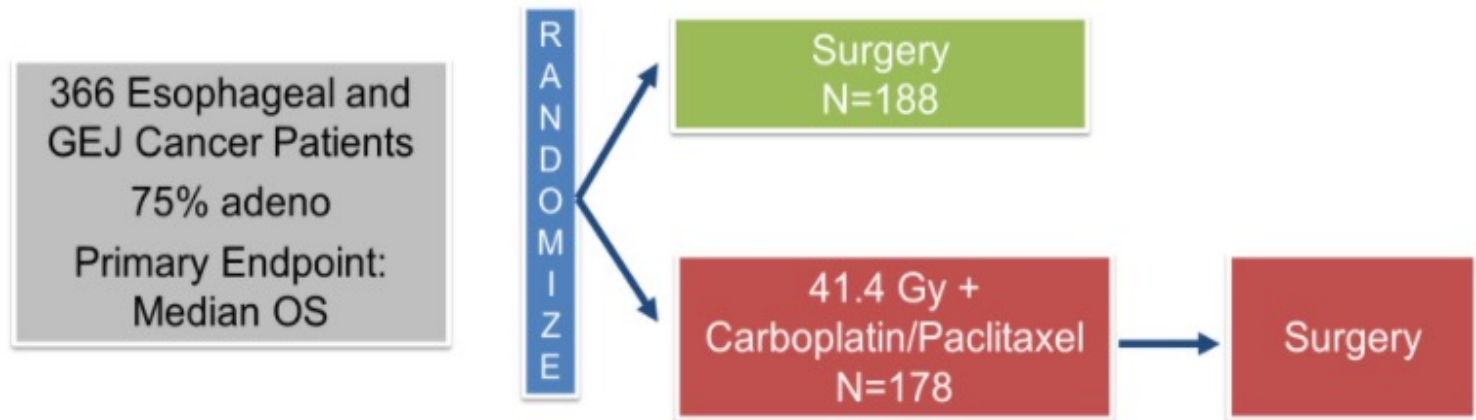
Esophageal and Esophagogastric Junction Cancers

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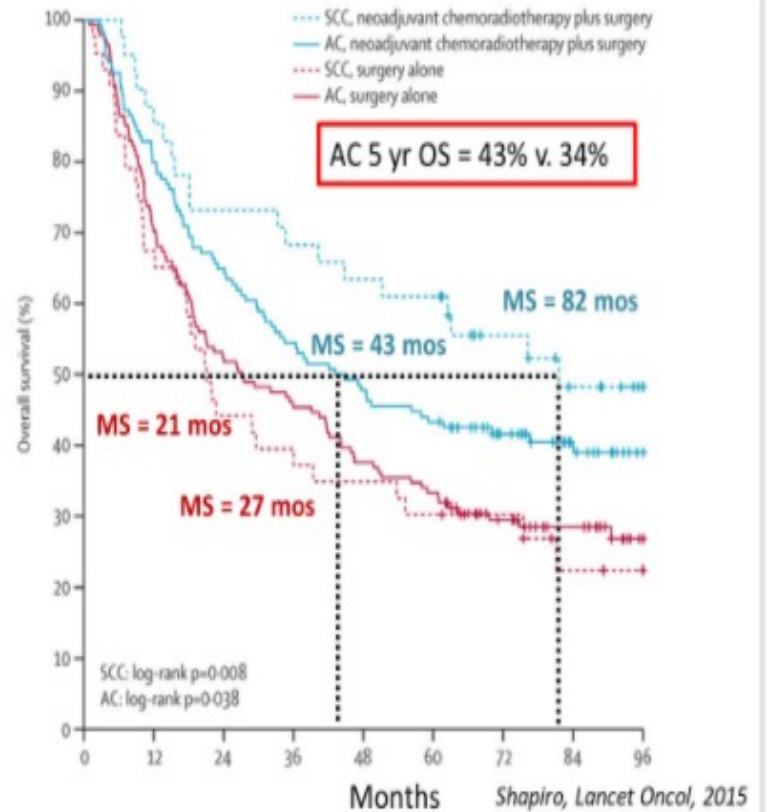
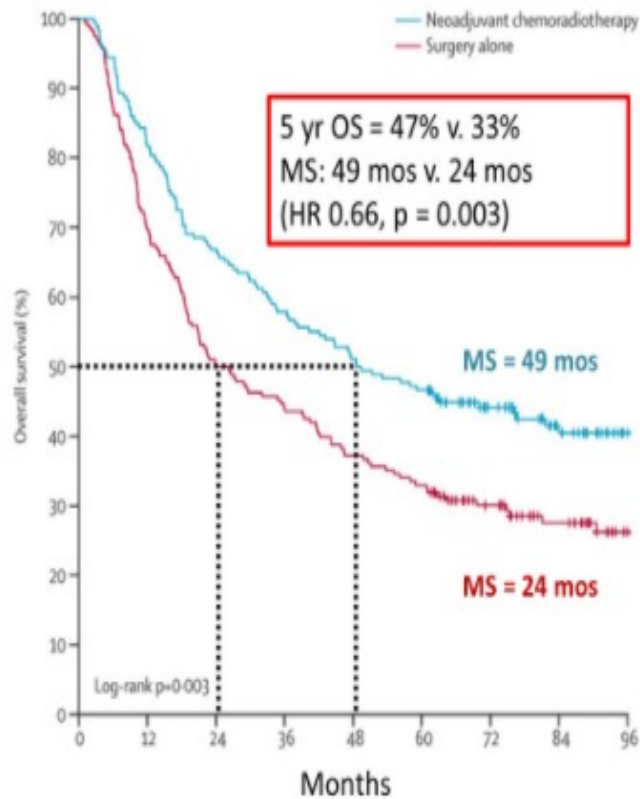
Pivotal Trial Chemotherapy-Radiation for Esophag Cancer : CROSS Trial

Neoadjuvant Chemoradiotherapy: CROSS Trial



- pCR: 49% in SCC group and 23% in AC group
- R0 resection rate: 88% v. 59% for ITT groups

Neoadjuvant Chemoradiotherapy: CROSS Trial



Ten-Year Outcome of Neoadjuvant Chemoradiotherapy Plus Surgery for Esophageal Cancer: The Randomized Controlled CROSS Trial

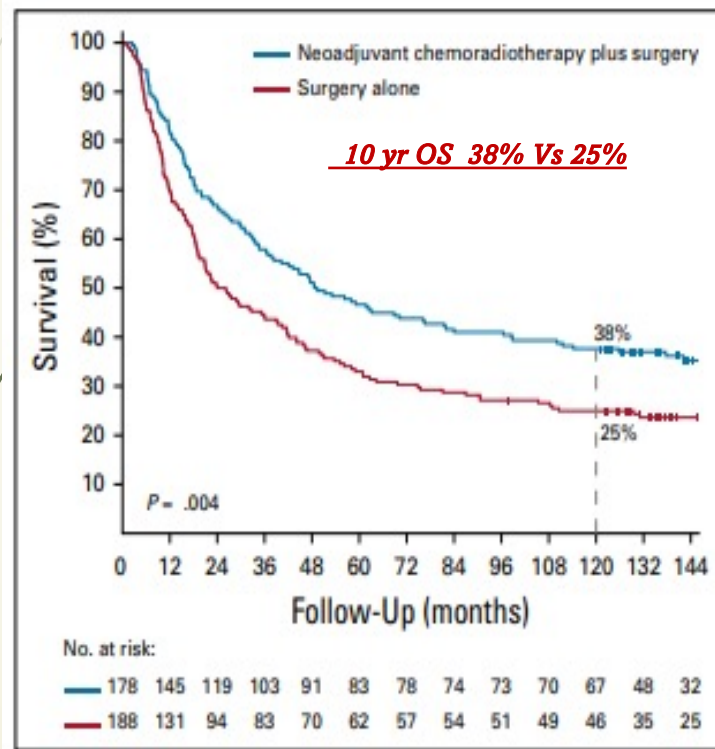


FIG 2. Kaplan-Meier estimates of overall survival.

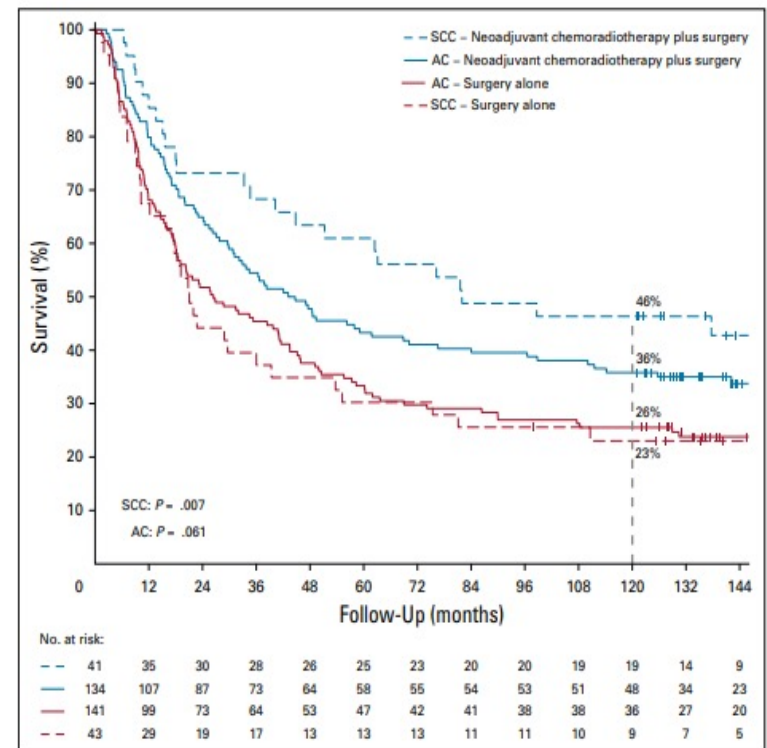
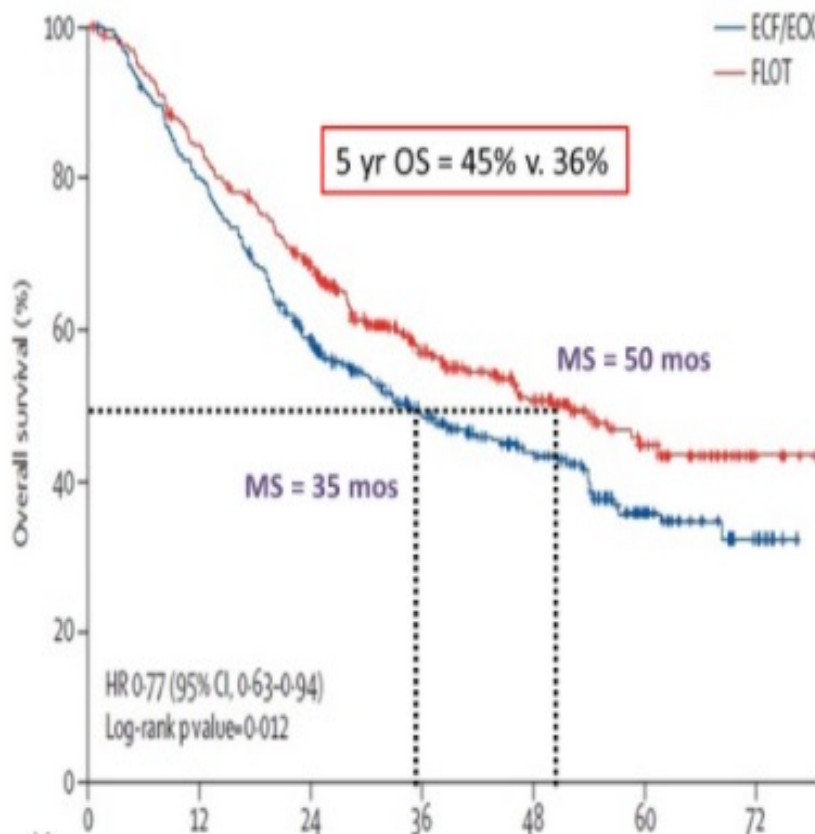


FIG 3. Kaplan-Meier estimates of overall survival stratified by tumor histology. AC, adenocarcinoma; SCC, squamous cell carcinoma.

Perioperative Chemotherapy **FLOT4**

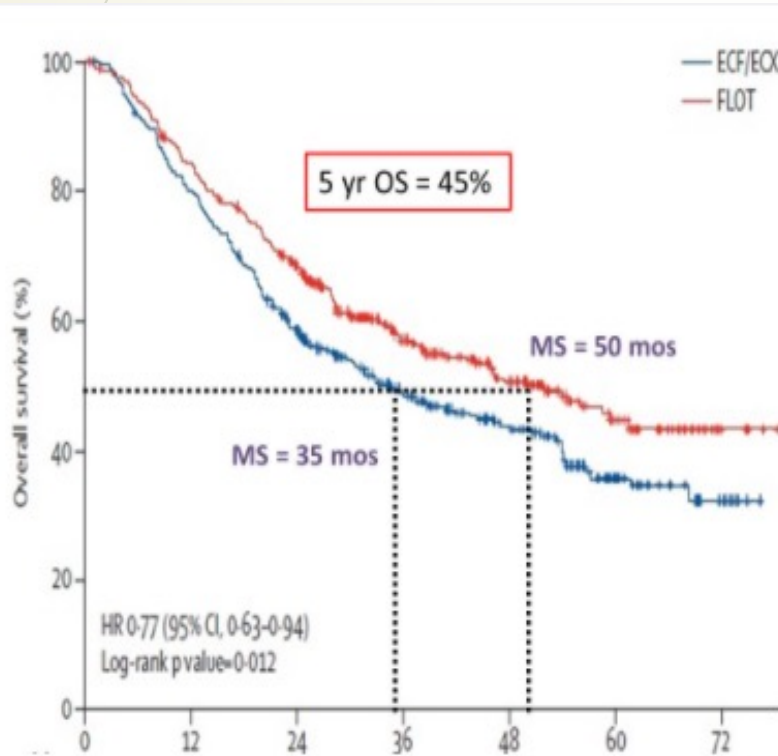
(*The Lancet* 2019)



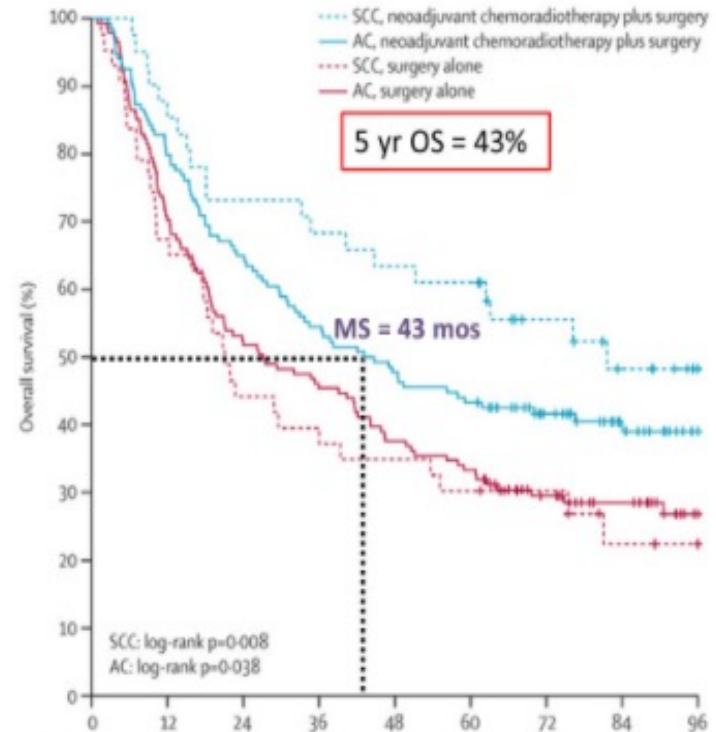
- Modern trial
- 716 pts with GEJ and gastric cancers randomized
- Perioperative FLOT4 v. ECF/ECX
- R0 resection: 85% v. 78%

Preiop ChemoRx Trial Vs Chemo-RT

FLOT



CROSS



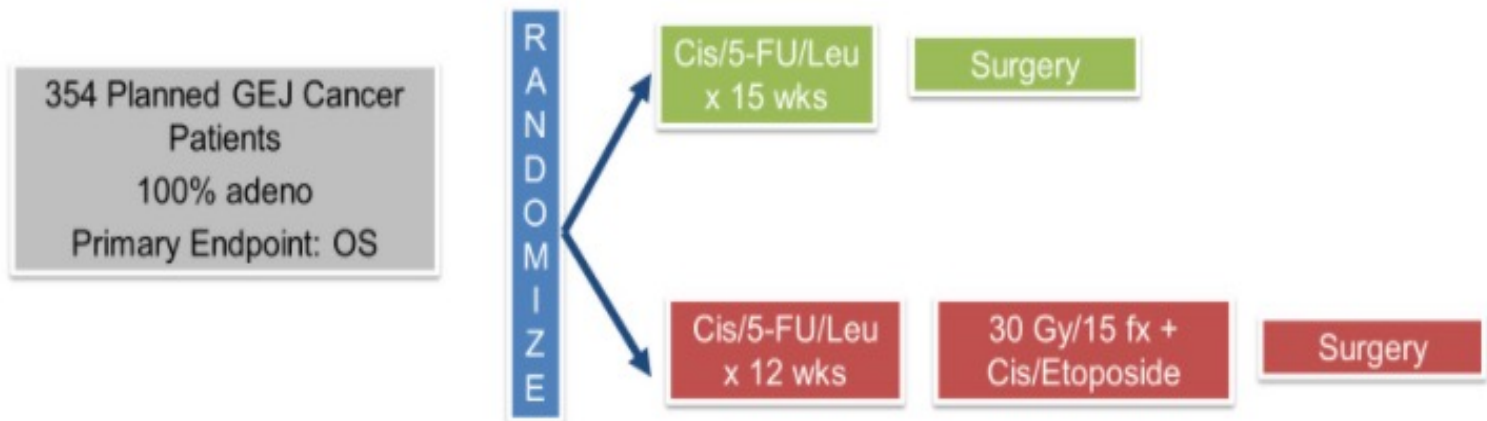
Al-Batran S, Lancet, 2019; Van Hagen NEJM, 2012; Shapiro, Lancet Oncol, 2015

Preiop ChemoRx Trial Vs Chemo-RT

<u>Location</u>	<u>CROSSS Trial</u>	<u>FLOT4 Trial</u>
Esophagus	74%	0%
GE Junction	22%	56%
Gastric	0%	44%
<u>Histology</u>		
SCC	25%	0%
AdenoCa	75%	all
<u>5 Yr OS</u>	43%	45%

POET TRIAL: Neoadj. ChemoRx Vs ChemoRadiation

- Locally advanced GE junction cancers

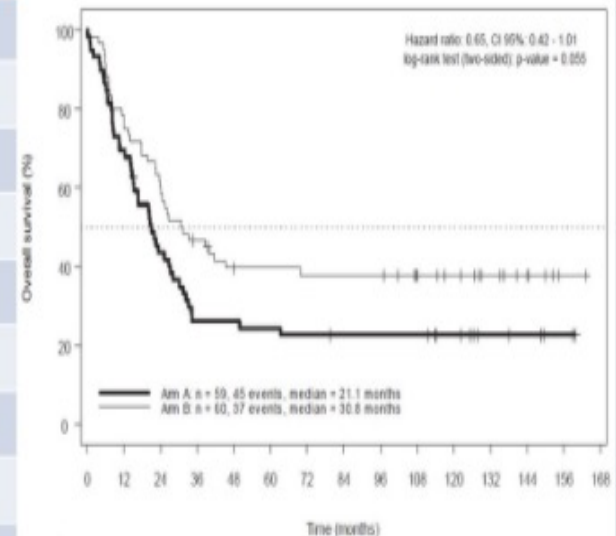


POET TRIAL: Neoadj. ChemoRx Vs ChemoRadiation

- Closed early due to poor accrual, only 126 of 354 patients

	Chemo	ChemoRT	p value
pCR rate	1.9%*	14.3%*	.03
NO rate	37.7%	64.4%	<.05
R1 resection	15.4%	4.1%	<.05
3 year OS	28%	47%	.07
5 year OS	24.4%	39.5%	
Median OS	21.1 mos	30.8 mos	
OS HR		0.65	.055
PFS HR		0.64	.03
LRR	38%	21%	
Local PFS HR		0.37	.01

*Improved survival in pCR patients: MS not reached, 5 yr OS = 88%

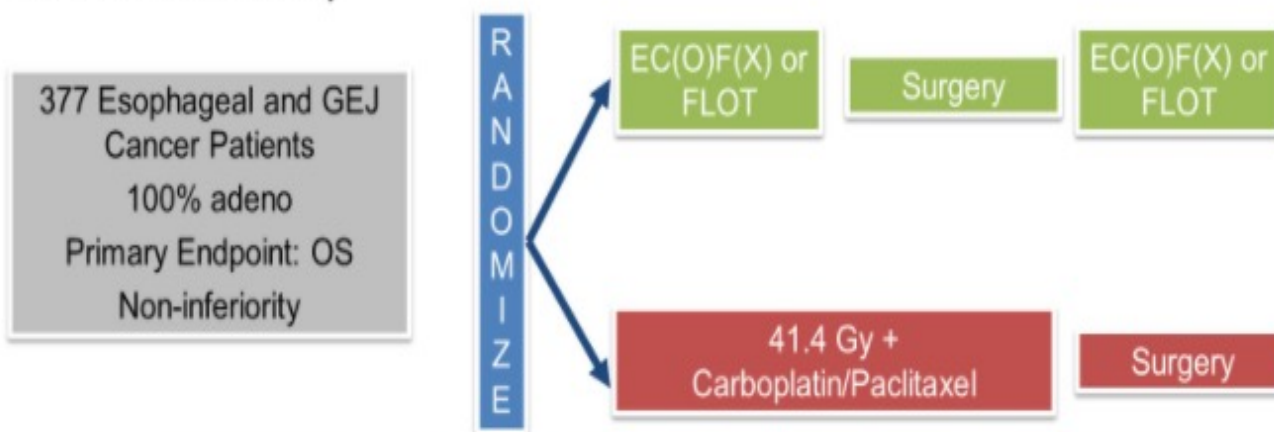


Stahl M, *J Clin Oncol*, 2009; Stahl M, *E J Cancer*, 2017

NEOAegis TRIAL

Neoadj. ChemoRx Vs Chemo-RT

Neoadjuvant trial in Adenocarcinoma of the Esophagus and EG Junction
International Study



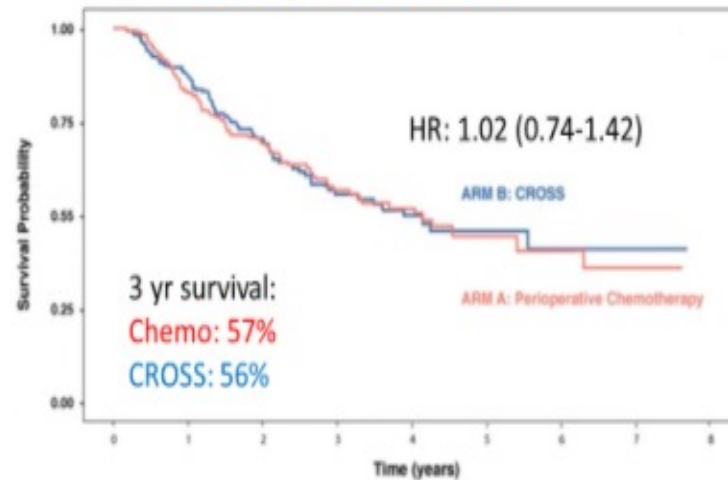
	Peri-op Chemo	CROSS	p-value
pCR	5%	16%	0.001
R0	82%	95%	<0.001
LN negative	44.5%	60%	0.004

Reynolds JV, Proc ASCO, 2021

NEOAegis TRIAL

Neoadj. ChemoRx Vs Chemo-RT

Overall Survival



Conclusion

- No evidence that peri-operative chemotherapy is unacceptably inferior to multimodal therapy, notwithstanding greater proxy markers of local tumor response in the CROSS arm
- No significant difference in severity of complications or post-op mortality, no negative effects of pre-op chemoradiation
- Data support equipoise

How Can We optimize our Treatment Options after Surgery for Esoph. & GE Junction Cancers?



- Studies of adjuvant chemotherapy have not shown any survival benefit
- Most patients unable to tolerate chemo after esophagectomy
- Need to deliver adequate systemic therapy upfront and tailor it to the tumor biology

Adjuvant nivolumab in resected esophageal or gastroesophageal junction cancer following neoadjuvant chemoradiation therapy: first results of the CheckMate 577 study

[Ronan J. Kelly](#),¹ [Jaffer A. Ajani](#),² [Jaroslaw Kuzdzal](#),³ [Thomas Zander](#),⁴ [Eric Van Cutsem](#),⁵ [Guillaume Piessen](#),⁶ [Guillermo Mendez](#),⁷ [Josephine Feliciano](#),⁸ [Satoru Motoyama](#),⁹ [Astrid Lièvre](#),¹⁰ [Hope Uronis](#),¹¹ [Elena Elimova](#),¹² [Cecile Grootsholten](#),¹³ [Karen Geboes](#),¹⁴ [Jenny Zhang](#),¹⁵ [Lili Zhu](#),¹⁵ [Ming Lei](#),¹⁵ [Kaoru Kondo](#),¹⁵ [James M. Cleary](#),¹⁶ [Markus Moehler](#)¹⁷

¹The Charles A. Sammons Cancer Center at Baylor University Medical Center, Dallas, TX, USA; ²The University of Texas MD Anderson Cancer Center, Houston, TX, USA; ³Jagiellonian University, John Paul II Hospital, Cracow, Poland; ⁴University Hospital of Cologne, Cologne, Germany; ⁵University Hospitals Gasthuisberg, Leuven and KU Leuven, Leuven, Belgium; ⁶University of Lille, Claude Huriez University Hospital, Lille, France; ⁷Fundacion Favaloro, Buenos Aires, Argentina; ⁸Johns Hopkins Sidney Kimmel Comprehensive Cancer Center, Baltimore, MD, USA; ⁹Akita University Hospital, Akita, Japan; ¹⁰CHU Pontchaillou, Rennes 1 University, Rennes, France; ¹¹Duke Cancer Institute, Durham, NC, USA; ¹²Princess Margaret Cancer Centre, Toronto, ON, Canada; ¹³Netherlands Cancer Institute-Antoni van Leeuwenhoek Hospital, Amsterdam, Netherlands; ¹⁴UZ Gent, Gent, Belgium; ¹⁵Bristol Myers Squibb, Princeton, NJ, USA; ¹⁶Dana Farber Cancer Institute, Boston, MA, USA; ¹⁷Johannes-Gutenberg University Clinic, Mainz, Germany

CheckMate 577 study design

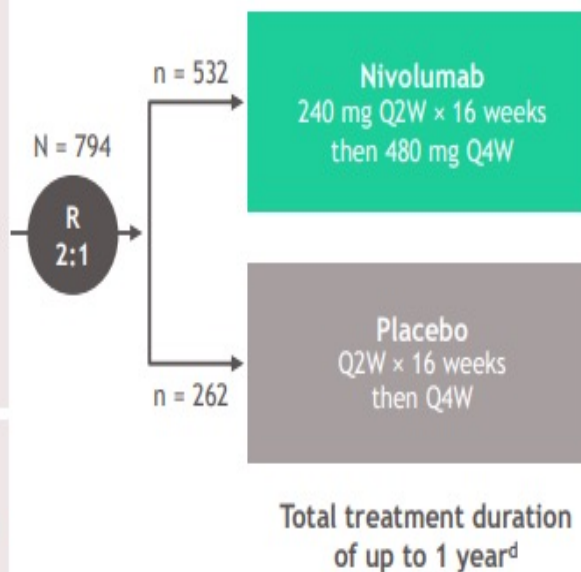
- CheckMate 577 is a global, phase 3, randomized, double-blind, placebo-controlled trial^a

Key eligibility criteria

- Stage II/III EC/GEJC
- Adenocarcinoma or squamous cell carcinoma
- Neoadjuvant CRT + surgical resection (R0,^b performed within 4-16 weeks prior to randomization)
- Residual pathologic disease
 - \geq ypT1 or \geq ypN1
- ECOG PS 0-1

Stratification factors

- Histology (squamous vs adenocarcinoma)
- Pathologic lymph node status (\geq ypN1 vs ypN0)
- Tumor cell PD-L1 expression (\geq 1% vs $<$ 1%)^c



Primary endpoint:

- DFS^e

Secondary endpoints:

- OS^f
- OS rate at 1, 2, and 3 years

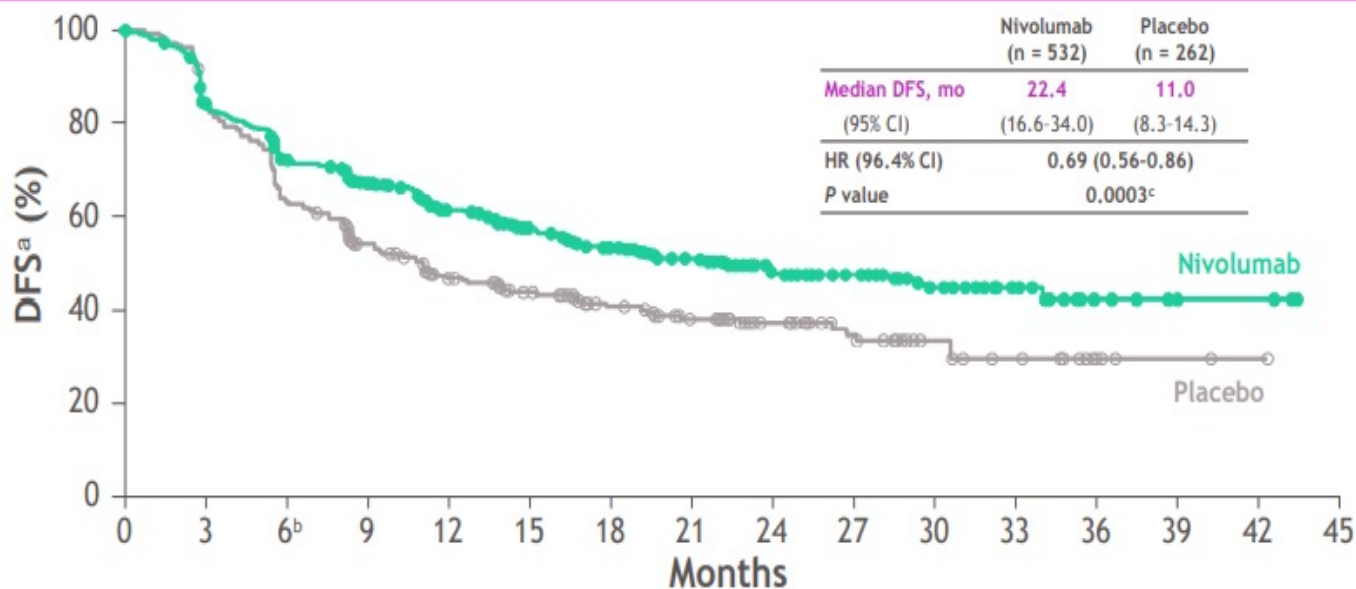
- Median follow-up was 24.4 months (range, 6.2-44.9)^g
- Geographical regions: Europe (38%), US and Canada (32%), Asia (13%), rest of the world (16%)

^aClinicalTrials.gov number, NCT02743494; ^bPatients must have been surgically rendered free of disease with negative margins on resected specimens defined as no vital tumor present within 1 mm of the proximal, distal, or circumferential resection margins; ^c< 1% includes indeterminate/nonevaluable tumor cell PD-L1 expression; ^dUntil disease recurrence, unacceptable toxicity, or withdrawal of consent; ^eAssessed by investigator, the study required at least 440 DFS events to achieve 91% power to detect an average HR of 0.72 at a 2-sided α of 0.05, accounting for a pre-specified interim analysis; ^fThe study will continue as planned to allow for future analysis of OS; ^gTime from randomization date to clinical data cutoff (May 12, 2020).

Checkmate 577 DFS

CheckMate 577

Disease-free survival

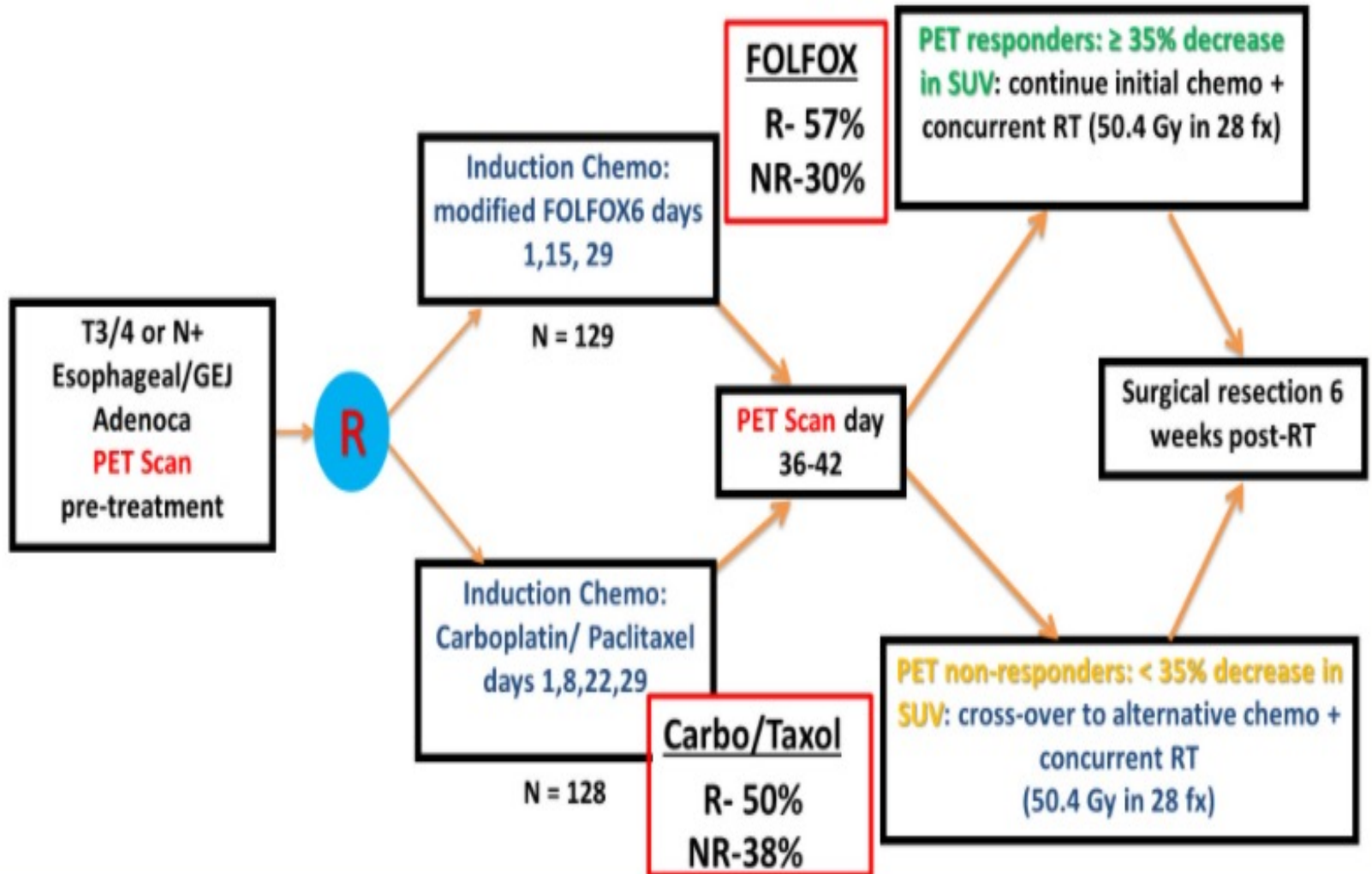


No. at risk	0	3	6 ^b	9	12	15	18	21	24	27	30	33	36	39	42	45
Nivolumab	532	430	364	306	249	212	181	147	92	68	41	22	8	4	3	0
Placebo	262	214	163	126	96	80	65	53	38	28	17	12	5	2	1	0

- Nivolumab provided superior DFS with a 31% reduction in the risk of recurrence or death and a doubling in median DFS versus placebo

^aPer investigator assessment; ^b6-month DFS rates were 72% (95% CI, 68-76) in the nivolumab arm and 63% (95% CI, 57-69) in the placebo arm; ^cThe boundary for statistical significance at the pre-specified interim analysis required the P value to be less than 0.036.

CALGB 80803: PET-Directed Therapy



Gastric & Gastroesophageal Cancers

CALGB 80803 (Alliance)—Survival Analysis

- PET directed combined modality treatment for esophageal cancer
 - FOLFOX → PET → FOLFOX/RT (R), Carbo/Taxol/RT (NR)
 - Carbo/Taxol → PET → Carbo/Taxol/RT (R), FOLFOX/RT (NR)
- Positive improvement in pCR rate in non-responders (1^o endpoint)

Suggestion that switch therapy may improve outcomes in an appropriately selected population

Regimen	Median Overall Survival	4-year Survival Rate
CARBO/PACLITAXEL → FOLFOX	27.6 months	41.9%
FOLFOX → CARBO/PACLITAXEL	30.9 months	37.6%
CARBO/PACLITAXEL → CP	39.6 months	44.7%
FOLFOX → FOLFOX	50.3 months	52.7%

Suggestion that induction chemotherapy may contribute in an appropriately selected population

Goodman KA et al, ASCO 2018

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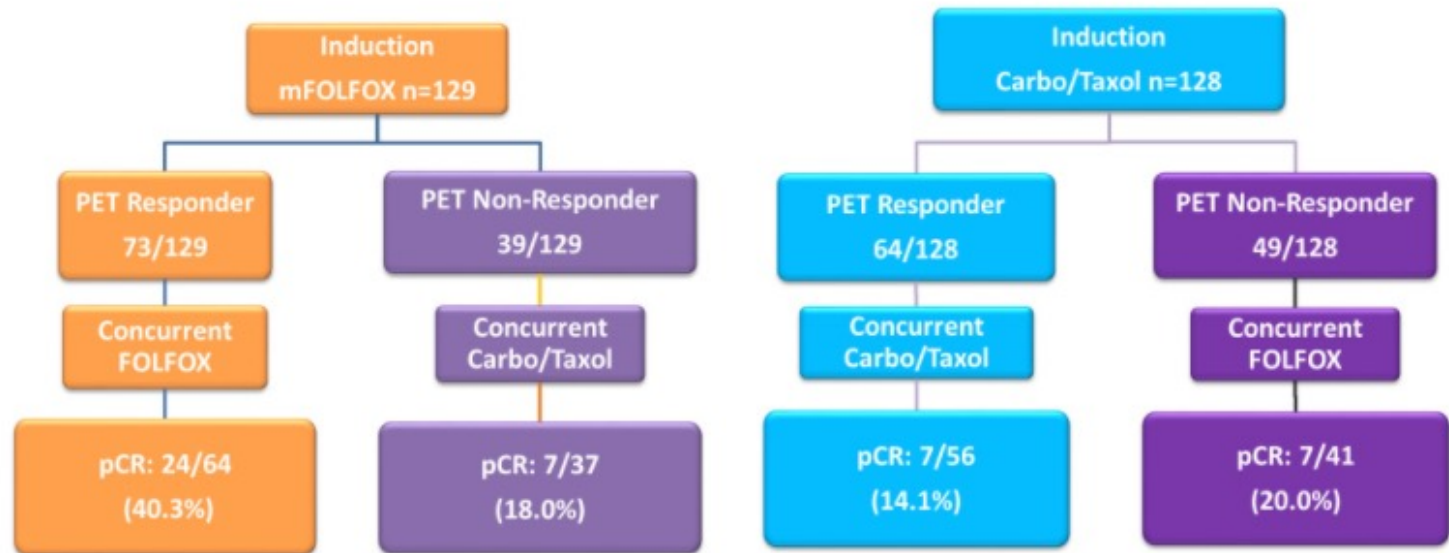
PRESENTED BY: Jennifer Eads, MD

#GI21

ALLIANCE Trial

PET Directed Combined Modality

Pathologic Complete Response Rates



Efficacy criteria met for both induction arms

ALLIANCE Trial

PET Directed Combined Modality

	Events/ Total	Median OS (mos)	2-year OS (%)	5-year OS (%)	P- value*
CP → FF Non-Responder	29/50	26.6	53.1	40.4	0.20
CP → CP Responder	37/64	38.7	56.9	43.9	
FF → CP Non-Responder	24/39	28.7	61.5	37.5	
FF → FF Responder	33/72	NE	76.1	53.0	

GASTRIC CANCER

(**JACCRO-GC 07 Adjuvant Therapy**)

Abstract 159: Confirmed 3-year RFS and OS of the randomized trial of adjuvant **S-1 versus **S-1 plus docetaxel** after curative resection of pStage III gastric cancer (JACCRO GC-07).**

Kazuhiro Yoshida, Yasuhiro Kodera, Mitsugu Kochi, Takeshi Sano, Yoshihiro Kakeji, Wataru Ichikawa, Shintaro Kurahashi, Takahiro Toyokawa, Masato Nakamura, Kazumasa Fujitani, Mitsuhiro Ota, Yoichi Makari, Hironori Yamaguchi, Yoshinari Mochizuki, Mikihiro Kano, Atsushi Takeno, Masahiro Takeuchi and Masashi Fujii



Japan Clinical Cancer Research Organization (JACCRO)

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#GI21

GASTRIC CANCER

(JACCRO-GC 07 Adjuvant Therapy)

Schema

pStage III
gastric cancer

R

Stratification:

- Stage (IIIA/IIIB/IIIC)
- Histological type
(Differentiated/undifferentiated)
- Institution

S-1

Cycles ≥ 1 (every 6 weeks)

S-1 80 mg/m² on Days 1–28

→ Continued up to one year post surgery

S-1/docetaxel

Cycle 1 (3 weeks)

S-1 80 mg/m² on Days 1–14

Cycles 2–7 (every 3 weeks)

docetaxel 40 mg/m² on Day 1 and S-1 80 mg/m² on Days 1–14

Cycles ≥ 8 (every 6 weeks)

S-1 80 mg/m² on Days 1–28

→ Continued up to one year post surgery

Follow-up until the end of study

UMIN000010337

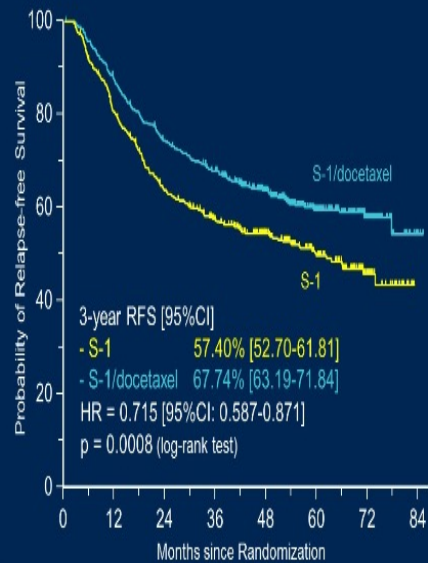
GASTRIC CANCER

JACCRO-GC 07

Relapse-free Survival

ITT analysis set Population
Data cut off: 9th Sept. 2020

Median follow up: 42.5 months
(Range: 0.3-85.16)

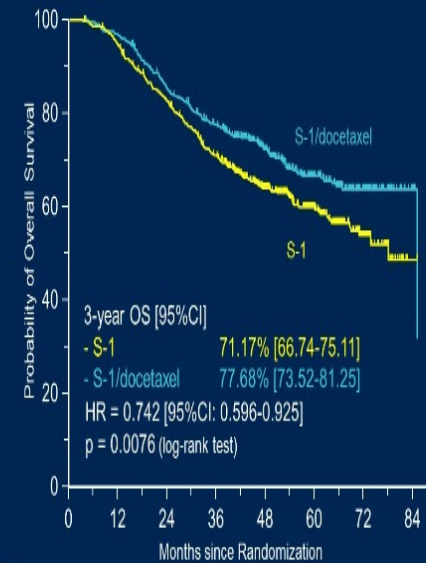


No. at Risk	0	12	24	36	48	60	72	84
S-1	459	366	286	243	170	92	32	0
S-1/docetaxel	453	394	332	297	214	121	44	2

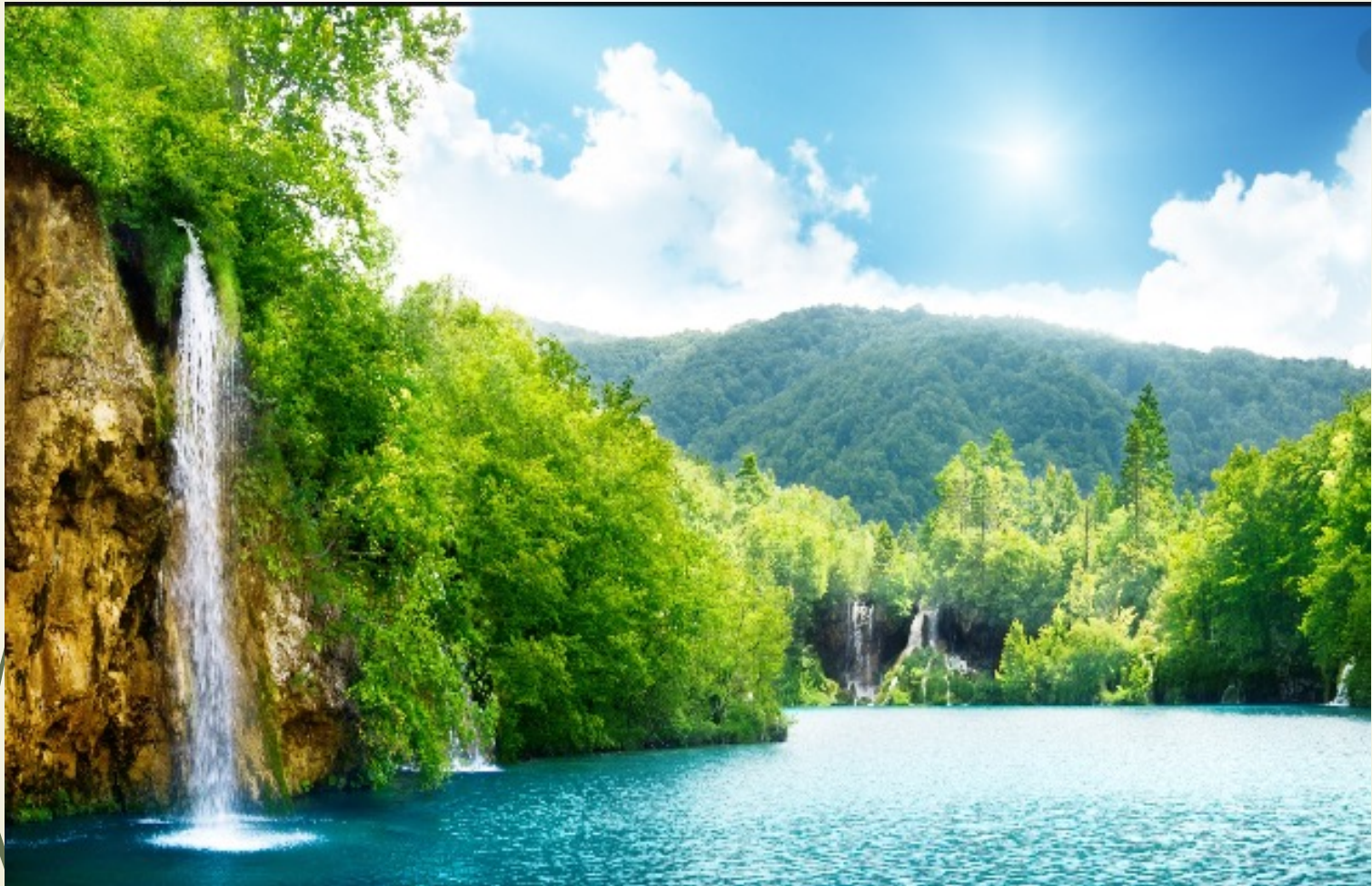
Overall Survival

ITT analysis set Population
Data cut off: 9th Sept. 2020

Median follow up: 48.25 months
(Range: 3.52-85.16)



No. at Risk	0	12	24	36	48	60	72	84
S-1	459	433	373	313	212	121	40	1
S-1/docetaxel	453	438	383	341	248	146	55	4





Real Life stories: Advanced GE / Gastric cancers

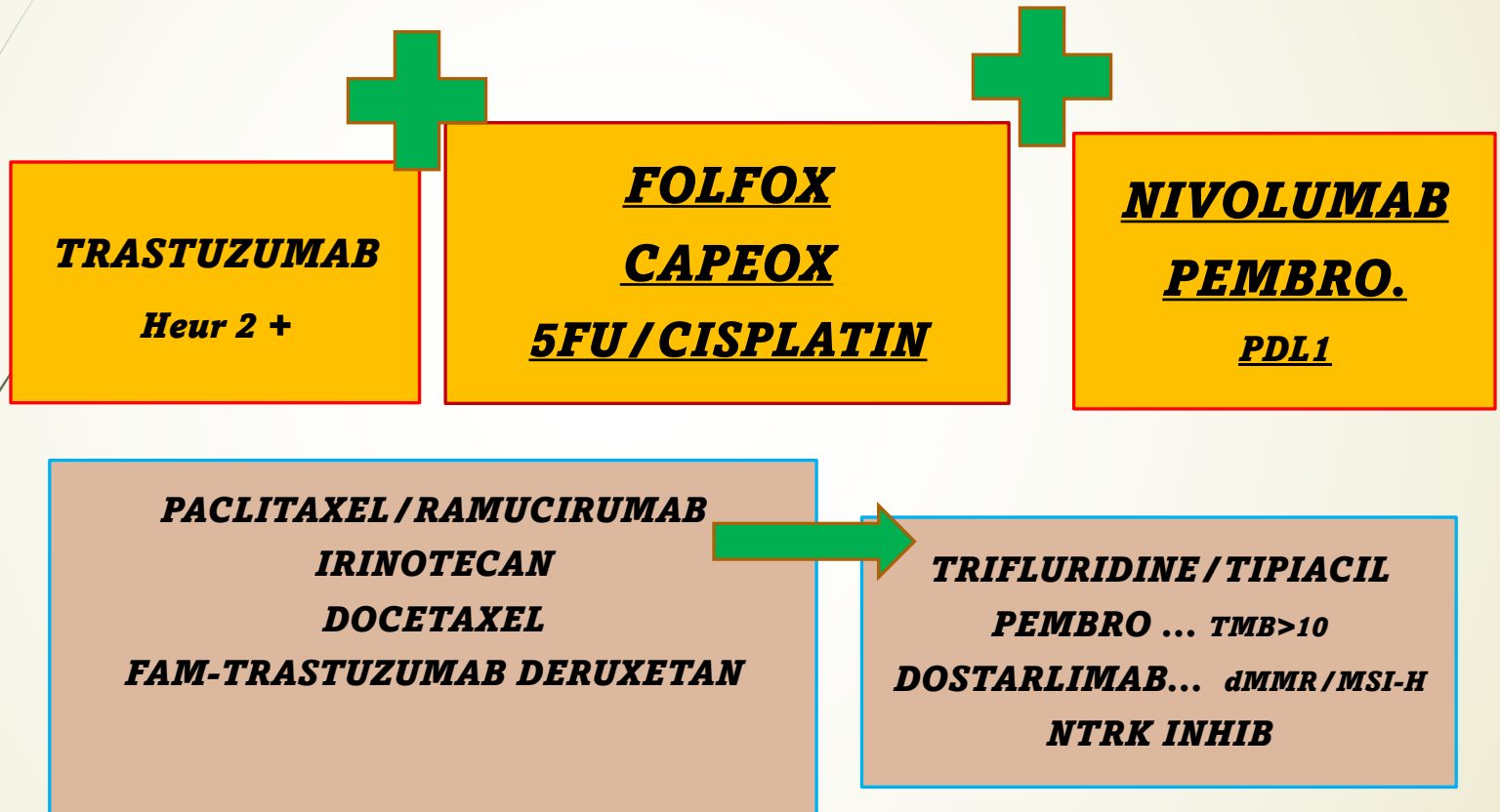
➤ Case 1 : Sue

- 46 y/o Female Presented with abdominal pain, recurrent emesis
- EGD: GE adenoCa.
- CT scan in Uruguay : No distant Mets
- Ex-lap → carcinomatosis
- In the US: PET scan periaortic LND, Omental Involvmnt
- Heur 2 + by FISH
- PDL1 (-) CPS 0

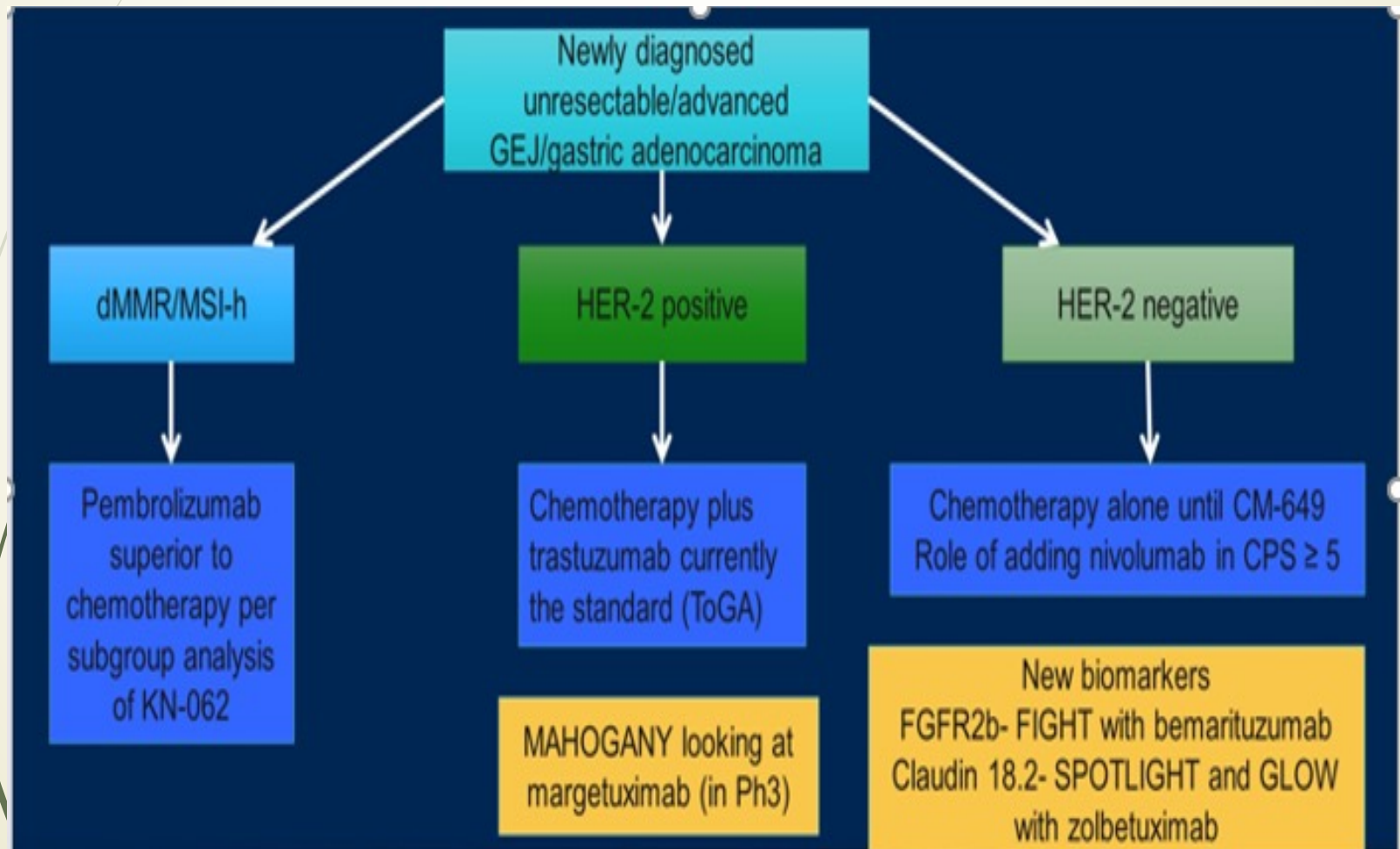
➤ Case 2: Adam

- 28 y/o male Cardio fellow presented dyspepsia, wight loss
- EGD: Gastric adenoCa
- CT scan/MRI: 3 liver mets in segmt IV
- PET scan: increase uptake in Gastric wall/ Liver
- Path: Heur 2 (-),
- PDL1 CPS 2

CONTINUUM OF CARE FOR ADVANCED ESOPH/GASTRIC CA



Management of Advanced Esoph. & Gastric Cancer

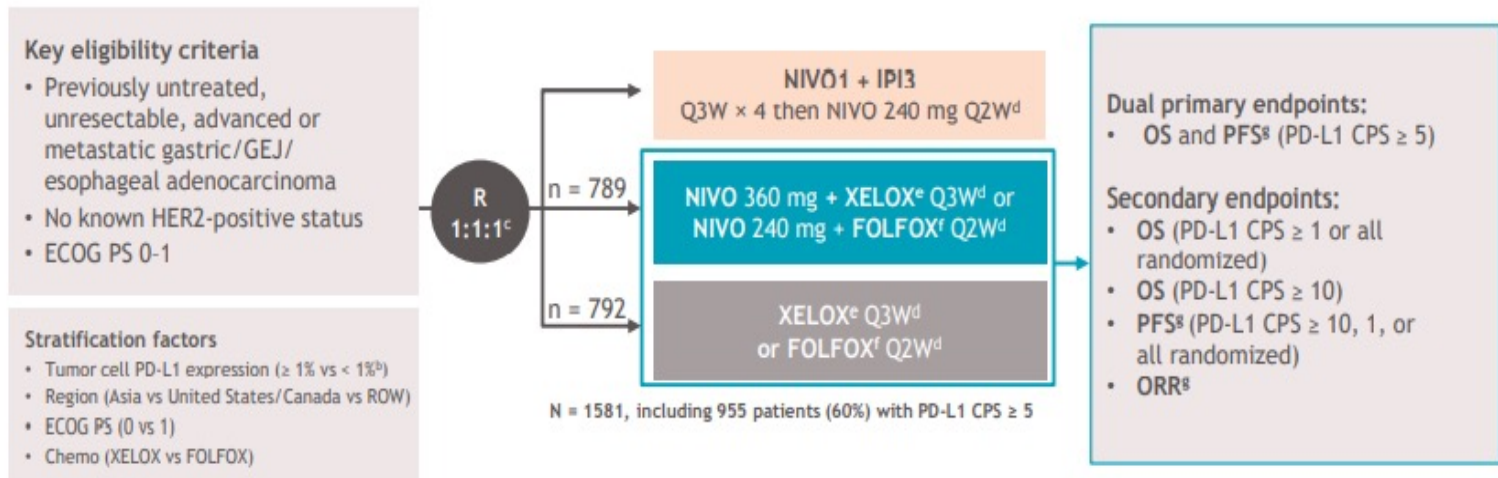


IMMUNOTHERPAY IN ESOPH & GASTRIC CANCERS

CheckMate 649

CheckMate 649 study design

- CheckMate 649 is a randomized, open-label, phase 3 study^a



- At data cutoff (May 27, 2020), the minimum follow-up was 12.1 months^h

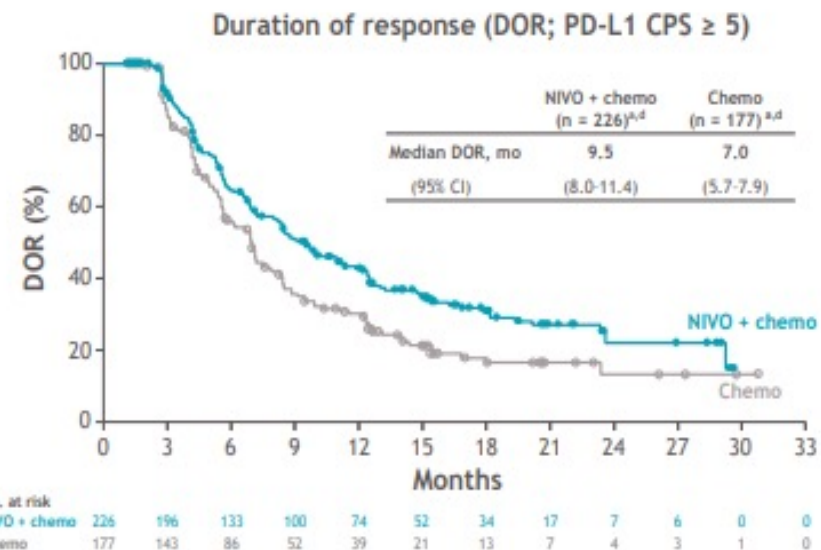
^aClinicalTrials.gov number, NCT02872116; ^b< 1% includes indeterminate tumor cell PD-L1 expression; determined by PD-L1 IHC 28-8 pharmDx assay (Dako); ^cAfter NIVO + chemo arm was added and before new patient enrollment in the NIVO1+IPI3 group was closed; ^dUntil documented disease progression (unless consented to treatment beyond progression for NIVO + chemo), discontinuation due to toxicity, withdrawal of consent, or study end. NIVO is given for a maximum of 2 years; ^eOxaliplatin 130 mg/m² IV (day 1) and capecitabine 1000 mg/m² orally twice daily (days 1-14); ^fOxaliplatin 85 mg/m², leucovorin 400 mg/m², and FU 400 mg/m² IV (day 1) and FU 1200 mg/m² IV daily (days 1-2); ^gBICR assessed; ^hTime from concurrent randomization of the last patient to NIVO + chemo vs chemo to data cutoff.

CHECKMATE 649



Response and duration of response

	PD-L1 CPS \geq 5	
	NIVO + chemo (n = 378) ^a	Chemo (n = 391) ^a
ORR, %	60	45
95% CI	55-65	40-50
P value ^b	< 0.0001	
Best overall response, ^c %		
Complete response	12	7
Partial response	48	38
Stable disease	28	34
Progressive disease	7	11
Not evaluable	6	10
Median TTR (range), months	1.5 (0.8-10.2)	1.5 (1.0-7.1)



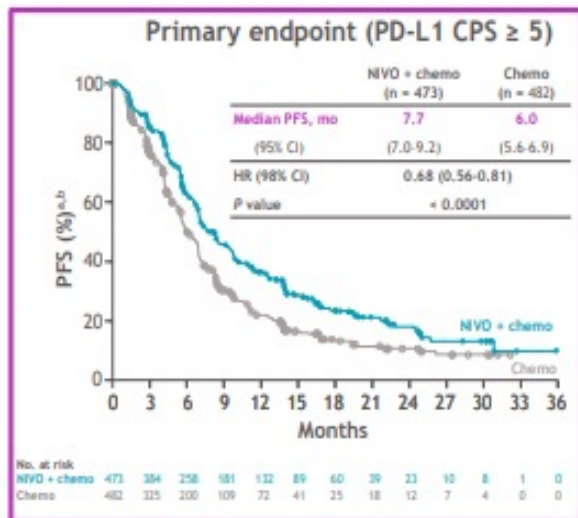
- ORR was higher with NIVO + chemo versus chemo, and responses were more durable

^aRandomized patients who had target lesion measurements at baseline per BICR assessment; ^bORR was not formally tested, the pre-specified P value is descriptive; ^cPercentages may not add up to 100% due to rounding; ^dNumber of responders.

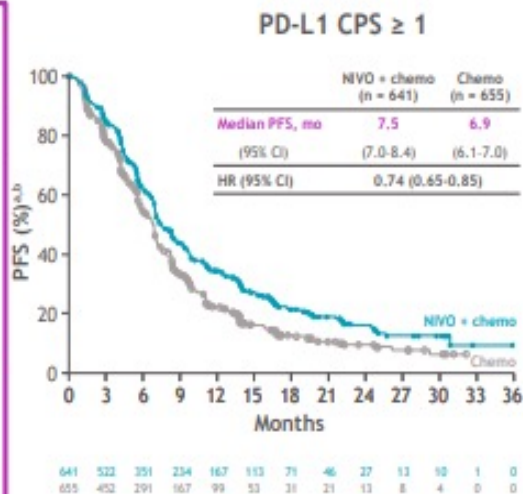
CHECKMATE 649

CheckMate 649

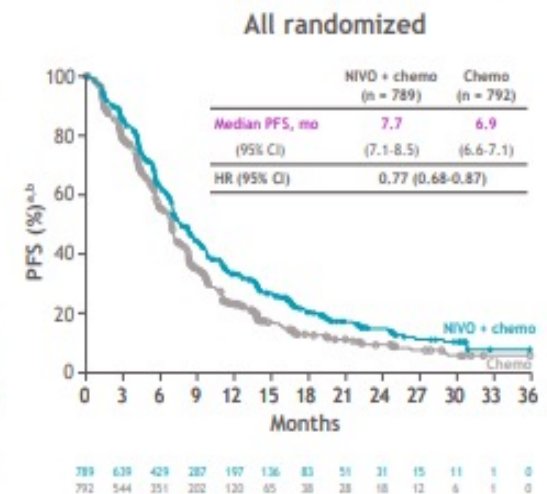
Progression-free survival



12-mo rate: NIVO + chemo, 36%; chemo, 22%



NIVO + chemo, 34%; chemo, 22%



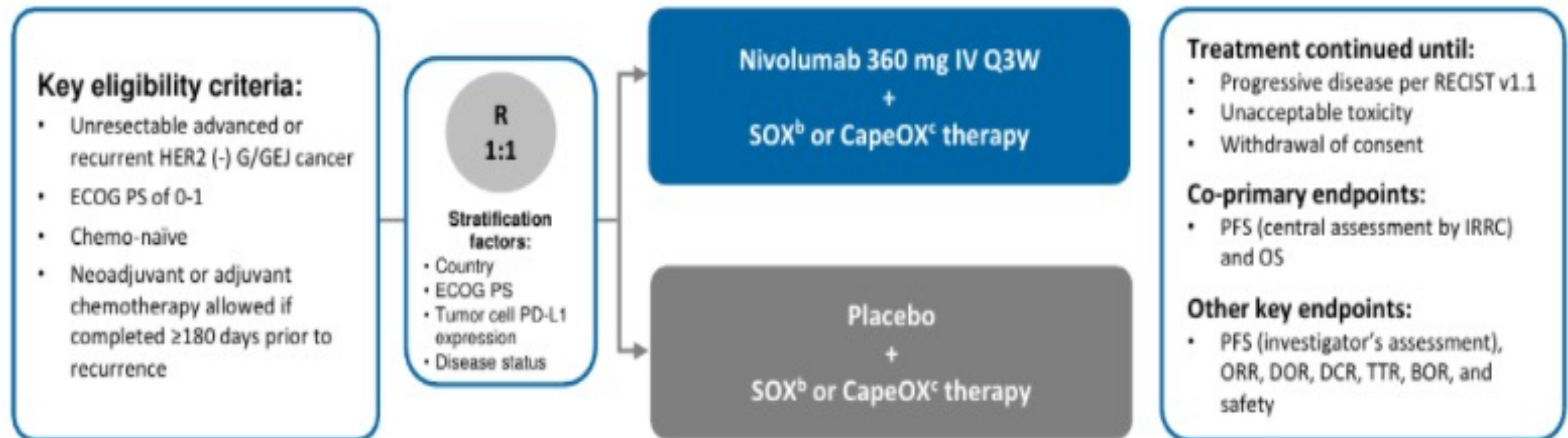
NIVO + chemo, 33%; chemo, 23%

- Superior PFS, 32% reduction in the risk of progression or death with NIVO + chemo versus chemo in patients whose tumors expressed PD-L1 CPS ≥ 5
- PFS benefit with NIVO + chemo versus chemo in PD-L1 CPS ≥ 1 and all randomized patients

*Per BICR assessment; ^bMinimum follow-up 12.1 months.

Phase 3 part of ATTRACTION-4: Study Design

- Phase 3 part of ATTRACTION-4 is a double-blind, randomized controlled study conducted at 130 centers in Japan, Korea, and Taiwan^a



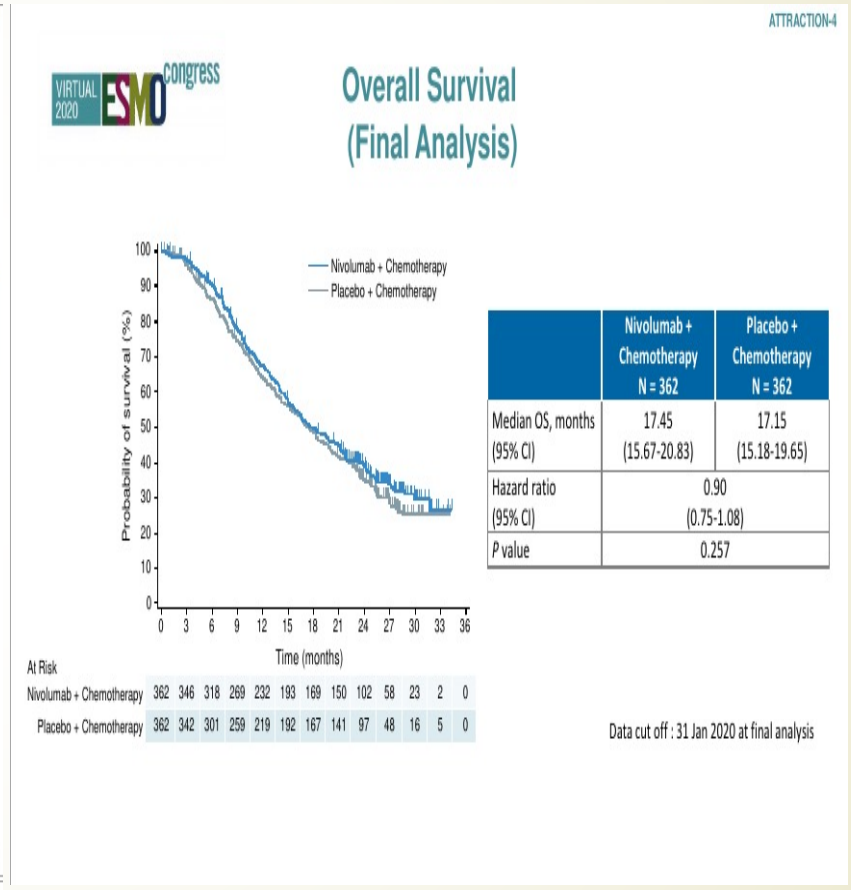
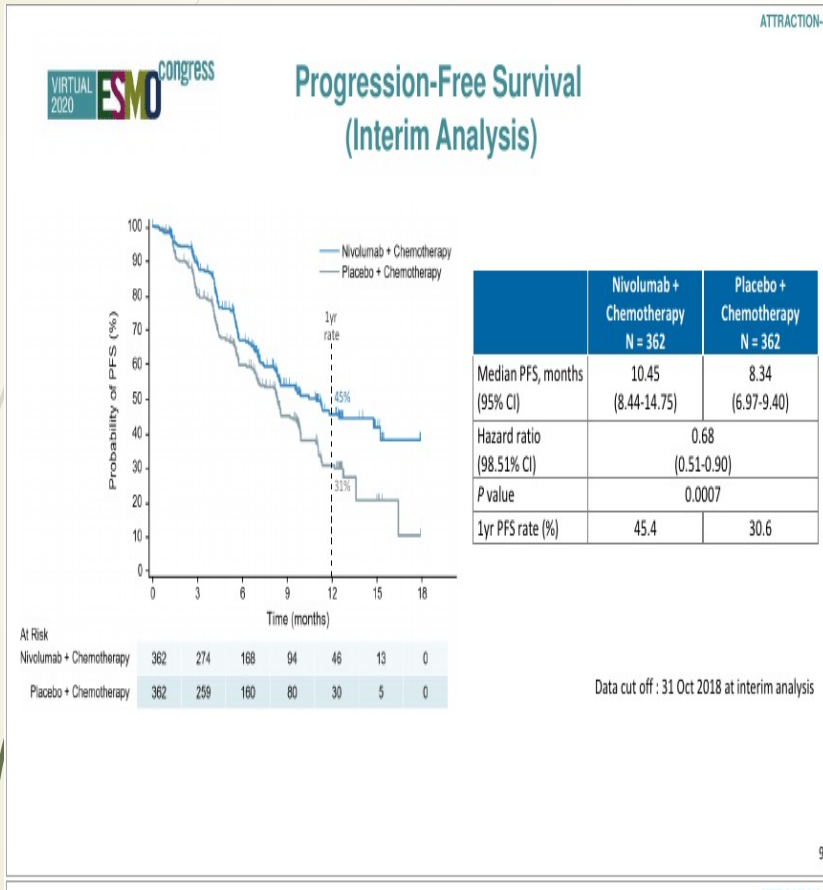
- At data cutoff for interim analysis of PFS (31 Oct 2018), the median follow-up period was 11.6 months
- At data cutoff for final analysis of OS (31 Jan 2020), the median follow-up period was 26.6 months
- A total of 724 patients were randomized between Mar 2017 and May 2018

^aClinicalTrials.gov Identifier: NCT02746796.

^bSOX : S-1 (tegafur-gimeracil-oteracil potassium) 40 mg/m² orally twice daily (days 1–14) and Oxaliplatin 130 mg/m² IV (day 1), q3w

^cCapeOX : Capecitabine 1000 mg/m² orally twice daily (days 1–14) and Oxaliplatin 130 mg/m² IV (day 1), q3w

ATTRACTION 4 TRIAL



IMMUNOTHERPAY IN ESOPH & GASTRIC CANCERS

Kato KN590 ESMO 2020

KEYNOTE-590 Study Design (NCT03189719)

Key Eligibility Criteria

- Locally advanced unresectable or metastatic EAC or ESCC or advanced/metastatic EGJ Siewert type 1 adenocarcinoma
- Treatment naive
- ECOG PS 0 or 1
- Measurable disease (RECIST v1.1)

Stratification Factors

- Asia vs Non-Asia region
- ESCC vs EAC
- ECOG PS 0 vs 1

R
(1:1)

Pembrolizumab 200 mg IV Q3W for ≤35 cycles

+

Chemotherapy

5-FU 800 mg/m² IV for days 1-5 Q3W for ≤35 cycles
+ Cisplatin 80 mg/m² IV Q3W for ≤6 cycles

Placebo^a

+

Chemotherapy

5-FU 800 mg/m² IV for days 1-5 Q3W for ≤35 cycles
+ Cisplatin 80 mg/m² IV Q3W for ≤6 cycles

- Dual-Primary endpoints: OS and PFS (RECIST v1.1, investigator)
- Secondary endpoint: ORR (RECIST v1.1, investigator)
- Tumor response assessed at week 9 then Q9W (RECIST v1.1, investigator)

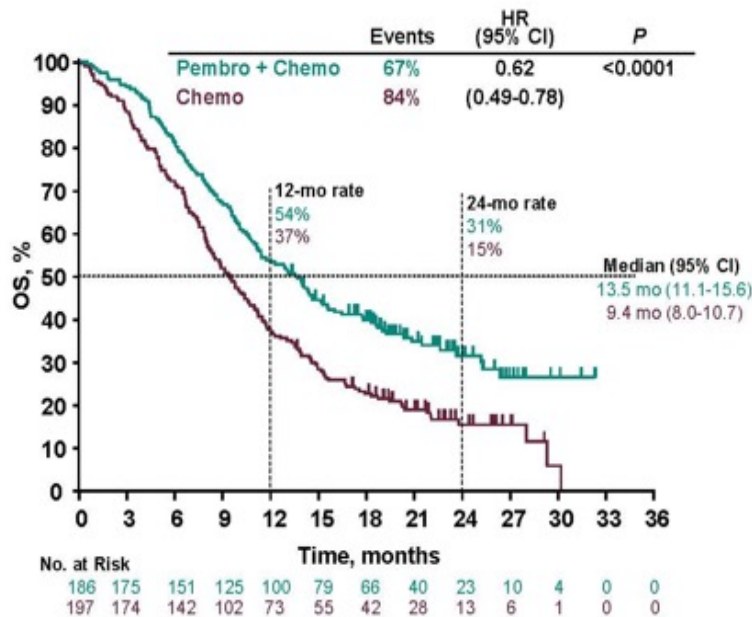
KEYNOTE 590



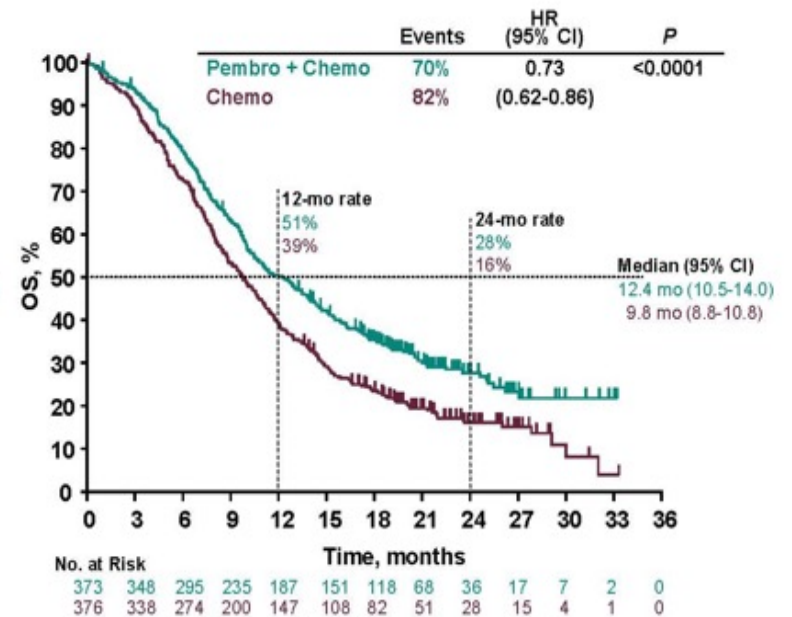
Kato KN590 ESMO 2020

Overall Survival

PD-L1 CPS ≥10



All Patients

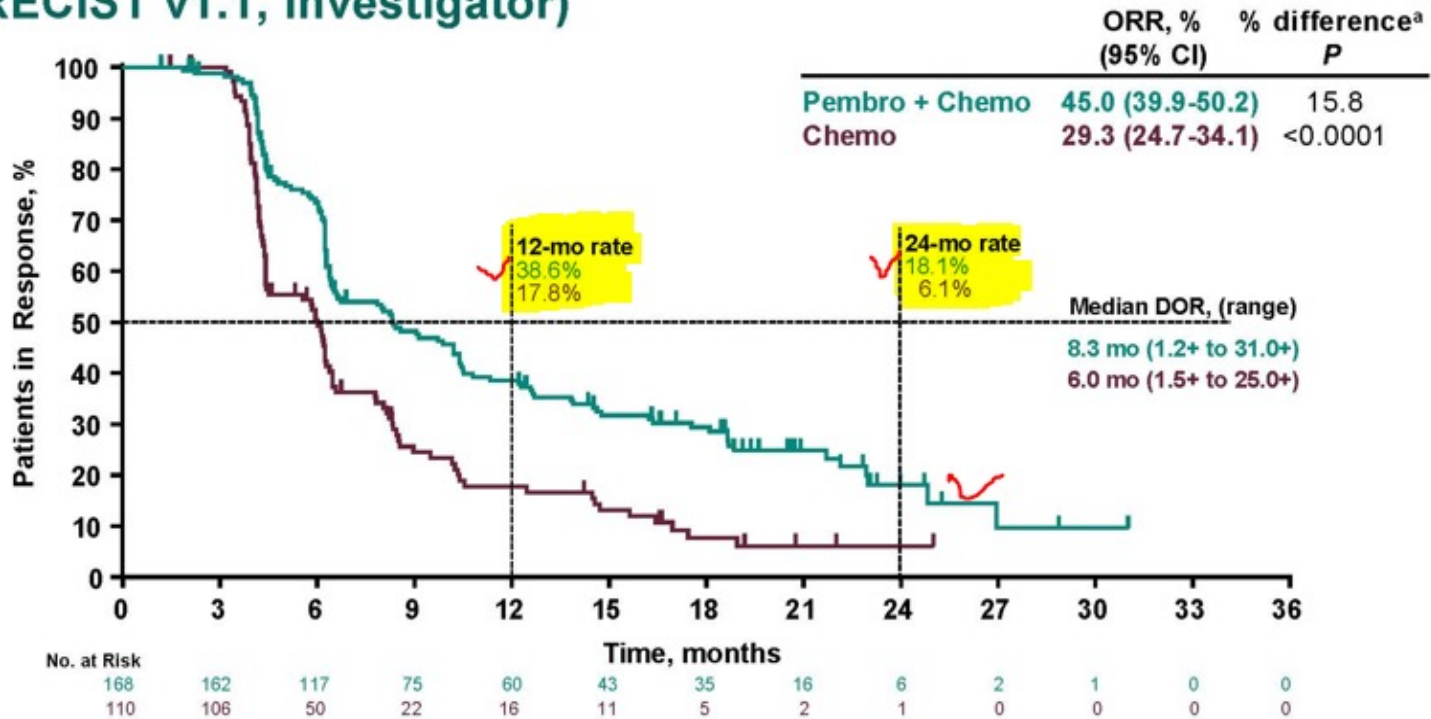


Data cut-off: July 2, 2020.

KEYNOTE 590

Kato KN590 ESMO 2020

Response Rate and Duration: All Patients (RECIST v1.1, investigator)



^aEstimate based on Miettinen & Nurminen method stratified by geographic region, histology, and ECOG performance status; Data cut-off: July 2, 2020.

KEYNOTE-811 Global Cohort: Randomized, Double-Blind, Phase 3 Study

Key Eligibility Criteria

- Unresectable or metastatic gastric or GEJ adenocarcinoma
- No prior systemic therapy in advanced setting
- HER2-positive tumor by central review (IHC 3+ or IHC 2+ ISH+)
- ECOG PS 0 or 1

Stratification Factors

- Geographic region (Australia/Europe/ Israel/North America vs Asia vs ROW)
- PD-L1 CPS (≥ 1 vs < 1)
- Chemotherapy choice (FP vs CAPOX)

R 1:1
N = 692

Pembrolizumab 200 mg IV Q3W
+
Trastuzumab and FP or CAPOX^a
for up to 35 cycles

Placebo IV Q3W
+
Trastuzumab and FP or CAPOX^a
for up to 35 cycles

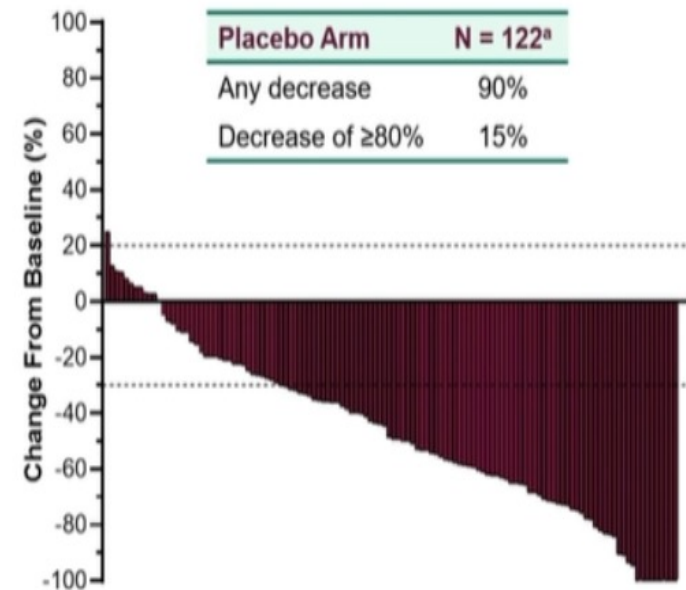
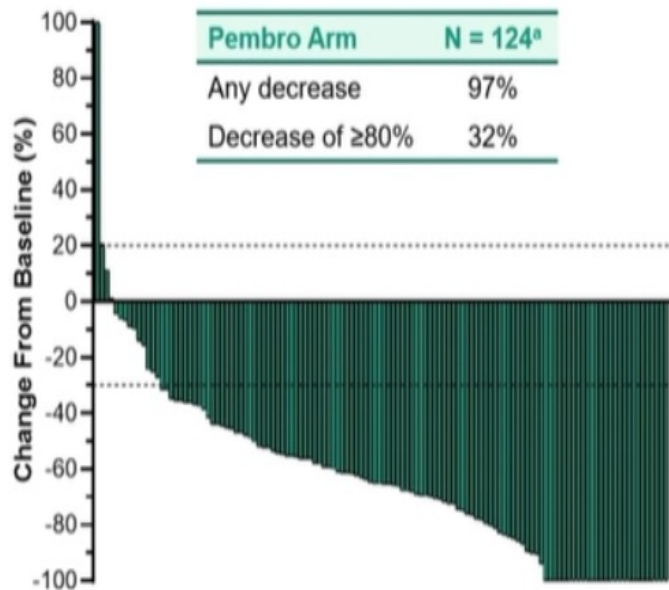
End Points

- **Dual primary:** OS and PFS per RECIST v1.1 by BICR
- **Key secondary:** ORR and DOR per RECIST v1.1 by BICR and safety

KEYNOTE 811

TRASTUZ/ PEMBRO OR PLACEBO AND CHEMOR_x

Best Percentage Change From Baseline in Size of Target Lesions at IA1, Efficacy Population



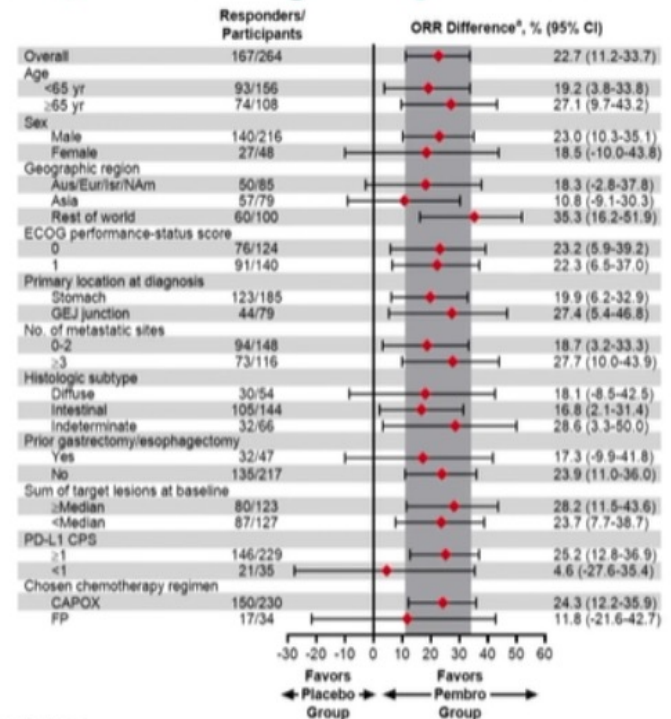
Participants with RECIST-measurable disease at baseline and ≥ 1 post-baseline measurement evaluable for change from baseline in target lesions.
The treatment regimen in both arms included trastuzumab and chemotherapy. Data cutoff date: June 17, 2020.

KEYNOTE 811

TRASTUZ/ PEMBRO OR PLACEBO AND CHEMORx

Confirmed Response at IA1, Efficacy Population

% (95% CI)	Pembro Arm (N = 133)	Placebo Arm (N = 131)
ORR	74.4% (66.2-81.6)	51.9% (43.0-60.7)
ORR difference^a	22.7% (11.2-33.7) P = 0.00006	
DCR	96.2% (91.4-98.8)	89.3% (82.7-94.0)



Calculated using the Miettinen and Nurminen method stratified by the randomization stratification factors.
^aThe treatment regimen in both arms included trastuzumab and chemotherapy. Data cutoff date: June 17, 2020.

A double-blind randomized study of bemarituzumab (bema) plus mFOLFOX6 versus placebo plus mFOLFOX6 as first-line treatment for advanced gastric/gastroesophageal junction cancer (FIGHT)

Zev A Wainberg, Peter Enzinger, Yoon-Koo Kang, Kensai Yamaguchi, Shukui

FIGHT Trial Design

Key Eligibility Criteria

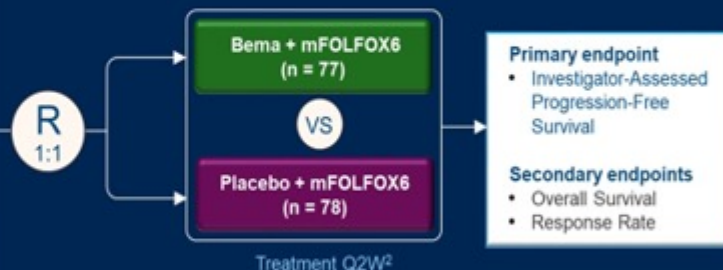
- No prior therapy for unresectable locally advanced or metastatic gastric/GEJ adenocarcinoma
- RECIST v1.1 evaluable disease
- FGFR2b overexpression by IHC and/or *FGFR2* gene amplification by ctDNA¹
- ECOG 0/1
- HER2 not positive
- May receive 1 dose of mFOLFOX6

Stratification Factors

- Geographic region
- Single dose of mFOLFOX6 during screening
- Prior adjuvant or neo-adjuvant chemotherapy

1 Central testing: immunohistochemical stain (Ventana); cut-off any 2+/3+; circulating tumor DNA (PGDx); cut-off 1.5X
2 15mg/kg Q2W with a single 7.5mg/kg dose on Cycle 1 Day 8²

Double blind, placebo controlled



Statistical Plan

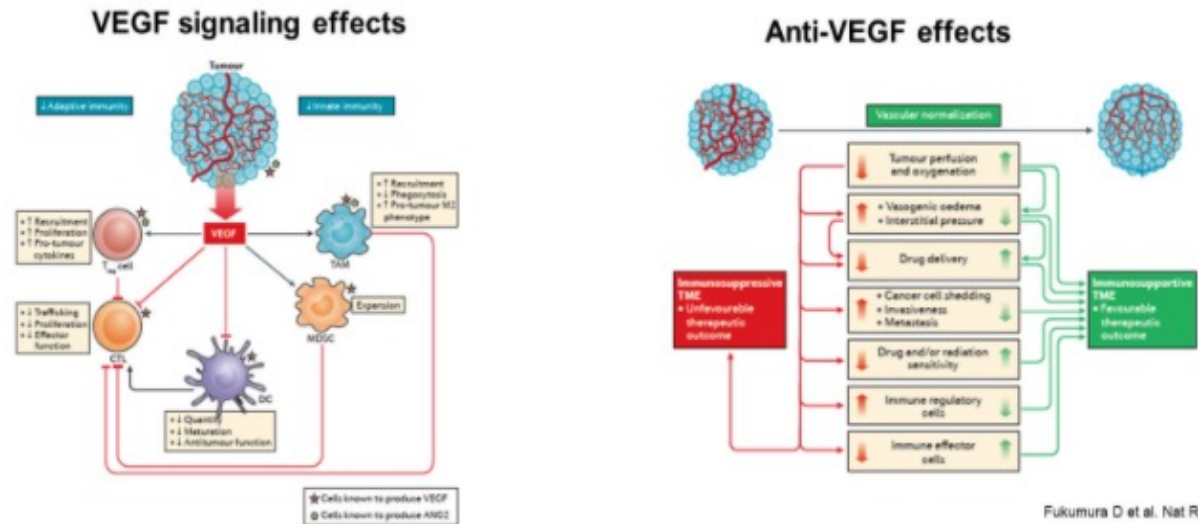
Trial initially designed as registrational Phase 3 (n=548) with 2-sided α 0.05
Amended after enrolling n = 155 to a proof-of-concept Phase 2 with pre-specified statistical assumptions of:

- Hierarchical sequential testing: PFS, then OS/ORR
- ≥ 84 events to demonstrate benefit at a HR ≤ 0.76 for PFS at 2-sided α of 0.2

Novel Concepts for IO in GE / Gastric Cancers

Immune suppression of angiogenesis in TME

- VEGF signaling leads to immunosuppressive state in TME
- Angiogenesis inhibitors normalize tumor vasculature, leading to immune stimulatory status and promotes differentiation and function of immune cells



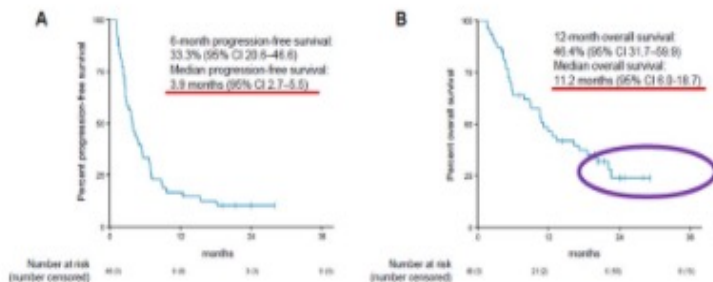
Fukumura D et al. Nat Rev Clin Oncol 2018

Novel Concepts for IO in GE / Gastric Cancers

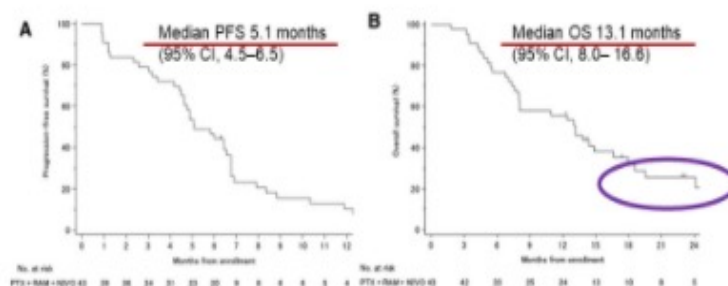
IO + angiogenesis inhibitor (AI) in 2nd line



phase I/II Paclitaxel + Nivolumab (n=48)



phase I/II Paclitaxel + Ramucirumab + Nivolumab (n=43)



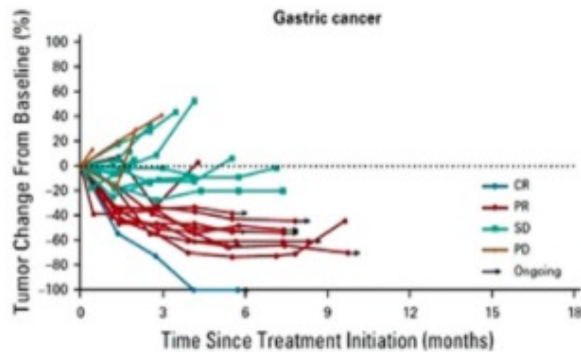
- Paclitaxel + Ramucirumab in Rainbow trial: mPFS 4.4months(95% CI 4.2-5.3), mOS 9.6months(95% CI 8.5-10.8)
- Adding Nivolumab showed long term survivors!!
- Triplet regimen with Ramucirumab is tolerable and improves survival!

Novel Concepts for IO in GE / Gastric Cancers

IO + angiogenesis inhibitor (III): VEGFR TKIs

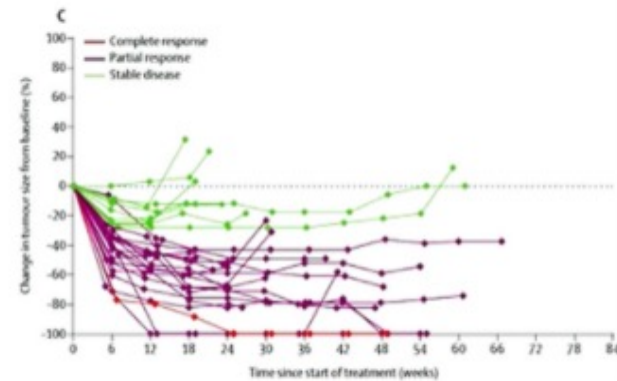


Regorafenib + Nivolumab



Ongoing phase III Integrate IIb trial, late line
Regorafenib + Nivolumab vs SOC chemotherapy

Lenvatinib + Pembrolizumab



Ongoing phase III LEAP-015 trial, 1st line
Lenvatinib + Pembrolizumab + chemo vs chemo

Fukuoka S, JCO, 2021, Kawazoe A, Lancet Oncol 2020, Chung et al ASCO 2021

CONCLUSION

- ▶ **The treatment Paradigm for gastric & Gastroesophageal cancer is an evolving Process**
- ▶ **Locally Advanced Gastric Ca/ GE adenoCa choosing wisely Perioperative chemoRx**
- ▶ **Esophageal SCC/ AdenoCa selected (Siewart1, ChemoRx is not option) combined Modality is better approach**
- ▶ **Adjuvant Immunotherapy with Nivolumab when R0, Residual disease (>T1,>N1)**
- ▶ **The Alliance Trial with PET Directed combined modality with a greater OS reaching 50.3 m with FOLFOX→FOLFOX/ XRT**
- ▶ **Pembro + Trastuzumab and ChemoRX as new standard for Heur 2+ GE/Gastric Adenoca**
- ▶ **Great Need for targeted Therapy against newer pathways/ receptors**