轉移性胃癌治療趨勢

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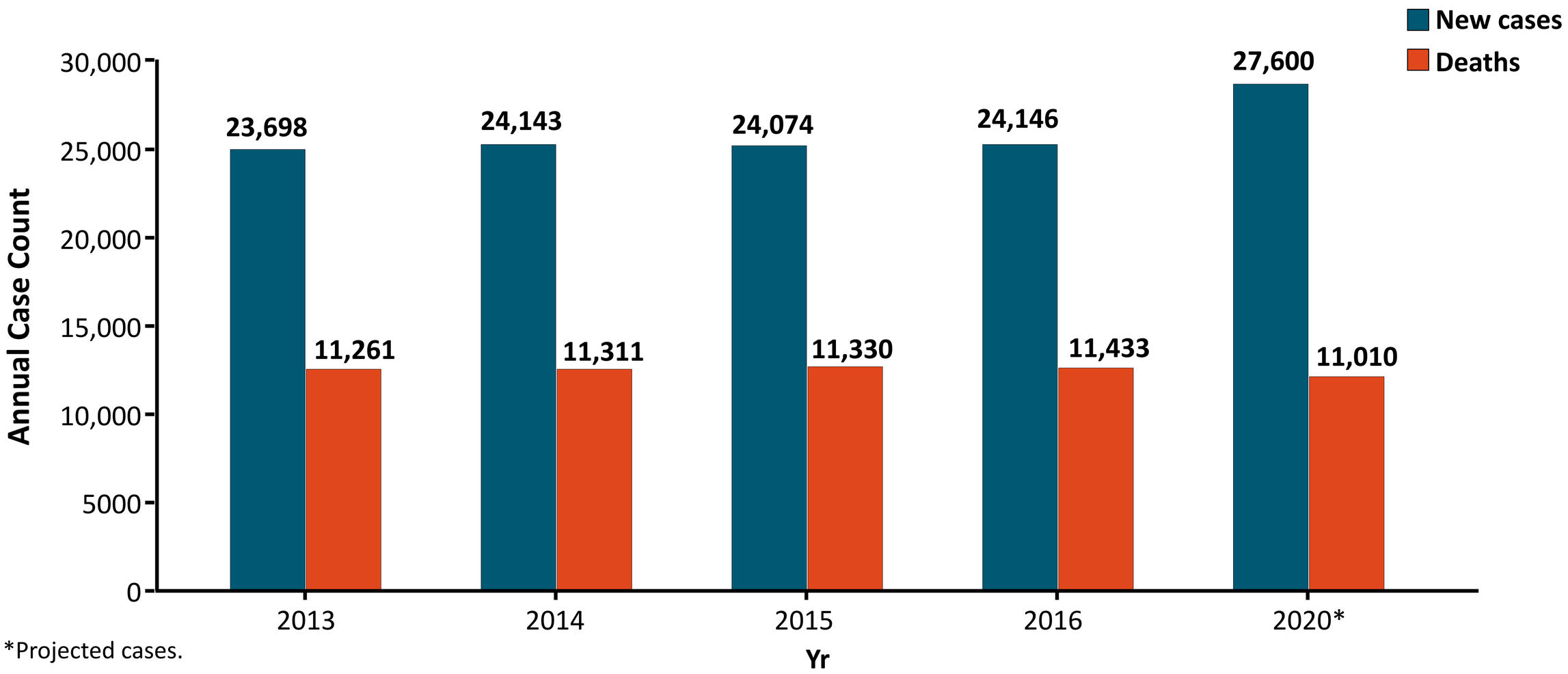
2021-05-01

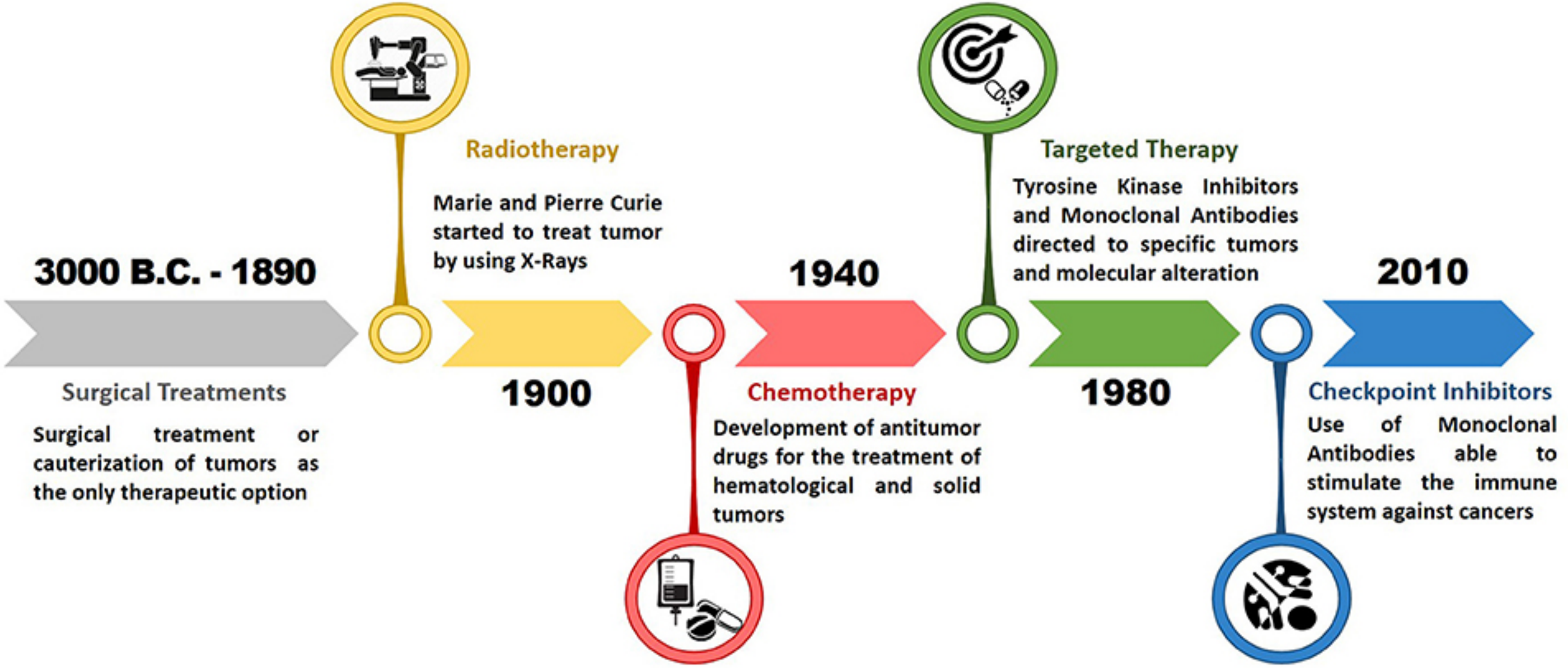
Gastric Cancer Statistics in US



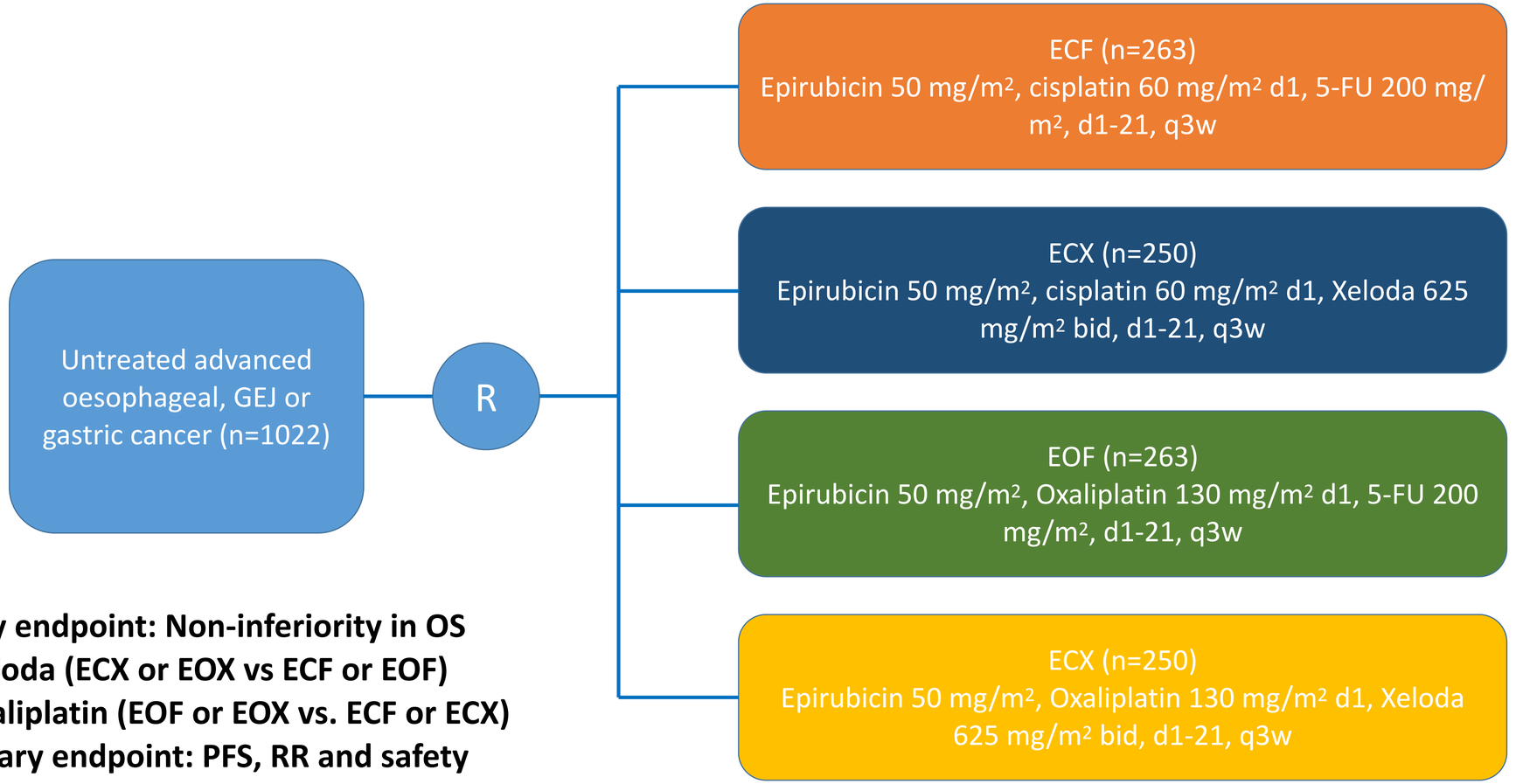
*Projected cases.

American Cancer Society 2020. Center for Disease Control and Prevention 2020.

Slide credit: clinicaloptions.com


3000 B.C. - 1890
Surgical Treatments
Surgical treatment or cauterization of tumors as the only therapeutic option
1900
Radiotherapy
Marie and Pierre Curie started to treat tumor by using X-Rays
1940
Chemotherapy
Development of antitumor drugs for the treatment of hematological and solid tumors
1980
Targeted Therapy
Tyrosine Kinase Inhibitors and Monoclonal Antibodies directed to specific tumors and molecular alteration
2010
Checkpoint Inhibitors
Use of Monoclonal Antibodies able to stimulate the immune system against cancers

REAL-2: 1st-line CT in Esophageal/Gastric Cancer



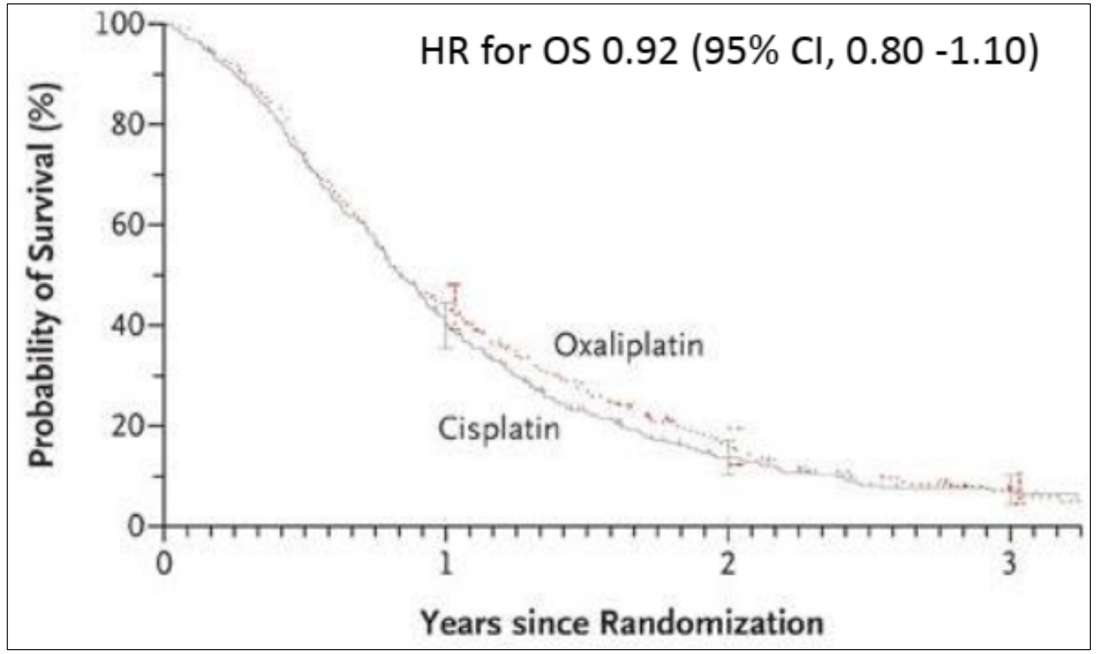
Primary endpoint: Non-inferiority in OS
- **of Xeloda (ECX or EOX vs ECF or EOF)**
- **of oxaliplatin (EOF or EOX vs. ECF or ECX)**

Secondary endpoint: PFS, RR and safety

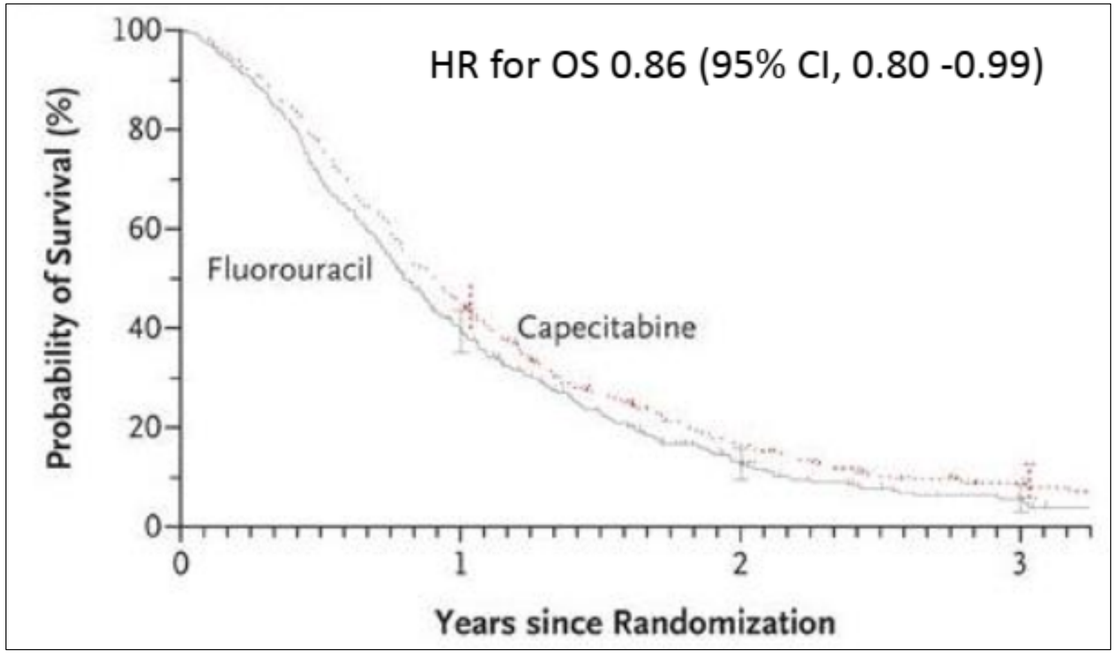
Cunningham, et al. NEJM 2008

REAL-2: OS

Oxaliplatin vs Cisplatin

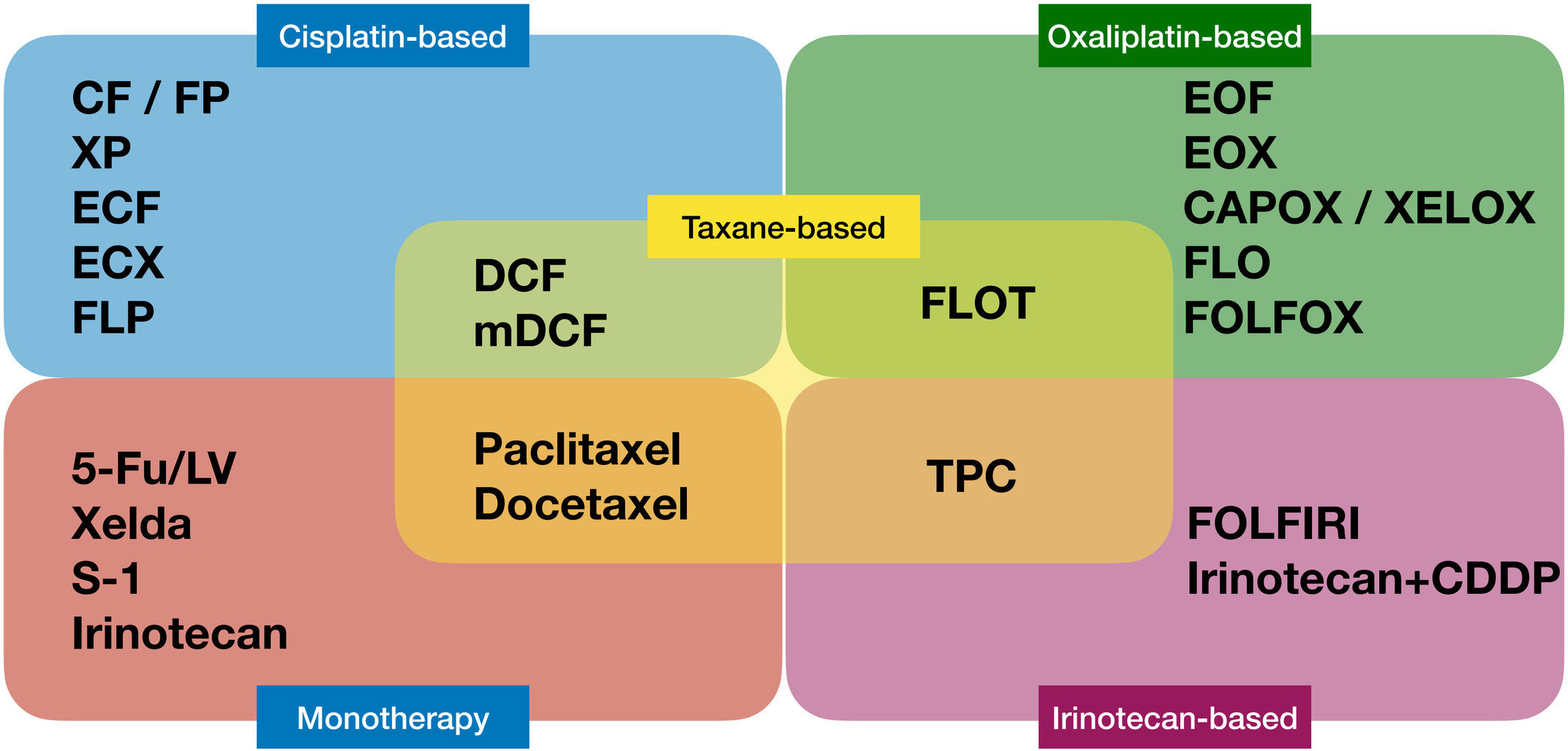


Capecitabine vs 5-FU

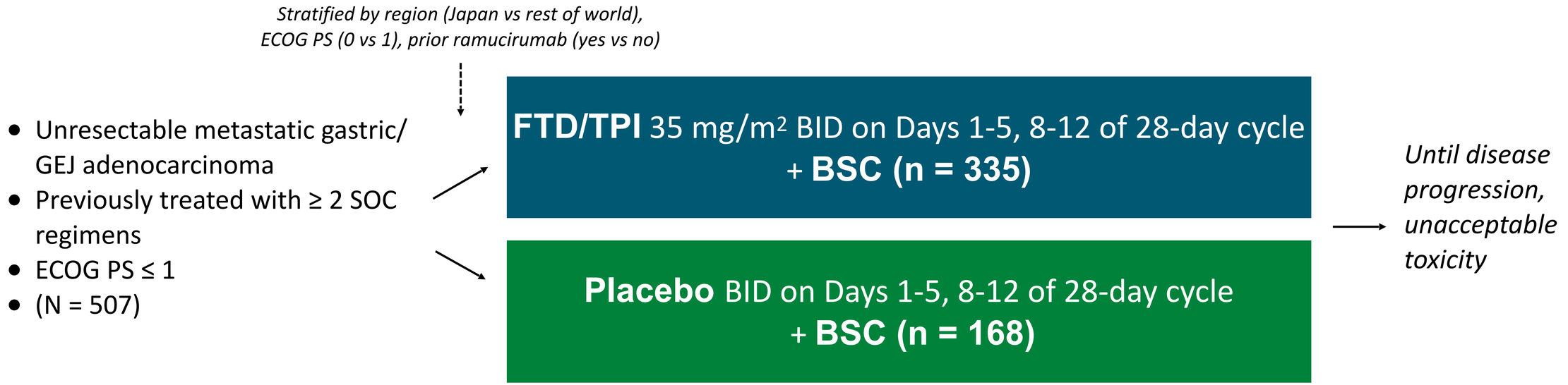


Cunningham, et al. NEJM 2008

Chemotherapy Regimens



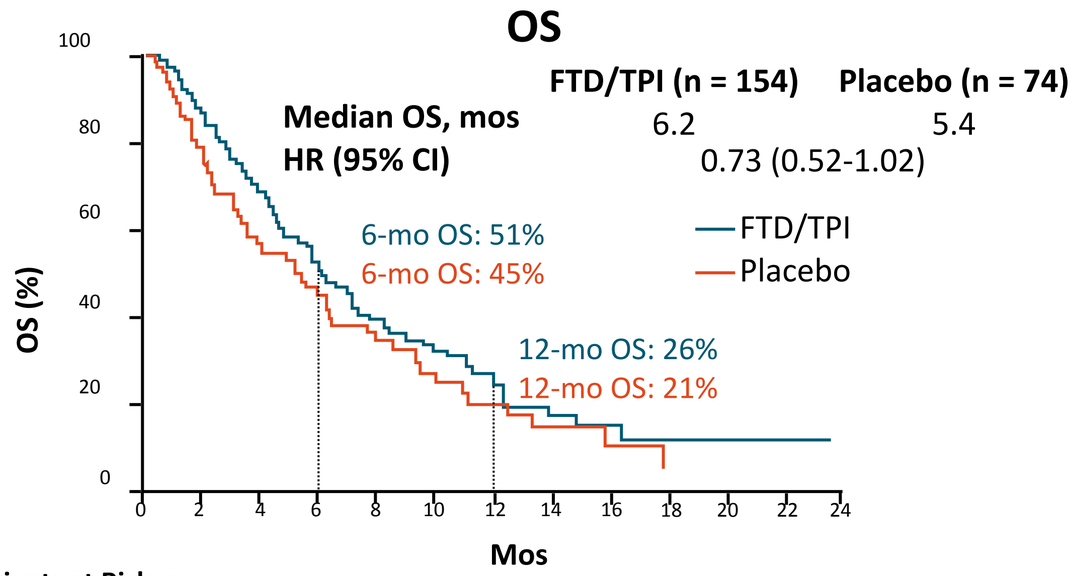
TAGS: Trifluridine/Tipiracil vs Placebo in Previously Treated Metastatic Gastric/GEJ Adenocarcinoma

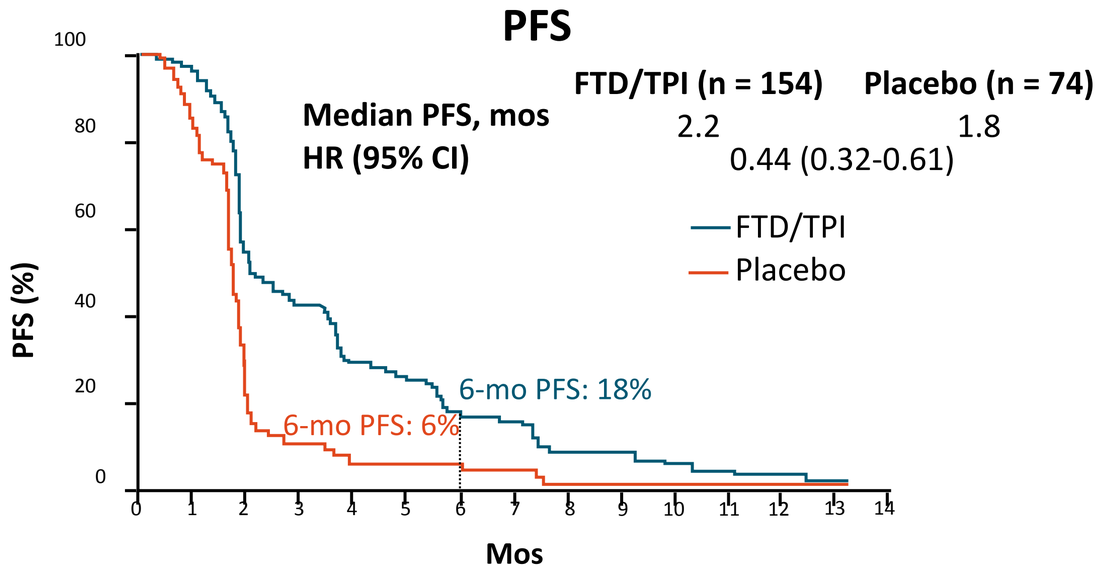


- Primary endpoint: OS[1]
- Secondary endpoints: PFS, ORR, HRQoL[1,2]
- Prespecified subgroup analyses in those aged ≥ 65 yrs,[3] with metastatic GEJ cancer[4]

1. Shitara. Lancet Oncol. 2018;19:1437. 2. Alsina. ASCO 2019. Abstr 4043. 3. Shitara. ASCO 2019. Abstr 4037. 4. Mansoor. ASCO 2019. Abstr 4038.

TAGS: OS, PFS in Patients Aged ≥ 65 Yrs





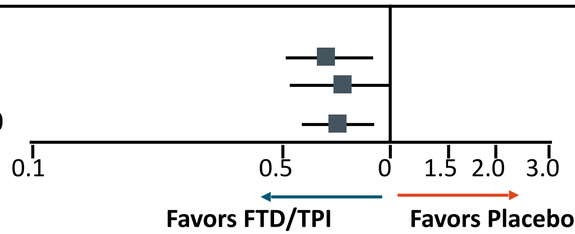
Patients at Risk, n

FTD/TPI	154	133	99	66	45	31	19	9	6	4	3	3	0
Placebo	74	57	40	28	20	11	8	5	2	0	0	0	0

Patients at Risk, n

FTD/TPI	154	144	79	60	38	33	21	18	9	9	6	5	3	2	0
Placebo	74	62	16	7	4	4	4	3	1	1	1	1	1	1	0

OS Subgroup Analysis by Age	FTD/TPI Group, Events/Patients	Placebo Group, Events/Patients	HR (95% CI)
Age, yrs			
< 65	138/83	84/96	0.67 (0.51-0.89)
≥ 65	106/154	56/74	0.73 (0.52-1.02)
All patients	244/337	140/170	0.69 (0.56-0.85)



Analyses not powered to show statistical significance.

Shitara. ASCO 2019. Abstr 4037. Reproduced with permission.

Slide credit: clinicaloptions.com

TAGS: OS, PFS in Metastatic GEJ/Gastric Cancer

Outcome	FTD/TPI (n = 98)	Placebo (n = 47)	HR (95% CI)
Median OS, mos	4.8	3.5	0.75 (0.50-1.11)
OS rate, % ▪ 6 mos ▪ 12 mos	 39 31	 22 18	
Median PFS, mos	1.9	1.8	0.60 (0.41-0.88)
6-mo PFS rate, %	15	6	

OS Subgroup Analysis by Primary Tumor Site*	All Patients		GEJ		Gastric	
	FTD/TPI	Placebo	FTD/TPI	Placebo	FTD/TPI	Placebo
No. events/patients	244/337	140/170	78/98	39/47	166/239	99/121
HR (95% CI)	0.69 (0.56-0.85)		0.75 (0.50-1.11)		0.67 (0.52-0.87)	

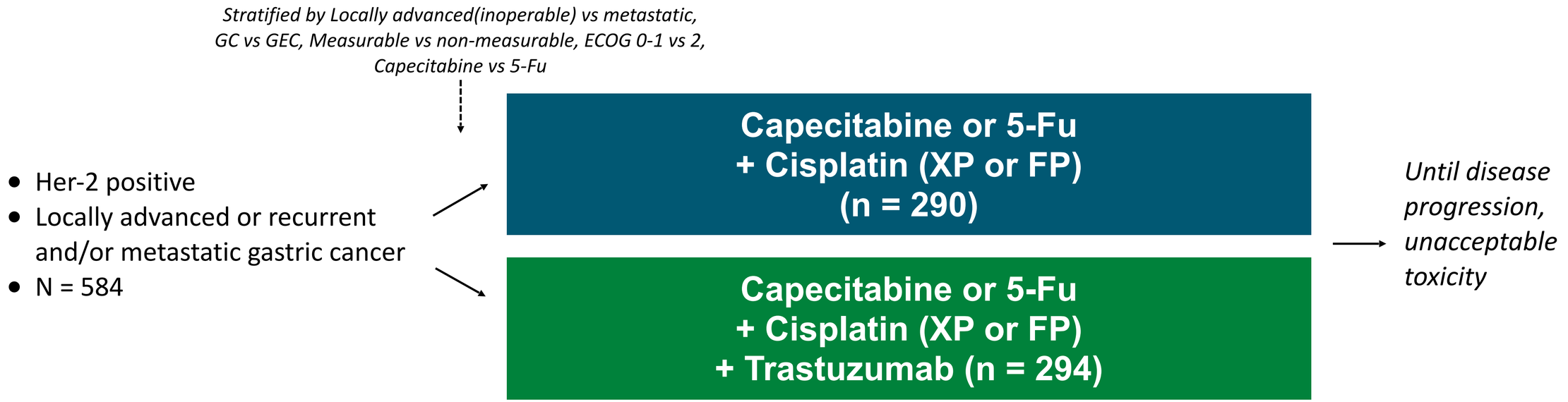
Mansoor. ASCO 2019. Abstr 4038.

TAGS: OS by Body Weight Loss

	< 3% BWL		≥ 3% BWL
Pooled population	**n = 319**		**n = 132**
▪ Median OS, mos	6.3		3.8
▪ HR (95% CI)		0.58 (0.46-0.73)	
FTD/TPI arm	**n = 224**		**n = 80**
▪ Median OS, mos	6.5		**4.9**
▪ HR (95% CI)		0.75 (0.55-1.02)	
Placebo arm	**n = 95**		**n = 52**
▪ Median OS, mos	6.0		2.5
▪ HR (95% CI)		0.32 (0.21-0.49)	

Ghidini. ASCO GI 2021. Abstr 476.

ToGA: Phase 3 Trastuzumab in 1st-Line Gastric/GEJ Cancer

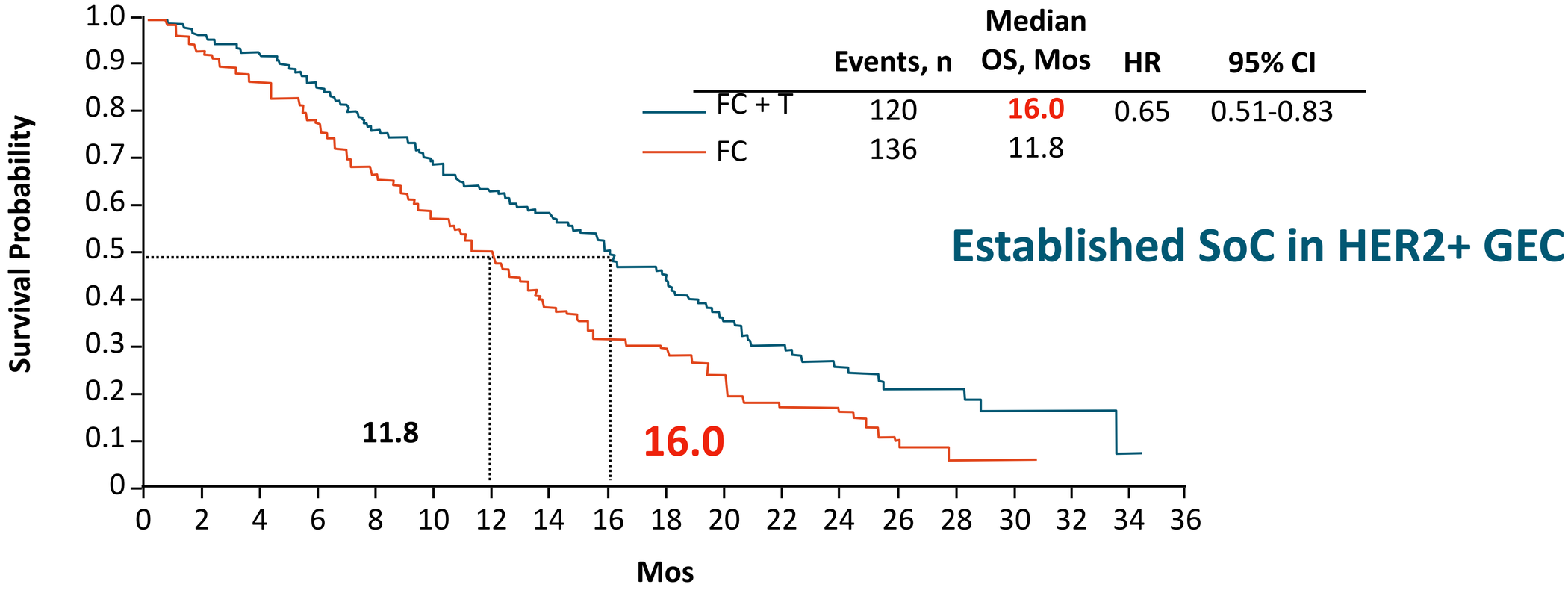


- Primary endpoint: OS
- Secondary endpoint: PFS, Time to progression, objective response rate, clinical benefit rate, duration of response, QoL, safety, pain intensity…

Bang. Lancet. 2010;376:687.

ToGA: OS

OS in Patients With IHC 3+ or FISH+ and IHC 2+ (Exploratory Analysis) (N = 446)



	Events, n	Median OS, Mos	HR	95% CI
FC + T	120	**16.0**	0.65	0.51-0.83
FC	136	11.8		

Established SoC in HER2+ GEC

Bang. Lancet. 2010;376:687.

HER2 Gene Amplification by FISH Compared With HER2 Protein by IHC (ToGA Trial)

HER2 Testing Results From ToGA Screening Phase (N = 3280)	IHC (*HercepTest*)			
	0	1+	2+	3+
FISH negative, n	1815	514	176	19
FISH positive, n	94	96	212	354
Amplification rate, %	**4.9**	**15.7**	**54.6**	**94.9**

190/756 (25.1%)

77%

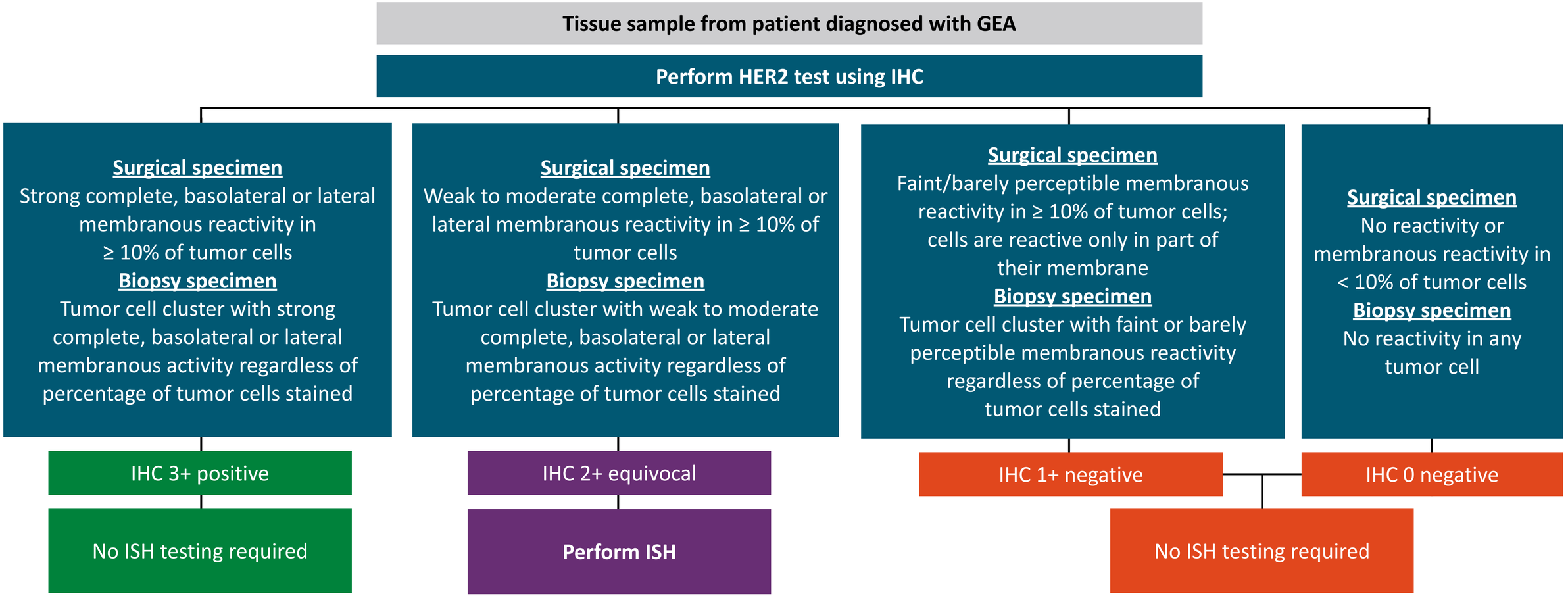
23%

7.5%

Overall concordance between FISH and IHC results was 87.2%

Van Cutsem. Gastric Cancer. 2015;18:476.

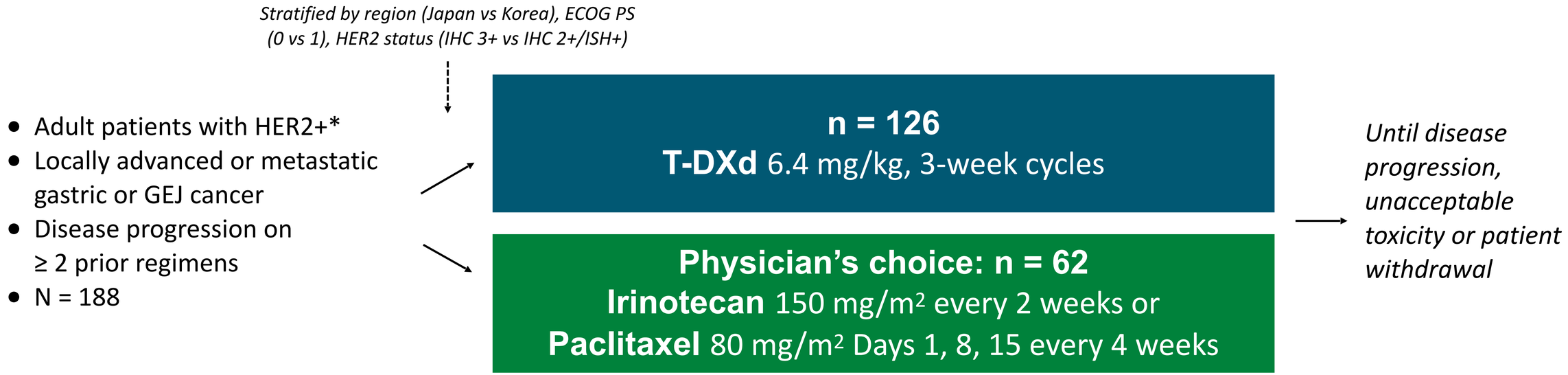
HER2 Testing for Gastroesophageal Adenocarcinoma: ASCO/CAP/ASCP Guidelines



2017 guidelines largely ignore both the IHC 0/1+ false negative and the IHC 3+ false positive

Bartley. JCO. 2017; 35:446.

DESTINY-Gastric01: Trastuzumab Deruxtecan for HER2+ Advanced Gastric or GEJ Adenocarcinoma



- Primary endpoint: ORR by ICR (RECIST v1.1)
- Secondary endpoints: OS (key), Duration of response, progression-free survival, disease control rate, confirmed overall response rate, safety

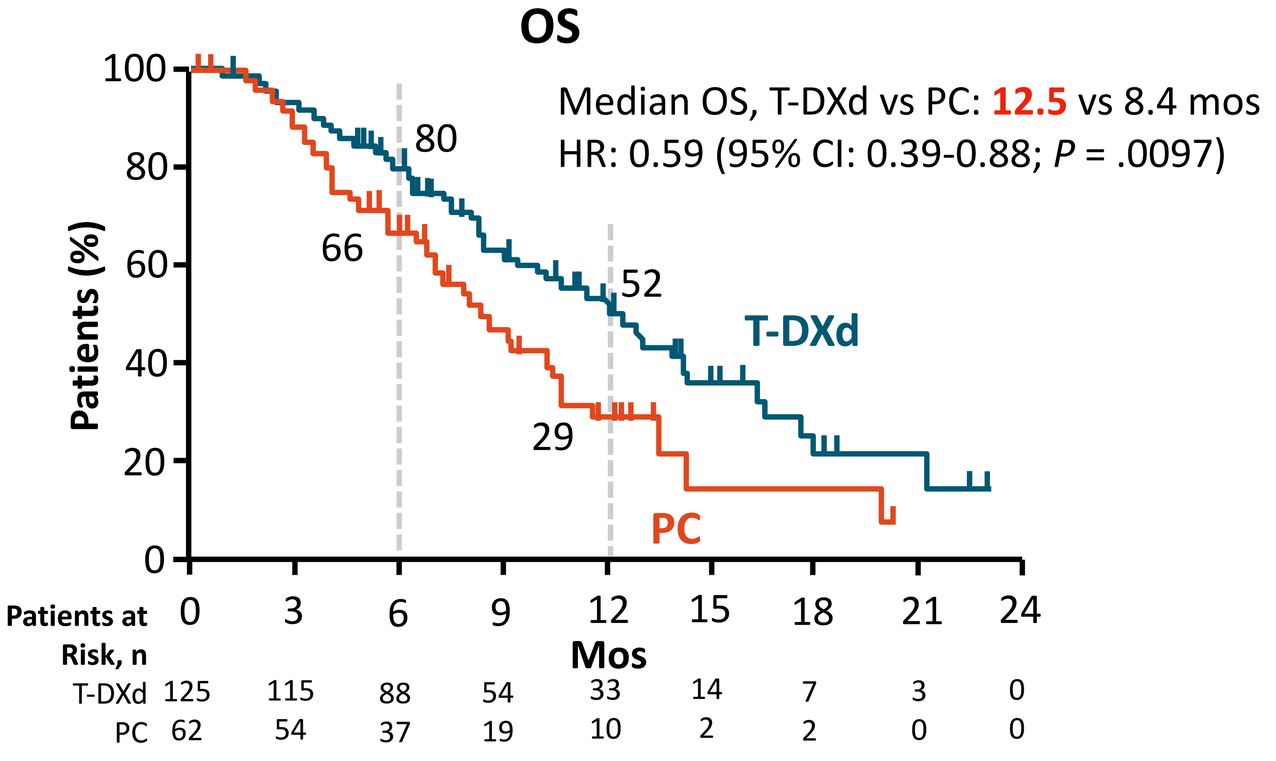
Shitara. ASCO 2020. Abstr 4513. Shitara. NEJM. 2020;[Epub].

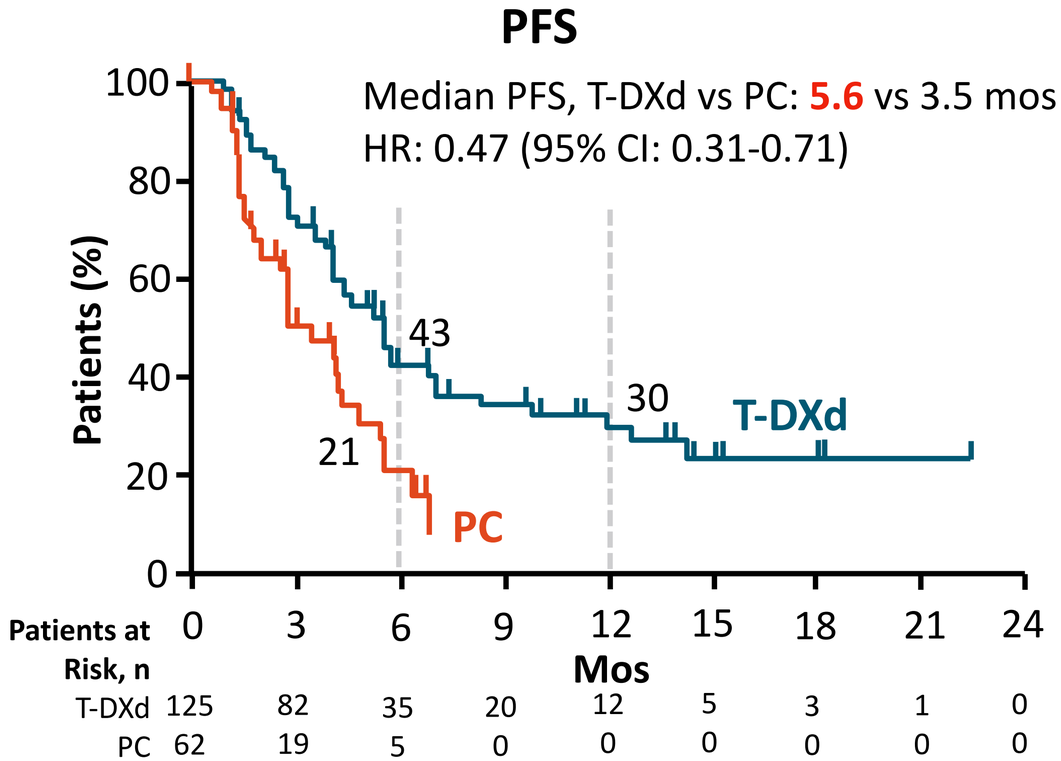
DESTINY-Gastric01: Response

Response	T-DXd (n = 119)	PC (n = 56)
ORR* (CR + PR) by ICR, % (95% CI)	51.3† (41.9-60.5)	14.3 (6.4-26.2)
Confirmed ORR‡ (CR + PR) by ICR, % (95% CI)	42.9 (33.8-52.3)	12.5 (5.2-24.1)
▪ CR	8.4	0
▪ PR	34.5	12.5
▪ SD	42.9	50.0
▪ PD	11.8	30.4
▪ Not evaluable	2.5	7.1
Confirmed DCR (CR + PR + SD), % (95% CI)	85.7 (78.1-91.5)	62.5 (48.5-75.1)
Median confirmed DoR, mos (95% CI)	11.3 (5.6-NR)	3.9 (3.0-4.9)
Median time to response, mos (95% CI)	1.5 (1.4-1.7)	1.6 (1.3-1.7)

*Primary endpoint. †$P < .001$. ‡Responses confirmed by scan ≥ 4 wks after initial CR/PR.

DESTINY-Gastric01: OS and PFS





- Improved ORR and OS with T-DXd vs PC for most subgroups analyzed; ORR and OS higher with T-DXd in pts with HER2 IHC 3+ vs IHC 2+/ISH+; ORR and OS similar with T-DXd vs PC in IHC 2+/ISH+ subgroup

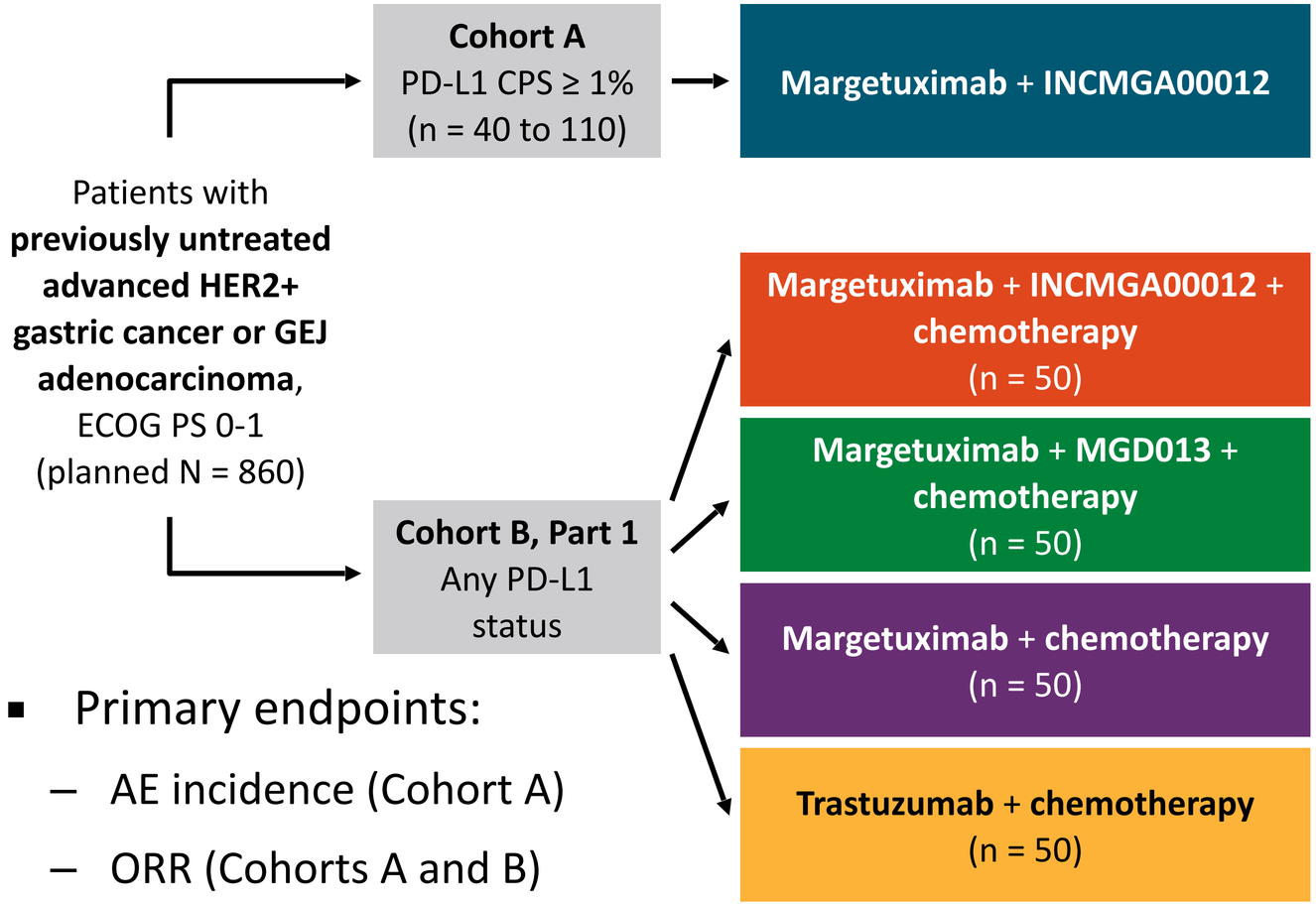
DESTINY-Gastric01: Safety

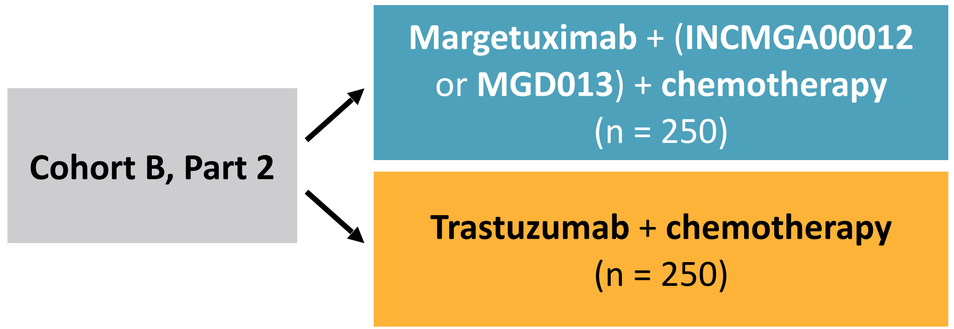
Safety Outcome[1,2]	T-DXd (n = 125)	PC (n = 62)
Grade ≥ 3 treatment-emergent AEs, %	85.6	56.5
Decreased neutrophil count, %	51.2	24.2
Decreased WBC count, %	20.8	11.3
Drug-related interstitial lung disease, n (%)	**12 (9.6)***	**0**
Drug-related deaths, n	1	0

- Safety profile of trastuzumab deruxtecan was generally manageable and consistent with that seen in phase I/II trials[1-6]
- The most common any-grade AEs in ≥ 30% of patients were hematologic or gastrointestinal[1,2]

1. Shitara. ASCO 2020. Abstr 4513. 2. Shitara. NEJM. 2020;382:2419. 3. Shitara. Lancet Oncol. 2019;20:827.
4. Modi. NEJM. 2020;382:610. 5. Modi. JCO. 2020;38:1887. 6. Tsurutani. Cancer Discov. 2020;10:688.

MAHOGANY: Phase II/III Trial of Margetuximab Combination Therapy for Previously Untreated HER2+ Gastric/GEJ Cancer





- INCMGA00012: anti–PD-1 mAb
- MGD013: anti–PD-1/anti–LAG-3 mAb

- Primary endpoints:
  - AE incidence (Cohort A)
  - ORR (Cohorts A and B)
  - OS (Cohort B)

NCT04082364.

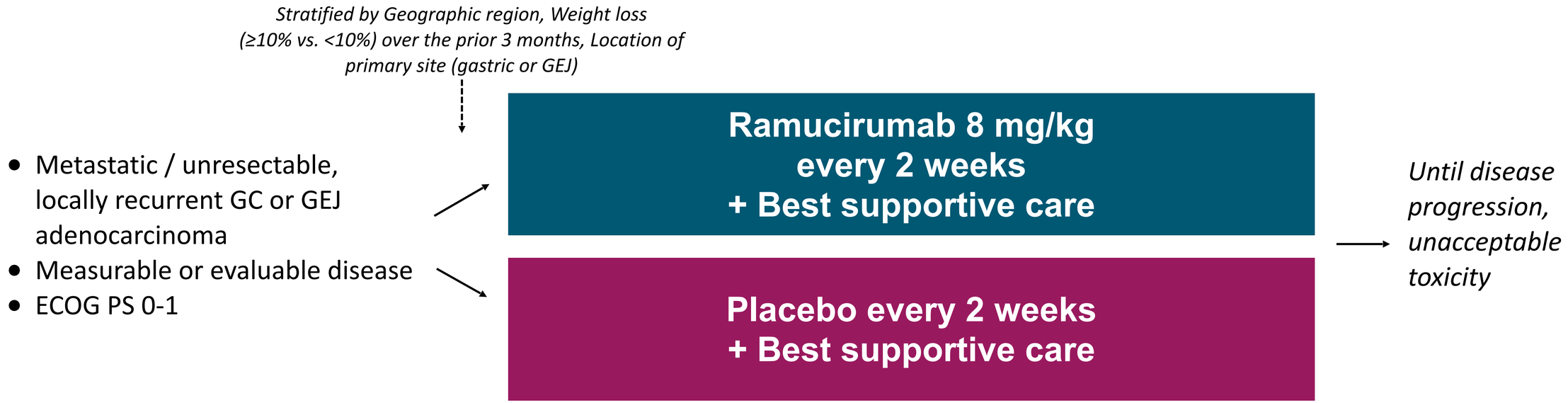
Selected Additional Ongoing Trials of Novel HER2- and HER3-Targeted Agents for GI Cancers

Agent	MoA	Study	Phase	Comparator	Population
Neratinib (+ trastuzumab or cetuximab)	HER-selective TKI	NCT03457896	II	--	Metastatic CRC
Trastuzumab deruxtecan	HER2-targeted ADC	DESTINY-Gastric02 (NCT04014075)	II	--	Advanced HER 2+ gastric/ GEJ adenocarcinoma, PD during/after trastuzumab-containing tx
Tucatinib ± trastuzumab	HER2-selective TKI	NCT03043313	II	Trastuzumab	Advanced HER2+ CRC, previous tx
U3-1402	HER3-targeted ADC	NCT04479436	II	--	Advanced CRC, ≥ 2 prior regimens

Selected Trials of Immunotherapy Combinations for Advanced HER2+ Gastric Cancer

Trial	Regimen	Phase
KEYNOTE-811 (NCT03615326)	Pembrolizumab or placebo + trastuzumab + chemotherapy	III
MAHOGANY (NCT04082364)	Margetuximab ± PD-1 inhibitor ± chemotherapy ± dual checkpoint inhibitor	II/III
INTEGA (NCT03409848)	Ipilimumab or FOLFOX + nivolumab + trastuzumab	II
DESTINY-Gastric03 (NCT04379596)	Trastuzumab deruxtecan ± chemotherapy ± durvalumab	Ib/II
NCT04276493	ZW25 + chemotherapy ± tislelizumab	I/II

REGARD: Phase 3 Safety/Efficacy of Ramucirumab in Gastric/GEJ Adenocarcinoma with Failure of 1st-line CT

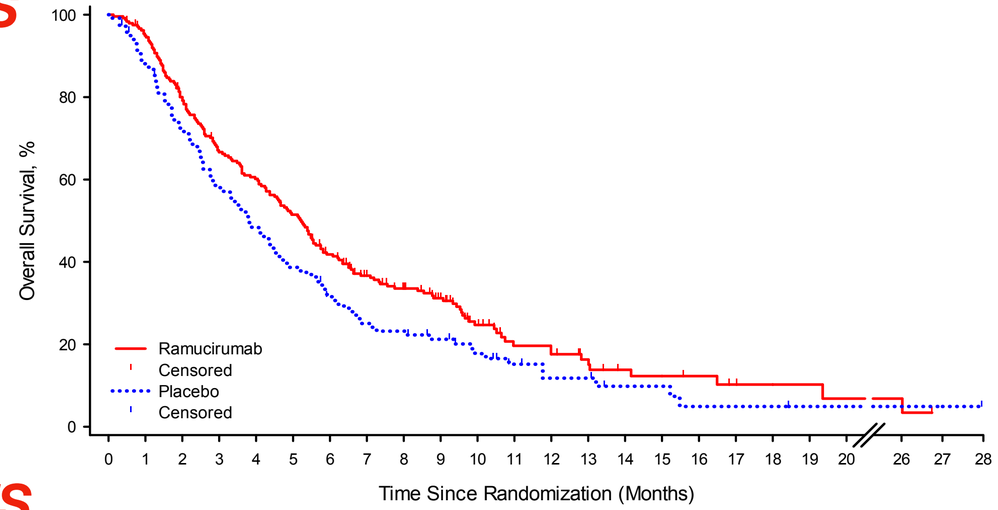


- Primary endpoint: overall survival
- Secondary endpoint: progression-free survival, objective response rate, duration of response, QoL, safety…

1. Fuchs et al. Lancet 2014;383(9911):31-9.
2. Fuchs et al. J Clin Oncol 2013;31(Suppl 4):Abstract LBA5.

REGARD: OS and PFS

OS

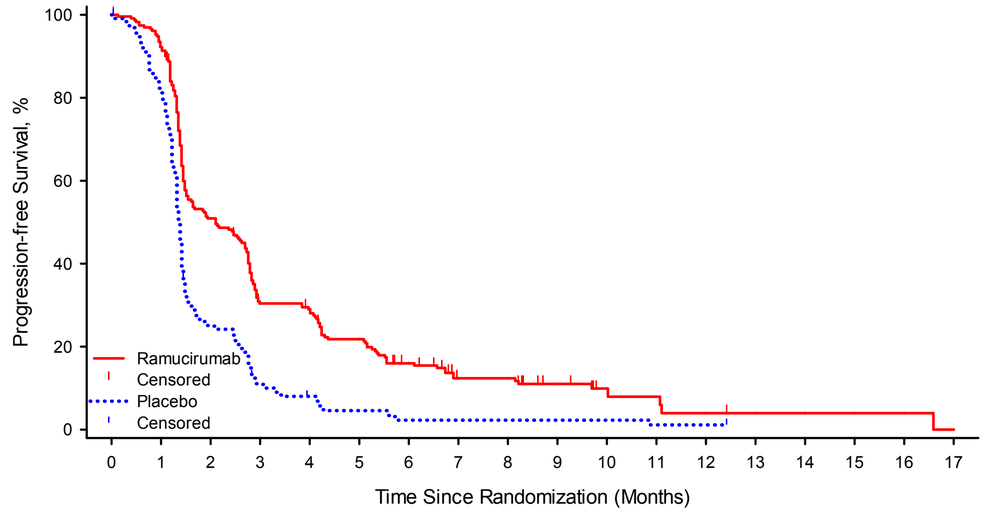


	Placebo	Ramucirumab
Patients/events	117/99	238/179
Median OS, mos (95% CI)[2]	3.8 (2.8, 4.7)	5.2 (4.4, 5.7)
6-month OS, %	32	42
12-month OS, %	12	18

HR (95% CI) = 0.776 (0.603, 0.998)

Stratified log-rank p-value (log-rank) = .047

PFS



	Placebo	Ramucirumab
Patients/events[2]	117/108	238/199
Median PFS, mos (95% CI)[2]	1.3 (1.3, 1.4)	2.1 (1.5, 2.7)
12-week PFS, %	16	40

HR (95% CI) = 0.483 (0.376, 0.620)

Stratified log-rank p-value <.0001

1. Fuchs et al. Lancet 2014;383(9911):31-9.
2. Fuchs et al. J Clin Oncol 2013;31(Suppl 4):Abstract LBA5.

RAINBOW: Phase 3 Ramucirumab + Paclitaxel vs Paclitaxel in Previously Treated Gastric or GEJ adenocarcinoma

Stratified by Time to progression on 1st-line therapy (<6 vs. ≥6 months), Geographic region, Disease measurability

- Metastatic / unresectable, locally advanced GC or GEJ adenocarcinoma
- Disease progression ≤4 months after the last dose of first-line therapy
- 1st-line therapy with any platinum/ fluoropyrimidine doublet with/ without an anthracycline
- ECOG: 0-1

Ramucirumab 8 mg/kg on Day 1, 15 + Paclitaxel 80 mg/m2 on Day 1, 8, 15 of a 28-day cycle

Placebo on Day 1, 15 + Paclitaxel 80 mg/m2 on Day 1, 8, 15 of a 28-day cycle

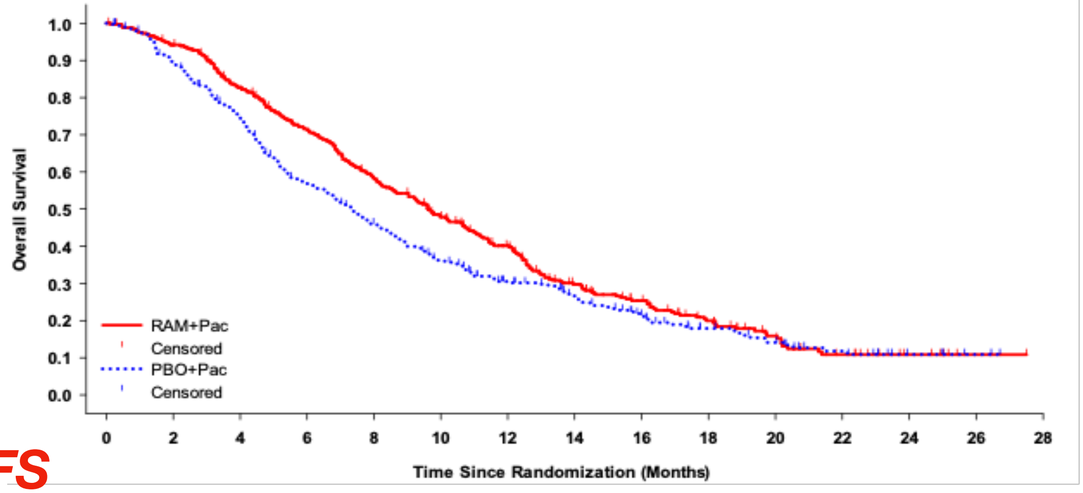
Until disease progression, unacceptable toxicity

- Primary endpoint: overall survival
- Secondary endpoint: progression-free survival, time to progression, objective response rate, safety assessment, QoL

Wilke et al. Lancet Oncol 2014;15(11):1224-35.

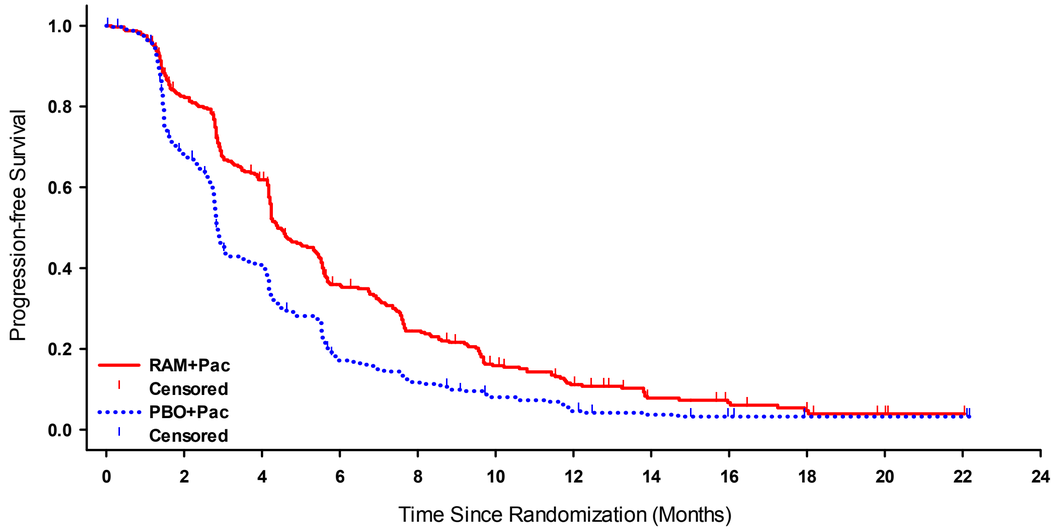
RAINBOW: OS and PFS

OS



	RAM + Pac (N = 330)	PBO + Pac (N = 335)
Events	256	260
Median (months) (95% CI)	9.6 (8.5, 10.8)	7.4 (6.3, 8.4)
6-month OS	72%	57%
12-month OS	40%	30%
HR (95% CI) = 0.807 (0.678, 0.962)		
Stratified log-rank p-value = .0169		

PFS



	RAM + Pac (N = 330)	PBO + Pac (N = 335)
Patients/Events	279	296
Median (months) (95% CI)	4.4 (4.2, 5.3)	2.9 (2.8, 3.0)
6-month PFS	36%	17%
9-month PFS	22%	10%
HR (95% CI) = 0.635 (0.536, 0.752)		
Stratified log-rank p-value <.0001		

Wilke et al. Lancet Oncol 2014;15(11):1224-35.

PD-L1 In Gastroesophageal Cancers

- 23% to 60% of gastric cancers are PD-L1 positive (tumor cells + tumor-infiltrating immune cells)[1-3]

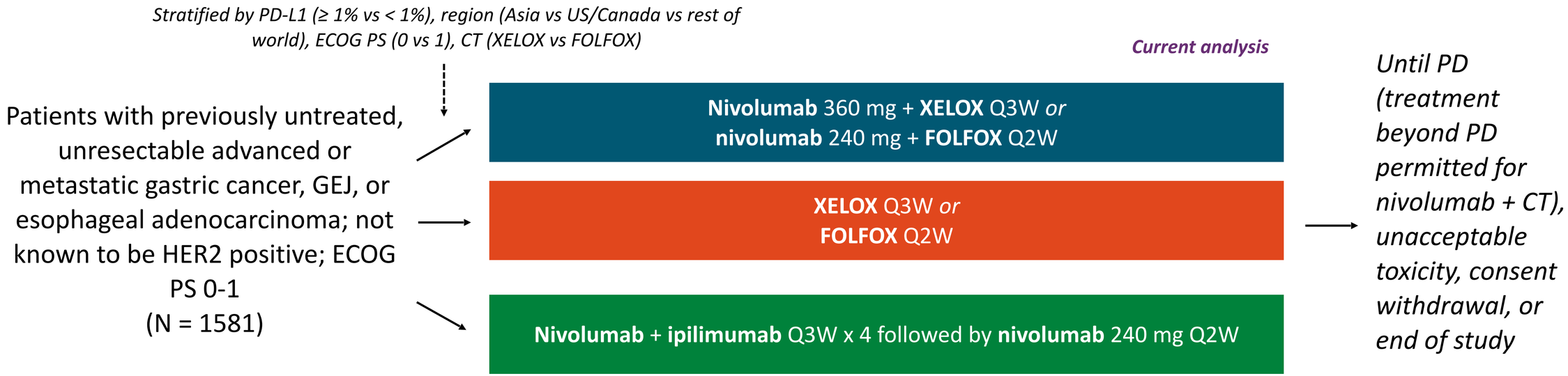
- Higher response to PD-1 inhibitors in advanced gastroesophageal cancers with higher PD-L1 levels; pembrolizumab indications based on specific levels[4,5]

Assessing PD-L1 Levels (IHC testing)

$$\textbf{Combined Positive Score} = \frac{\textbf{\# of PD-L1 staining cells (tumor cells, lymphocytes, macrophages)}}{\textbf{\# of tumor cells evaluated}} \times 100$$

1. Herbst. Nature. 2014;515:563. 2. Salem. ASCO GI 2017. Abstr 530. 3. Liu. Pathol Res Pract. 2020;216:152881.
4. Wainberg. ASCO GI 2020. Abstr 427. 5. Pembrolizumab PI.

CheckMate 649: Phase III First-line Nivolumab + CT vs CT in Advanced Gastroesophageal Cancers

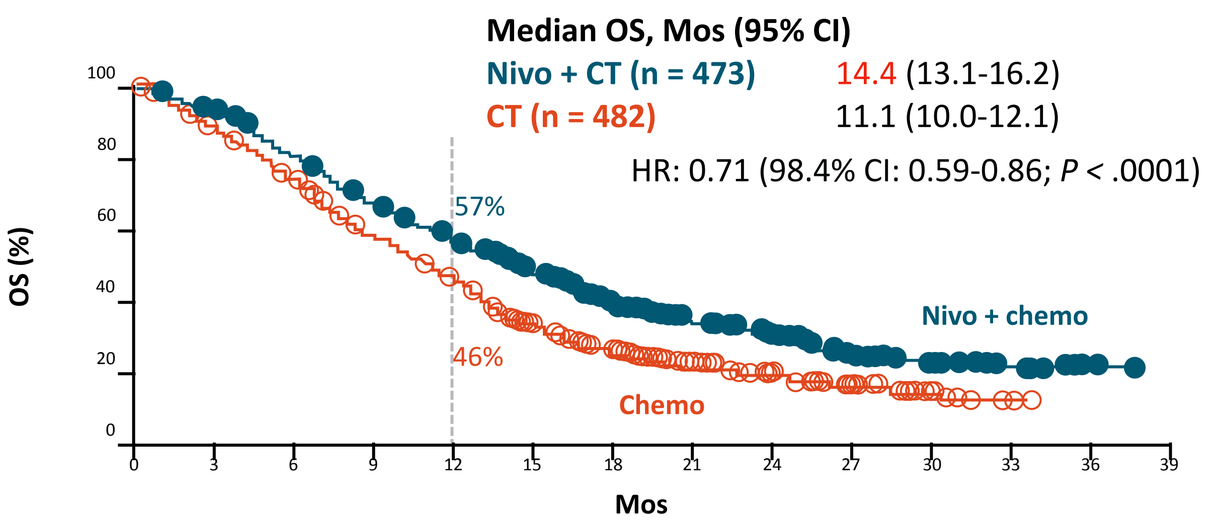


- Final PFS and prespecified interim OS analyses of international, randomized, open-label phase III trial (data cutoff: May 27, 2020; minimum follow-up: 12.1 mos)
- Coprimary endpoints: OS and PFS in patients with PD-L1 CPS ≥ 5
  - If coprimary endpoints statistically significant (α = .03 and .02, respectively), followed by hierarchical testing of OS in patients with PD-L1 CPS ≥ 1 (α = .007), then in all randomized patients (α = .007)
- Secondary endpoints: OS and PFS in all randomized patients and with PD-L1 CPS ≥ 10 and ≥ 1, ORR

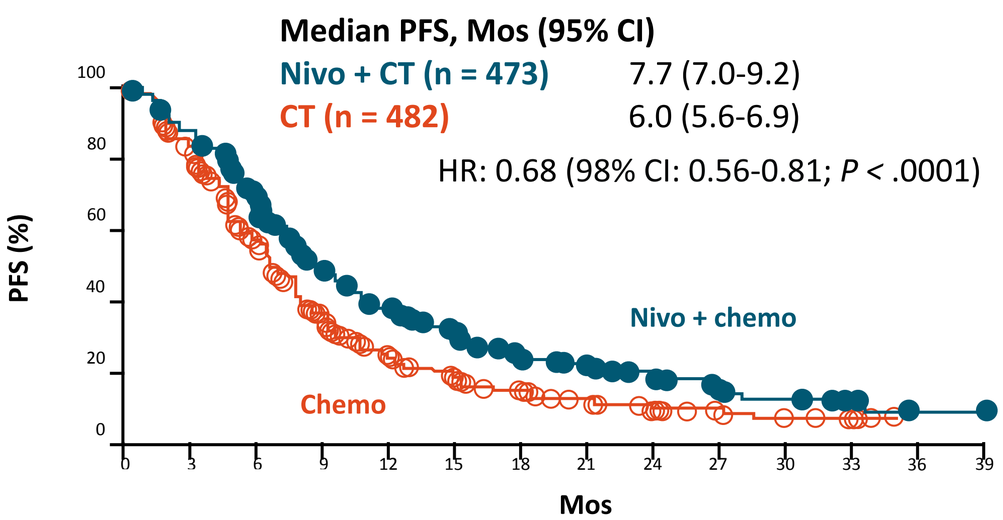
Moehler. ESMO 2020. Abstr LBA6_PR. NCT02872116.

OS and PFS in Patients With PD-L1 CPS ≥ 5 (Coprimary Endpoints)

Median OS in Patients With PD-L1 CPS ≥ 5



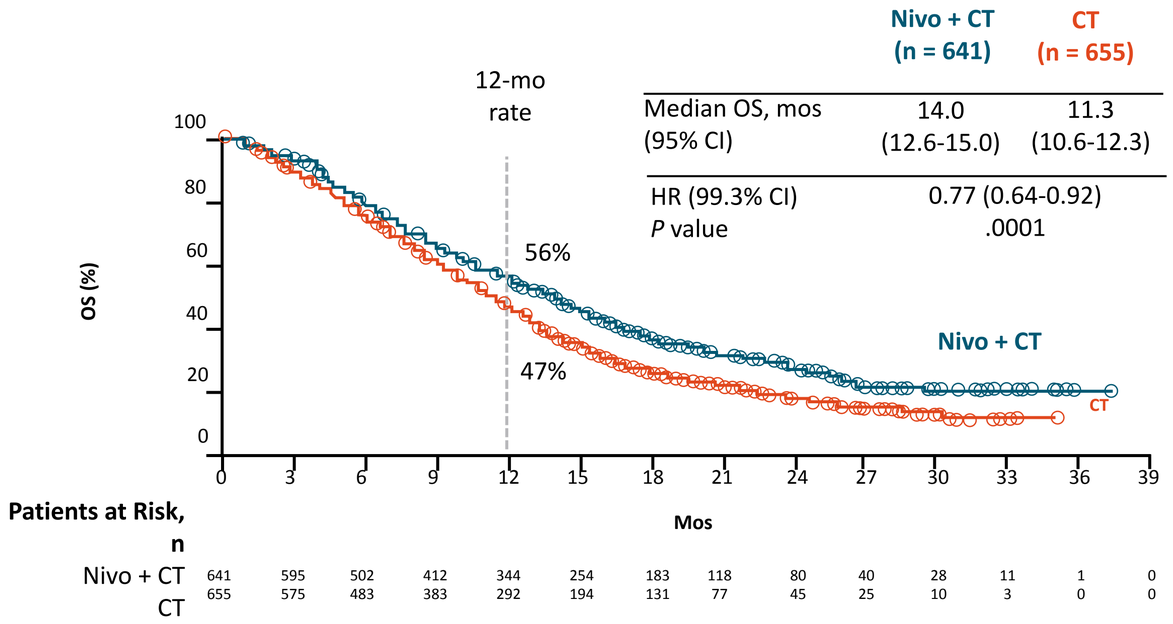
Median PFS in Patients With PD-L1 CPS ≥ 5



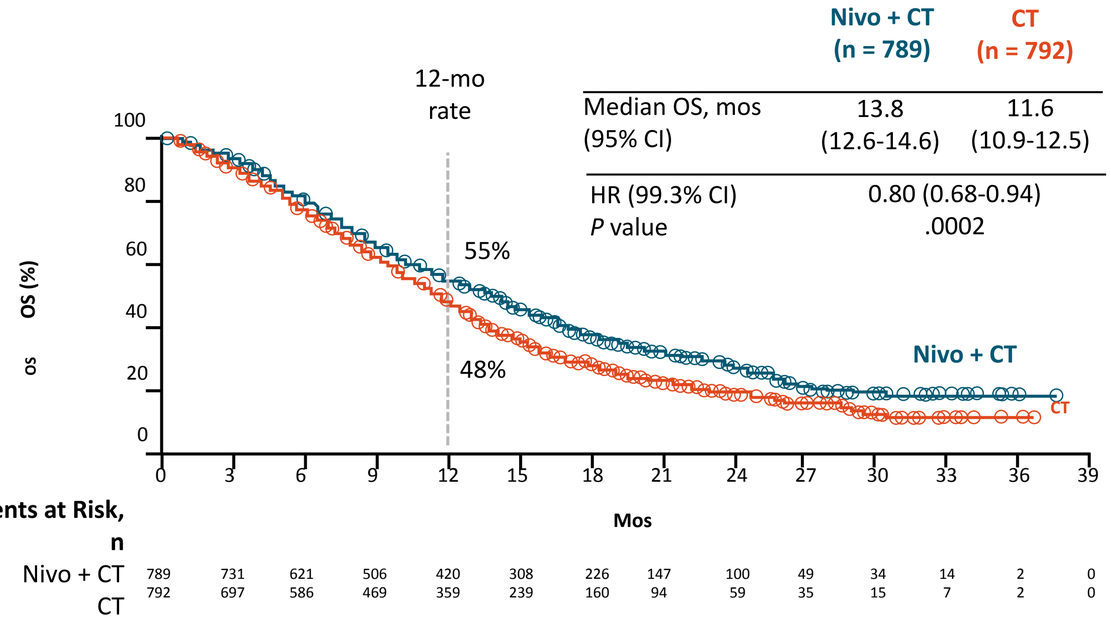
Moehler. ESMO 2020. Abstr LBA6_PR. NCT02872116.

OS and PFS in Patients With CPS ≥ 1 and All Randomized Patients

OS in Patients With PD-L1 CPS ≥ 1



OS in All Randomized Patients



- Prolonged PFS with nivolumab + CT vs CT in patients with PD-L1 CPS ≥ 1 (HR: 0.74; 95% CI: 0.65-0.85) and in all randomized patients (HR: 0.77; 95% CI: 0.68-0.87)

Moehler. ESMO 2020. Abstr LBA6_PR. NCT02872116.

Response in Patients With PD-L1 CPS ≥ 5

Outcome	Nivo + CT (n = 378)	CT (n = 391)
ORR, %	60	45
Best overall response, %		
▪ CR	12	7
▪ PR	48	38
▪ SD	28	34
▪ PD	7	11
▪ NE	6	10
Median TTR, mos (range)	1.5 (0.8-10.2)	1.5 (1.0-7.1)
Median DoR, mos	9.5	7.0

- **ORR significantly higher with nivolumab + CT vs CT (descriptive *P* < .0001)**

Moehler. ESMO 2020. Abstr LBA6_PR. NCT02872116.

Emergence of Tissue-Agnostic Treatments: One Drug Fits All

- Standard approach: based on the ***organ of origin***
  - Gastric cancer and breast cancer are treated differently
- Emerging paradigm: ***genomic*** factors that transcend tissue type
  - Gastric cancer and breast cancer with the same molecular alteration are treated with the same targeted drug

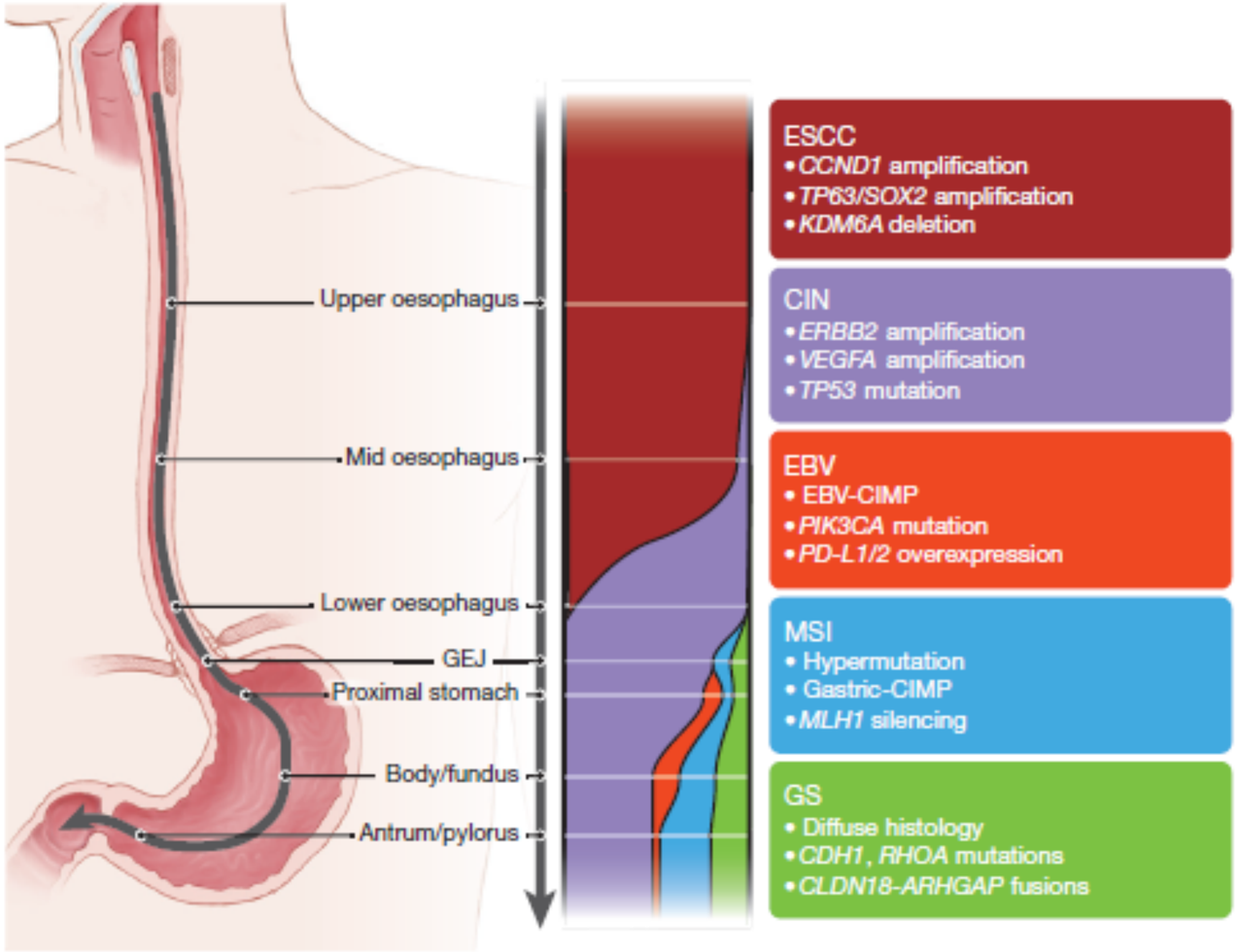
Select Validated Biomarkers and Associated Approved Therapies Across Solid Tumors

Tumor Type	Molecular Testing Commonly Used (Associated Targeted Agents)
Bladder cancer	**PD-L1** (pembrolizumab, atezolizumab); ***FGFR*** (erdafitinib)
Breast cancer	**HER2** (trastuzumab, pertuzumab, T-DM1, T-DXd, lapatinib neratinib, tucatinib); ***BRCA1/2*** (olaparib, talazoparib); ***PIK3CA*** (alpelisib); **PD-L1** (atezolizumab)
Colorectal cancer	***BRAF* V600E** (dabrafenib/trametinib + cetuximab or panitumumab, encorafenib + cetuximab or panitumumab ± binimetinib); **HER2** (trastuzumab, pertuzumab)
Gastric/GEJ/esophageal	**PD-L1** (pembrolizumab); **HER2** (trastuzumab)
Cervical cancer	**PD-L1** (pembrolizumab)
Lung cancer	**PD-L1** (pembrolizumab); ***EGFR*** (afatinib, dacomitinib, erlotinib, gefitinib, osimertinib); ***ALK*** (alectinib, brigatinib, crizotinib, ceritinib, lorlatinib); ***ROS1*** (crizotinib, entrectinib, lorlatinib); ***BRAF* V600E** (dabrafenib/trametinib); ***MET*ex14** (tepotinib, capmatinib, crizotinib); ***RET*** (selpercatinib)
Melanoma	***BRAF* V600** (dabrafenib/trametinib, encorafenib/binimetinib, vemurafenib/cobimetinib)
Ovarian cancer	***BRCA1/2*** (olaparib, rucaparib); **HRD, including *BRCA1/2*** (niraparib)
Pancreatic cancer	***BRCA1/2*** (olaparib); ***EGFR*** (erlotinib)
Tumor agnostic	**MSI-H/dMMR** (pembrolizumab; nivolumab ± ipilimumab); ***NTRK*** (larotrectinib, entrectinib)

Bedard. Lancet. 2020;395;1078.

Slide credit: clinicaloptions.com

Molecular Subclasses of Gastroesophageal Cancer



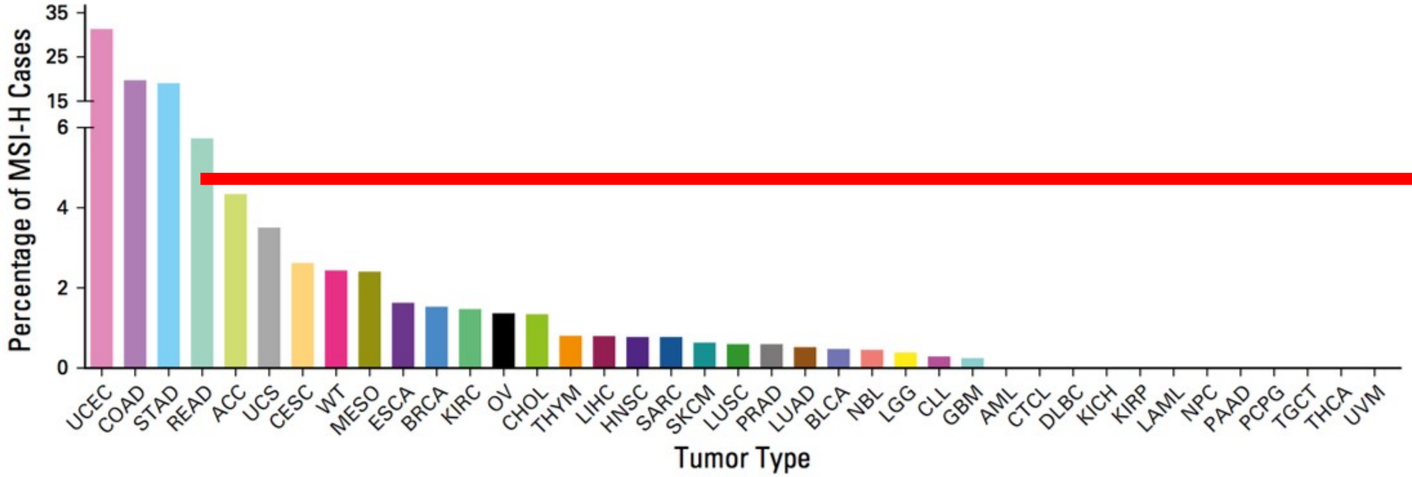
Slide credit: clinicaloptions.com

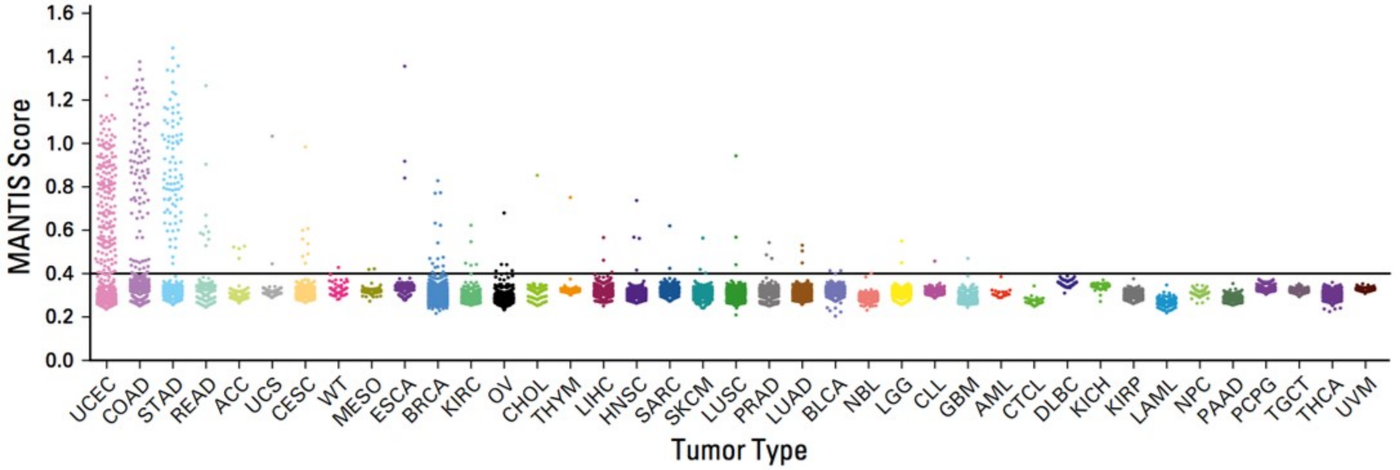
Molecular Testing in Gastric Cancer

- Recommended molecular testing
  - HER2 (IHC or FISH, NGS for amplification)
  - PD-L1 (IHC)
  - dMMR/MSI (IHC/PCR, other techniques)
  - TMB
  - NTRK (RNA fusion)
- Germline
  - CDH-1 and a long list of others (FAP, Lynch, etc)

Slide credit: clinicaloptions.com

MSI-H/dMMR in 39 Cancer Types; 11,139 Tumors





TOP 15

Uterine corpus endometrial carcinoma
Colon adenocarcinoma
Stomach adenocarcinoma
Rectal adenocarcinoma
Adrenocortical carcinoma
Uterine carcinosarcoma
Cervical squamous cell carcinoma and endocervical adenocarcinoma
Wilms tumor
Mesothelioma
Esophageal carcinoma
Breast carcinoma
Renal, clear cell
Ovarian serous cystadenocarcinoma
Cholangiocarcinoma
Thymoma

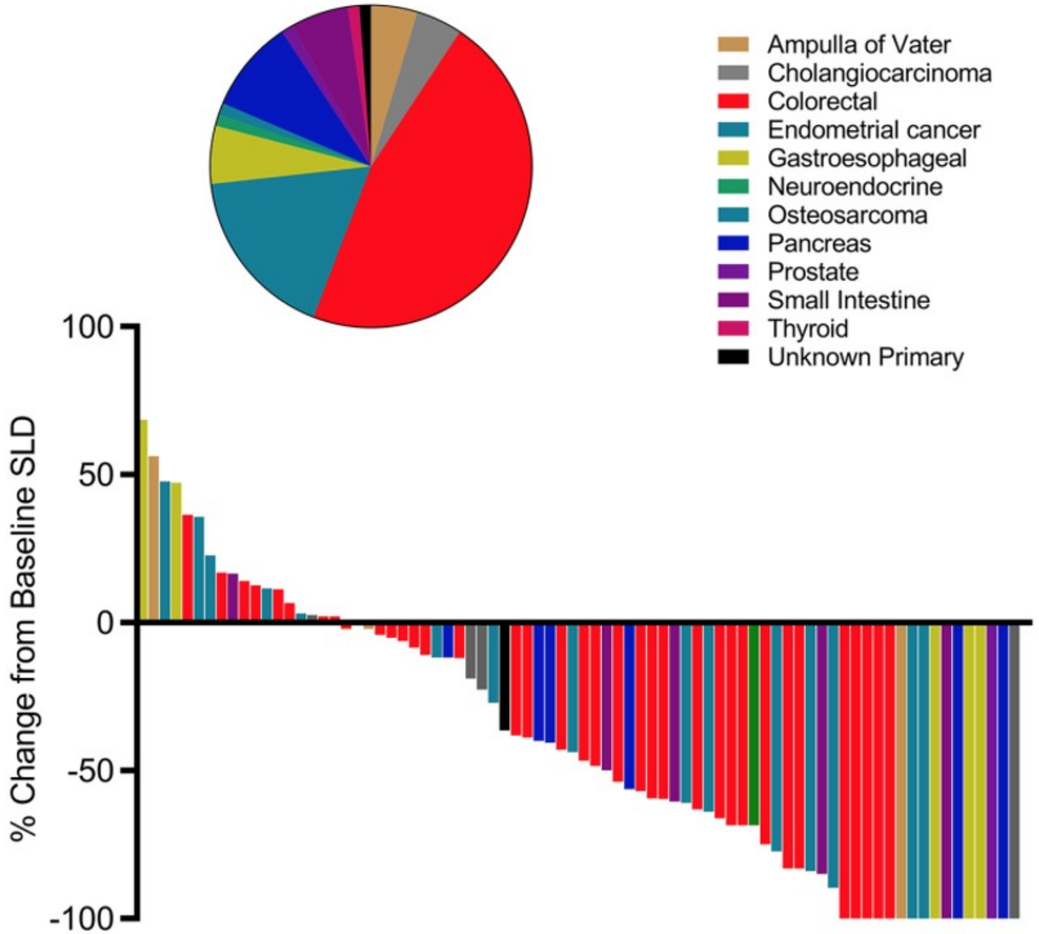
Bonneville. JCO Precis Oncol. 2017;2017.

Slide credit: clinicaloptions.com

Response to Pembrolizumab in MSI-H/dMMR Cancers

Tumor Type[1]	N	ORR, % (95% CI)
CRC	90	36 (26-46)
Non-CRC	59	46 (33-59)
Endometrial	14	36 (13-65)
Biliary	11	27 (6-61)
Gastric/GEJ	9	56 (21-86)
Pancreatic	6	83 (36-100)
Small intestine	8	38 (9-76)
Breast	2	PR, PR
Prostate	2	PR, SD
Bladder/esophageal	1/1	NE/PR
Sarcoma	1	PD
Thyroid	1	NE
Retroperitoneal adenocarcinoma	1	PR
SCLC	1	CR
Renal	1	PD

Tumor Type and Response[2]



1. Pembrolizumab PI. 2. Le. Science. 2017;357:409.

Slide credit: clinicaloptions.com

Phase II KEYNOTE-158: Efficacy of Pembrolizumab in MSI-H/dMMR Noncolorectal Cancers

Tumor Type	N	CR n	PR n	ORR, % (95% CI)	Median PFS, Mos (95% CI)	Median OS, Mos (95% CI)	Median DoR, Mos (Range)
Endometrial	49	8	20	57.1 (42.2-71.2)	25.7 (4.9-NR)	NR (27.2-NR)	NR (2.9-27.0+)
Gastric	24	4	7	**45.8** (25.6-67.2)	**11.0** (2.1-NR)	NR (7.2-NR)	NR (6.3-28.4+)
Cholangiocarcinoma	22	2	7	40.9 (20.7-63.6)	4.2 (2.1-NR)	24.3 (6.5-NR)	NR (4.1+ to 24.9+)
Pancreatic	22	1	3	18.2 (5.2-40.3)	2.1 (1.9-3.4)	4.0 (2.1-9.8)	13.4 (8.1-16.0+)
Small intestine	19	3	5	42.1 (20.3-66.5)	9.2 (2.3-NR)	NR (10.6-NR)	NR (4.3+ to 31.3+)
Ovarian	15	3	2	33.3 (11.8-61.6)	2.3 (1.9-6.2)	NR (3.8-NR)	NR (4.2-20.7+)
Brain	13	0	0	0 (0-24.7)	1.1 (0.7-2.1)	5.6 (1.5-16.2)	--

Marabelle. JCO. 2020;38:1.

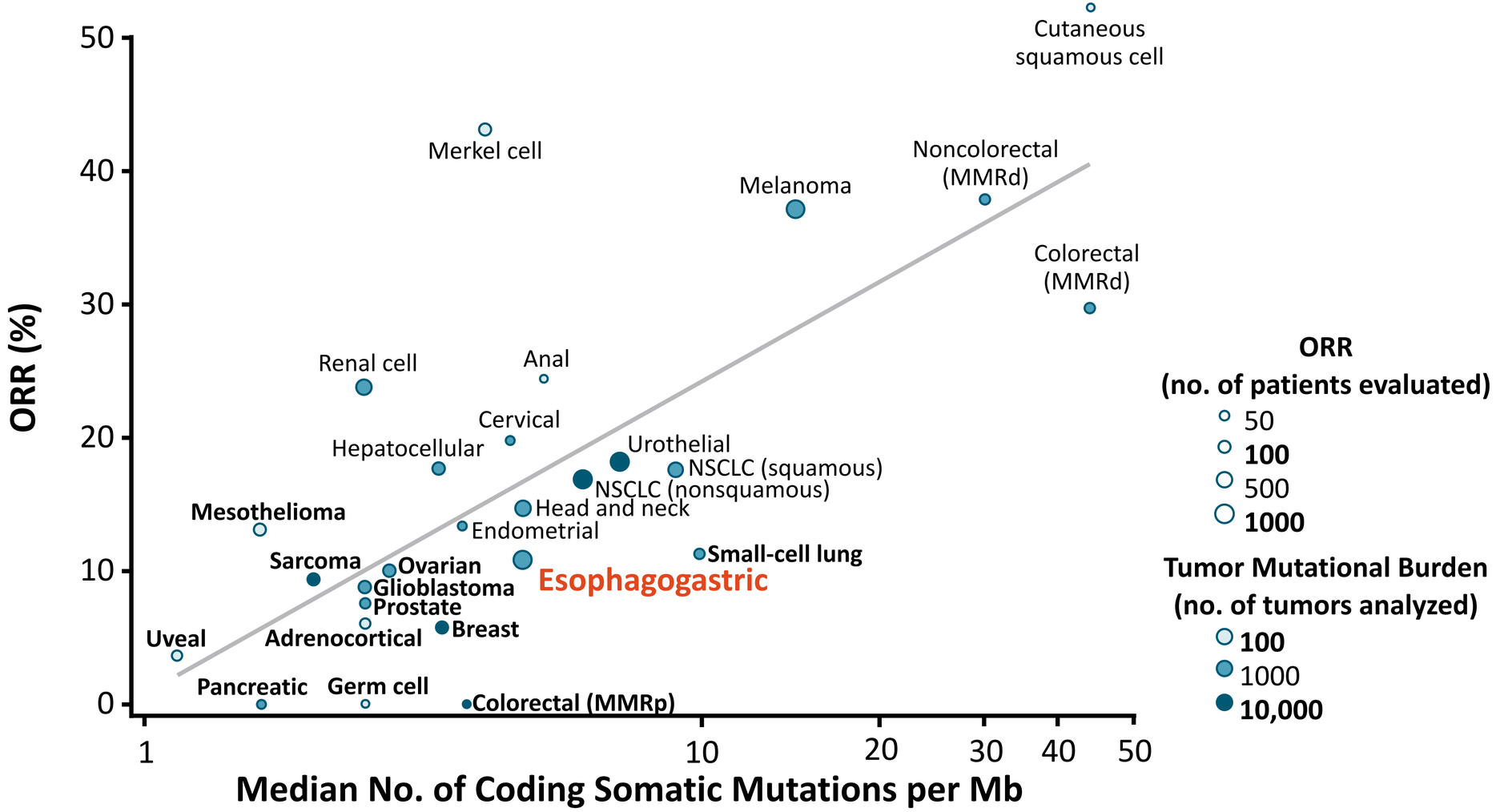
Slide credit: clinicaloptions.com

dMMR Testing: Methods

Test	Sensitivity	Specificity	Notes
MSI-PCR	97.0%	95.0%	5 marker loci; based on specific disease type Less accurate in noncolon; human interpretation; high DNA requirement
IHC (staining MMR protein)	92.0%	99.0%	Cannot detect loss of function mutations that do not affect the antigenicity of the targeted protein; human interpretation
NGS	95.0%- 95.8%	95.5%-99.4%	Up to 114 microsatellite loci

Hempelmann. J Immunother Cancer. 2018;6:29. Kautto. Oncotarget. 2017;8:7452. Niu. Bioinformatics. 2014;30:1015.

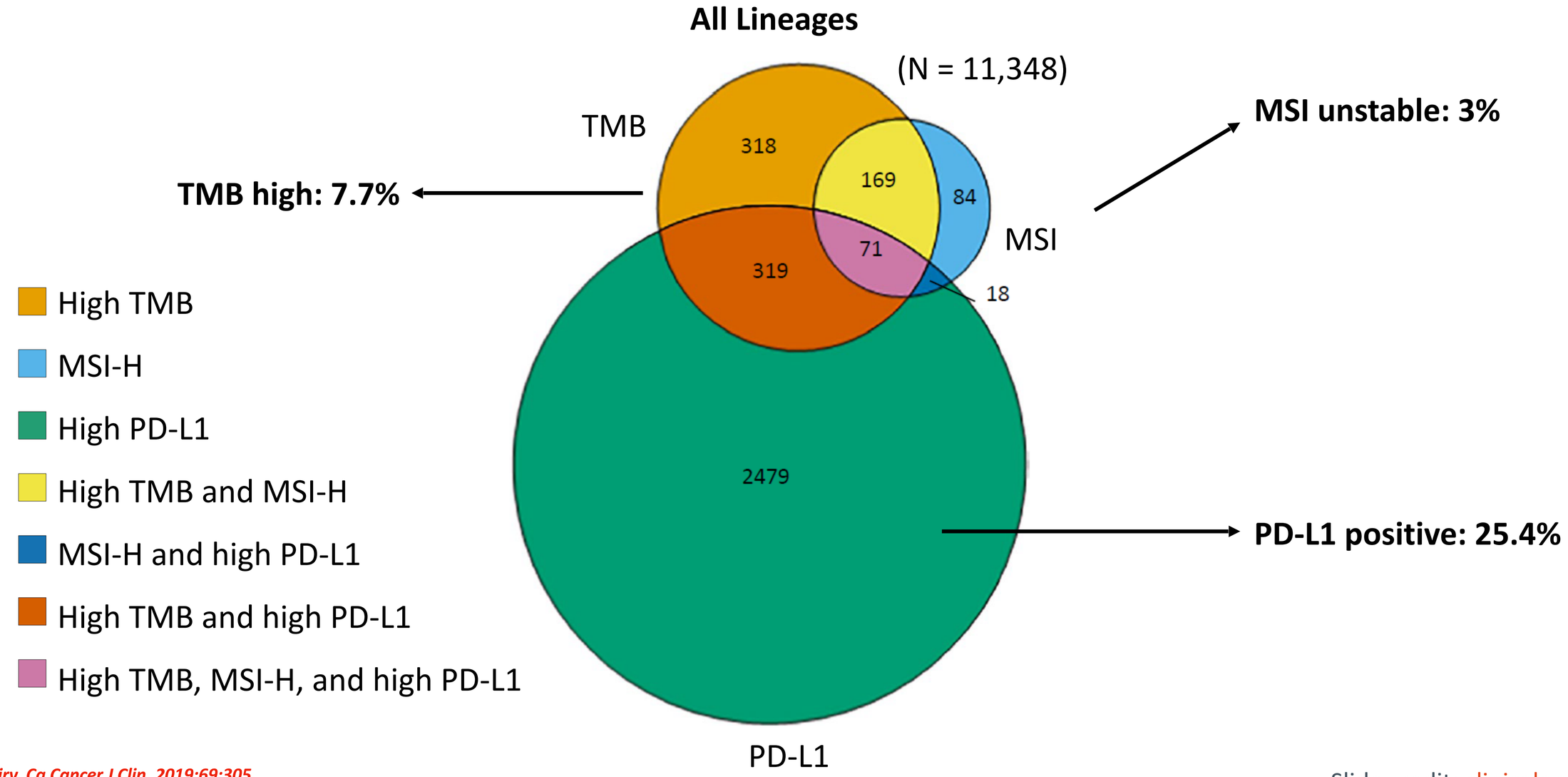
Benefit to Immune Checkpoint Inhibitors Correlates With Tumor Mutational Burden Across Tumor Types



Yarchoan. NEJM. 2017;377:2500.

Slide credit: clinicaloptions.com

Relationship Among MSI, TMB, and PD-L1



El-Deiry. Ca Cancer J Clin. 2019;69:305.

Slide credit: clinicaloptions.com

Select Ongoing Biomarker-Based Trials in Gastric, GEJ, and Esophageal Cancers

Biomarker	Phase (NCT)	Population	Planned N	Agents and Comparisons
PD-L1/PD-1	III (NCT02494583)	Gastric/GEJ cancer (first line)	763	Pembrolizumab vs pembrolizumab + SoC chemo vs placebo + SoC chemo
	III (NCT04342910)	Gastric/GEJ cancer (second line)	550	Camrelizumab + afatinib vs paclitaxel or irinotecan
HER2 overexpression and HER2/neu (*ERBB2*) amplification	Phase III (NCT03615326)	Gastric/GEJ cancer (first line)	732	Trastuzumab + chemo + pembrolizumab vs trastuzumab+ chemo + placebo
	Phase II/III (NCT04082364)	Gastric/GEJ cancer (first line)	850	Cohort A: Margetuximab + MGA012; Cohort B: Margetuximab + MGA012 + chemo vs margetuzimab + MGD013 + chemo vs margetuzimab + chemo vs trastuzumab + chemo
EGFR overexpression	II (NCT03400592)	Gastric cancer (second line)	55	Nimotuzumab + irinotecan
Claudin 18.2	III (NCT03504397)	Gastric/GEJ cancer (first line)	550	Zolbetuzimab + mFOLFOX6 vs placebo + mFOLFOX6
FGFR2	III (NCT03694522)	Gastric cancer (first line)	548	Bemarituzumab + mFOLFOX6 vs placebo + mFOLFOX6
FGFR	II (NCT01719549)	Gastric cancer (second or third line)	19	Dovitinib

Slide credit: clinicaloptions.com

Thank You For Your Attention