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Miami Cancer Institute

Updates in Colorectal Cancer 2024

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Circulating tumor DNA (ctDNA) for informing adjuvant chemotherapy (ACT) in stage II/III colorectal cancer (CRC): Interim analysis of BESPOKE CRC study

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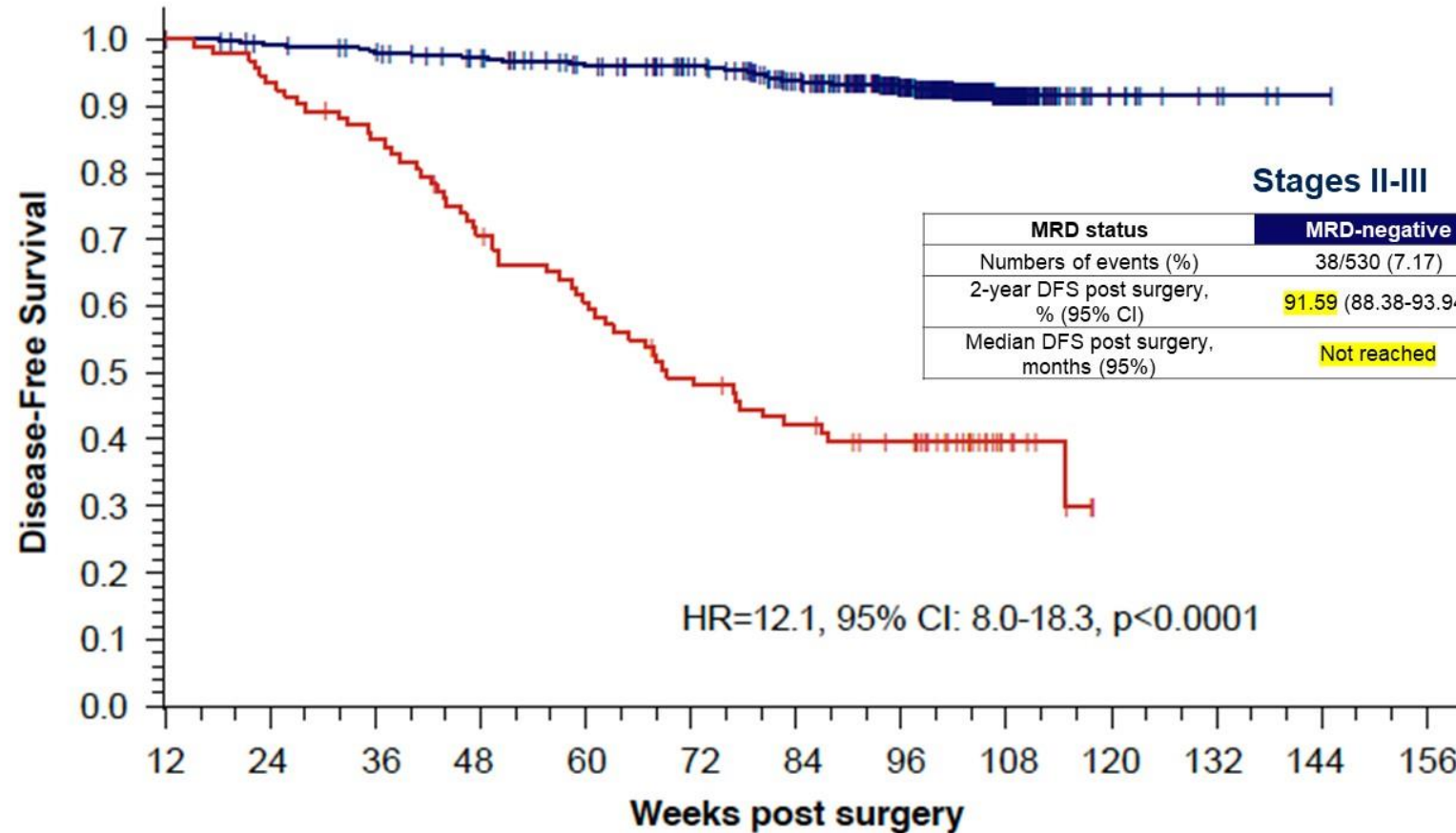
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Prospective Study

154 Stage 2 patients, 193 Stage 3 patients.

ctDNA-positivity at MRD time point is predictive of inferior DFS

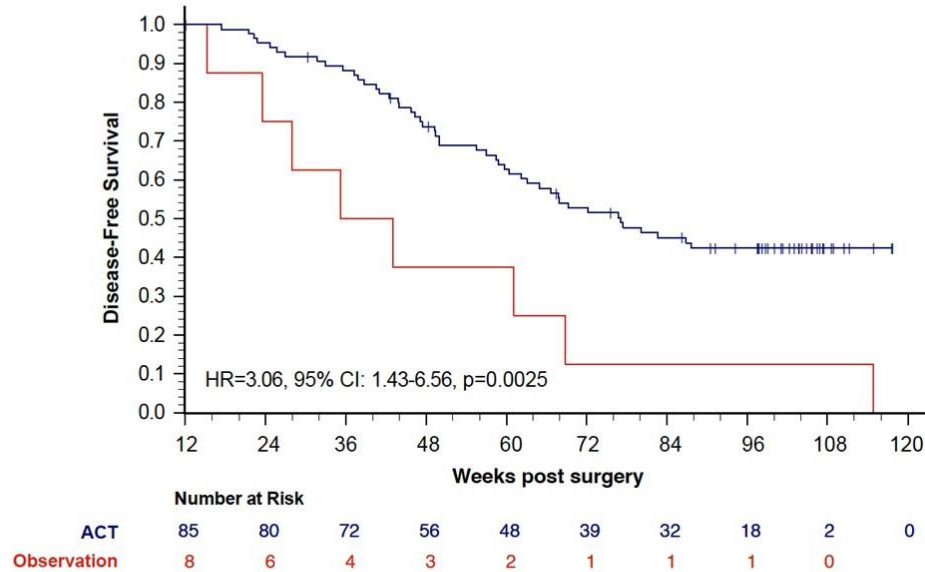
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	Number at Risk											
MRD-negative	530	522	513	499	482	464	429	353	101	12	5	1
MRD-positive	93	87	78	64	54	43	36	30	8	0		

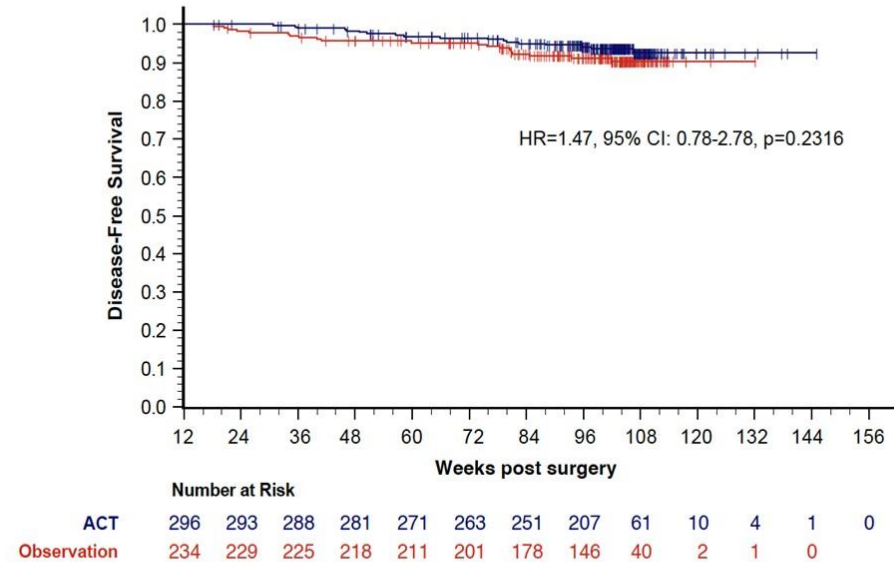
Benefit from ACT observed in MRD-positive but not MRD-negative patients

MRD-positive patients



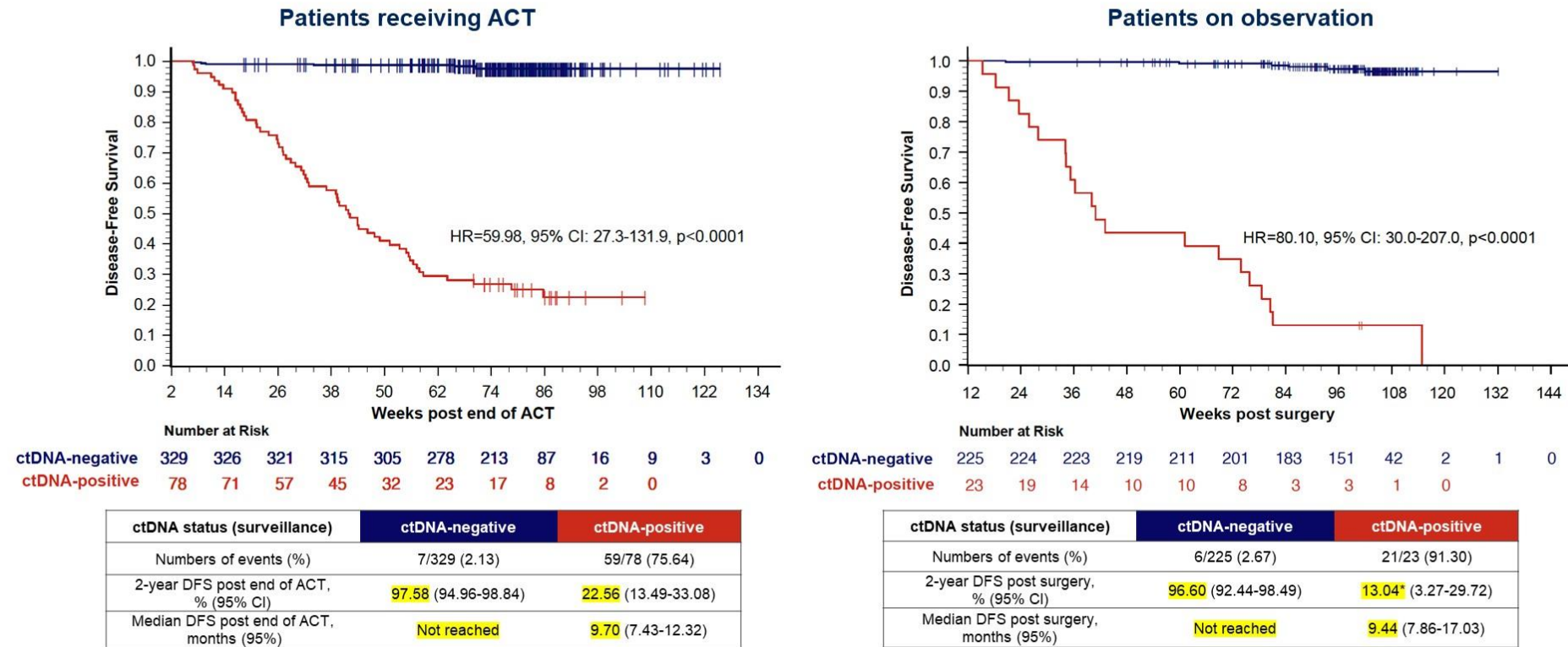
Adjuvant strategy	ACT	Observation
Numbers of events (%)	47/85 (55.29)	8/8 (100)
2-year DFS post surgery, % (95% CI)	42.44 (31.55-52.91)	12.50 (0.66-42.27)
Median DFS post surgery, months (95%)	17.78 (14.37-not reached)	7.52 (3.52-15.88)

MRD-negative patients



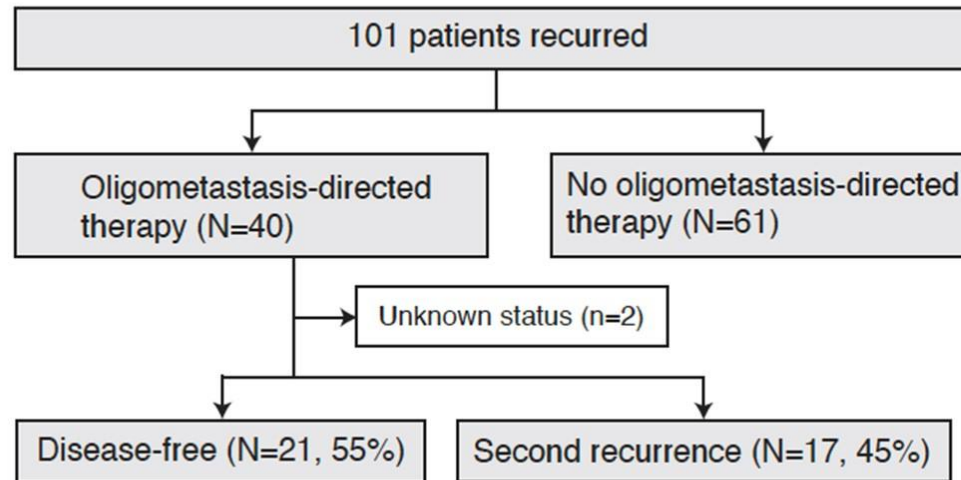
Adjuvant strategy	ACT	Observation
Numbers of events (%)	18/296 (6.08)	20/234 (8.55)
2-year DFS post surgery, % (95% CI)	93.70 (90.03-96.05)	90.39 (85.38-93.75)
Median DFS post surgery, months (95%)	Not reached	Not reached

ctDNA-positivity during surveillance is predictive of inferior DFS regardless of adjuvant therapy (ACT or observation)



*Most recurrences occurred within the 1st year.

ctDNA testing was associated with higher oligometastasis-directed therapy



Oligometastasis-directed therapy type	N
Surgery	30
Radiofrequency Ablation (RFA)	3
Microwave Ablation (MWA)	2
Stereotactic Body Radiation Therapy (SBRT)	2
Y90 radiotherapy	2
Chemoradiation	1

Circulating Tumor DNA Analysis Informing Adjuvant Chemotherapy in Locally Advanced Rectal Cancer

The Randomized AGITG DYNAMIC-Rectal Study

Jeanne Tie

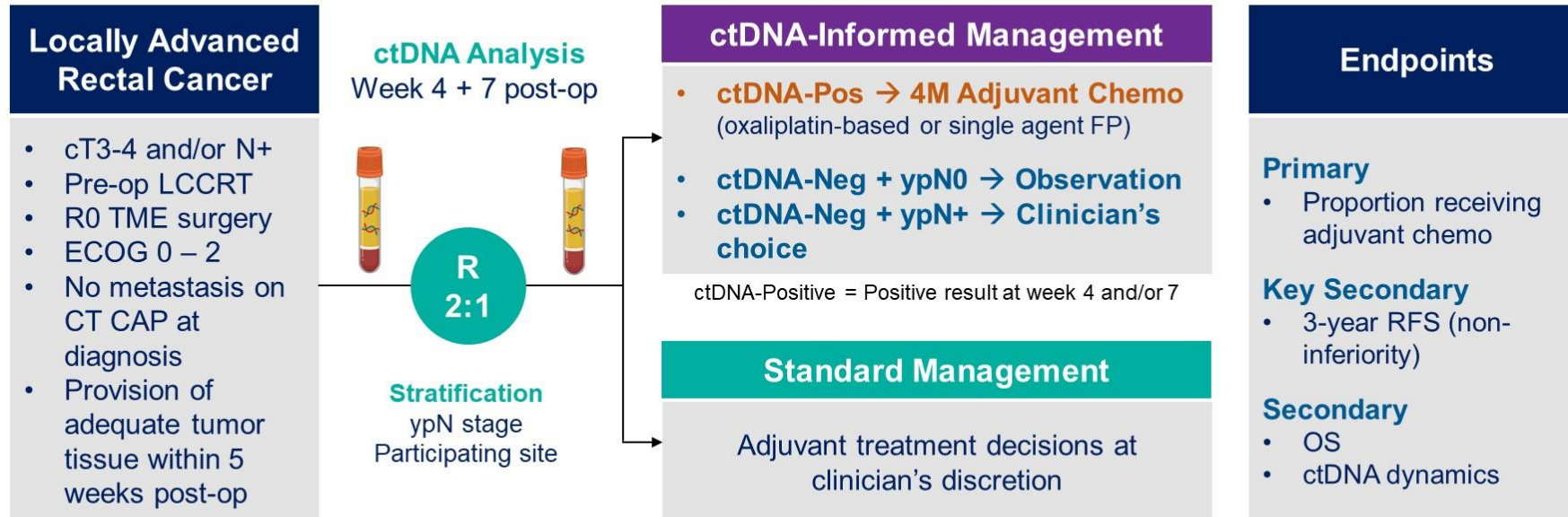
Peter MacCallum Cancer Centre and Walter & Eliza Hall Institute of Medical Research, Melbourne, Australia

On behalf of the DYNAMIC-RECTAL Investigators

Joshua D Cohen, Yuxuan Wang, Chris Brown, Rachel Wong, Jeremy Shapiro, Rob Campbell, Fiona Day, Theresa Hayes, Morteza Aghmesheh, Christos Karapetis, Maria Popoli, Lisa Dobbyn, Janine Ptak, Natalie Silliman, Christopher Douville, Nickolas Papadopoulos, Kenneth Kinzler, Bert Vogelstein, Peter Gibbs

DYNAMIC-Rectal Study Design (Phase 2 Study)

ACTRN12617001560381

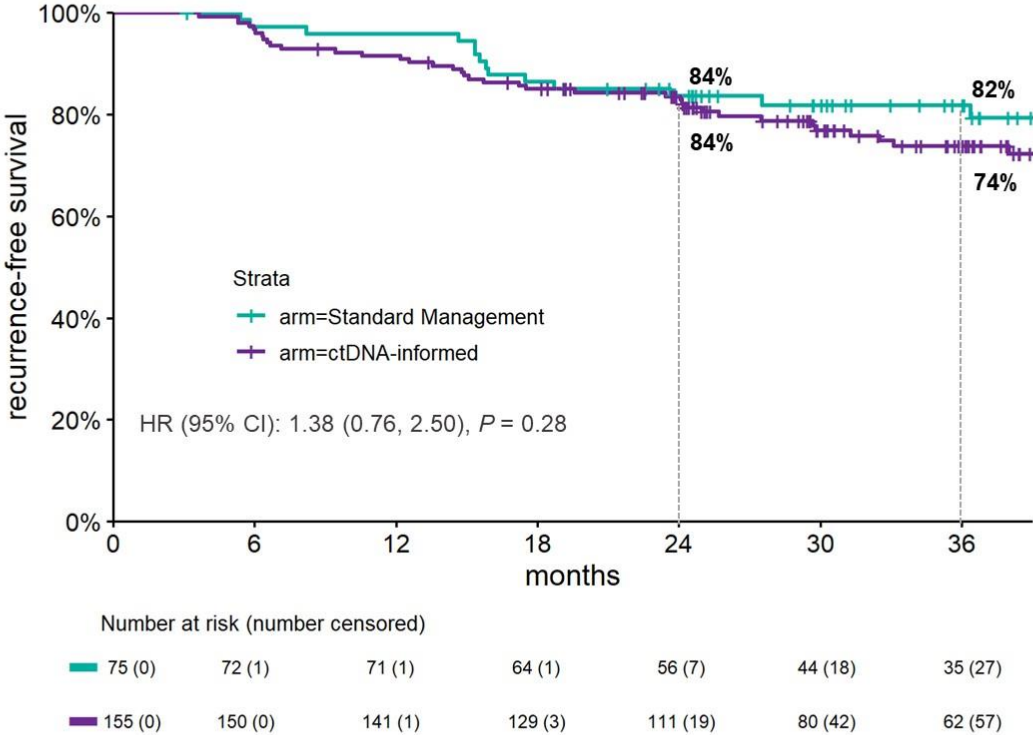


- Target sample size 408: 80% power with 95% confidence to demonstrate non-inferiority margin of at most 10%
- Ceased recruitment early (due to COVID-19 and increasing adoption of TNT) → **230 eligible patients analyzed**

Recurrence-Free Survival

Median follow-up 36 months

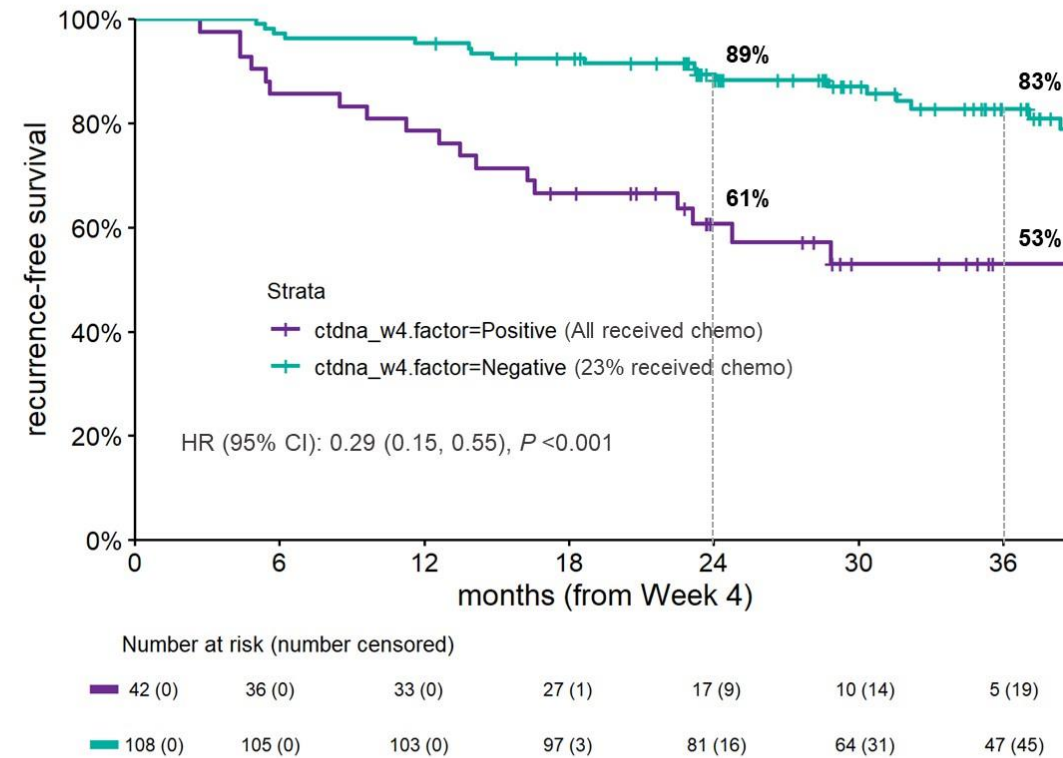
-23% with cN2
-30% with pN+
-15% pCR



Adjuvant Treatment Delivery

Treatment Information	ctDNA-Informed N = 155	Standard N = 75	P
Adjuvant chemo commenced, n	71 (46%)	58 (77%)	<0.001
ctDNA +ve	42 (27%)		
ctDNA -ve	25 (16%)		
ctDNA unknown	4 (3%)		
Chemo regimen, n			
Oxaliplatin-based doublet	43/155 (28%)	19/75 (25%)	--
Single agent	28/155 (18%)	39/75 (52%)	
Time to commencing chemotherapy, median (IQR), days	69 (54, 80)	56 (49, 62)	--
Treatment duration, median (IQR), weeks	15 (11, 18)	14 (11, 17)	--
Completed planned treatment, n	57/71 (80%)	41/58 (71%)	--

Recurrence-Free Survival and ctDNA Status



DYNAMIC-Rectal Summary

- ctDNA-informed approach to adjuvant therapy for locally advanced rectal cancer following neoadjuvant chemoradiation and surgery was associated with a reduced rate of chemotherapy administration (46% vs 77%, $p < 0.001$)
- A significant proportion of ctDNA-negative patients (23%) received adjuvant chemotherapy
- Small sample size precludes any conclusions to be drawn about the non-inferiority in recurrence-free survival of ctDNA-informed vs standard management
- Risk of recurrence was lower in post-op ctDNA-negative patients compared to ctDNA-positive patients (3-year RFS 83% vs 53%)
- The most common site of relapse in ctDNA-negative patients was the lung (83%) whilst liver (69%) was the dominant site of relapse in ctDNA-positive patients

Nivolumab plus ipilimumab vs chemotherapy as first-line treatment for microsatellite instability-high/mismatch repair-deficient metastatic colorectal cancer: first results of the CheckMate 8HW study

Thierry Andre,¹ Elena Elez,² Eric Van Cutsem,³ Lars Henrik Jensen,⁴ Jaafar Bennouna,⁵ Guillermo Ariel Mendez,⁶ Michael Schenker,⁷ Christelle de la Fouchardiere,⁸ Maria Luisa Limon,⁹ Takayuki Yoshino,¹⁰ Jin Li,¹¹ Heinz-Josef Lenz,¹² Jose Manzano Mozo,¹³ Giampaolo Tortora,¹⁴ Rocio Garcia-Carbonero,¹⁵ Elvis Cela,¹⁶ Yingsi Yang,¹⁶ Ming Lei,¹⁶ Lixian Jin,¹⁶ Sara Lonardi¹⁷

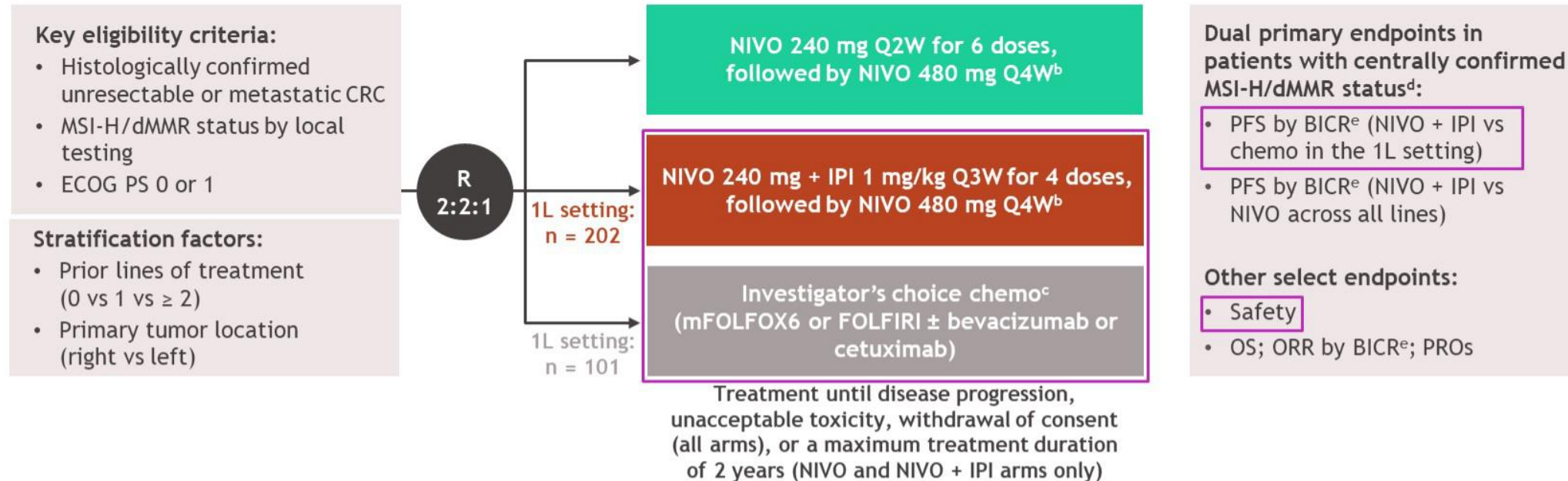
¹Sorbonne Université and Hôpital Saint Antoine, Assistance Publique Hôpitaux de Paris, Paris, France; ²Vall d'Hebron University Hospital and Institute of Oncology (VHIO), Barcelona, Spain; ³University Hospitals Gasthuisberg and University of Leuven (KU Leuven), Leuven, Belgium; ⁴University Hospital of Southern Denmark, Vejle Hospital, Vejle, Denmark; ⁵Centre Hospitalier Universitaire de Nantes, Nantes, France; ⁶Hospital Universitario Fundacion Favaloro, Buenos Aires, Argentina; ⁷Centrul de Oncologie Sf Nectarie, Craiova, Romania; ⁸Centre Léon Bérard, Lyon Cedex, France; ⁹Hospital Universitario Virgen del Rocío, Sevilla, Spain; ¹⁰National Cancer Center Hospital East, Chiba, Japan; ¹¹Shanghai East Hospital, Shanghai, China; ¹²University of Southern California Norris Comprehensive Cancer Center, Los Angeles, CA; ¹³Institut Català d'Oncologia, Badalona, Spain; ¹⁴Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy; ¹⁵Hospital Universitario 12 de Octubre Imas12, UCM, Madrid, Spain; ¹⁶Bristol Myers Squibb, Princeton, NJ; ¹⁷Istituto Oncologico Veneto IOV-IRCCS, Padua, Italy

Abstract number LBA768



CheckMate 8HW study design (Validation for CheckMate 142)

- CheckMate 8HW is a randomized, multicenter, open-label phase 3 study^a

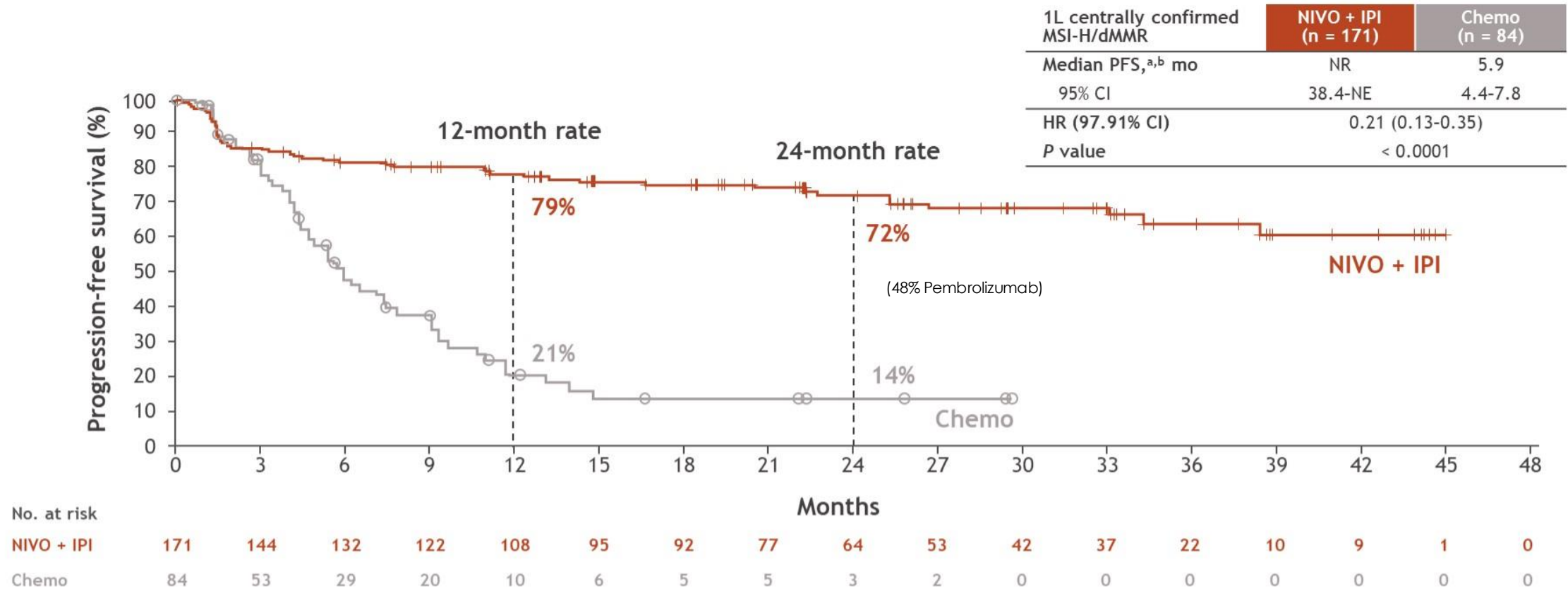


- At data cutoff (October 12, 2023), the median follow-up^f was 24.3 months

^aClinicalTrials.gov. NCT04008030. ^bPatients with ≥ 2 prior lines are randomized only to the NIVO or NIVO + IPI arms. ^cPatients receiving investigator's choice of chemotherapy are eligible to receive NIVO + IPI upon progression (crossover treatment). ^dConfirmed using either immunohistochemistry and/or polymerase chain reaction-based tests. ^eEvaluated using RECIST v1.1. ^fTime between randomization and last known date alive or death.



Progression-free survival

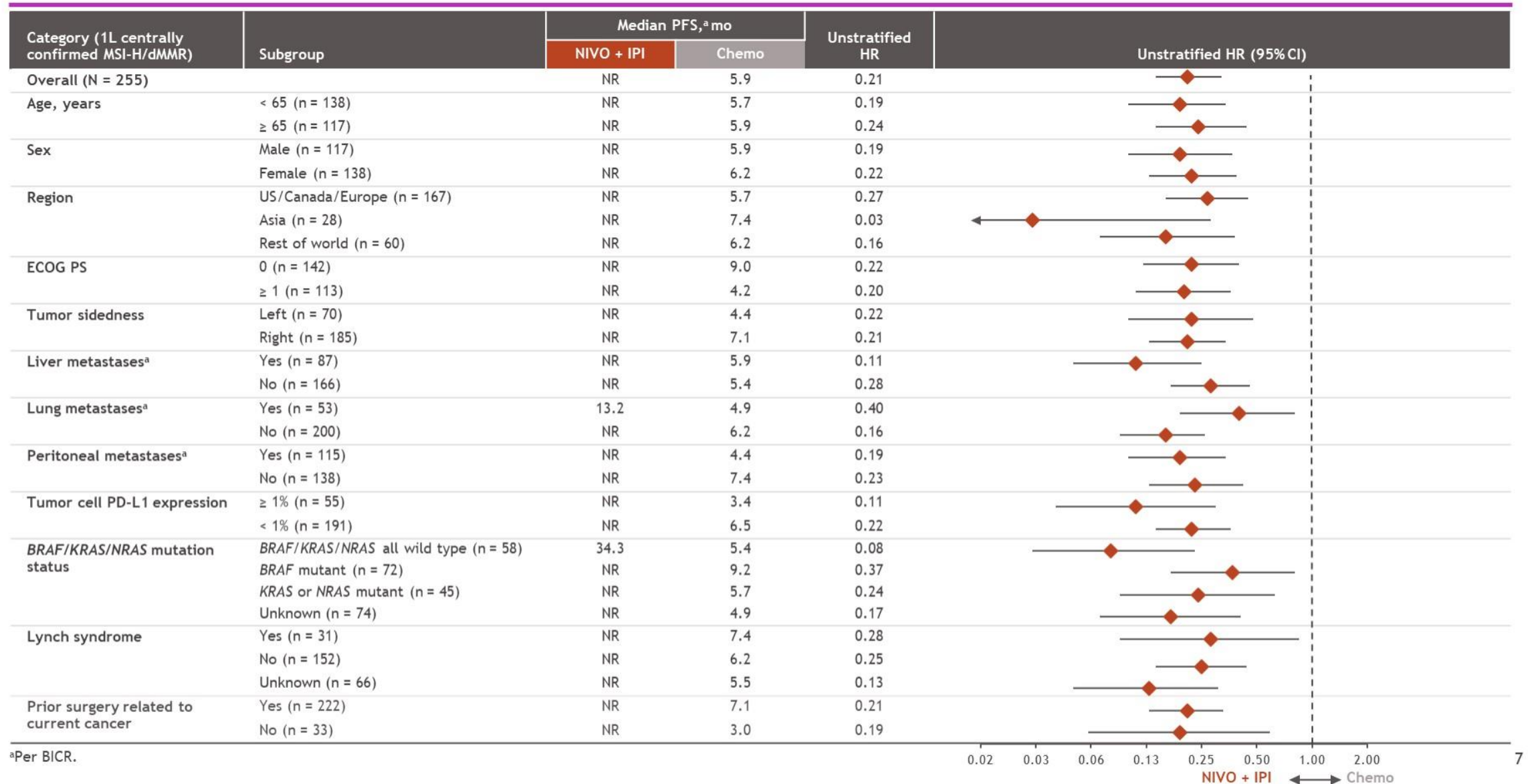


- PFS benefit with NIVO + IPI vs chemo was robust and consistent across the sensitivity analyses, including PFS by BICR in 1L all randomized patients (HR, 0.32; 95% CI, 0.23-0.46)

^aPer BICR. ^bMedian follow-up, 24.3 months.



Progression-free survival subgroup analysis



Summary

- NIVO + IPI demonstrated superior PFS vs chemo ± bevacizumab or cetuximab in previously untreated patients with centrally confirmed MSI-H/dMMR mCRC (HR, 0.21 [97.91% CI, 0.13-0.35]; $P < 0.0001$)
 - 79% reduction in the risk of disease progression or death
 - Early and sustained separation of PFS curves starting at approximately 3 months
 - 24-month PFS rates for NIVO + IPI vs chemo: 72% vs 14%
 - PFS benefit across all prespecified subgroups, including patients with *KRAS* or *NRAS* mutations and those with baseline liver, lung, or peritoneal metastases
- NIVO + IPI had a different safety profile compared with chemo, with fewer grade 3/4 TRAEs, and safety was consistent with the established profiles of each individual drug
 - No new safety signals were identified
- The study is ongoing to assess the other dual primary endpoint of PFS by BICR (NIVO + IPI vs NIVO across all lines), as well as secondary endpoints including OS
- **These results support NIVO + IPI as a standard-of-care 1L treatment option for patients with MSI-H/dMMR mCRC**



Liver Transplantation and Chemotherapy versus Chemotherapy alone in patients with definitively unresectable colorectal liver metastases : results from a prospective, multicentre, randomised trial (TransMet)

R Adam, C Piedvache, L Chiche, E Salamé, O Scatton, V Granger, M Ducreux, U Cillo, F Cauchy, JY Mabrut, C Verslype, L Coubeau, J Hardwigsen, E Boleslawski, F Muscari, J Lerut, L Grimaldi, F Levi, M Lewin, M Gelli

Paris-Saclay – Villejuif – Kremlin Bicêtre (France), Bordeaux (France), Tours (France), Paris (France), Grenoble (France), Villejuif (France), Padova (Italy), Clichy (France), Lyon (France), Leuven (Belgium), Louvain (Belgium), Marseille (France), Lille (France), Toulouse (France), Bruxelles (Belgium)



TransMet Trial : Eligibility criteria

- ≤ 65 years
- Good performance status (ECOG 0 or 1)
- Confirmed unresectability of CLM by expert surgeons
- Gold standard Resection of the primary
- No extrahepatic disease
- Partial Response or Stability with Chemo : ≥ 3 months, ≤ 3 lines
- No BRAF mutation
- CEA < 80 ng/ml or 50% decrease from baseline
- Platelets count > 80.000 and white blood cell count > 2500



TransMet Trial : Endpoints

Primary Endpoint

- **Overall Survival (OS) at 5 years**

Secondary Endpoints

- OS at 3 years
- Progression-Free Survival (PFS) at 3 and 5 years*
- Recurrence rate at 3 and 5 years

* Progression : Recurrence in the LT+C group / Progression in the C group



157 patients submitted to the Validation committee

63 non eligible (40%)

- 13: Not unresectable
- 36: Tumor Progression
- 5: >3 lines Chemo
- 9: Other

94 patients randomized

47 pts assigned to (LT+C) in ITT

47 pts assigned to (C) in ITT

11 = No assigned Tt

- 9 no LT : progression
- 1 LT on progression
- 1 LT > 3 Mo from Chemo

9 = No assigned Tt

- 2 LT out of protocol
- 7 Liver Resection

36 pts included in Per Protocol

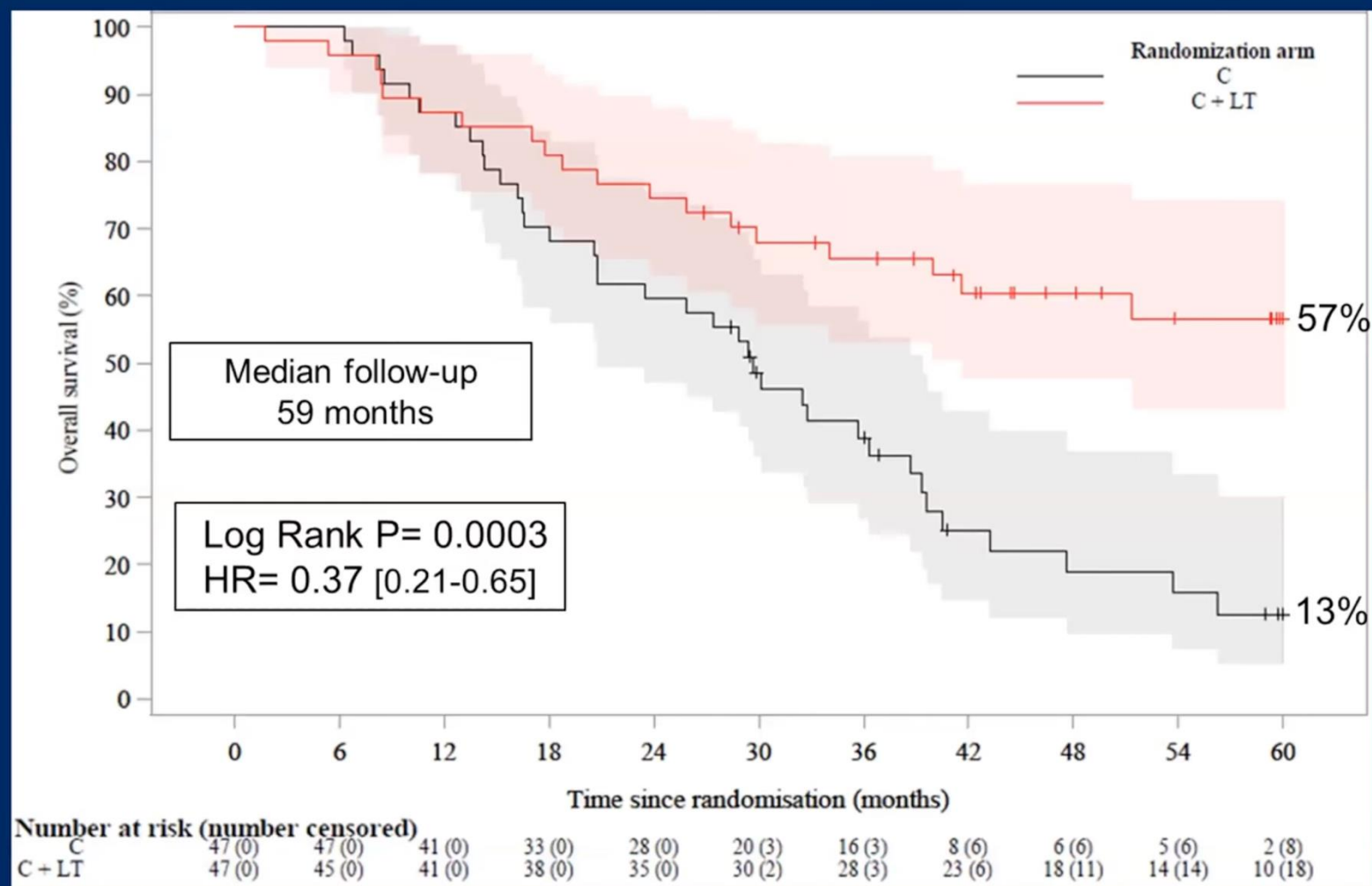
38 pts included in Per Protocol

Adam et al, eClinical Medicine 2024



TransMet Trial : Primary Endpoint 5-Yr OS (ITT)

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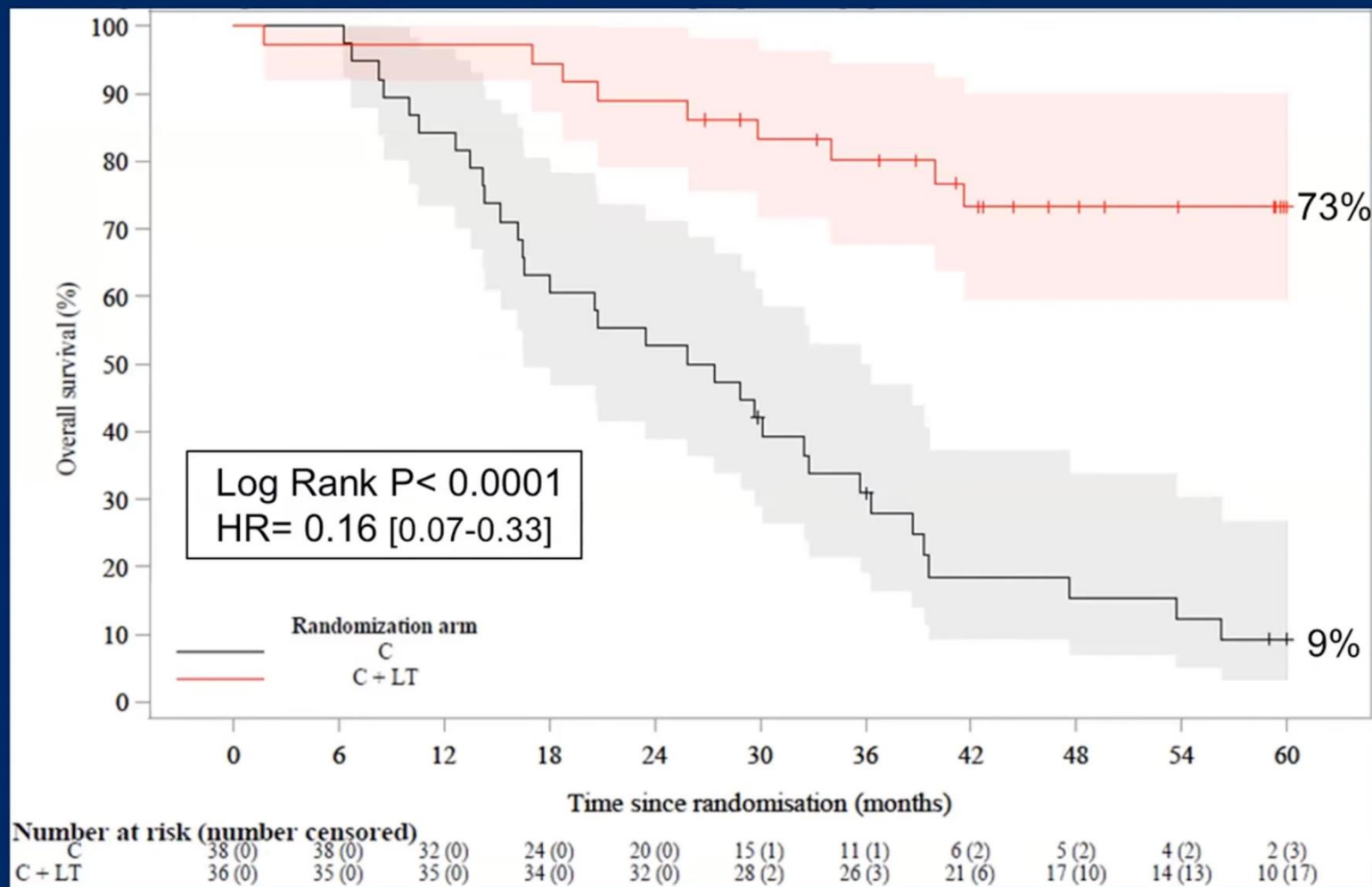
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TransMet Trial : Primary Endpoint 5-Yr OS (Per Protocol)

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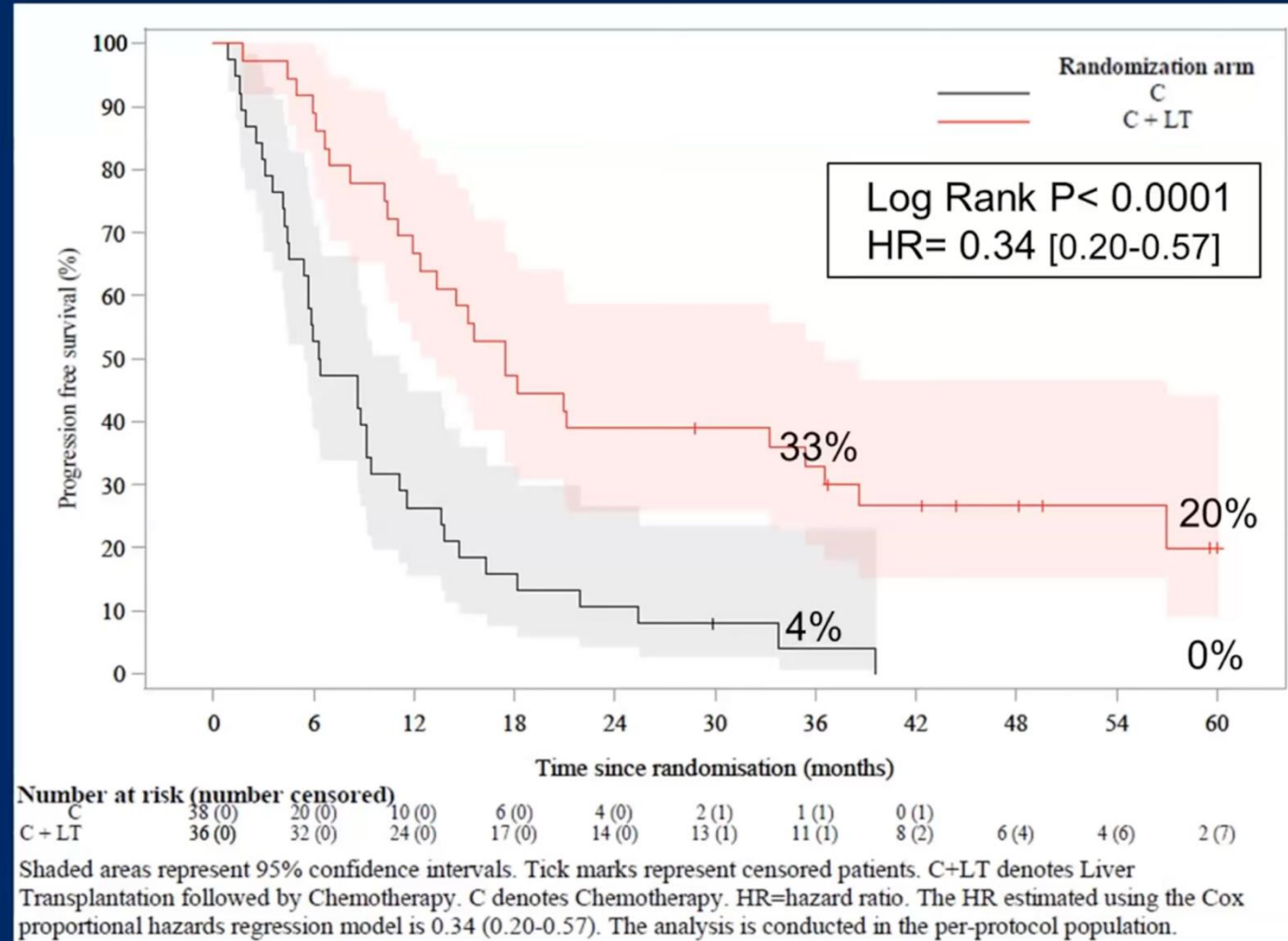
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TransMet Trial : Secondary Endpoint 3–5–Yr PFS (Per Protocol)

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Take Home messages from the TransMet trial

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- Liver Transplantation + Chemotherapy significantly improves OS and PFS in selected patients with unresectable colorectal liver metastases compared to C alone
- These results were obtained through a rigorous patient selection and a prioritization for organ allocation
- Transplanted patients for CLM have similar survival (73% at 5 years) as those transplanted for established LT indications
- LT +C offers a potential of cure to cancer patients with otherwise poor long-term outcome

➡ These results support LT as a new standard option that could change our practice in treating patients with liver-only, definitively unresectable CLM.

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Total Neoadjuvant Treatment (TNT) including Non-Operative Management (NOM) for Proficient Mismatch Repair Locally Advanced Rectal Cancer (pMMR LARC): First Results of NO-CUT Trial

Amatu A.¹, Zampino M. G.², Bergamo F.³, Mosconi S.⁴, Sibio D.¹, Gerardi M. A.², Prete A. A.³, Filippone F. R.⁴, Ferrari G.¹, Borin S.², Galuppo S.³, Mariano S.¹, Tosi F.¹, Bonazzina E.¹, Patelli G.^{1,5,6}, Ghezzi S.¹, Lazzari L.⁶, Bencardino K.¹, Sartore-Bianchi A.^{1,5}, and Siena S.^{1,5}
on behalf of the NO-CUT Trial Cooperative Group

¹ Grande Ospedale Metropolitano Niguarda, Milan, Italy

² Istituto Europeo Oncologia IRCCS, Milan, Italy

³ Istituto Oncologico Veneto IRCCS, Padua, Italy.

⁴ ASST Papa Giovanni XXIII, Bergamo, Italy

⁵ Università degli Studi di Milano, Milan, Italy

⁶ IFOM ETS The AIRC Institute of Molecular Oncology



NO-CUT Trial
EudraCT 2017-3671-60

presented by Alessio Amatu, MD

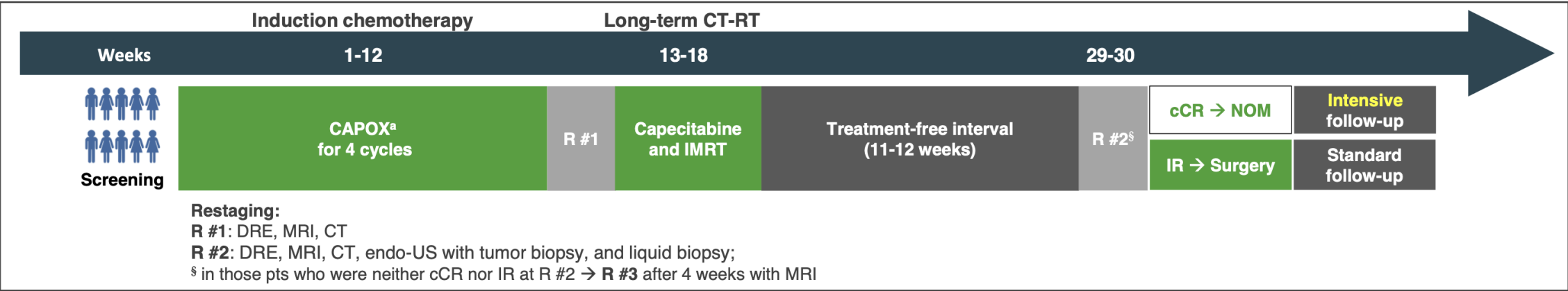
ESMO 2024 Congress, Presidential Symposium Eyes to the Future, September 16, 2024



NO-CUT TRIAL design



180 patients with mid/low cT3-4 and/or cN1-2, cM0, pMMR/MSS, rectal adenocarcinoma; ECOG PS 0-1, fit for surgery



- **Primary endpoint:** % of patients alive and distant relapse free at 30 months (DRFS₃₀, H₀: 75% and H₁: 82%); at least 44 NOM patients were needed, with an $\alpha = 10\%$ and $\beta = 20\%$ to reject H₀
- **Secondary endpoints:** cCR rate, organ preservation rate in NOM patients

Abbreviations: **cCR** = clinical complete response; **CT**: computed tomography scan with contrast medium of chest, abdomen, and pelvis; **CT-RT**: chemo-radiotherapy; **DRE**: digital rectal examination; **endo-US**: endoscopic Ultrasound; **IMRT**: intensive modulated radiation therapy; **IR**: incomplete response; **pMMR**: proficient mismatch repair; **MRI**: magnetic resonance imaging with contrast medium of pelvis; **NOM**: non-operative management; **R**: restaging. ^a FOLFOX 6 cycles if not eligible to CAPOX.



Clinical tumor response to TNT

		cCR (%)	IR (%)	p-value
Number of patients		46 (26)	134 (74)	-
Tumor location	Low	26 (36)	47 (64)	0.017
	Medium	20 (19)	87 (81)	
Clinical T stage	T1	2 (100)	0 (0)	0.004
	T2	5 (39)	8 (61)	
	T3	37 (28)	96 (72)	
	T4	2 (6)	30 (94)	
Clinical TNM stage	II	9 (45)	11 (55)	0.065
	III	37 (23)	123 (77)	

- 180 patients, 59% mid-rectum

- 92% T3/T4

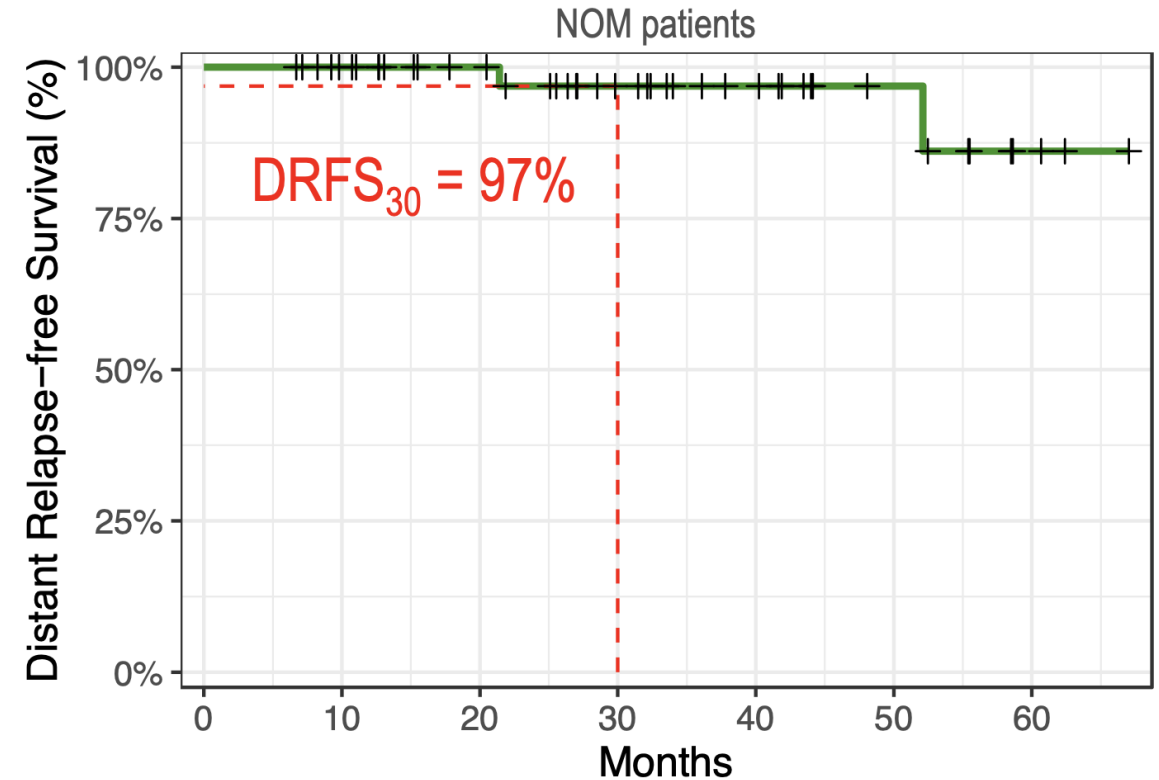
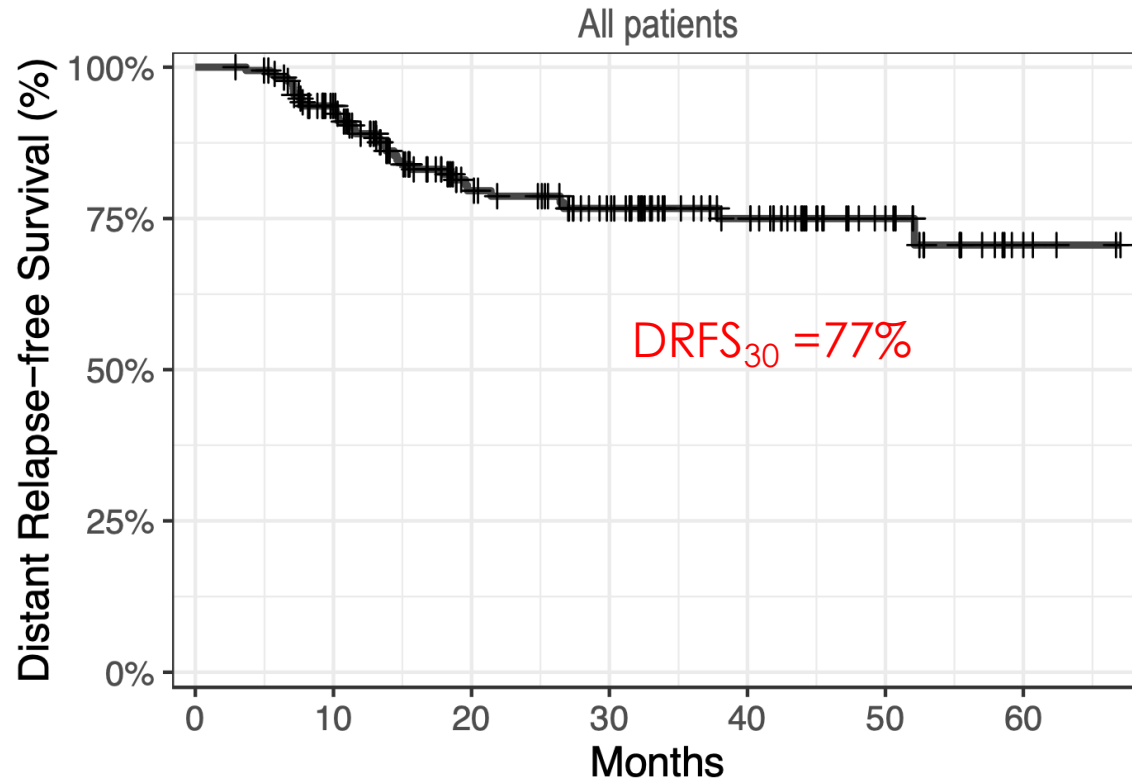
- 89% Stage 3

- 26% patients achieved cCR and proceeded with NOM
- 90% patients who had IR underwent surgery
- T stage was confirmed as a clinical predictor of cCR
- Tumor location (low) was associated with response

Abbreviations: **cCR** = clinical complete response; **IR**: incomplete response; **NOM**: non-operative management.



Primary Objective: Distant Relapse-Free Survival in NOM patients

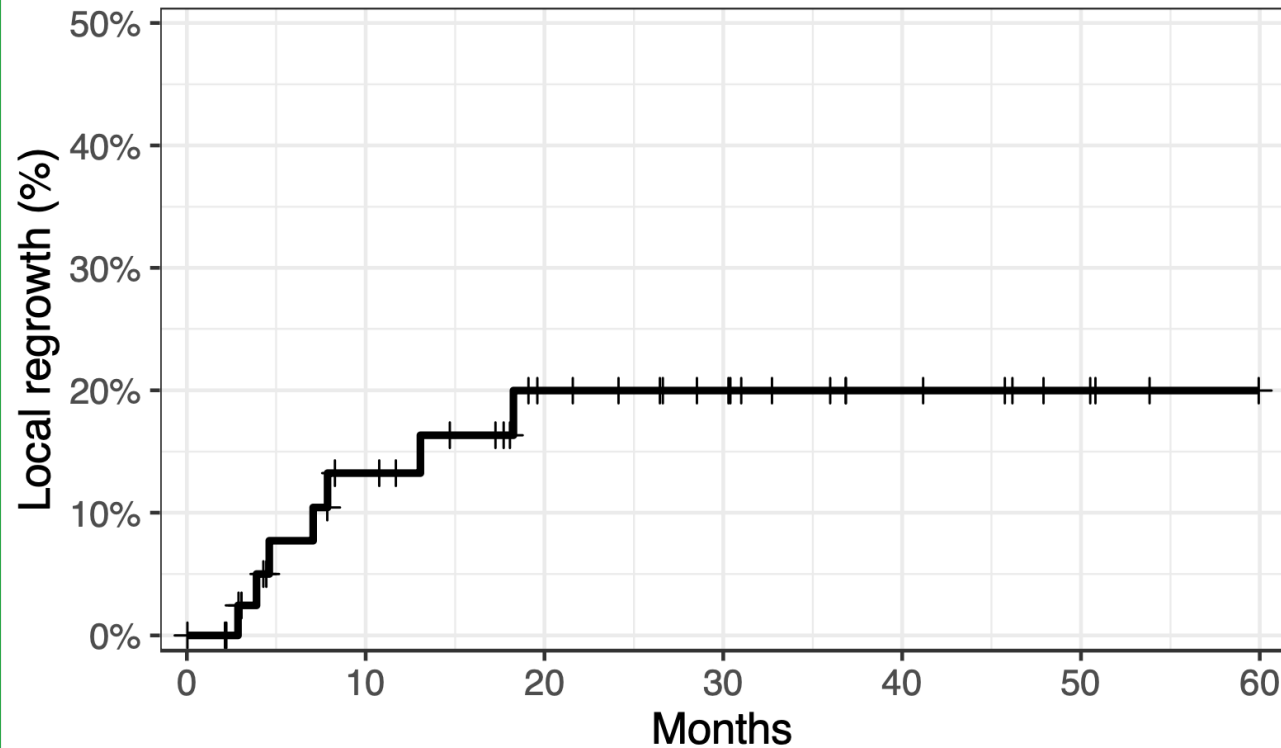


Primary endpoint (Distant Relapse-Free Survival at 30 months, DRFS₃₀) was met:

- In NOM pts (n = 46) DRFS₃₀ 96.9% (95%CI 91.0-100.0)
- In all pts (n = 180) DRFS₃₀ 76.7% (95%CI 69.8-84.2)



Secondary objective: Organ Preservation Rate in NOM patients

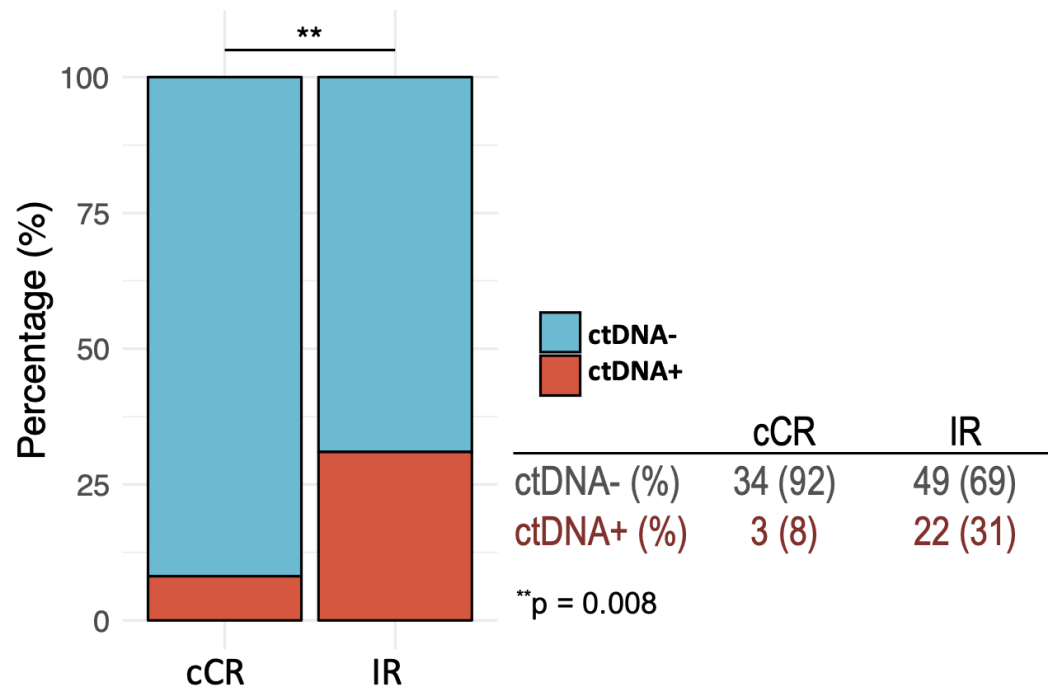


- **Organ preservation rate was 85% (39/46)**
- All patients with Local Regrowth (LR) underwent rescue surgery, 42% (3/7) sphincter sparing
- All LR occurred between 4 and 18 months



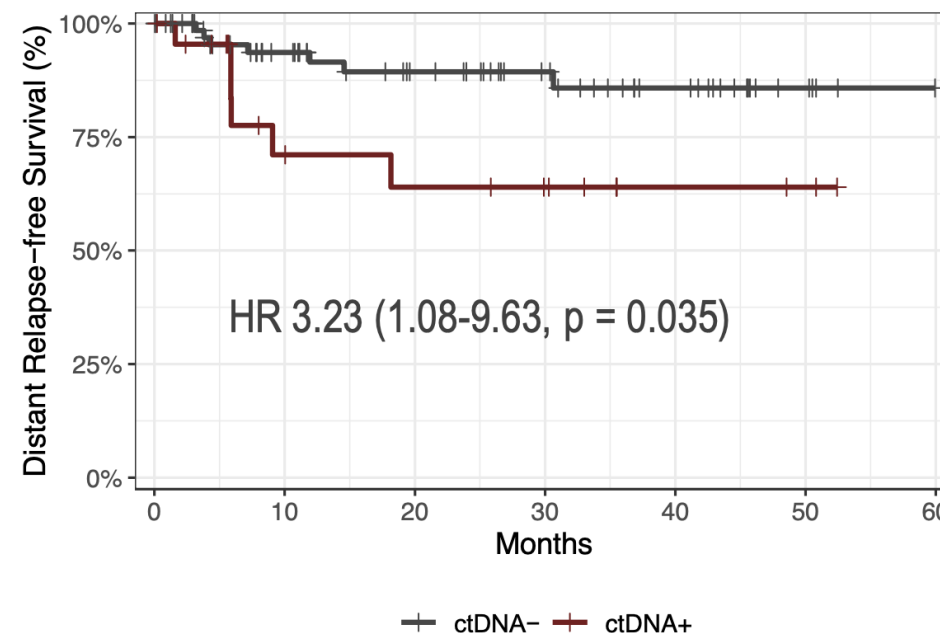
ctDNA status after TNT predicts clinical response and DRFS

ctDNA status according to clinical response (cCR vs IR)



- In 108 evaluable patients, absence of ctDNA was significantly associated with tumor response

DRFS in overall population according to ctDNA status



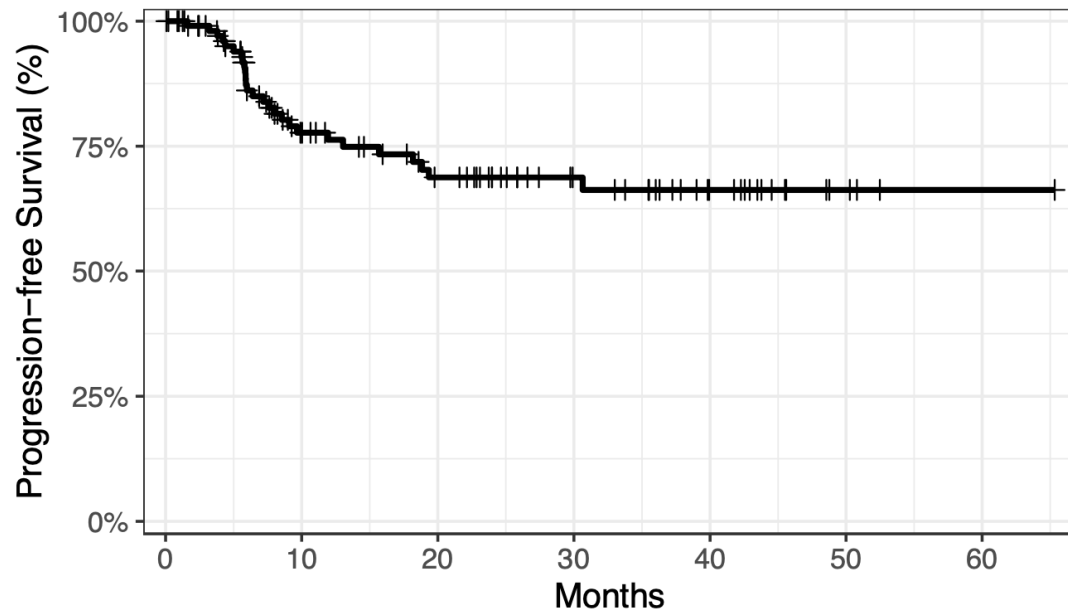
- Patients with ctDNA+ had an increased risk for distant-relapse, regardless of surgery

DRFS	ctDNA-	ctDNA+
2-year	89.4% (81.6-97.9)	64% (44.3-92.5)
3-year	85.8% (76.0-96.9)	64% (44.3-92.5)

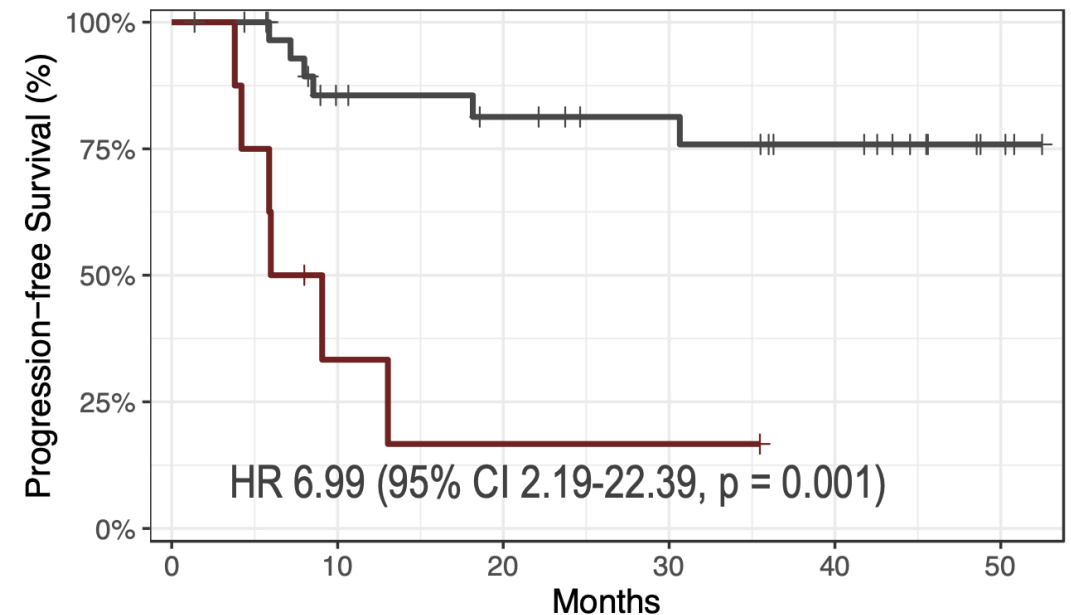


ctDNA status after surgery in IR patients predicts PFS

PFS after surgery (n=121)



PFS according to ctDNA status after surgery (n=43)



— ctDNA- — ctDNA+

- In the 121 patients who undergo rectal surgery, 2y- and 3y-PFS rate was 68.7% (95% CI 59.2-69.8) and 66.2% (95% CI 56.1-78.2)
- Patients with ctDNA+ after surgery had a significant increased risk for progression



Neoadjuvant immunotherapy in locally advanced MMR-deficient colon cancer

3-year disease-free survival from NICHE-2

M. Chalabi¹, L. van den Dungen, Y. Verschoor, S. Balduzzi, P. de Gooyer, N. Kok, E. Kerver, C. Grootsholten, E. Voest, J. Burger, E. Hendriks, T. de Wijkerslooth, A. Tin, T. Aukema, S. Oosterling, A. Aalbers, J. van den Berg, M. Van Leerdam, T. Schumacher, J. Haanen

¹Netherlands Cancer Institute, Amsterdam



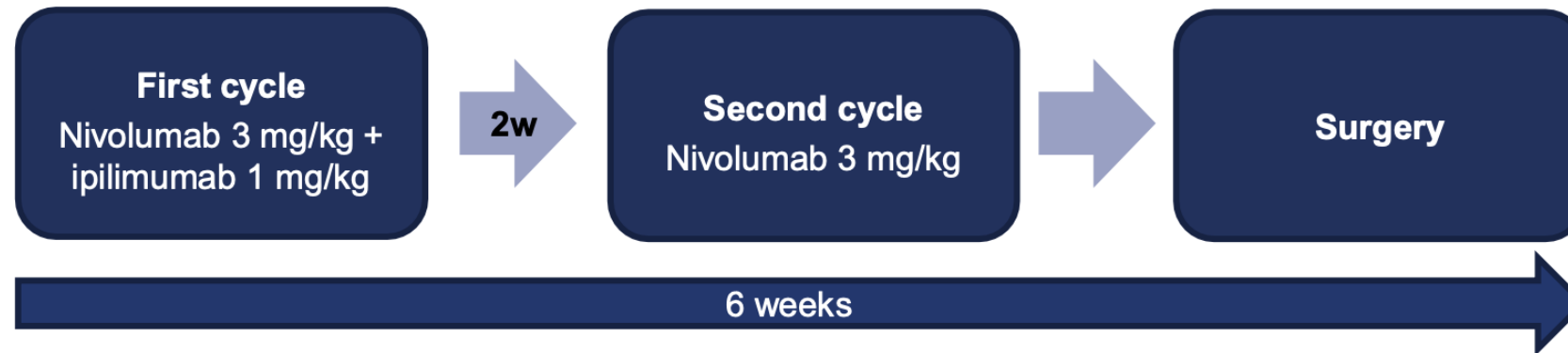
NICHE-2 study design

Investigator Basis of Trial

10-15% of non-metastatic colon cancers are dMMR
3yr RR for LACCa remains 20-40% despite SOC
Pathologic response 7% (FOxTROT)

Key eligibility criteria

- Non-metastatic dMMR colon cancer, previously untreated
- cT3 and/or N+ based on radiographic staging
- No clinical or radiologic signs of obstruction or perforation



Endpoints and statistical design

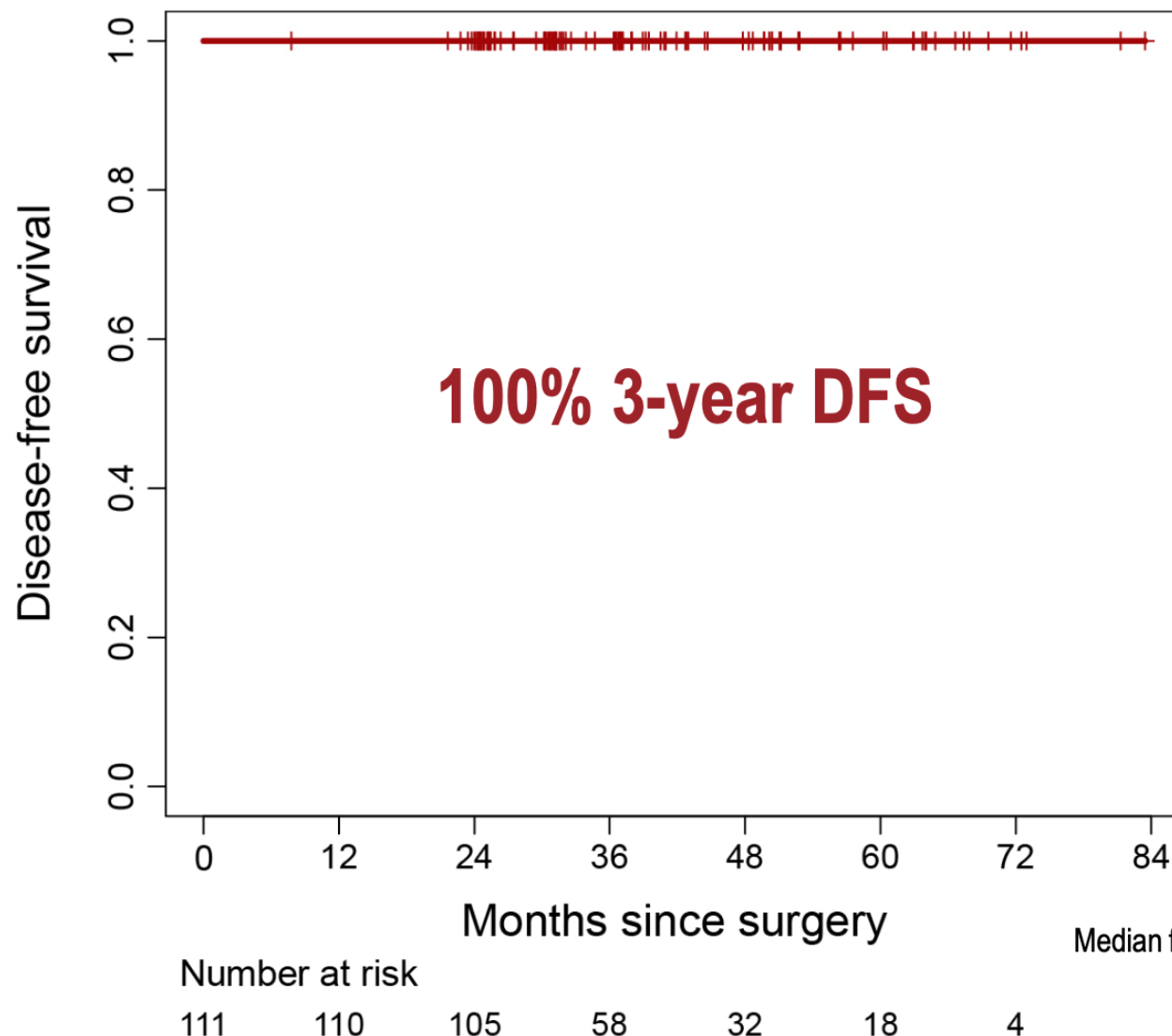
- Two primary endpoints
 - Safety
 - **3-year disease free survival (DFS)**
- Secondary endpoints
 - Pathologic response rate
 - Translational research
 - **Circulating tumor DNA dynamics**

A 3-year DFS of 93% would be deemed successful, at a power of 80% and a two-sided alpha of 0.025 using a one-sample log rank test assuming a historical 82% DFS¹

¹Historical 82% DFS was calculated with the assumption of 60% stage III and 40% stage II tumors. The historical 3-year DFS used for these calculations was 75% for stage III tumors and 90% for stage II disease.



Results – 3-year disease-free survival 100%



Median F/U of 36 months

(7.8 to 83.4 range)

No Recurrences

105/111 with 2 yrs f/u

Pathologic Response

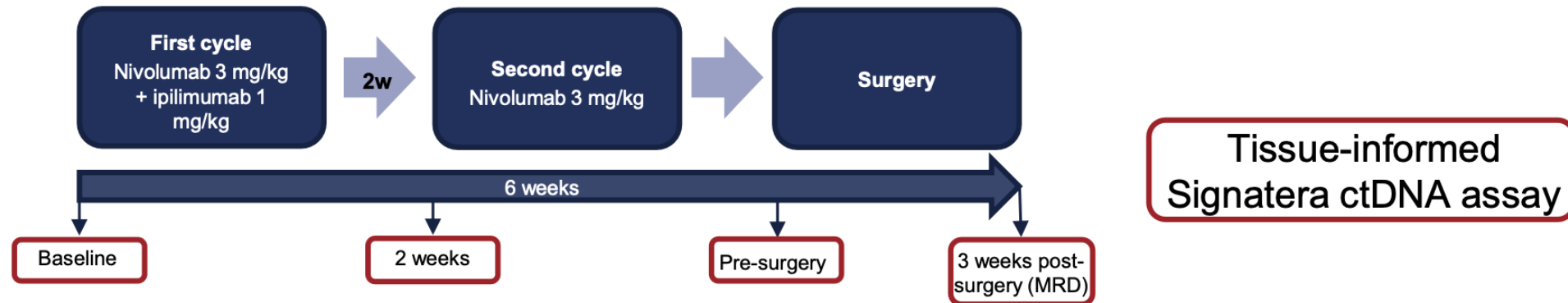
- 98% of 111 pts
- 95% Major PR (<10% residual viable tumor)
- 68% Pathologic CR

Median follow-up after surgery: 36.6 months (7.8 - 83.4)



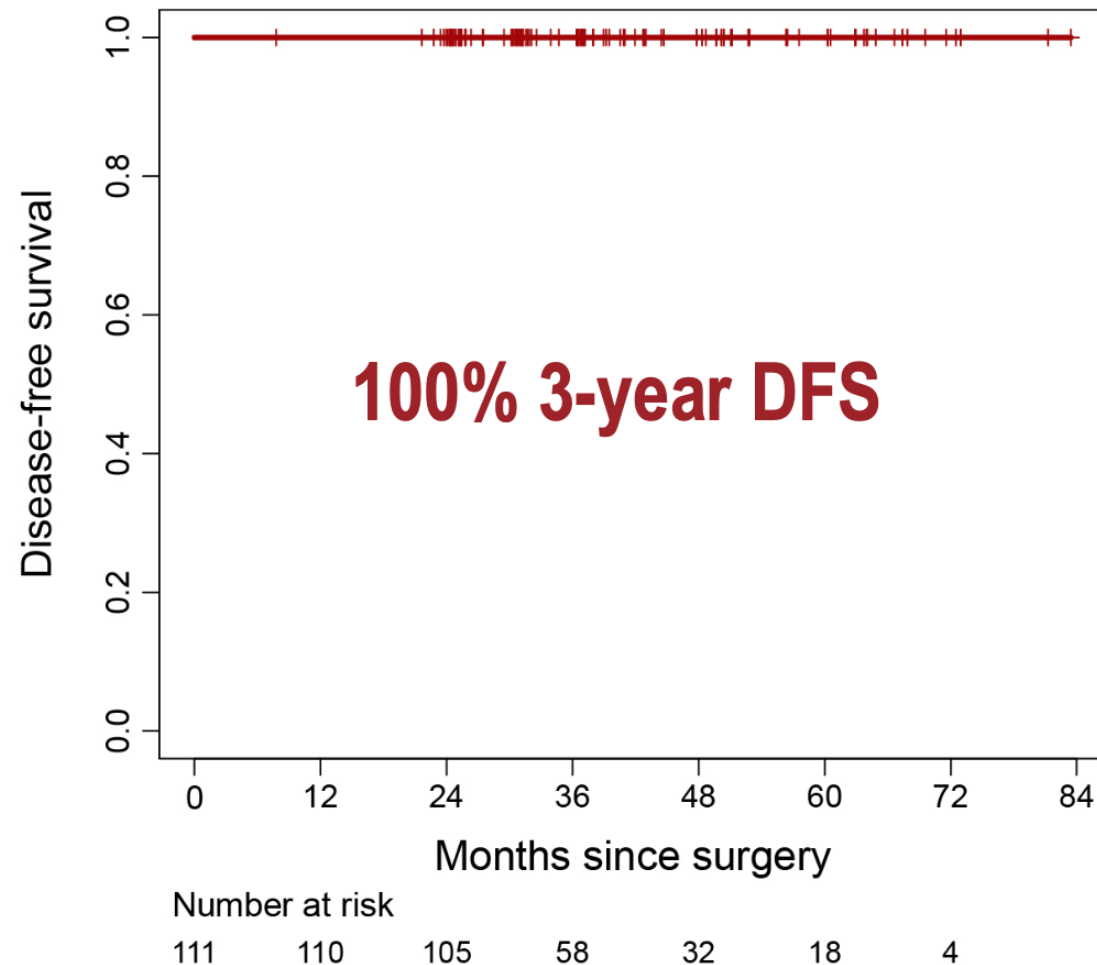
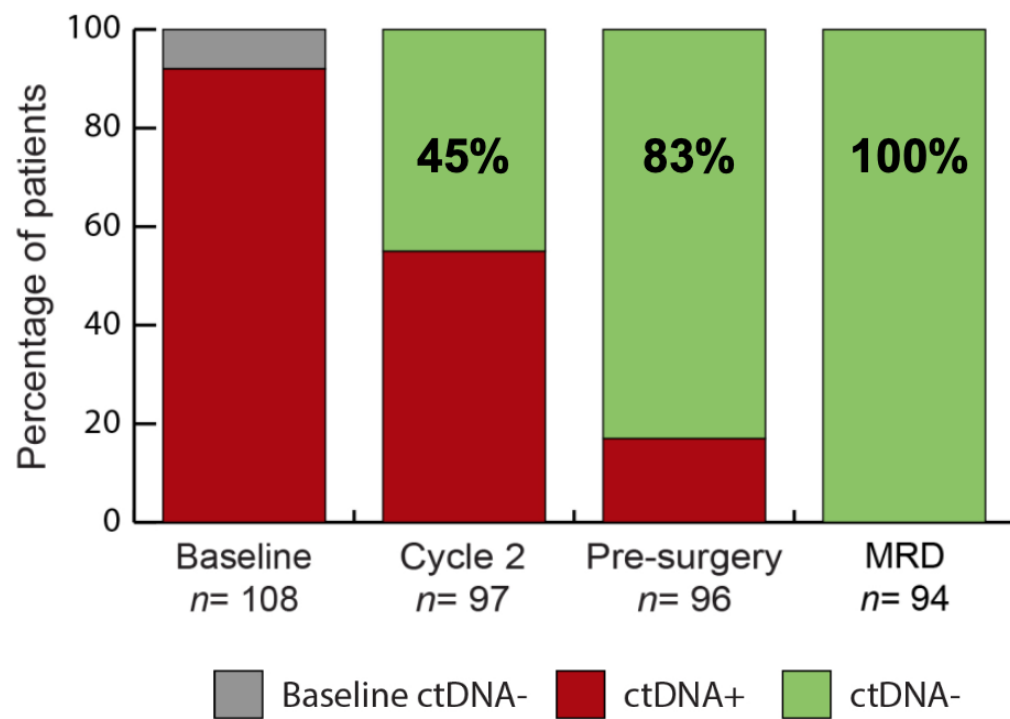
Circulating tumor DNA in NICHE-2

1. Assess ctDNA at minimal residual disease (MRD) timepoint
2. Can ctDNA accurately predict pCR?
 - In NICHE-2: despite high pCR and MPR rates, inability to predict pathologic response with radiographic imaging



Minimal residual disease

All patients were ctDNA negative at the MRD time point (3 weeks after surgery)



Thank You!



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