

ASCO 2020

Hepatobiliäre Tumoren – was gibt es Neues?

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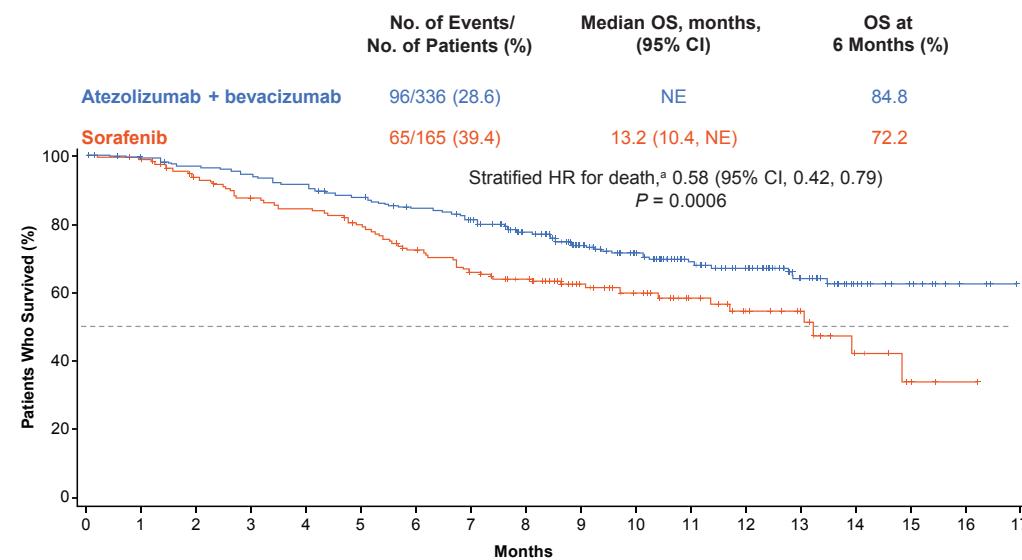
Interessenskonflikte

- Beratungshonorare: Amgen, Bayer Healthcare, Bristol Myers-Squibb, Eisai, Ipsen, Merck Serono, Merck Sharp & Dome, Lilly Imclone, Onkowissen TV, PCI Biotech, Roche und Servier
- Referentenhonorare: Amgen, Bioprojet, Bristol Myers-Squibb, Eisai, Ipsen, Merck Serono, Merck Sharp & Dome, Lilly Imclone, Roche, Servier und streammedup!
- Forschungsförderung: Roche und Ipsen

Erstlinientherapie des fortgeschrittenen HCC – Atezolizumab+Bevacizumab vs. Sorafenib

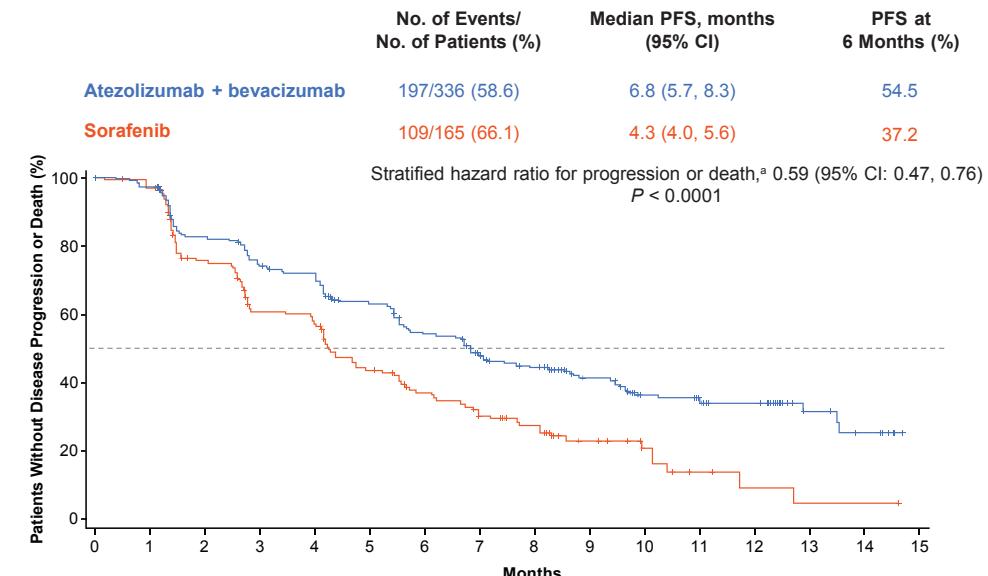
IMbrave150: OS und PFS (ITT-Population)

A



No. at risk	Atezo + Bev	336	329	320	312	302	288	275	255	222	165	118	87	64	40	20	11	3	1	NE
Sorafenib		165	157	143	132	127	118	105	94	86	60	45	33	24	16	7	3	1	NE	

B



No. at risk	Atezo + Bev	336	322	270	243	232	201	169	137	120	74	50	46	34	2	11	7	1	NE
Sorafenib		165	148	109	84	80	57	44	34	27	15	9	4	2	1	1	1	NE	

Erstlinientherapie des fortgeschrittenen HCC – Atezolizumab+Bevacizumab – komplettes Tumoransprechen 6%

medianen Zeitdauer bis zum ersten Ansprechen 2,8 Mon (1,2 – 9,7) / bis CR 5,7 Monate (1,2 – 11,3)

Table 1. Secondary efficacy and exploratory TTR outcomes in IMbrave150 (ITT population)

	IRF RECIST 1.1 ^a		IRF HCC mRECIST ^b	
	Atezo + Bev (n = 326)	Sorafenib (n = 159)	Atezo + Bev (n = 325)	Sorafenib (n = 158)
Confirmed ORR, n (%)^c [95% CI]	89 (27) [23, 33]	19 (12) [7, 18]	108 (33) [28, 39]	21 (13) [8, 20]
CR, n (%)	18 (6)	0	33 (10)	3 (2)
PR, n (%)	71 (22)	19 (12)	75 (23)	18 (11)
Stratified P value^d	< 0.0001		< 0.0001	
SD, n (%)	151 (46)	69 (43)	127 (39)	66 (42)
DCR^e, n (%)	240 (74)	88 (55)	235 (72)	87 (55)
PD, n (%)	64 (20)	39 (25)	66 (20)	40 (25)
Not evaluable, n (%)	8 (2)	14 (9)	10 (3)	14 (9)
Missing, n (%)	14 (4)	18 (11)	14 (4)	17 (11)
Ongoing response at data cutoff, n (%)	77 (87)	13 (68)	84 (78)	13 (62)
TTR in all responders, n	89	19	108	21
Median (range), months	2.8 (1.2-11.3)	3.3 (1.2-7.2)	2.7 (1.1-11.3)	2.6 (1.2-5.6)

Table 3. Duration from first response (CR/PR) to progression/death in patients with best objective response of CR per IRF-assessed RECIST 1.1 and HCC mRECIST

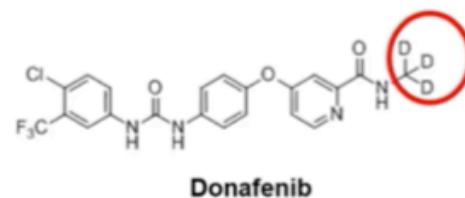
	Atezolizumab + Bevacizumab Treatment	
	IRF RECIST 1.1 (n = 18)	IRF HCC mRECIST 1.1 (n = 33)
Patients without progression/death at cutoff, n (%)	17 (94)	31 (94)
Time to progression (months)		
Median (95% CI)	NE (NE, NE)	NE (NE, NE)
Range	1.3+ to 13.0+	1.3+ to 13.0+
6-month analysis		
Patients remaining at risk	10	21
Event-free rate (95% CI), %	94 (83, 100)	97 (91, 100)

Data cut off: 29. August 2019; median Follow-up 8,6 Mon.

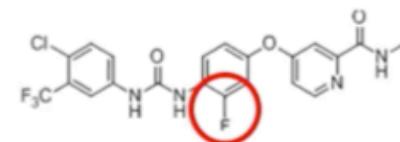
Erstlinientherapie des fortgeschrittenen HCC – Donafenib vs. Sorafenib (chinesische Phase 3)

Donafenib: a new agent with enhanced stability

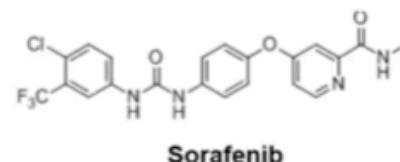
- A patented novel multikinase inhibitor that inhibits tumor-cell proliferation and tumor angiogenesis
- A deuterated derivative of sorafenib
- A phase Ib study showed donafenib 0.2 g bid was well tolerated and might be an appropriate first-line therapeutic option for HCC¹



Donafenib



Regorafenib

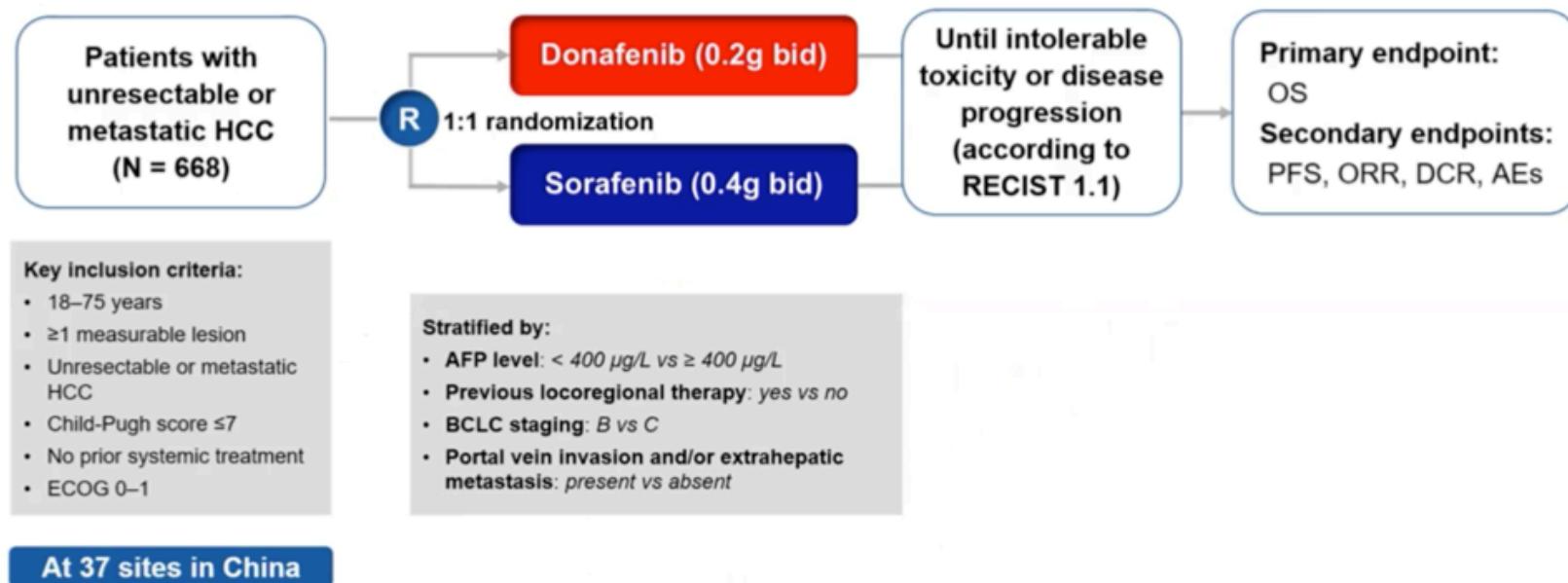


Sorafenib

D: Deuterium „schwerer Wasserstoff“

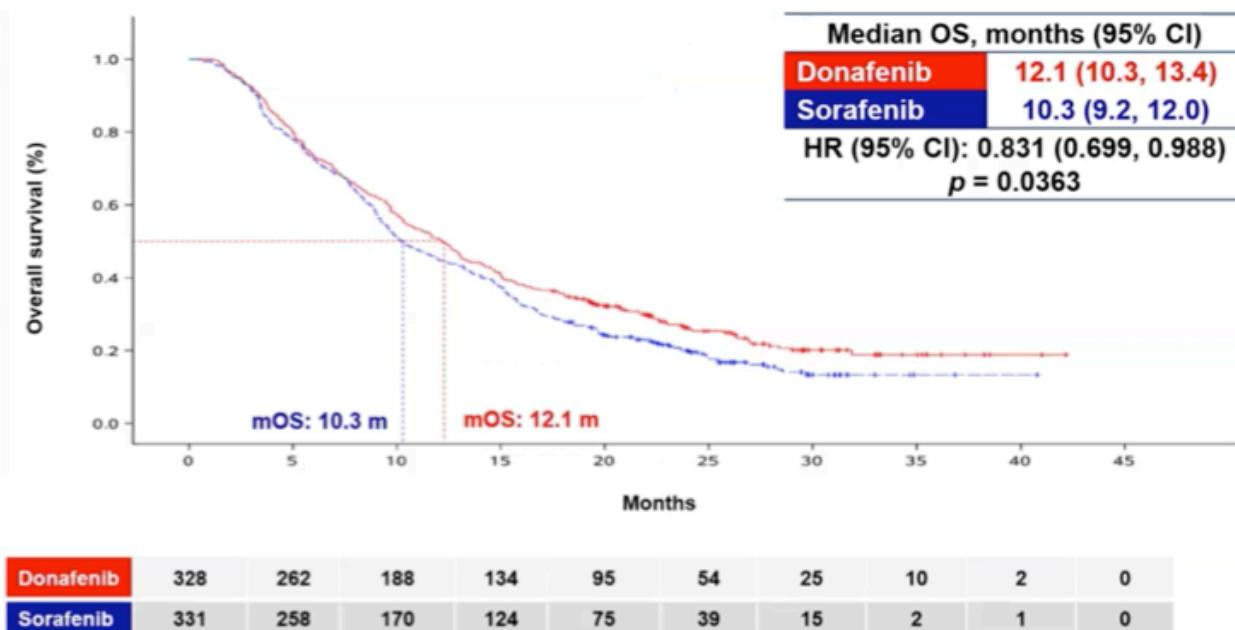
Erstlinientherapie des fortgeschrittenen HCC – Donafenib vs. Sorafenib (chinesische Phase 3)

Trial Design: Phase II/III, assessing non-inferiority/superiority of donafenib versus sorafenib



Erstlinientherapie des fortgeschrittenen HCC – Donafenib vs. Sorafenib (chinesische Phase 3)

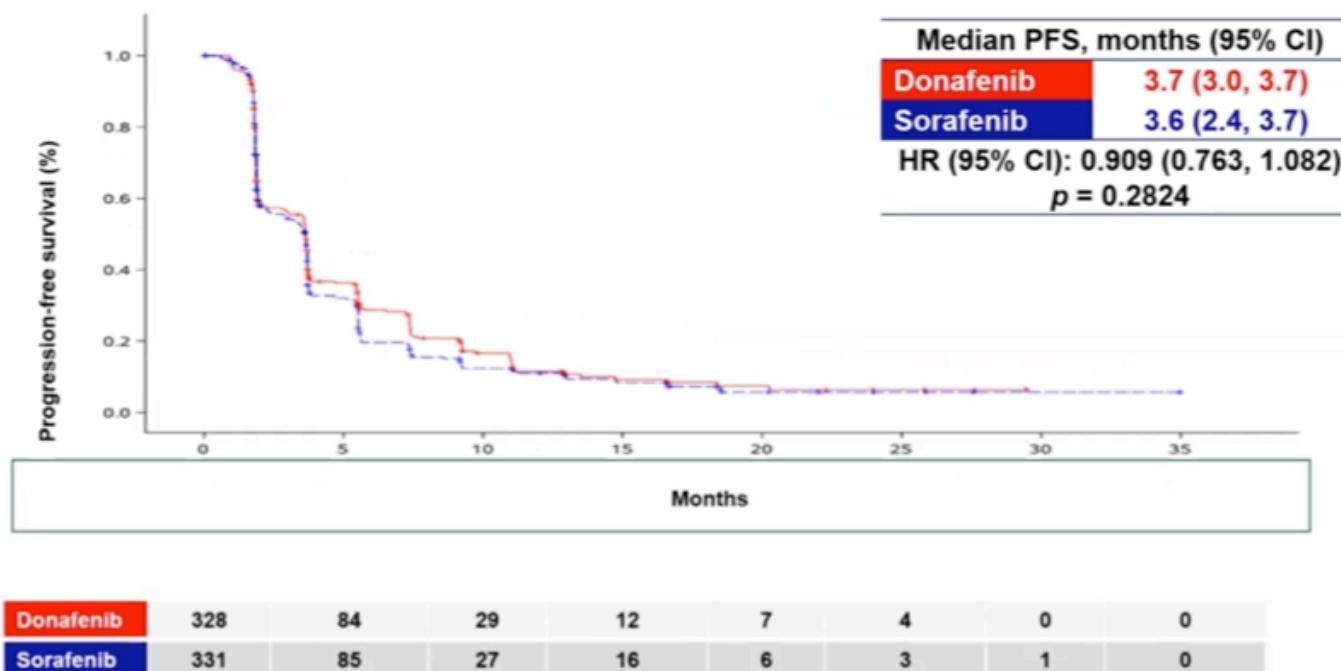
Donafenib was associated with a significantly longer overall survival than sorafenib (FAS); superiority was demonstrated



CI, confidence interval; FAS, full analysis set; HR, hazard ratio; OS, overall survival

Erstlinientherapie des fortgeschrittenen HCC – Donafenib vs. Sorafenib (chinesische Phase 3)

Progression-free survival for patients treated with donafenib and sorafenib were comparable (FAS; IRC)

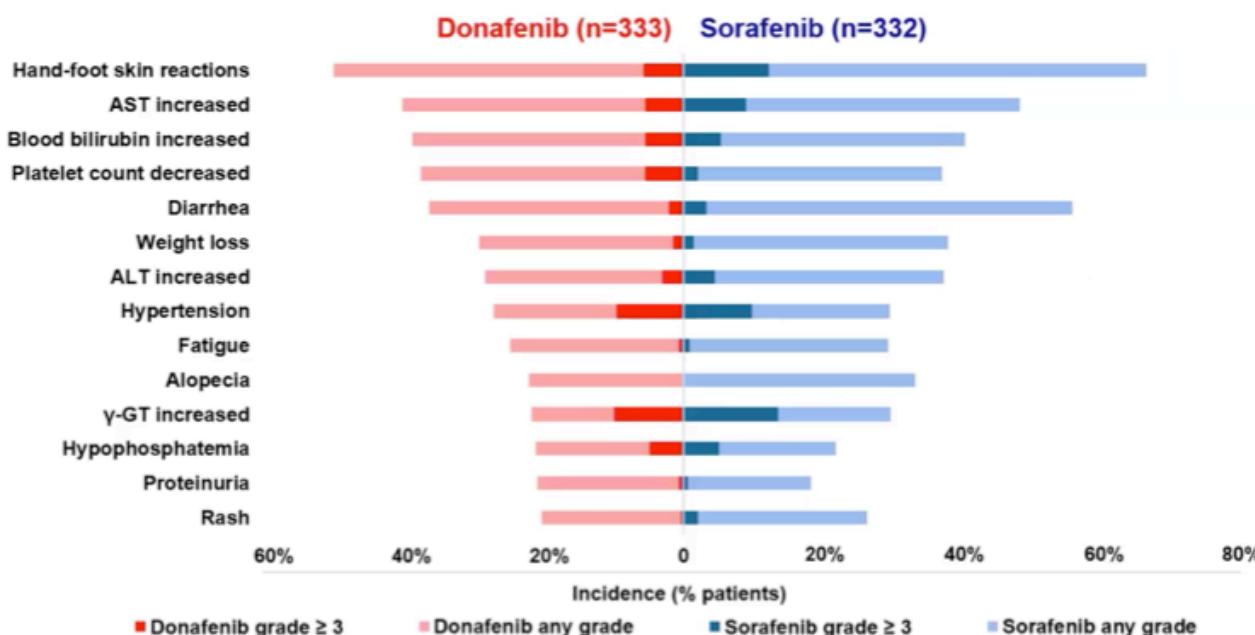


CI, confidence interval; FAS, full analysis set; HR, hazard ratio; IRC, independent review committee; PFS, progression free survival

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Erstlinientherapie des fortgeschrittenen HCC – Donafenib vs. Sorafenib (chinesische Phase 3)

Trend towards a lower incidence of AEs overall and AEs \geq Grade 3 in patients treated with donafenib than with sorafenib



AEs shown occurred in >20% of patients in donafenib arm (most frequent); AE: adverse event; ALT: alanine aminotransferase; AST, aspartate aminotransferase; γ -GT: γ -glutamyl transpeptidase

Optimierung der Immuntherapie bei fortgeschrittenem HCC – Pembrolizumab+Lenvatinib (Phase 1b, extension)

Data cut off: 31. Oktober 2019 (37% der Patienten weiterhin unter Therapie)

Lenvatinib 12 or 8 mg daily orally (based on body weight)
+ pembrolizumab 200 mg IV on Day 1 (21-day cycle)

DLT Evaluation (Part 1)

- n = 6
- Patients ineligible for other therapies
- Tolerability evaluated by DLTs during cycle 1

Expansion (Part 2)

- n = 98
- No prior systemic therapy for uHCC

Key Eligibility Criteria

- uHCC
- BCLC Stage B (not applicable for TACE) or C
- Child-Pugh class A
- ECOG performance status 0–1
- At least 1 measurable target lesion according to mRECIST

Baseline Characteristic	N = 100
Median age, years (range)	66.5 (47, 86)
Sex, n (%)	
Male	81 (81)
Female	19 (19)
ECOG performance status, n (%)	
0	62 (62)
1	38 (38)
BCLC stage, n (%)	
B	29 (29)
C	71 (71)
Serum AFP level ^a , n (%)	
< 400 ng/mL	67 (67)
≥ 400 ng/mL	30 (30)
Child-Pugh Score, n (%)	
5	71 (71)
6	27 (27)
7	2 (2) ^b
MPVI, extrahepatic spread or both, n (%)	62 (62)

Optimierung der Immuntherapie bei fortgeschrittenem HCC – Pembrolizumab+Lenvatinib (Phase 1b, extension)

Safety

- Median duration of exposure
 - Overall treatment duration^a: 7.9 months
 - Range: 0.2 to 31.1
 - Lenvatinib: 7.6 months
 - Range: 0.2 to 31.1
 - Pembrolizumab: 7.4 months
 - Range: 0.03 to 23.5
- 95% Of patients had ≥ 1 TRAE
- 67% Of patients had grade ≥ 3 TRAEs
 - Grade 3: 63%
 - Grade 4: 1%
 - Grade 5: 3%

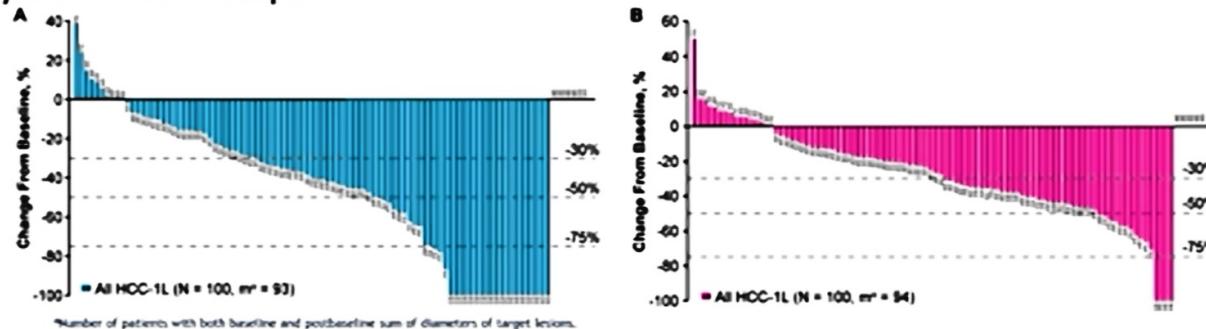
Preferred term, n (%)	N = 100			
	Any Grade	Grade 1	Grade 2	Grade 3
Hypertension	36 (36)	1 (1)	18 (18)	17 (17)
Diarrhea	35 (35)	19 (19)	11 (11)	5 (5)
Fatigue	30 (30)	12 (12)	14 (14)	4 (4)
Decreased appetite	28 (28)	12 (12)	16 (16)	0
Hypothyroidism	25 (25)	11 (11)	14 (14)	0

- Grade 5 TRAEs
 - Acute respiratory failure/acute respiratory distress syndrome (n = 1)
 - Abnormal hepatic function (n = 1)
 - Intestinal perforation (n = 1)
- Grade 4 TRAE
 - Leukopenia/neutropenia (n = 1)

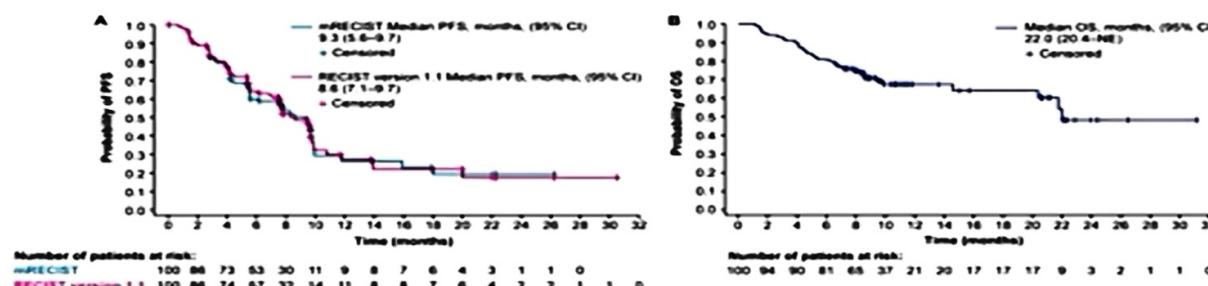
Optimierung der Immuntherapie bei fortgeschrittenem HCC – Pembrolizumab+Lenvatinib (Phase 1b, extension)

ORR: 36% (CR 1%, PR 35% per RECIST 1.1), OS: 22,0 Mon.

Percentage Change From Baseline in Sums of Diameters of Target Lesions (A) by mRECIST per IIR and (B) by RECIST Version 1.1 per IIR

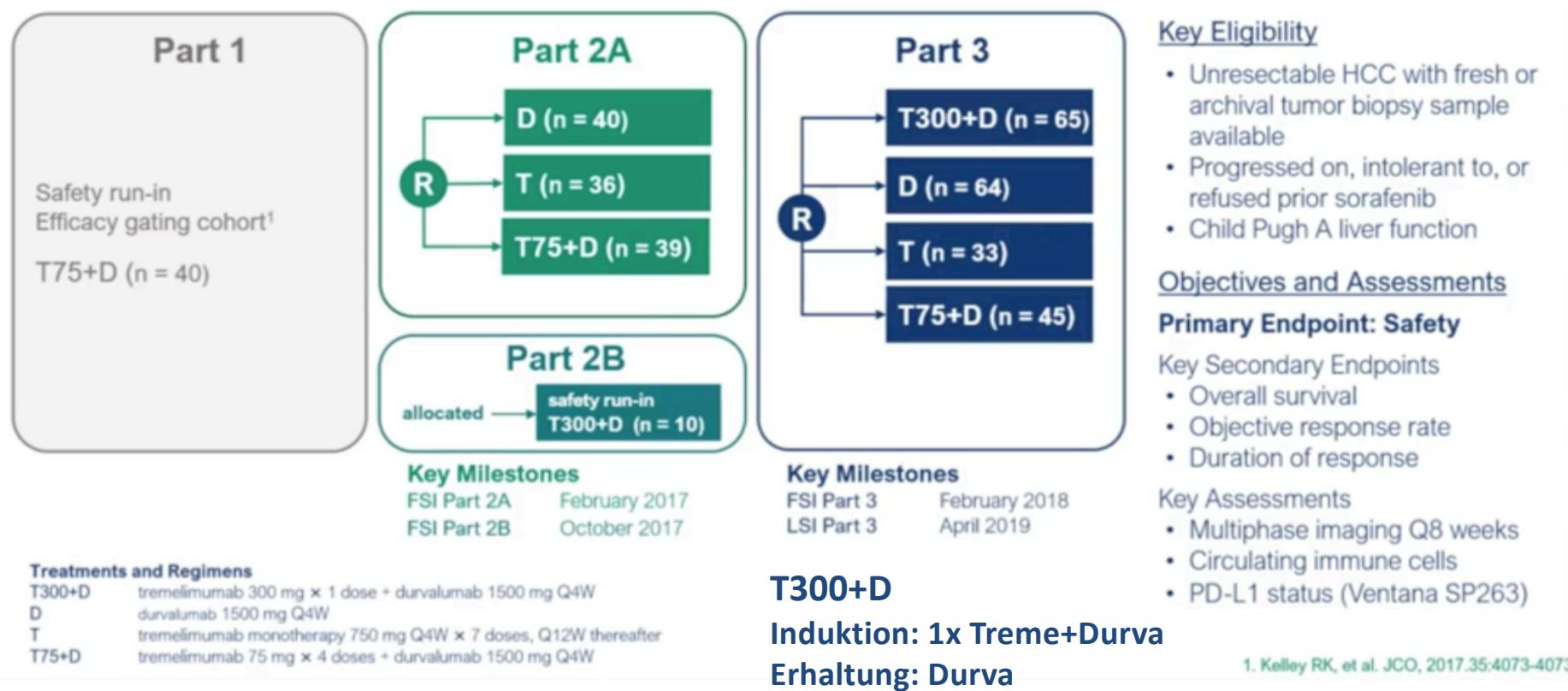


Kaplan-Meier Estimates of (A) PFS, by mRECIST and RECIST Version 1.1 per IIR; and (B) OS (Efficacy Analysis Set)



A phase Ib study of lenvatinib (LEN) plus pembrolizumab (PEMBRO) in unresectable hepatocellular carcinoma (uHCC). Andrew X. Zhu, et al. J Clin Oncol 38: 2020 (suppl; abstr 4519)

Optimierung der Immuntherapie bei fortgeschrittenem HCC – Tremelimumab+Durvalumab (Phase 1/2, extension)



Optimierung der Immuntherapie bei fortgeschrittenem HCC – Tremelimumab+Durvalumab (Phase 1/2, extension)

Treatment-related Adverse Events ($\geq 5\%$ by Category)

n (%)	T300+D (n = 74)		D (n = 101)		T (n = 69)		T75+D (n = 82)	
	All grades	Grade ≥ 3	All grades	Grade ≥ 3	All grades	Grade ≥ 3	All grades	Grade ≥ 3
Patients with any TRAE	61 (82.4)	27 (36.5)	61 (60.4)	21 (20.8)	58 (84.1)	30 (43.5)	57 (69.5)	20 (24.4)
Endocrine								
Hyperthyroidism	6 (8.1)	0	2 (2.0)	0	0	0	4 (4.9)	1 (1.2)
Hypothyroidism	6 (8.1)	0	10 (9.9)	0	2 (2.9)	0	7 (8.5)	0
Skin and subcutaneous tissue disorders								
Pruritus	24 (32.4)	0	11 (10.9)	0	19 (27.5)	1 (1.4)	13 (15.9)	0
Rash	24 (32.4)	2 (2.7)	7 (6.9)	0	15 (21.7)	2 (2.9)	11 (13.4)	0
Rash maculo-papular	2 (2.7)	1 (1.4)	2 (2.0)	0	7 (10.1)	0	5 (6.1)	0
Urticaria	2 (2.7)	0	0	0	2 (2.9)	0	1 (1.2)	0
Musculoskeletal and connective tissue disorders								
Arthralgia	0	0	2 (2.0)	0	3 (4.3)	0	2 (2.4)	0
Myalgia	2 (2.7)	0	1 (1.0)	0	1 (1.4)	1 (1.4)	1 (1.2)	0
Myositis	0	0	1 (1.0)	1 (1.0)	0	0	0	0
General disorders and administration site conditions								
Fatigue	8 (10.8)	0	9 (8.9)	1 (1.0)	11 (15.9)	0	8 (9.8)	0
Investigations								
11 (14.9)	5 (6.8)	2 (2.0)	1 (1.0)	3 (4.3)	0	6 (7.3)	1 (1.2)	
Lipase increased	9 (12.2)	5 (6.8)	1 (1.0)	0	9 (13.0)	4 (5.8)	4 (4.9)	4 (4.9)

Optimierung der Immuntherapie bei fortgeschrittenem HCC – Tremelimumab+Durvalumab (Phase 1/2, extension)

Treatment-related Adverse Events ($\geq 5\%$ by Category), cont.

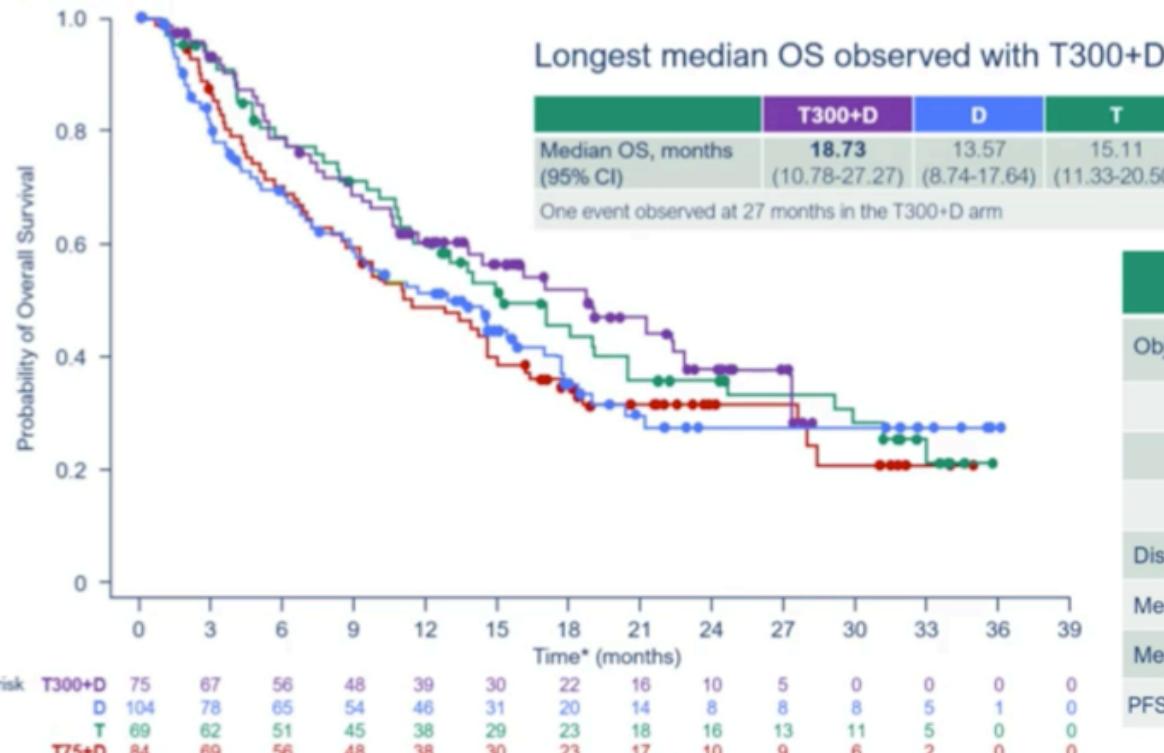
n (%)	T300+D (n = 74)		D (n = 101)		T (n = 69)		T75+D (n = 82)	
	All grades	Grade ≥ 3	All grades	Grade ≥ 3	All grades	Grade ≥ 3	All grades	Grade ≥ 3
Patients with any TRAE	61 (82.4)	27 (36.5)	61 (60.4)	21 (20.8)	58 (84.1)	30 (43.5)	57 (69.5)	20 (24.4)
Gastrointestinal disorders								
Abdominal pain	2 (2.7)	0	0	0	5 (7.2)	0	4 (4.9)	0
Ascites	1 (1.4)	0	0	0	1 (1.4)	0	0	0
Immune-mediated pancreatitis	0	0	0	0	0	0	2 (2.4)	1 (1.2)
Colitis	3 (4.1)	2 (2.7)	0	0	1 (1.4)	1 (1.4)	1 (1.2)	1 (1.2)
Diarrhea	7 (9.5)	1 (1.4)	9 (8.9)	1 (1.0)	14 (20.3)	6 (8.7)	10 (12.2)	1 (1.2)
Hepatobiliary disorders								
Hepatic failure	0	0	1 (1.0)	1 (1.0)	0	0	1 (1.2)	1 (1.2)
Hepatitis	0	0	1 (1.0)	1 (1.0)	1 (1.4)	1 (1.4)	2 (2.4)	1 (1.2)
Portal vein thrombosis	1 (1.4)	1 (1.4)	0	0	0	0	0	0
Investigations (Hepatic)								
ALT increased	11 (14.9)	3 (4.1)	5 (5.0)	0	7 (10.1)	3 (4.3)	8 (9.8)	2 (2.4)
AST increased	12 (16.2)	9 (12.2)	8 (7.9)	3 (3.0)	10 (14.5)	6 (8.7)	12 (14.6)	7 (8.5)
Blood alkaline phosphatase increased	6 (8.1)	3 (4.1)	7 (6.9)	1 (1.0)	1 (1.4)	0	1 (1.2)	0
Blood bilirubin increased	4 (5.4)	1 (1.4)	3 (3.0)	0	2 (2.9)	0	4 (4.9)	0
GGT increased	2 (2.7)	2 (2.7)	2 (2.0)	0	2 (2.9)	1 (1.4)	1 (1.2)	0

Efficacy, tolerability, and biologic activity of a novel regimen of tremelimumab (T) in combination with durvalumab (D) for patients (pts) with advanced hepatocellular carcinoma (aHCC).

Robin Kate Kelley, et al. J Clin Oncol 38: 2020 (suppl; abstr 4508)

Optimierung der Immuntherapie bei fortgeschrittenem HCC – Tremelimumab+Durvalumab (Phase 1/2, extension)

Overall Survival



	T300+D (n = 75)
Objective Response Rate ^a (95% CI), %	24.0 (14.9-35.3)
CR, n (%)	1 (1.3)
PR, n (%)	17 (22.7)
SD, n (%)	16 (21.3)
Disease Control Rate, n (%)	34 (45.3)
Median Duration of Response, ^b months	NR
Median Time to Response, months	1.86
PFS, months, median (95% CI)	2.17 (1.91-5.42)

Efficacy, tolerability, and biologic activity of a novel regimen of tremelimumab (T) in combination with durvalumab (D) for patients (pts) with advanced hepatocellular carcinoma (aHCC).

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Optimierung der Immuntherapie bei fortgeschrittenem HCC – Y⁹⁰-Radioembolisation + Nivolumab

Überwiegend chinesische Patienten mit BCLC C (weit fortgeschritten!) bei HBV

Patient Characteristics (n=36)	No. (%)
Median Age (range)	64 (23.3-78.7)
ECOG 0	26 (72.2)
Male	29 (80.6)
Ethnicity	25 (69.4)
Chinese	2 (5.6)
Indian	9 (25.0)
Other Asian	
BCLC stage	
A	2 (5.6) [▲]
B	11 (30.6)
C	23 (63.9)
Extrahepatic metastases	9 (25.0)
Macro-vascular invasion	14 (38.9)
Child-Pugh score	
A5	27 (75.0)
A6	9 (25.0)

Patient Characteristics (n=36)c	No. (%)
Aetiology	
Hepatitis B	23 (63.9)
Hepatitis C	3 (8.3)
Hep B and C co-infection	1 (2.8)
Non-viral	9 (25.0)
Median number of liver nodules (range)	5 (1->20)
Median size of largest liver lesion (range) mm	80 (14.0-177.0)
Liver involvement by tumour > 50%	
No	26 (72.2)
Yes	10 (27.8)
Median ALBI score (range)	-2.4 (-3.0-1.6)
AFP score >400	18 (50.0)
Prior systemic therapy	5 (13.9)
Prior TACE/RFA	13 (36.1)

Optimierung der Immuntherapie bei fortgeschrittenem HCC – Y⁹⁰-Radioembolisation + Nivolumab

Deutliche Steigerung der Regressionsraten radioembolisierte Targetläsionen (78%)

Table 2: Summary of Y-90 RE received

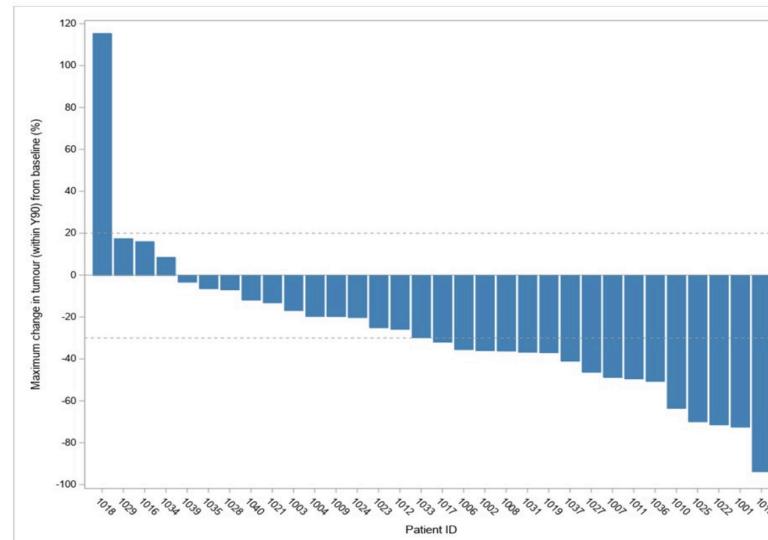


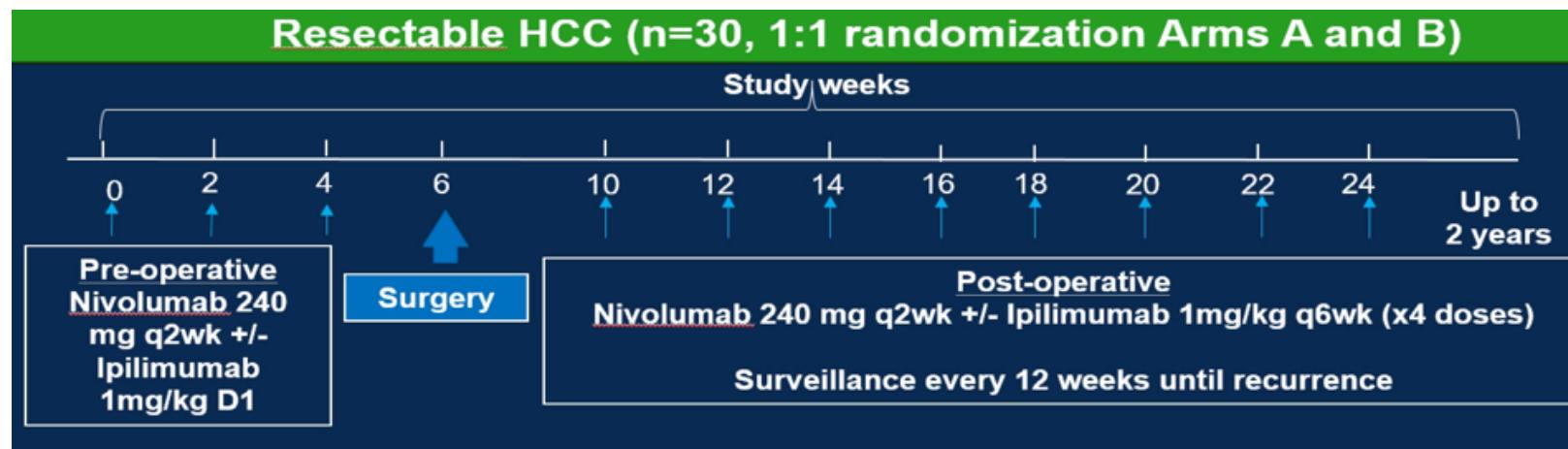
Figure 1: Maximum tumour regression within Y90-RE field

Table 3: Response rates

- With a median follow up of 16.4 months, ORR was 30.5% (95% CI 16.4 - 48.1). DCR was 61.1% (95% CI 43.5-76.9). (Table 3)
- Median PFS and OS were 4.6 months (95% CI 2.3 - 8.4) and 15.1 months (95% CI 7.8 - NE) respectively.
- Six- and 12-month PFS rates were 44.3% (95% CI 27.3 – 60.0%) and 26.1% (95% CI 11.2 - 43.8%) respectively.
- Eight out of 11 responders had not progressed at study cut-off.
- 78% of target lesions within Y90-RE field regressed (Figure 1)

Perioperative Immuntherapie bei resektbarem HCC – Nivolumab±Ipilimumab

Pathologische Ansprechraten von 40% nach 3-maliger Gabe



- 27 Patienten wurden randomisiert (A: Nivo n=13; B: Nivo+Ipi n=14), Op bei 21 Patienten
- Komplettes pathologisches Ansprechen: 5/27 (24%; Arm A:2, Arm B: 3)
- „Major“ pathologisches Ansprechen (Nekrose 50-99%) : 3/27 (16%; Arm A:1, Arm B: 2)

Personalisierte Therapie bei Cholangiokarzinom – Futibatinib bei FGFR-Rezeptor2 Fusionen

Futibatinib: irreversibler FGFR1-3 Inhibitor

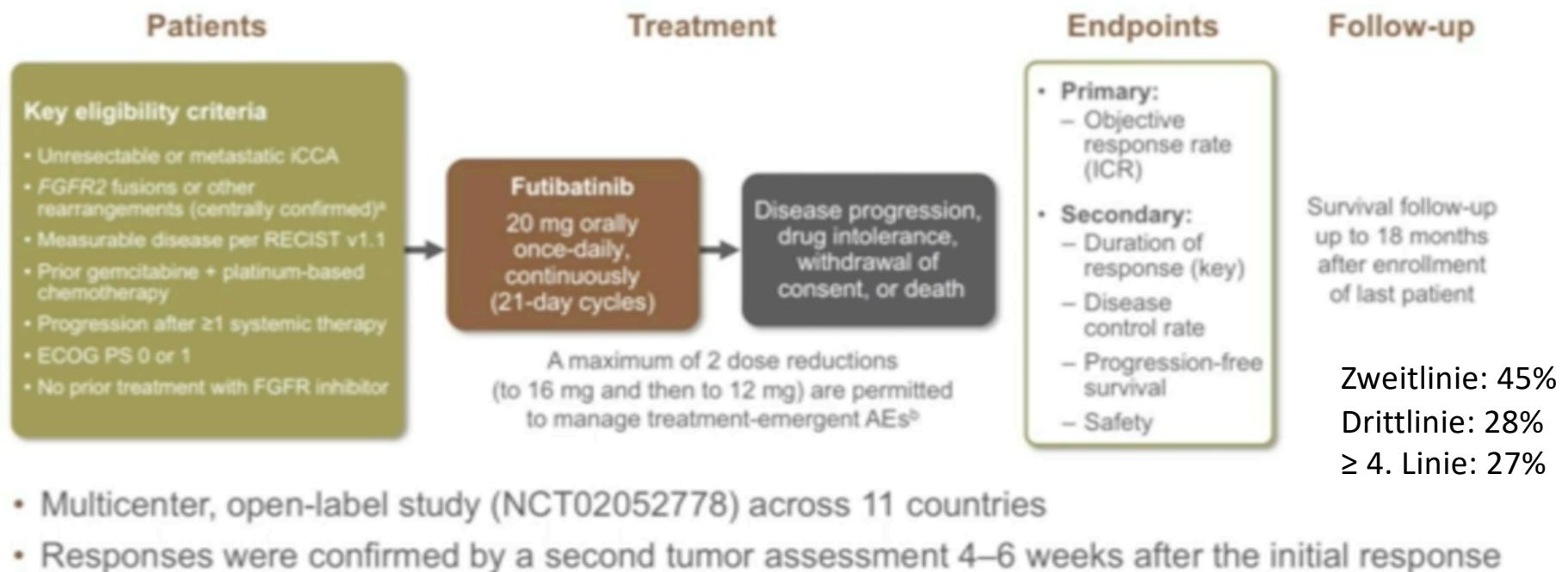
- iCCA is molecularly heterogeneous disease with nearly 50% of tumors harboring an actionable alteration⁵
- Approximately ~15% of iCCA tumors contain *FGFR2* fusions;^{6,7} therefore, this pathway is being investigated as a therapy option for patients with *FGFR* alterations^{8,9}

Drug name	Inhibitory MoA	Clinical trial phase (number)	Tumor type	Approved indication
Debio 1347 ¹⁰	Selective	1/2 (NCT01948297)	Solid tumors	Second-line advanced/metastatic CCA with <i>FGFR2</i> alterations
Derazantinib ¹¹	Multikinase	1/2 (NCT03230318)	iCCA	
Pemigatinib ¹²	Selective	3 (NCT02924376)	CCA	
Erdafitinib ¹³	Selective	2 (NCT04083976)	Solid tumors	Second-line advanced/metastatic urothelial carcinoma with <i>FGFR2,3</i> alterations
Futibatinib ¹⁴	Selective, irreversible	1/2 (NCT02052778); 3 (NCT04093362)	Solid tumors, breast; iCCA	
Infigratinib ¹⁵	Selective	1/2 (NCT04228042); 2 (NCT04233567, NCT02150967); 3 (NCT03773302, NCT04233567)	Upper tract urothelial; CCA, solid tumors; CCA, urothelial carcinoma	

FGFR, fibroblast growth factor receptor; iCCA, intrahepatic cholangiocarcinoma; MoA, mechanism of action.

Personalisierte Therapie bei Cholangiokarzinom – Futibatinib bei FGF-Rezeptor2 Fusionen

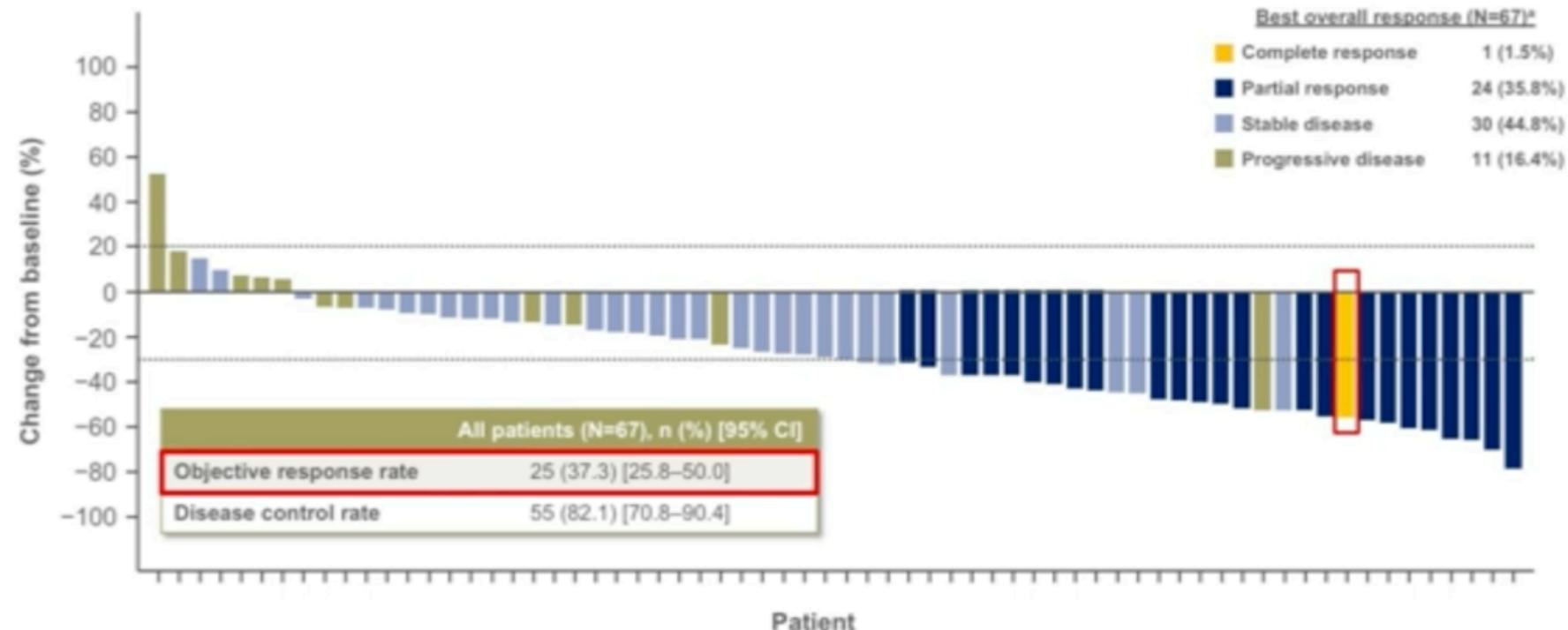
Phase 2-Studie nach GemCis-Versagen



FOENIX-CCA2: A phase II, open-label, multicenter study of futibatinib in patients (pts) with intrahepatic cholangiocarcinoma (iCCA) harboring FGFR2 gene fusions or other rearrangements.
Lipika Goyal, et al. J Clin Oncol 38: 2020 (suppl; abstr 108)

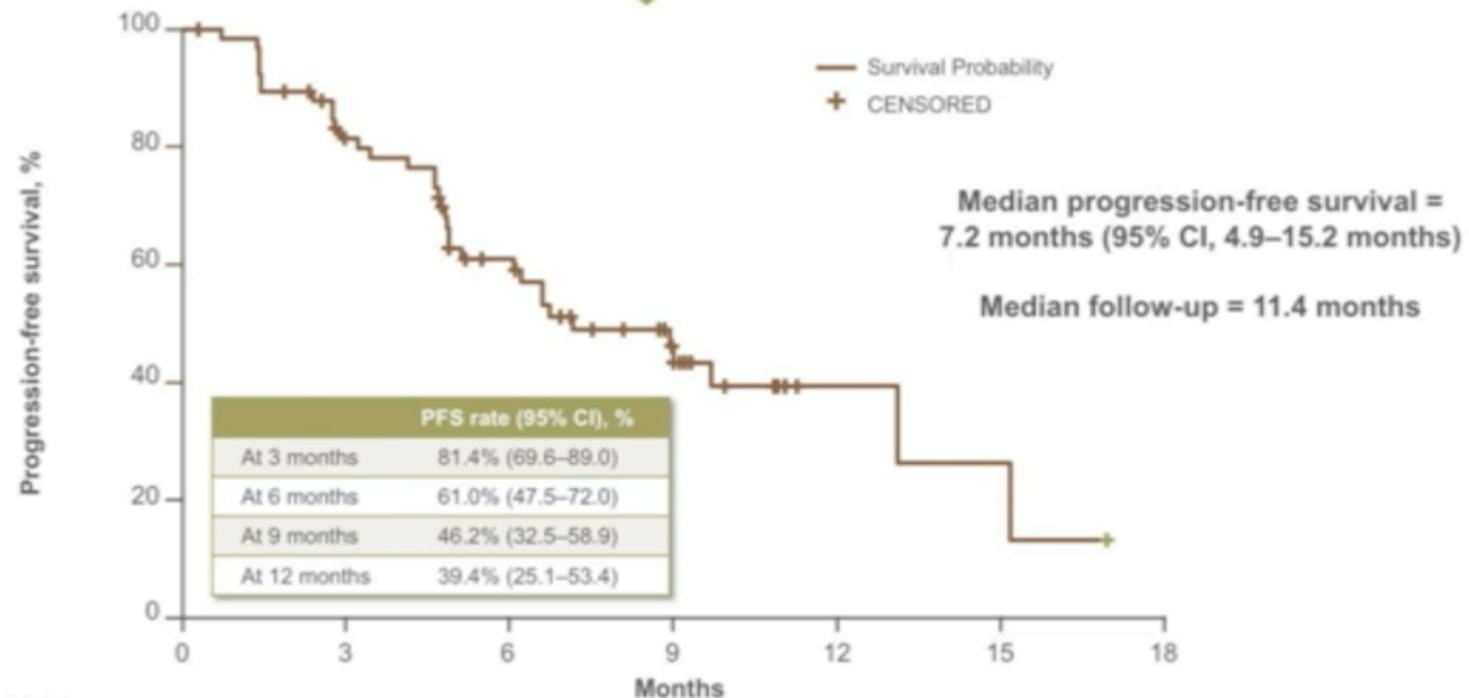
Personalisierte Therapie bei Cholangiokarzinom – Futibatinib bei FGF-Rezeptor2 Fusionen

Phase 2-Studie nach GemCis-Versagen: PR 37%



Personalisierte Therapie bei Cholangiokarzinom – Futibatinib bei FGF-Rezeptor2 Fusionen

Phase 2-Studie nach GemCis-Versagen: PFS 7,2 Mon.



FOENIX-CCA2: A phase II, open-label, multicenter study of futibatinib in patients (pts) with intrahepatic cholangiocarcinoma (iCCA) harboring FGFR2 gene fusions or other rearrangements.

Lipika Goyal, et al. J Clin Oncol 38: 2020 (suppl; abstr 108)

Personalisierte Therapie bei Cholangiokarzinom – Futibatinib bei FGF-Rezeptor2 Fusionen

Phase 2-Studie nach GemCis-Versagen: gute Verträglichkeit

MedDRA (v18.1) preferred term	All patients ^a (N=67), n (%)			
	Grade 1	Grade 2	Grade 3	Total
Patients with at least one AE	6 (9.0)	23 (34.3)	38 (56.7)	67 (100)
Hyperphosphatemia	4 (6.0)	32 (47.8)	18 (26.9)	54 (80.6)
Diarrhea	18 (26.9)	7 (10.4)	0	25 (37.3)
Dry mouth	19 (28.4)	3 (4.5)	0	22 (32.8)
Alopecia	15 (22.4)	5 (7.5)	0	20 (29.9)
Dry skin	13 (19.4)	5 (7.5)	0	18 (26.9)
Fatigue	10 (14.9)	2 (3.0)	4 (6.0)	16 (23.9)
Aspartate aminotransferase increased	6 (9.0)	1 (1.5)	6 (9.0)	13 (19.4)
Dry eye	10 (14.9)	2 (3.0)	1 (1.5)	13 (19.4)
Dysgeusia	9 (13.4)	4 (6.0)	0	13 (19.4)
Alanine aminotransferase increased	3 (4.5)	5 (7.5)	4 (6.0)	12 (17.9)
Constipation	8 (11.9)	4 (6.0)	0	12 (17.9)
Palmar-plantar erythrodysesthesia syndrome	4 (6.0)	7 (10.4)	1 (1.5)	12 (17.9)
Nail disorder	8 (11.9)	3 (4.5)	0	11 (16.4)
Stomatitis	6 (9.0)	3 (4.5)	2 (3.0)	11 (16.4)

Data cutoff March 31, 2020.

AE, adverse event; CTCAE, Common Terminology Criteria for Adverse Events; MedDRA, Medical Dictionary for Regulatory Activities.

^aThe highest grade event was used for patients with ≥2 AEs in the same system organ class (or with the same preferred term) with different CTCAE grades.