Supplemental Table 1 Baseline patient characteristics

Characteristics	TACE+^{131}I-metuximab (n = 160)	TACE (n = 160)	*P* value
Age, years			0.18
Median	57	58	
IQR	47.3–64.0	49.3–65.8	
Gender			0.86
Male	141 (88%)	142 (89%)	
Female	19 (12%)	18 (11%)	
Cause of disease			0.08
Hepatitis B only	133 (83%)	129 (81%)	
Hepatitis C only	13 (8%)	10 (6%)	
Hepatitis B and C	3 (4%)	0	
Unknown	11 (7%)	21 (13%)	
Hepatic cirrhosis			0.36
Yes	146 (91%)	141 (88%)	
No	14 (9%)	19 (12%)	
Child-Pugh class			0.07
A	138 (86%)	148 (96%)	
B	22 (14%)	12 (8%)	
BCLC stage			0.19
B	60 (38%)	49 (31%)	
C	100 (63%)	111 (69%)	
ECOG performance status			< 0.001
0	86 (54%)	120 (75%)	
1	66 (41%)	40 (25%)	
2	8 (5%)	0	
Size of main tumor (cm)			0.46
Median	4.2	4.3	
IQR	2.9–7.9	3.0–7.0	
Size range of tumor			0.73
≤ 5 cm	92 (58%)	95 (59%)	
> 5 cm	68 (43%)	65 (41%)	
No. of tumors			0.02
Single	20 (13%)	30 (19%)	
Multiple	132 (83%)	129 (81%)	
Diffuse	8 (5%)	1 (1%)	
ALT, μ/L			0.34
Median	30	29	
IQR	23.0–58.0	28.0–94.5	
AST, μ/L			0.85
Median	41	41	
IQR	28.0–77.5	36.0–108.0	
TBIL, μmol/L			0.76
Median	17.8	16.9	
IQR	12.4–23.4	14.9–32.8	
ALB, g/L			0.85
Median	41.9	41.5	
IQR	36.9–45.1	33.5–40.1	
Macroscopic vascular invasion			0.19
Yes	48 (30%)	59 (37%)	
No	112 (70%)	101 (63%)	
Extrahepatic spread			0.43
Yes	35 (22%)	41 (26%)	
No	125 (78%)	119 (74%)	
Previous therapy*			
No	13 (8%)	24 (15%)	0.05
Surgical resection	47 (29%)	34 (21%)	0.10
Chemotherapy	13 (8%)	22 (14%)	0.11
Interventional	143 (89%)	136 (85%)	0.24

Data are n (%) or Median (Interquartile Range). *Patients may have received more than one type of therapy. ALB = albumin; ALT = alanine transaminase; AST = aspartate amino transferase; BCLC = Barcelona Clinic Liver Cancer staging system; ECOG = Eastern Cooperative Oncology Group; IQR = interquartile range; TBIL = total bilirubin. Comparisons between two groups were performed using the *t* test for continuous data and the chi-square test for categorical data.

Supplemental Table 2 Types of previous interventional therapy

Types of previous interventional therapy	TACE+^{131}I-metuximab (n = 160)	TACE (n = 160)	*P* value
Transcatheter arterial chemoembolization	101 (63%)	104 (65%)	
Transcatheter arterial embolization	26 (16%)	61 (38%)	
Hepatic arterial infusion chemotherapy	41 (26%)	46 (29%)	
Microwave ablation	1 (1%)	0 (0%)	
Radiofrequency ablation	1 (1%)	1 (1%)	
Total previous interventional therapy	143 (89%)	136 (85%)	0.24

Data are n (%). *P* value was calculated by chi-square test.

Supplemental Table 3 Types of tumor recurrence

Types of tumor recurrence	TACE+^{131}I-metuximab (n = 160)	TACE (n = 160)	*P* value
New intrahepatic recurrence	100 (63%)	128 (80%)	0.001
Intrahepatic residual recurrence	102 (64%)	130 (81%)	< 0.001
Extrahepatic metastasis	52 (33%)	98 (61%)	< 0.001

Data are n (%). *P* value was calculated by chi-square test.

Supplemental Table 4 Summary of efficacy measures

Outcomes	TACE+^{131}I-metuximab (n = 160)	TACE (n = 160)	Hazard ratio (95% CI)	*P* value
Time to recurrence (mo)			0.55 (0.43–0.70)	< 0.001
Median	6	3		
95% CI	4.4–7.6	2.4–3.6		
6-mo recurrence rate (%)	52.1	79.1		
12-mo recurrence rate (%)	69.7	90.3		
18-mo recurrence rate (%)	78.8	94.8		
24-mo recurrence rate (%)	86.3	94.8		
36-mo recurrence rate (%)	87.7	96.3		
Overall survival (mo)			0.62 (0.47–0.82)	0.001
Median	28	19		
95% CI	23.8–32.2	14.3–23.7		
1-yr survival rate (%)	80.5	63.9		
2-yr survival rate (%)	58.4	39.3		
3-yr survival rate (%)	34.6	23.6		
4-yr survival rate (%)	24.7	10.4		
5-yr survival rate (%)	14.8	6.9		

Data were analyzed by Kaplan-Meier method and log-rank test. CI = confidence interval.

Supplemental Table 5 Incidence of drug-related adverse events*

Adverse events	TACE+^{131}I-metuximab (n = 160)			TACE (n = 160)			*P* value†	
	Any grade	Grade 3	Grade 4	Any grade	Grade 3	Grade 4	Any grade	Grade 3 or 4
Fever	38 (24%)	13 (8%)	0	33 (21%)	10 (6%)	0	0.59	0.67
Pain	29 (18%)	5 (3%)	0	32 (20%)	4 (3%)	0	0.78	1.00
Vomiting	32 (20%)	5 (3%)	0	35 (22%)	6 (4%)	0	0.78	1.00
Ascites	3 (2%)	0	0	1 (1%)	0	0	0.62	NA
Pleural effusion	3 (2%)	0	0	2 (1%)	0	0	1.00	NA
Biliary stenosis	0	0	0	0	0	0	NA	NA
Fatigue	28 (18%)	1 (1%)	0	25 (16%)	0	0	0.76	1.00
Diarrhea	5 (3%)	0	0	3 (2%)	0	0	0.72	NA
Haemoglobin	31 (19%)	1(1%)	0	21 (13%)	0	0	0.13	1.00
White blood cell	55 (34%)	8 (5%)	0	21 (13%)	1 (1%)	0	<0.001	0.04
Neutrophil	32 (20%)	5 (3%)	1 (1%)	10 (6%)	1 (1%)	1 (1%)	<0.001	0.28
Platelet	61 (38%)	11 (7%)	2 (1%)	61 (38%)	9 (6%)	1 (1%)	1.00	0.52
ALT	49 (31%)	3 (2%)	0	91 (57%)	7 (4%)	0	<0.001	0.34
AST	54 (34%)	3 (2%)	0	97 (61%)	12 (8%)	1 (1%)	<0.001	0.02
TBIL	53 (33%)	4 (3%)	2 (1%)	89 (56%)	6 (4%)	0	<0.001	1.00
ALB	22 (14%)	0	0	53 (33%)	0	0	<0.001	NA
Creatinine	6 (4)	0	0	11 (7%)	0	0	0.21	NA

Data are n (%). *According to the version 4.0 of the National Cancer Institute's Common Terminology Criteria for adverse events. †*P* value was calculated by Fisher's exact test (two-sided). NA = not applicable; ALT = alanine aminotransferase; AST = aspartate aminotransferase; ALB = albumin; TBIL = total bilirubin.

Supplemental Table 6 Types of death causes

Types of death causes	TACE+^{131}I-metuximab (n = 160)	TACE (n = 160)	*P* value
Intrahepatic tumor progression	51 (32%)	45 (28%)	
Extrahepatic tumor progression	10 (6%)	15 (9%)	
Systemic tumor progression	24 (15%)	49 (31%)	
Chemotherapy-related toxic side effects	1 (1%)	2 (1%)	
Other causes	7 (4%)	2 (1%)	
Total death	93 (58%)	113 (71%)	0.018

Data are n (%). *P* value was calculated by chi-square test.