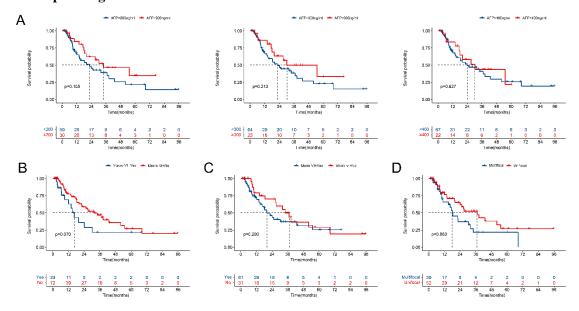
Supplementary material

Supplementary Figure 1. Subgroup analysis of overall survival for important clinicopathological features.



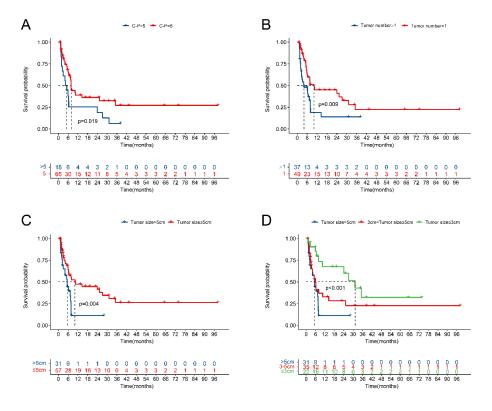
Overall survival between patients (A) with different AFP level, (B) with or without macrovascular invasion (Macro VI), and (C) with or without microvascular invasion (Micro VI).

(D) Overall survival between patients with single and multiple lesions.

Supplementary Figure 2. Univariate analysis of all patients on overall survival.

Characteristics	Number (%)		HR (95%CI)	P.value
Gender Male vs Female	84 (88.4)	├ ■──	2.00 [0.62, 6.46]	0.248
Age >55 vs ≤55	48 (50.5)	-	1.15 [0.64, 2.07]	0.631
CA19−9 (U/ml) ≥37 vs <37	30 (34.9)	-	2.62 [1.39, 4.95]	0.003
AFP (ng/ml) ≥200 vs <200	30 (33.7)	•	0.62 [0.33, 1.20]	0.158
CEA (ng/ml) ≥6 vs <6	9 (10.5)	-	1.80 [0.63, 5.09]	0.270
C-P grade >5	19 (21.3)	-	2.00 [1.06, 3.77]	0.031
Liver disease HBV vs Other	79 (83.2)	-	0.52 [0.25, 1.05]	0.070
Tumor number >1 vs 1	13 (14.6)	-	1.83 [0.84, 3.98]	0.127
Tumor size (cm) 3-5 vs ≤3 >5 vs ≤5 Resection margin (cm) ≤1 vs >1 Vascular invasion Macro and Micro VI Micro VI	35 (37.6) 34 (36.6) 34 (36.6)		2.76 [1.17, 6.48] 4.90 [2.10, 11.44] 2.70 [1.47, 4.96]	0.020 <0.001 0.001
	52 (72.2)	-	1.07 [0.46, 2.51]	0.869
	63 (66.3) 23 (24.2) 61 (66.3)	■- ■ ■-	1.33 [0.72, 2.43] 1.80 [0.94, 3.45] 1.40 [0.75, 2.64]	0.363 0.074 0.292
Lymph nodes Positive Ki-67	12 (12.9)	-	1.71 [0.76, 3.86]	0.193
>50% vs ≤50% CK7	27 (42.9)	-	0.71 [0.34, 1.48]	0.361
Positive GPC-3	70 (88.6)		2.83 [0.67, 11.91]	0.155
Positive HCC differentiation	40 (71.4)	•	0.42 [0.18, 1.00]	0.051
Well-moderate ICC differentiation	25 (58.1)	-	2.25 [0.87, 5.83]	0.096
Well-moderate	16 (37.2)	-	0.57 [0.19, 1.72]	0.318
ICC percent >50% vs ≤50% Treatment	15 (57.7)		1.97 [0.59, 6.57]	0.269
TACE vs Non-TACE	50 (53.2)	012345678910 12	0.35 [0.19, 0.64]	0.001

Supplementary Figure 3. Subgroup analysis of recurrence-free survival for important clinical and pathological features.



Recurrence-free survival between patients with different (A) Child-Pugh score (>5 vs 5), (B) tumor number (>1 vs 1), (C) tumor size (>5cm vs \leq 5cm), and (D) tumor size (\leq 3cm vs \leq 5cm).

${\bf Supplementary\ Figure\ 4.\ Univariate\ analysis\ of\ all\ patients\ on\ recurrence-free\ survival.}$

Characteristics			HR(95%CI)	р
Gender	70 (07 0)	<u> 1</u>	4 05 [0 45 0 46]	0.000
Male Age	79 (87.8)		1.05 [0.45, 2.46]	0.908
>55	47 (52.2)	-	0.65 [0.38, 1.10]	0.110
CA19-9	, ,			
=37 vs <37U/ml	29 (35.4)	-	1.51 [0.84, 2.70]	0.167
AFP =200 vs <200ng/ml CFA	29 (34.1)	-	0.63 [0.34, 1.18]	0.149
=6 vs 6ng/ml C-P grade	7 (8.5)	-	1.79 [0.71, 4.55]	0.219
>5 vs 5 Liver disease	18 (21.4)	-	2.02 [1.11, 3.68]	0.022
HBV vs Other	74 (82.2)	-	1.07 [0.52, 2.19]	0.851
Tumor number >1 vs 1	13 (15.5)		3.91 [1.86, 8.25]	<0.001
Tumor size 3-5cm	35 (39.8)		2.29 [1.07, 4.89]	0.033
>5cm	31 (35.2)		3.85 1.75, 8.48	0.001
>5cm vs <=5cm	31 (35.2)		2.33 [1.30, 4.17]	0.005
Resection margin	40 (74 0)		4 40 10 55 0 441	0.000
=1 vs >1cm Vascular invasion	48 (71.6)	_	1.16 [0.55, 2.41]	0.699
Macro and Micro VI	60 (66.7)	•	0.92 [0.53, 1.61]	0.770
Macro VI	22 (24.4)	-	1.25 [0.68, 2.31]	0.468
. Micro VI	58 (66.7)	-	0.86 [0.48, 1.53]	0.604
Lymph nodes Positive	11 (12.5)	_	1.18 [0.55, 2.53]	0.674
Ki-67	11 (12.5)		1.16 [0.55, 2.55]	0.074
>50% vs =50%	26 (42.6)	-	1.04 [0.56, 1.96]	0.894
CK7	05 (07.0)			0.405
Positive GPC-3	65 (87.8)	-	2.31 [0.71, 7.50]	0.165
Positive	39 (73.6)	-	0.95 [0.40, 2.27]	0.916
HCC differentiation Well-moderate	23 (59.0)	-	1.23 [0.57, 2.64]	0.594
ICC differentiation Well-moderate	14 (35.9)	-	0.38 [0.15, 0.96]	0.040
ICC percent >50% vs =50%	13 (56.5)		1.61 [0.56, 4.64]	0.375
Treatment	, ,			
TACE	50 (55.6)	•	0.56 [0.33, 0.96]	0.036
		0 1 2 3 4 5 6 7 8		