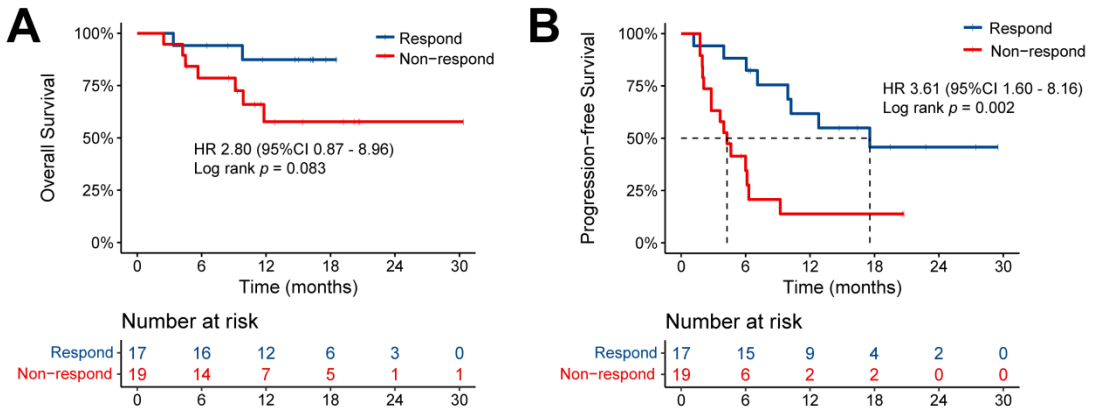


Supplementary Figure 1 Survival analysis of patients with tumor response and non-response: (A) overall survival and (B) progression-free survival based on RECIST 1.1 criteria.

Supplementary Table 1 Types and doses of systemic therapeutic drugs

No.	Targeted drug	Dose	PD-L1	Dose
1	Surufatinib	200 mg	Durvalumab	1000 mg
2	Surufatinib	250 mg	Durvalumab	1000 mg
3	Surufatinib	250 mg	Durvalumab	1000 mg
4	Surufatinib	250 mg	Envafolimab	400 mg
5	Surufatinib	250 mg	Durvalumab	1000 mg
6	Surufatinib	250 mg	Durvalumab	1000 mg
7	Surufatinib	250 mg	Adebrelimab	1200 mg
8	Surufatinib	250 mg	Envafolimab	400 mg
9	Surufatinib	200 mg	Durvalumab	1000 mg
10	Surufatinib	200 mg	Durvalumab	1000 mg
11	Surufatinib	200 mg	Durvalumab	1000 mg
12	Surufatinib	200 mg	Adebrelimab	1200 mg
13	Surufatinib	200 mg	Durvalumab	1000 mg
14	Surufatinib	200 mg	Durvalumab	1000 mg
15	Surufatinib	200 mg	Durvalumab	1000 mg
16	Surufatinib	200 mg	Durvalumab	1000 mg
17	Surufatinib	200 mg	Durvalumab	1000 mg
18	Surufatinib	200 mg	Adebrelimab	1200 mg
19	Surufatinib	200 mg	Adebrelimab	1200 mg
20	Surufatinib	200 mg	Durvalumab	1000 mg
21	Surufatinib	200 mg	Adebrelimab	1200 mg
22	Surufatinib	200 mg	Durvalumab	1000 mg
23	Surufatinib	200 mg	Durvalumab	1000 mg
24	Surufatinib	200 mg	Durvalumab	1000 mg
25	Surufatinib	200mg	Durvalumab	1000 mg
26	Surufatinib	200 mg	Envafolimab	400 mg
27	Surufatinib	200 mg	Durvalumab	1000 mg
28	Surufatinib	200 mg	Durvalumab	1000 mg
29	Surufatinib	200 mg	Envafolimab	400 mg

30	Surufatinib	200 mg	Durvalumab	1000 mg
31	Surufatinib	200 mg	Durvalumab	1000 mg
32	Surufatinib	200 mg	Adebrelimab	1200 mg
33	Surufatinib	200 mg	Durvalumab	1000 mg
34	Surufatinib	200 mg	Durvalumab	1000 mg
35	Surufatinib	200 mg	Adebrelimab	1200 mg
36	Surufatinib	200 mg	Durvalumab	1000 mg
37	Surufatinib	200 mg	Durvalumab	1000 mg
38	Surufatinib	200 mg	Durvalumab	1000 mg
39	Surufatinib	200 mg	Envafolimab	400 mg
40	Surufatinib	200 mg	Durvalumab	1000 mg

Abbreviation: PD-L1, programmed death-ligand 1.

Supplementary Table 2 Univariate and multivariate analyses of prognostic factors for overall survival and progression-free survival

Characteristics	Overall survival						Progression-free survival					
	Univariate analysis			Multivariate analysis			Univariate analysis			Multivariate analysis		
	HR	95 CI%	P	HR	95 CI%	P	HR	95 CI%	P	HR	95 CI%	P
Age (>50 /≤50)	0.953	0.305–2.977	0.934				0.801	0.343–1.872	0.608			
Gender (female/male)	0.742	0.269–2.045	0.564				0.662	0.320–1.369	0.266			
ECOG PS (1/0)	1.434	0.498–4.131	0.504				1.040	0.498–2.174	0.916			
CA19-9 (>40 /≤40 U/ml)	3.120	0.885–11.008	0.077				2.270	1.000–5.153	0.050			
HBV (positive/negative)	1.573	0.588–4.212	0.367				1.224	0.599–2.504	0.579			
Maximum diameter (>10/≤10 cm)	2.080	0.665–6.508	0.208				1.434	0.583–3.526	0.432			
TNM stage (III–IV/I–II)	2.546	0.578–11.216	0.217				1.186	0.510–2.755	0.692			
Vascular invasion (presence/absence)	0.516	0.146–1.828	0.305				0.547	0.233–1.284	0.166			
LN metastasis (presence/absence)	2.561	0.926–7.078	0.070				0.937	0.461–1.903	0.857			
Distant metastasis (presence/absence)	2.848	0.797–10.179	0.107				**7.033**	**2.425–20.394**	**<0.001**	**14.628**	**3.561–60.092**	**<0.001**
Tumor number (multiple/single)	**5.632**	**1.271–24.946**	**0.023**				**2.646**	**1.178–5.947**	**0.018**	**3.370**	**1.341–8.468**	**0.010**
Tumor distribution (bi-lobe/uni-lobe)	2.576	0.950–6.987	0.063				1.794	0.879–3.661	0.108			
ALT (>40 /≤40 U/ml)	0.268	0.035–2.040	0.204				0.738	0.283–1.926	0.535			
ALB (>40/≤40 g/L)	0.396	0.127–1.232	0.110				0.777	0.298–2.028	0.606			
TBil (>17.1/≤17.1 μmol/L)	1.248	0.283–5.510	0.770				**3.153**	**1.162–8.555**	**0.024**	**3.250**	**1.031–10.249**	**0.044**
CRE (>75/≤75 μmol/L)	0.754	0.262–2.172	0.601				0.621	0.285–1.355	0.231			
Response (nonresponder/responder)	2.799	0.874–8.961	0.083				**3.611**	**1.599–8.157**	**0.002**	**4.132**	**1.750–9.760**	**0.002**
Cycles of HAIC (3–4/1–2)	0.474	0.176–1.277	0.140				0.644	0.316–1.311	0.225			

Abbreviations: ECOG, Eastern Cooperative Oncology Group Performance Status; CA19-9, carbohydrate antigen 19-9; HBV, hepatitis B virus; lymph node; ALT, alanine transaminase; ALB, albumin; TBil, total bilirubin; CRE, creatinine; RECIST, Response Evaluation Criteria in Solid Tumors; HAIC, hepatic arterial infusion chemotherapy; HR, hazard ratio; CI, confidence interval.

*Bold text indicates $P < 0.05$.