

Figure S1 OS comparison between the regorafenib and regorafenib plus PD-1 groups in the BCLC subgroup. BCLC, Barcelona Clinic Liver Cancer; PD-1, programmed death-1; OS, overall survival.

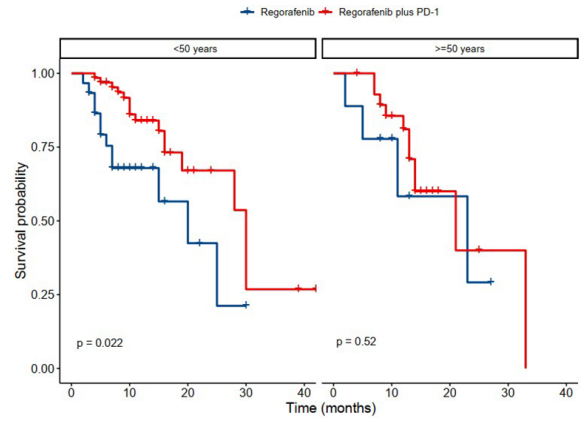


Figure S3 OS comparison between the regorafenib and regorafenib plus PD-1 groups in the age subgroup. PD-1, programmed death-1; OS, overall survival.

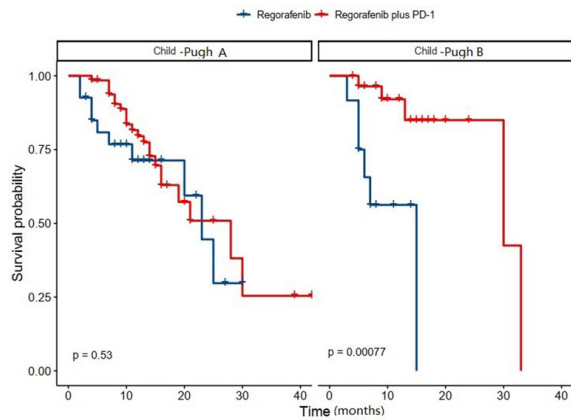


Figure S2 OS comparison between the regorafenib and regorafenib plus PD-1 groups in the Child-Pugh subgroup. PD-1, programmed death-1; OS, overall survival.

Table S1 Characteristics of front line therapy

Drugs	Regorafenib (n=39)	Regorafenib plus ICIs (n=94)	P value
Anlotinib plus sintilimab	0 (0.0)	1 (1.1)	–
Apatinib & lenvatinib plus toripalimab	0 (0.0)	1 (1.1)	–
Apatinib plus carelizumab	0 (0.0)	1 (1.1)	–
Bevacizumab & erlotinib	0 (0.0)	1 (1.1)	–
Donafinil	0 (0.0)	1 (1.1)	0.50
Lenvatinib	11 (28.2)	14 (14.9)	0.88
Lenvatinib & sorafenib plus toripalimab	1 (2.6)	3 (3.2)	0.60
Lenvatinib plus carelizumab	1 (2.6)	4 (4.3)	0.90
Lenvatinib plus pembrolizumab	0 (0.0)	2 (2.1)	0.85
Lenvatinib plus sintilimab	2 (5.1)	30 (31.9)	0.12
Lenvatinib plus toripalimab	0 (0.0)	3 (3.2)	0.19
Sintlimab plus bevacizumab	2 (5.1)	1 (1.1)	0.52
Sorafenib & Lenvatinib	2 (5.1)	3 (3.2)	0.52
Sorafenib & Lenvatinib plus pembrolizumab	0 (0.0)	1 (1.1)	0.14
Sorafenib & Lenvatinib plus sintilimab	0 (0.0)	3 (3.2)	0.85
Sorafenib & Lenvatinib plus toripalimab	0 (0.0)	3 (3.2)	0.85
Sorafenib	20 (51.3)	22 (23.4)	0.26

Data are presented as n (%). ICIs, immune checkpoint inhibitors.

Table S2 Treatment-emergent AEs in regorafenib plus ICIs group

AEs	Child-Pugh A (n=65)	Child-Pugh B (n=29)	P value
All grades			
Overall incidence	52 (80.00)	22 (75.86)	0.09
Grade 3/4			
Overall incidence	6 (9.23)	6 (34.48)	0.12

Data are presented as n (%). No treatment-related deaths occurred. AEs, adverse events; ICIs, immune checkpoint inhibitors.