

Table S1 Kaplan-Meier survival analyses					
Variable	Category	n	OS (months)	95% CI	P (log-rank)
All patients	All patients	226	16.6	13.1, NR	
Demographics					
Sex	Female	52	16.6	8.3, 20.8	0.252
	Male	174	17.9	13.1, 24.4	
White	Caucasian	133	17.2	13.1, 23.5	0.559
	Non-Caucasian	93	15.2	11.0, 25.3	
Age 65 (years)	<65	112	16.2	11.9, 21.0	0.675
	≥65	114	18.4	12.8, 25.1	
Age 70 (years)	<70	156	16.3	12.2, 19.7	0.796
	≥70	70	21.0	12.4, 27.8	
Etiology					
Hepatitis B	Yes	17	47.4	11.0, NR	0.062
	No	207	16.3	12.5, 20.8	
Hepatitis C	Yes	138	16.6	11.9, 25.0	0.884
	No	86	16.6	13.1, 24.4	
Alcohol use [†]	Yes	45	11.8	7.9, 23.5	0.021 [*]
	No	179	18.6	15.6, 24.4	
NASH	Yes	27	16.6	15.2, 27.8	0.663
	No	197	16.7	12.3, 23.6	
Disease characteristics at baseline					
MELD	<8	91	16.6	12.1, 23.5	0.301
	≥8	127	19.7	11.8, 27.8	
ALBI score [†] (median)	< −2.28	113	23.5	16.3, 26.1	0.043
	≥ −2.28	113	12.4	9.4, 17.2	
ALBI grade	1	74	23.8	16.6, 42.5	0.091
	2	136	14.8	11.4, 19.3	
	3	16	10.4	5.6, 25.1	
Child-Pugh score	A	110	17.9	13.1, 27.8	0.081
	B/C	40	9.6	6.4, 13.5	
Bilobar disease [†]	Yes	105	10.8	8.5, 15.2	<0.001 [*]
	No	116	25.0	16.7, 29.7	
Portal vein thrombosis	Yes	44	11.0	8.0, 13.9	0.004 [*]
	No	160	19.3	15.6, 26.1	
Ascites	Yes	71	12.0	8.4, 17.9	0.015 [*]
	No	140	20.8	16.2, 26.1	
Laboratory values at baseline (CTC grade)					
Albumin CTC	0	144	19.7	16.2, 26.1	0.069
	1	52	12.2	8.6, 17.2	
	2	30	9.4	6.9, 25.1	
Total bilirubin CTC	0	114	18.6	16.2, 25.7	0.287
	1	65	13.5	8.7, 26.1	
	2	46	11.8	8.1, 20.8	
	3	1	8.0	–	
Prior treatment					
Any	Yes	131	17.9	12.8, 27.8	0.278
	No	48	13.1	7.1, 23.8	
TACE	Yes	74	25.3	13.9, 29.8	0.047 [*]
	No	105	13.5	10.3, 20.8	
Ablation	Yes	25	27.8	10.3, 35.3	0.909
	No	154	16.7	12.3, 23.8	
Resection	Yes	21	16.3	12.0, 42.5	0.528
	No	158	16.7	12.1, 25.1	
Sorafenib [†]	Yes	40	10.3	5.3, 12.5	<0.001 [*]
	No	139	23.8	16.2, 27.8	
Number of SIRT treatments	1	157	16.7	12.4, 25.0	0.644
	2+	69	16.6	11.0, 23.6	
Radiation dose [†] (category)	<1.1 mCi	108	16.6	12.5, 29.8	0.079
	≥1.1 mCi	114	16.7	11.8, 20.8	
Subsequent transplant [†]	Yes	26	69.0	43.9, 69.0	<0.001 [*]
	No	200	13.9	11.8, 16.7	

[†], included in the final multivariable model. *, P<0.05. ALBI, albumin-bilirubin; CI, confidence interval; CTC, Common Terminology Criteria; MELD, model for end-stage liver disease; NASH, nonalcoholic steatohepatitis; NR, not reached; OS, overall survival; SIRT, selective internal radiation therapy; TACE, transarterial chemoembolization.

Table S2 OS multivariable Cox proportional hazards model with transplant as time-dependent covariate: sensitivity analysis on impact of missing data by multiple imputation

Parameter	Original results			Multiple imputation results		
	HR	95% CI	P value	HR	95% CI	P value
Sorafenib	2.09	1.35–3.23	<0.001*	2.05	1.32–3.17	0.001*
Transplant	0.07	0.02–0.20	<0.001*	0.05	0.02–0.15	<0.001*
Bilobar disease	1.97	1.38–2.82	<0.001*	1.91	1.33–2.75	<0.001*
Alcohol use etiology	1.84	1.22–2.79	0.004*	1.99	1.33–3.03	0.001*
Dose (mCi)	1.01	1.00–1.03	0.036*	1.01	1.00–1.02	0.105
ALBI score	2.20	1.62–2.98	<0.001*	2.17	1.60–2.94	<0.001*

*, P<0.05. ALBI, albumin-bilirubin; CI, confidence interval; HR, hazard ratio.