Supplementary

Table S1 Clinicopathological characteristics of ICC patients with MVI after PSM

Variable	Total (n=136)	PSM			
		Non-TACE (n=68)	Adjuvant TACE (n=68)	P value	SMD
Age in Years	50.9±10.2	51.2±9.7	50.7±10.7	0.751	0.055
Gender, n (%)				0.809	0.083
Female	20 (14.7)	9 (13.2)	11 (16.2)		
Male	116 (85.3)	59 (86.8)	57 (83.8)		
HBsAg, n (%)				1.000	0.030
Negative	55 (40.4)	27 (39.7)	28 (41.2)		
Positive	81 (59.6)	41 (60.3)	40 (58.8)		
Anti-HCV, n (%)				0.496	0.246
Negative	134 (98.5)	68 (100.0)	66 (97.1)		
Positive	2 (1.5)	0 (0.0)	2 (2.9)		
Cirrhosis, n (%)				0.856	0.062
No	90 (66.2)	46 (67.6)	44 (64.7)		
Yes	46 (33.8)	22 (32.4)	24 (35.3)		
Child-Pugh class, n (%)				1.000	0.078
A	131 (96.3)	65 (95.6)	66 (97.1)		
B	5 (3.7)	3 (4.4)	2 (2.9)		
CEA (ug/L), n (%)				1.000	0.033
<5	97 (71.3)	48 (70.6)	49 (72.1)		
≥5	39 (28.7)	20 (29.4)	19 (27.9)		
CA 19-9 (U/mL), n (%)				0.731	0.089
<39	73 (53.7)	35 (51.5)	38 (55.9)		
≥39	63 (46.3)	33 (48.5)	30 (44.1)		
Gross type of tumor, n (%)				0.301	0.214
MF	106 (77.9)	56 (82.4)	50 (73.5)		
PI	30 (22.1)	12 (17.6)	18 (26.5)		
Tumor diameter (cm), n (%)				1.000	<0.001
≤5	40 (29.4)	20 (29.4)	20 (29.4)		
>5	96 (70.6)	48 (70.6)	48 (70.6)		
Tumor number, n (%)				1.000	<0.001
Solitary	96 (70.6)	48 (70.6)	48 (70.6)		
Multiple	40 (29.4)	20 (29.4)	20 (29.4)		
Differentiation, n (%)				0.790	0.091
Well/Moderate	120 (88.2)	61 (89.7)	59 (86.8)		
Poor	16 (11.8)	7 (10.3)	9 (13.2)		
Visceral peritoneum invasion, n (%)				1.000	0.078
No	131 (96.3)	66 (97.1)	65 (95.6)		
Yes	5 (3.7)	2 (2.9)	3 (4.4)		
Direct invasion, n (%)				1.000	<0.001
No	134 (98.5)	67 (98.5)	67 (98.5)		
Yes	2 (1.5)	1 (1.5)	1 (1.5)		
Regional nodal metastasis, n (%)				0.896	0.080
N0	43 (31.6)	21 (30.9)	22 (32.4)		
Nx	71 (52.2)	35 (51.5)	36 (52.9)		
N1	22 (16.2)	12 (17.6)	10 (14.7)		
T stage 8th, n (%)				1.000	0.078
T2	129 (94.9)	65 (95.6)	64 (94.1)		
T3	5 (3.7)	2 (2.9)	3 (4.4)		
T4	2 (1.5)	1 (1.5)	1 (1.5)		
TNM stage 8th, n (%)				0.735	0.220
Not Available	71 (52.2)	35 (51.5)	36 (52.9)		
II	41 (30.1)	19 (27.9)	22 (32.4)		
IIIA	1 (0.7)	1 (1.5)	0 (0.0)		
IIIB	23 (16.9)	13 (19.1)	10 (14.7)		

PSM, propensity score matching; TACE, transarterial chemoembolization; SMD, standardized mean differences; HBsAg, hepatitis B surface antigen; Anti-HCV, antibody to hepatitis virus C; CEA, carcinoembryonic antigen; CA 19-9, carbohydrate antigen 19-9; MF, mass-forming; PI, periductal infiltrative; N0, no regional lymph node metastasis; Nx, regional lymph node metastasis cannot be assessed; N1, regional lymph node metastasis present; TNM, tumor, node, metastases.

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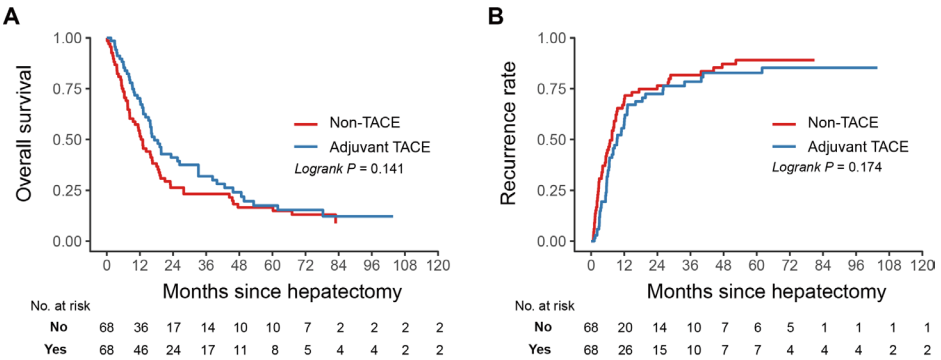

Figure S1 Kaplan-Meier estimates of OS (A) and tumor recurrence (B) after PSM among ICC-MVI patients, according to adjuvant TACE status. OS, overall survival; PSM, propensity score matching; ICC, intrahepatic cholangiocarcinoma; MVI, microvascular invasion; TACE, transarterial chemoembolization.

Table S2 Univariable Cox regression analysis for tumor recurrence and OS in the whole patient cohort (n=223)

Variable	Tumor recurrence			OS		
	HR	95% CI	P value	HR	95% CI	P value
Age in Years	1.00	0.99–1.02	0.811	1.00	0.99–1.01	0.904
Gender: Male *vs.* Female	0.94	0.68–1.31	0.717	0.91	0.66–1.26	0.582
HBsAg: Positive *vs.* Negative	1.23	0.92–1.65	0.156	1.10	0.83–1.46	0.520
Anti-HCV: Positive *vs.* Negative	3.27	0.80–13.33	0.099	2.14	0.53–8.64	0.287
Cirrhosis: Yes *vs.* No	0.79	0.57–1.11	0.172	0.83	0.60–1.14	0.252
Child-Pugh class: B *vs.* A	0.79	0.43–1.46	0.452	1.29	0.75–2.23	0.359
CEA (ug/L)	1.00	1.00–1.00	0.095	1.00	1.00–1.00	0.066
CEA (ug/L): ≥5 *vs.* <5	1.04	0.75–1.44	0.806	1.22	0.89–1.67	0.224
CA 19-9 (U/mL)	1.00	1.00–1.00	<0.001	1.00	1.00–1.00	<0.001
CA 19-9 (U/mL): ≥39 *vs.* <39	1.48	1.11–1.99	0.008	1.76	1.31–2.34	<0.001
Gross type of tumor: PI *vs.* MF	0.75	0.52–1.08	0.125	0.79	0.55–1.13	0.199
Tumor diameter (cm)	1.02	0.98–1.06	0.342	1.05	1.01–1.08	0.016
Tumor diameter (cm): ≥5 *vs.* <5	1.10	0.81–1.48	0.555	1.33	0.99–1.80	0.059
Tumor number: Multiple *vs.* Single	1.25	0.89–1.76	0.190	1.70	1.23–2.35	0.001
Differentiation: Well/moderate *vs.* poor	0.55	0.33–0.92	0.022	0.61	0.37–1.01	0.055
Visceral peritoneum invasion: Yes *vs.* No	0.52	0.21–1.27	0.149	0.72	0.32–1.62	0.421
Direct invasion: Yes *vs.* No	1.31	0.76–2.27	0.334	1.72	1.03–2.89	0.039
Regional nodal metastasis						
Nx *vs.* N0	0.88	0.62–1.24	0.460	0.90	0.65–1.27	0.555
N1 *vs.* N0	1.62	1.12–2.35	0.010	1.63	1.14–2.33	0.007
Adjuvant TACE: Yes *vs.* No	0.72	0.52–0.99	0.041	0.70	0.51–0.97	0.030

OS, overall survival; HR, hazard ratio; CI, confidence interval; HBsAg, hepatitis B surface antigen; Anti-HCV, antibody to hepatitis virus C; CEA, carcinoembryonic antigen; CA 19-9, carbohydrate antigen 19-9; MF, mass-forming; PI, periductal infiltrative; N0, no regional lymph node metastasis; Nx, regional lymph node metastasis cannot be assessed; N1, regional lymph node metastasis present; TACE, transarterial chemoembolization.

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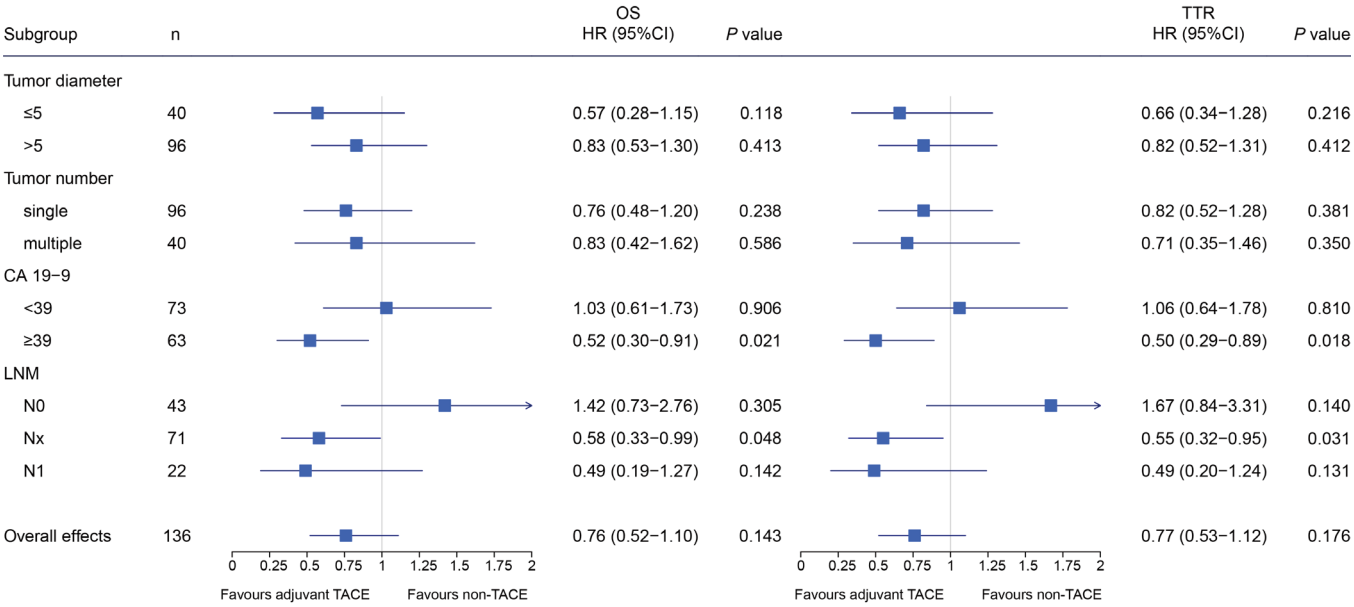

Figure S2 Forest plot of impacts of adjuvant TACE on OS and tumor recurrence in subgroup patients after PSM. Hazard ratios and P values were estimated with the use of Cox proportional-hazards models. TACE, transarterial chemoembolization; OS, overall survival; PSM, propensity score matching.

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