

Supplementary Table 3. Univariable and multivariable Cox regression analysis for TTP after IPTW

Characteristic	Univariable analysis		Multivariable analysis	
	HR (95% CI)	P-value	HR (95% CI)	P-value
Nivolumab (vs. regorafenib)	0.708 (0.370–1.353)	0.30	0.744 (0.394–1.405)	0.36
Age (per year increase)	0.978 (0.952–1.005)	0.11	0.979 (0.952–1.007)	0.13
Male sex (vs. female)	1.085 (0.603–1.951)	0.79		
Etiology of HCC, HBV (vs. others)	1.339 (0.674–2.660)	0.40		
Child-Pugh score		0.90		
5	1 (reference)			
6	1.008 (0.504–2.019)	0.98		
7–9	0.793 (0.262–2.399)	0.68		
Vascular invasion, yes (vs. no)	0.840 (0.463–1.524)	0.56		
Biliary invasion, yes (vs. no)	1.806 (0.781–4.178)	0.17		
Intrahepatic tumor burden		0.95		
None	1 (reference)			
<50%	1.048 (0.610–1.802)	0.86		
≥50%	1.100 (0.354–3.414)	0.87		
Extrahepatic metastasis, yes (vs. no)	1.169 (0.452–3.025)	0.75		
Portal hypertension, yes (vs. no)	1.420 (0.847–2.380)	0.18		
BCLC stage C (vs. B)	0.284 (0.180–0.446)	<0.001		
AST (per IU/L)	1.005 (0.998–1.011)	0.20		
ALT (per IU/L)	1.003 (0.997–1.008)	0.38		
ALP (per IU/L)	1.001 (1.000–1.003)	0.15		
Creatinine (per mg/dL)	0.518 (0.168–1.591)	0.25		
Platelet count (per $\times 10^9/L$)	1.003 (1.000–1.006)	0.03	1.003 (1.000–1.006)	0.06
AFP ≥ 400 ng/mL	0.846 (0.506–1.415)	0.52		
PIVKA $\geq 1,000$ mAU/mL	1.076 (0.640–1.809)	0.78		
MoRAL ≥ 314.8	1.099 (0.657–1.839)	0.72		

P values were determined using Cox proportional hazards regression models. $P < 0.05$ indicated a significant difference.

TTP, time to progression; IPTW, inverse probability treatment weighting; HR, hazards ratio; CI, confidence interval; HCC, hepatocellular carcinoma; HBV, hepatitis B virus; BCLC, Barcelona Clinic Liver Cancer; AST, aspartate aminotransferase; ALT, alanine aminotransferase; ALP, alkaline phosphatase; AFP, alpha-fetoprotein; PIVKA, protein induced by vitamin K absence or antagonist; MoRAL, model to predict tumor recurrence after living donor liver transplantation.