

**Supplementary Table 1.** Cox regression analysis of factors associated with PFS before and after IPTW

Variable	Before IPTW				After IPTW			
	Crude HR (95% CI)	P-value	Adjusted HR (95% CI)	P-value	Crude HR (95% CI)	P-value	Adjusted HR (95% CI)	P-value
Treatment		0.63		0.80		0.63		0.64
Lenvatinib	1*		1*		1*		1*	
Atezolizumab plus bevacizumab	0.86 (0.47-1.57)		0.93 (0.51-1.69)		0.86 (0.48-1.57)		0.87 (0.49-1.56)	
Age (years)		0.44				0.43		
<65	1*				1*			
≥65	0.78 (0.42-1.46)				1.77 (0.40-1.47)			
Sex		0.55				0.38		
Female	1*				1*			
Male	1.25 (0.60-2.60)				1.35 (0.69-2.66)			
Etiology of HCC		0.29				0.16		
Other etiology	1*				1*			
HBV or HCV	0.60 (0.23-1.55)				0.61 (0.31-1.20)			
Esophageal varix		0.72				0.86		
Absent	1*				1*			
Present	1.11 (0.62-2.00)				1.05 (0.60-1.86)			
Child-Pugh score		0.03		0.03		0.04		0.003
A5	1*		1*		1*		1*	
A6	2.02 (1.09-3.74)		2.00 (1.08-3.72)		1.89 (0.77-2.33)		3.57 (0.74-1.90)	0.49
AFP (ng/mL)		0.30				0.31		
<200	1*				1*			
≥200	1.40 (0.75-2.45)				1.34 (0.77-2.33)			
PIVKA-II (mAU/mL)		0.31				0.33		
<1,000	1*				1*			
≥1,000	1.34 (0.75-2.45)				1.33 (0.75-2.38)			
Number of hepatic masses		0.91				0.76		
Single	1*				1*			
Multiple	0.97 (0.53-1.76)				0.91 (0.48-1.72)			
LN metastasis		0.38				0.33		
Absent	1*				1*			
Present	0.70 (0.32-1.53)				0.64 (0.26-1.57)			
Extrahepatic metastasis		0.61				0.82		
Absent	1*				1*			
Present	1.17 (0.74-2.97)				1.07 (0.59-1.93)			
Extent of PVTT		0.15				0.16		
No main PV invasion	1*				1*			
Main PV invasion	1.71 (0.82-3.57)				1.61 (0.83-3.09)			
Hepatic vein invasion		0.52				0.41		
Absent	1*				1*			
Present	1.40 (0.50-3.95)				1.33 (0.67-2.63)			

PFS, progression-free survival; IPTW, inverse probability of treatment weighting; HR, hazard ratio; CI, confidence interval; HCC, hepatocellular carcinoma; HBV, hepatitis B virus; HCV, hepatitis C virus; AFP, alpha-fetoprotein; PIVKA-II, protein induced by vitamin K absence or antagonist-II; LN, lymph node; PVTT, portal vein tumor thrombosis; PV, portal vein.

\*Reference.