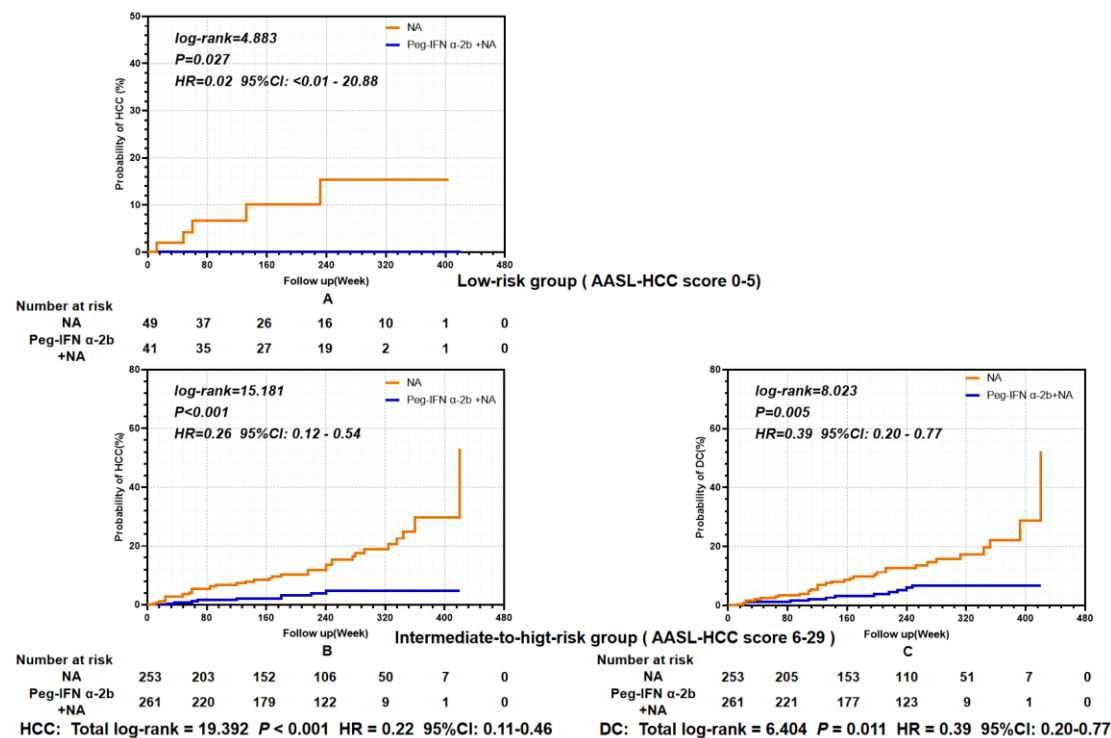
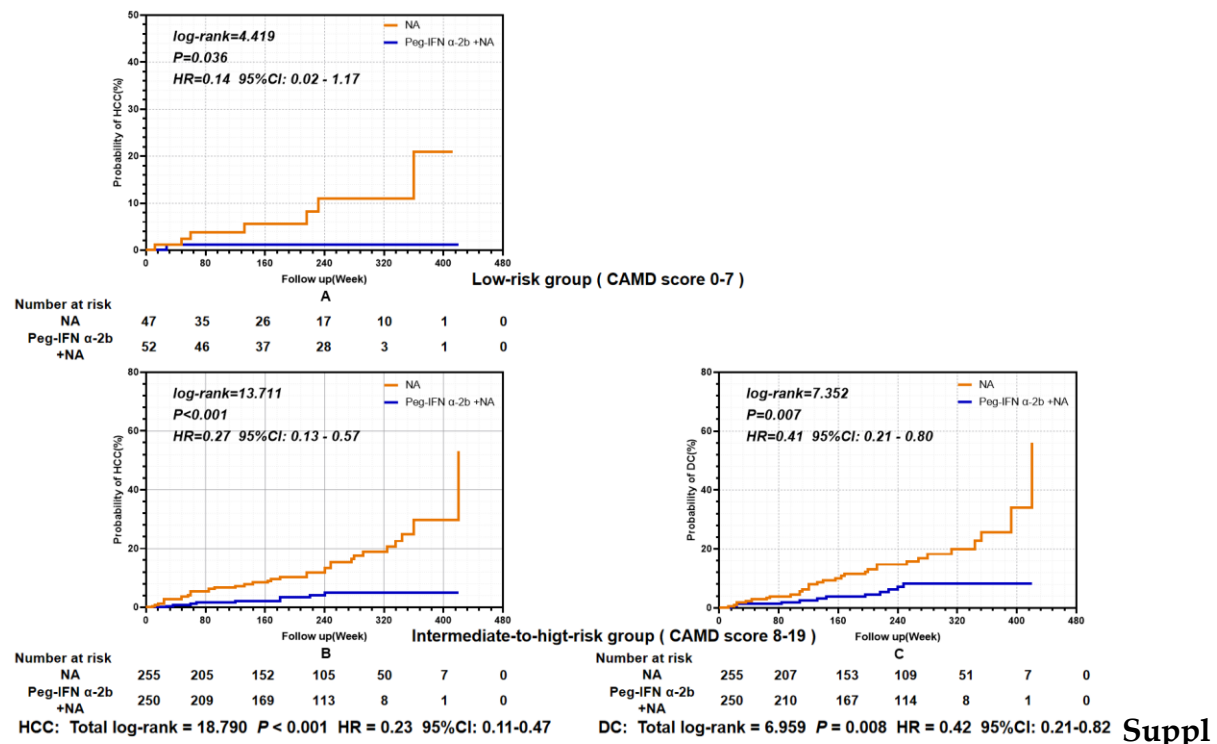


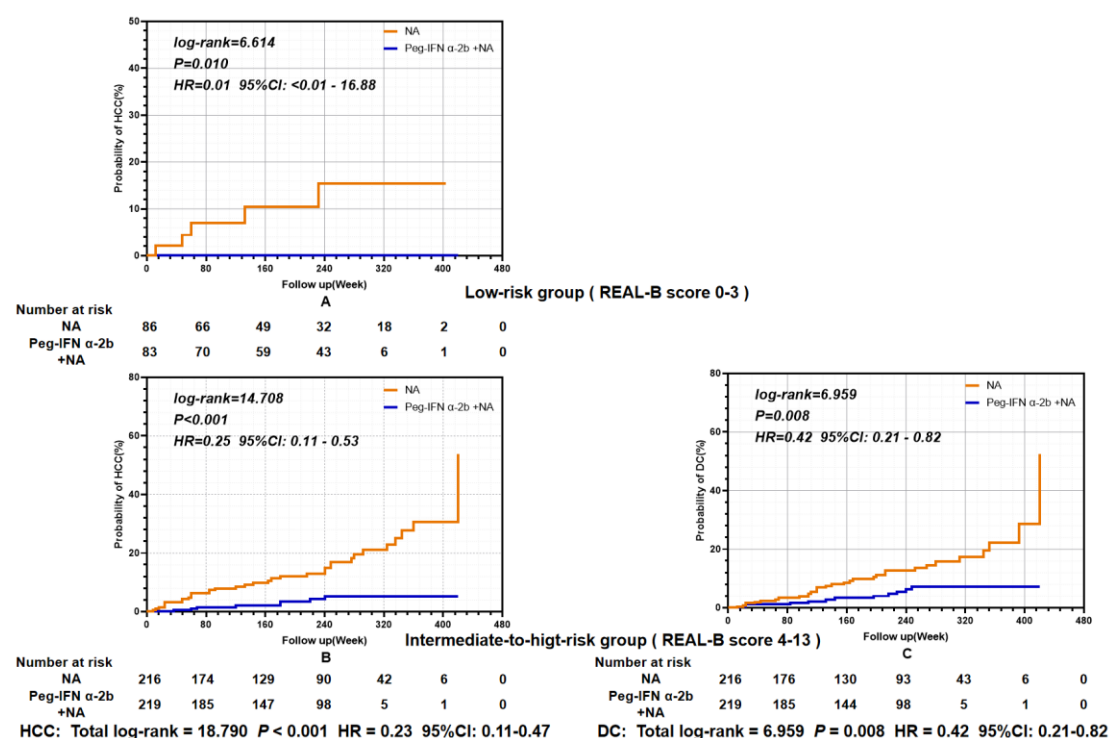


Supplementary Figure 1 Survival analysis stratified by age, albumin, sex, liver cirrhosis-hepatocellular carcinoma model risk score: Nucleos(t)ide analogue monotherapy *vs* pegylated interferon α-2b combined with nucleos(t)ide analogues.

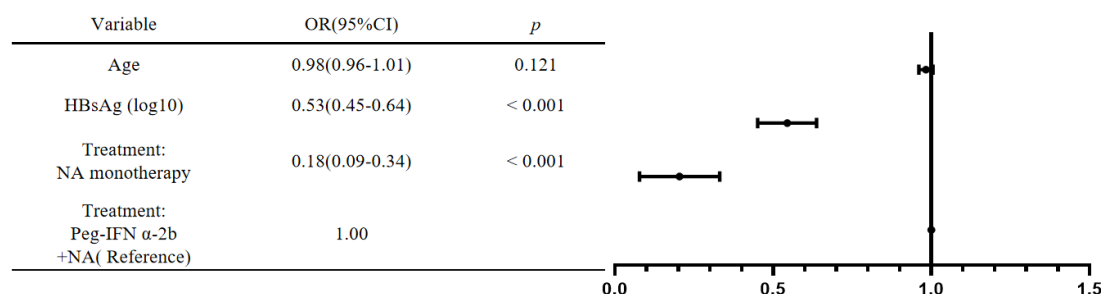
A: Low-risk group [age, albumin, sex, liver cirrhosis (AASL)-hepatocellular carcinoma (HCC) score 0-5], endpoint: Hepatocellular carcinoma; B: Intermediate-to-high-risk group (AASL-HCC score 6-29), endpoint: Hepatocellular carcinoma; C: Intermediate-to-high-risk group (AASL-HCC score 6-29), endpoint: Decompensated cirrhosis. NA: Nucleos(t)ide analogue; Peg-IFNα-2b: Pegylated interferon α-2b; HCC: Hepatocellular carcinoma; DC: Decompensated cirrhosis; HR: Hazard ratio.



Supplementary Figure 2 Survival analysis stratified by REAL-B model risk score: Nucleos(t)ide analogue monotherapy *vs* pegylated interferon α-2b combined with nucleos(t)ide analogues. A: Low-risk group (REAL-B score 0-3), endpoint: Hepatocellular carcinoma; B: Intermediate-to-high-risk group (REAL-B score 4-13), endpoint: Hepatocellular carcinoma; C: Intermediate-to-high-risk group (REAL-B score 4-13), endpoint: Decompensated cirrhosis. NA: Nucleos(t)ide analogue; Peg-IFNα-2b: Pegylated interferon α-2b; HCC: Hepatocellular carcinoma; DC: Decompensated cirrhosis; HR: Hazard ratio.

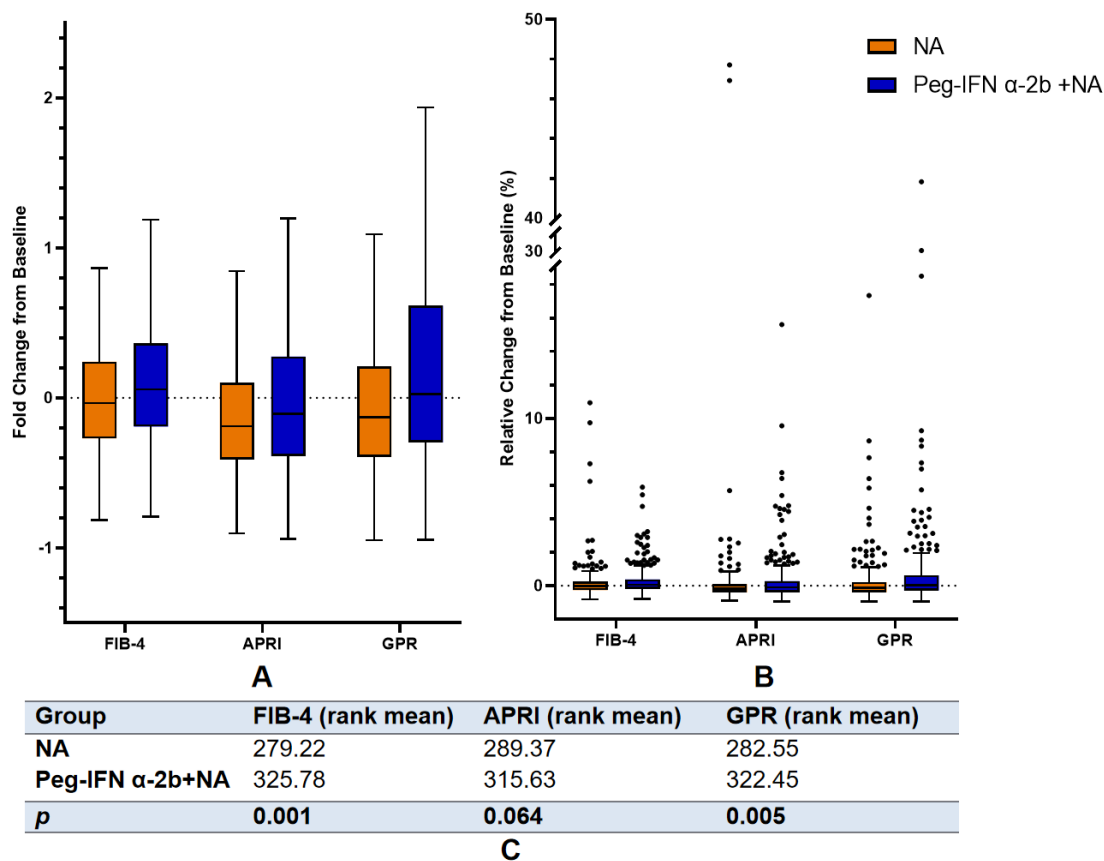


Supplementary Figure 3 Survival analysis stratified by cirrhosis, age, male sex, and diabetes mellitus model risk score: Nucleos(t)ide analogue monotherapy *vs* pegylated interferon α-2b combined with nucleos(t)ide analogues. A: Low-risk group [cirrhosis, age, male sex, and diabetes mellitus (CAMD) score 0-7], endpoint: Hepatocellular carcinoma; B: Intermediate-to-high-risk group (CAMD score 8-19), endpoint: Hepatocellular carcinoma; C: Intermediate-to-high-risk group (CAMD score 8-19), endpoint: Decompensated cirrhosis. NA: Nucleos(t)ide analogue; Peg-IFNα-2b: Pegylated interferon α-2b; HCC: Hepatocellular carcinoma; DC: Decompensated cirrhosis; HR: Hazard ratio.



Supplementary Figure 4 Multivariate Cox proportional-hazards analysis of factors associated with hepatitis B surface antigen clearance. NA: Nucleos(t)ide Analogue; Peg-IFN α-2b: Pegylated Interferon α-2b; HBsAg: Hepatitis B surface antigen; OR:

Odds ratio.



Supplementary Figure 5 Comparative analysis of non-invasive liver fibrosis score changes before and after treatments using Mann-Whitney *U* test: Nucleos(t)ide analogue monotherapy *vs* pegylated interferon α -2b combined with nucleos(t)ide analogues. A: Primary analysis (outliers excluded): Box-and-whisker plots (Tukey method); B: Full data visualization: Broken Y-axis plot including outliers; C: Statistical results: Mann-Whitney *U* test rank means for each fibrosis score. Liver fibrosis score changes were calculated as: (posttreatment score - pretreatment score)/pretreatment score. NA: Nucleos(t)ide Analogue; Peg-IFN α -2b: Pegylated Interferon α -2b; FIB-4: Fibrosis-4 Index; APRI: Aspartate aminotransferase-to-platelet ratio index; GPR: Gamma-glutamyl transferase-to-platelet ratio.

Supplementary Table 1 Cox regression for hepatocellular carcinoma and decompensated cirrhosis with extended covariate adjustment beyond propensity

score matching

Variable	Dependent variable: HCC or decompensated cirrhosis	
	<i>P</i> value	HR (95%CI)
Group (combination therapy <i>vs</i> monotherapy)	< 0.001	0.32 (0.17-0.61)
NA type	0.750	
Tenofovir ¹ <i>vs</i> Entevavir	0.513	-
Switched therapy ² <i>vs</i> Entevavir	0.450	-
Tenofovir ¹ <i>vs</i> Switched therapy ²	0.450	-
Duration of NA therapy before baseline (month)	0.882	-
Age (year)	0.045	1.03 (1.01-1.07)
Gender (male <i>vs</i> female)	0.684	-
Fameliy History of HCC (yes <i>vs</i> no)	0.119	-
Diabetes mellitus (yes <i>vs</i> no)	0.980	-
AFP (ng/mL)	0.012	1.01 (1.00-1.02)
Alcohol use history (yes <i>vs</i> no)	0.824	-
Radiographic cirrhosis (yes <i>vs</i> no)	< 0.001	3.47 (1.77-6.81)

¹Tenofovir: including tenofovir disoproxil fumarate, tenofovir alafenamide, and tenofovir amibufenamide.

²Switched therapy: Comprised patients who had changed their nucleos(t)ide analogue regimen between entecavir and any tenofovir-based agent during the study period, irrespective of the direction of change.

Due to missing data, the present sensitivity analysis was conducted in a subset of 446 patients with complete information. To ensure consistent adjustment for baseline confounders, all seven variables used in the original propensity score matching were retained in the multivariable Cox regression models. Only variables with $P < 0.1$ are presented with hazard ratio and 95% CIs. NA: Nucleos(t)ide analogue; HCC: Hepatocellular carcinoma; HR: Hazard ratio; AFP: Alpha-fetoprotein.