Table S1. Summary of subsequent treatment options on TACE plus sorafenib (TACES) or TACE alone group due to severe adverse events or progression.

Subsequent Treatment	TACES	TACE alone
Sorafenib	-	21
Regorafenib	12	12
Lenvatinib	8	13
Rivoceranib	7	12
Camrelizumab	4	7
Camrelizumab plus rivoceranib	7	2
Sintilimab and bevacizumab biosimilar	3	3
Atezolizumab plus Bevacizumab	2	0
Tislelizumab	3	3
Others (HAIC, ablation, etc)	14	26
Total	60	99

Abbreviation: HAIC, hepatic arterial infusion chemotherapy.

Figure S1. Missing value pattern of the current study.

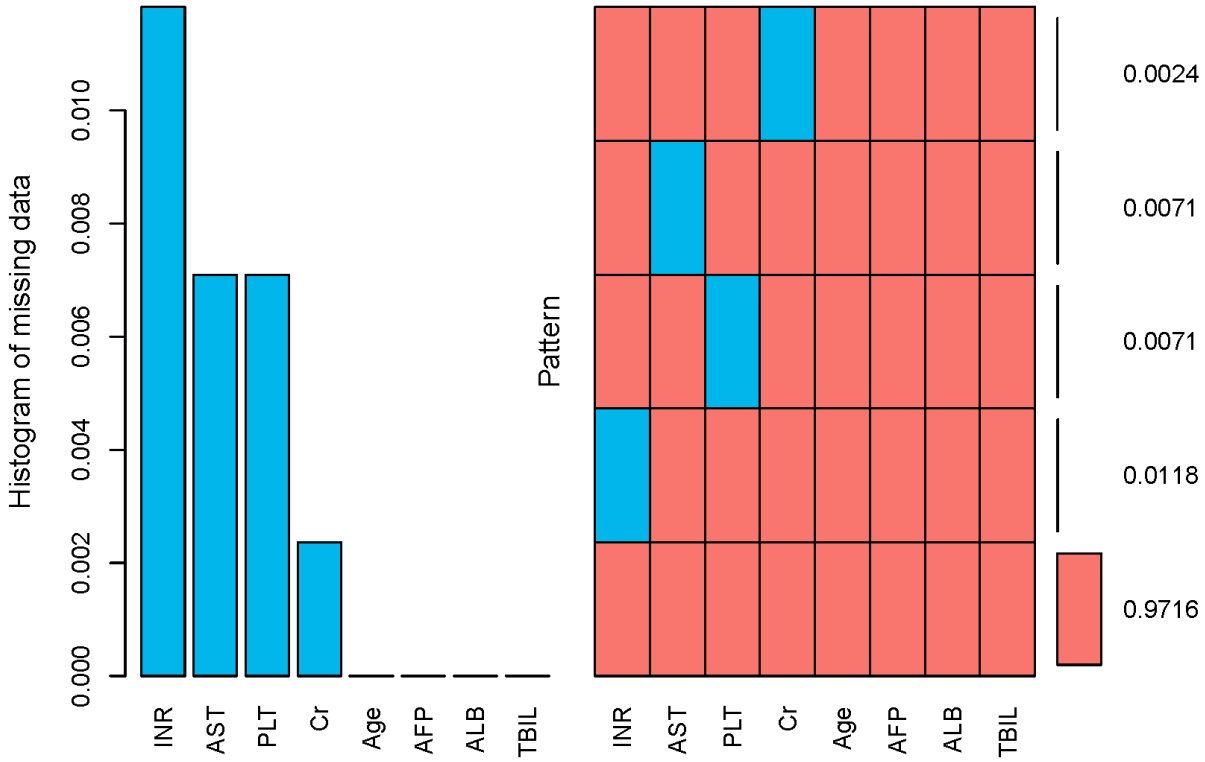

Figure S2. The post-imputation data distribution.

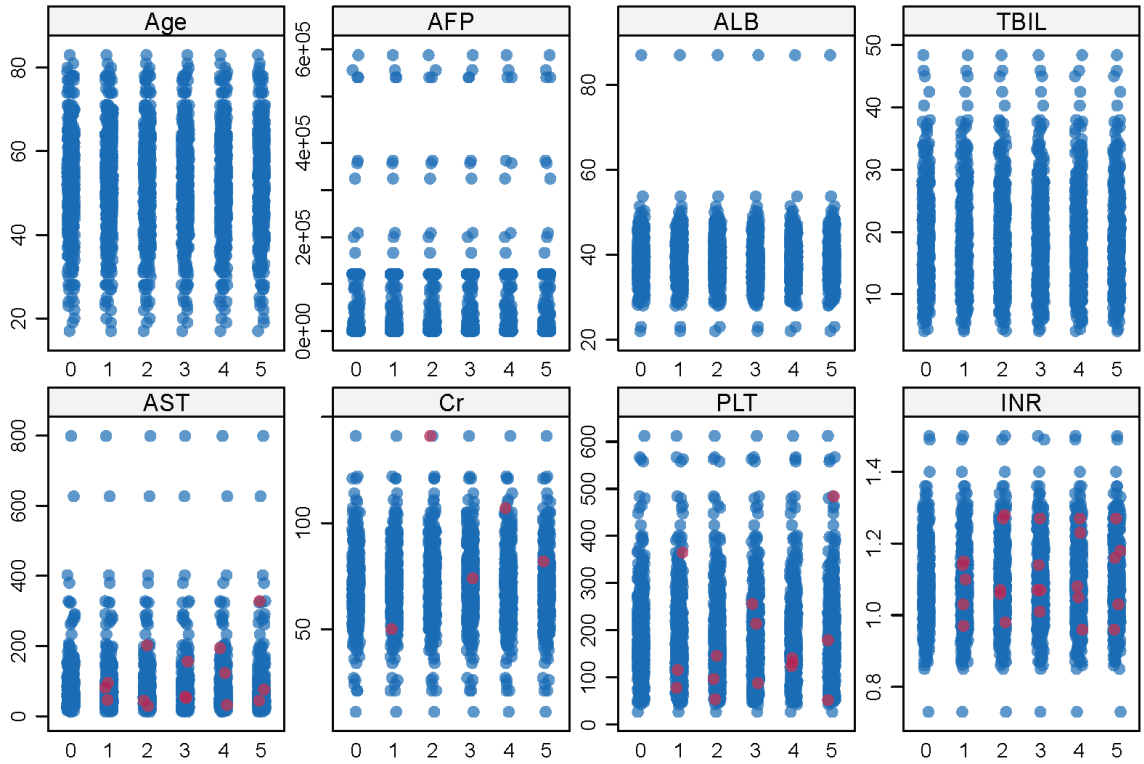

Figure S3. Covariate Balance Before and After Inverse Probability of Treatment Weighting

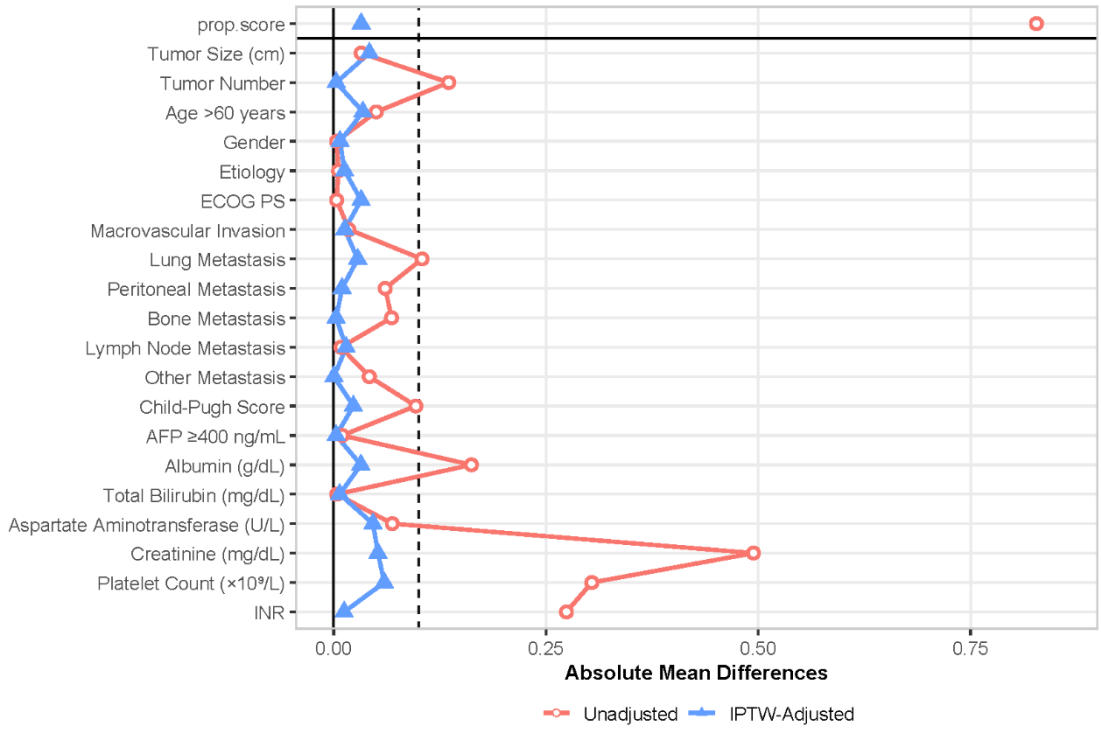

Figure S4. Test of Proportional Hazards Assumption Using Scaled Schoenfeld Residuals.

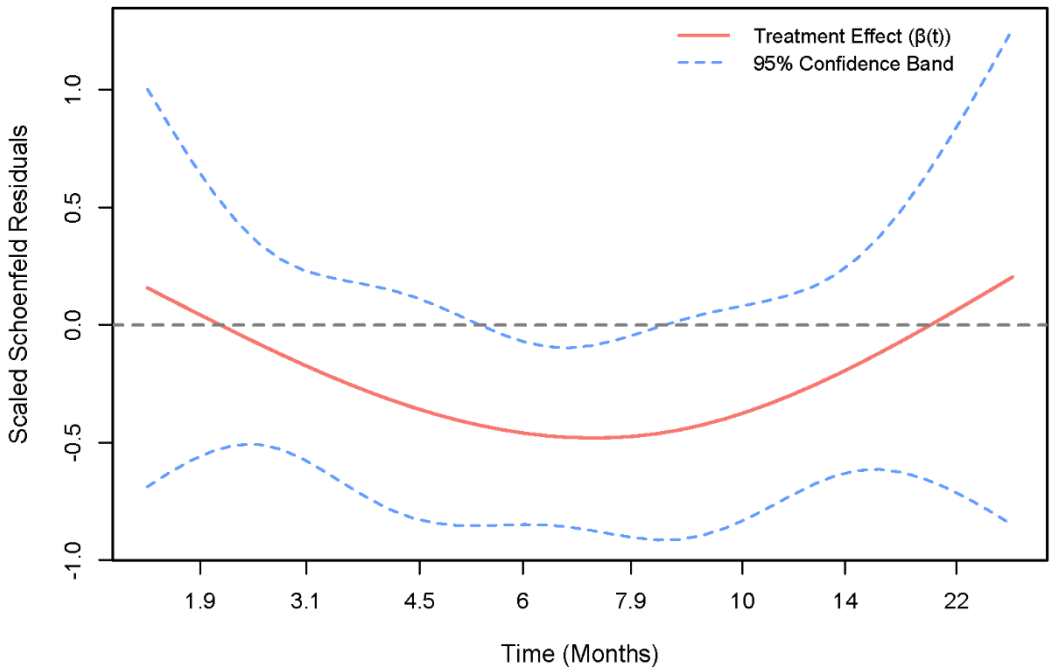

Figure S5. Subgroup analysis of absolute risk reduction (ARR) in 12-month mortality for TACE-Sorafenib (TACES) versus TACE alone. Forest plots display the ARR for each subgroup, with positive values favoring TACES. (A) Unweighted subgroup analysis. (B) Subgroup analysis after inverse probability of treatment weighting. Each subgroup presents the total number of patients (N) in TACE and TACES groups, the 12-month mortality risk for each treatment, and the calculated ARR. Subgroups include age, macrovascular invasion, ECOG performance status (PS), ALBI grade, and alpha-fetoprotein (AFP) level.