



Efficacy and safety of immune checkpoint inhibitors in lung cancer patients with hepatitis B surface antigen positivity: a real-world cohort study

Yi Feng¹ ; Bo Cheng¹ ; Xiaohuan Zhou¹; Jianxing He¹; Wenhua Liang¹

¹ State Key Laboratory of Respiratory Disease, National Clinical Research Center for Respiratory Disease, Guangzhou Institute of Respiratory Health; the First Affiliated Hospital of Guangzhou Medical University, Guangzhou, China.

Correspondence: liangwh1987@163.com.

INTRODUCTION

Why this matters

Patients with hepatitis B virus (HBV) infection are commonly under-represented in immune checkpoint inhibitor trials. Clinicians must balance antitumor efficacy against immune-related hepatic toxicity.

Objective

Evaluate first-line chemoimmunotherapy outcomes by baseline HBsAg status. Explore whether baseline anti-HBs level identifies prognostic or hepatic-safety differences among HBsAg-negative/anti-HBc-positive patients.

METHODS

Design: single-center retrospective cohort.

Treatment period: June 1, 2019–July 31, 2024.

Cohort flow

497 screened → 411 included
HBsAg-positive: 53
HBsAg-negative: 358

Endpoints

ORR and DCR
PFS and OS
Immune-related hepatitis and jaundice

Analysis:

Kaplan–Meier, log-rank testing, and multivariable Cox regression.
Anti-HBs subgroup analyses included 266 HBsAg-negative/anti-HBc-positive patients.

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- HBsAg positivity was not associated with inferior tumor response, PFS, or OS.
- Grade ≥3 immune-related hepatitis was more frequent in HBsAg-positive patients.
- Baseline anti-HBs levels were not significantly associated with survival or hepatic safety.

Future Direction for Research

- Validate these findings in larger, prospective, multicenter cohorts with greater representation of HBsAg-positive patients.
- Incorporate serial HBV DNA and liver-function monitoring to distinguish HBV reactivation from immune-related hepatitis and other hepatic events.

REFERENCES & ACKNOWLEDGEMENTS

Reference

Zhou X, Feng Y, Liang J, et al. Lung Cancer. 2026;219:109554.
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RESULTS

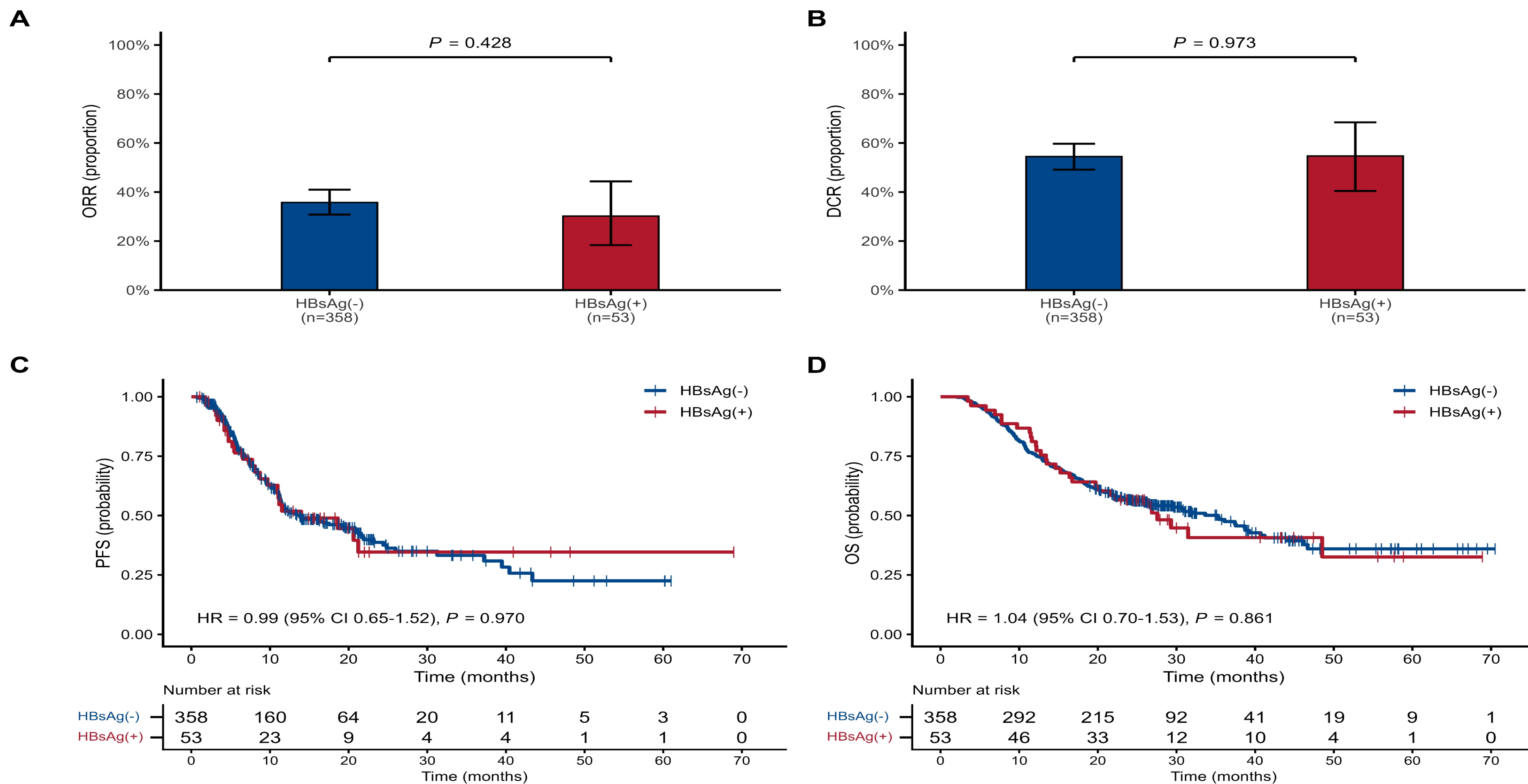


Figure 2. Survival outcomes and tumor response according to HBsAg status.

A. Progression-free survival

Variable	HR (95% CI)	P value
HBsAg-positive vs HBsAg-negative	1.08 (0.69–1.70)	0.727
Age, per 1 year	1.01 (0.99–1.03)	0.243
Male vs female	0.69 (0.35–1.36)	0.285
Smoking, yes vs no	1.53 (1.01–2.31)	0.043
ECOG PS ≥1 vs 0	1.15 (0.85–1.56)	0.372
Stage IV vs I–III	1.82 (1.34–2.48)	<0.001
SCLC vs NSCLC	1.74 (1.21–2.49)	0.003
PD-1 vs PD-L1 inhibitor	0.91 (0.62–1.34)	0.642

B. Overall survival

Variable	HR (95% CI)	P value
HBsAg-positive vs HBsAg-negative	1.07 (0.71–1.60)	0.755
Age, per 1 year	1.02 (1.00–1.04)	0.026
Male vs female	1.27 (0.60–2.72)	0.531
Smoking, yes vs no	1.52 (1.00–2.30)	0.050
ECOG PS ≥1 vs 0	1.60 (1.21–2.12)	0.001
Stage IV vs I–III	1.80 (1.35–2.39)	<0.001
SCLC vs NSCLC	1.85 (1.34–2.56)	<0.001
PD-1 vs PD-L1 inhibitor	1.21 (0.84–1.73)	0.304

Figure 3. Multivariable Cox regression analysis of PFS and OS.