

A real-world comparative analysis of atezolizumab plus bevacizumab and transarterial chemoembolization plus radiotherapy in hepatocellular carcinoma patients with portal vein tumor thrombosis

Soon kyu Lee^{1,2}, Jung Hyun Kwon^{1,2*}, Sung Won Lee^{1,2}, Hae Lim Lee^{1,2}, Hee Yeon Kim^{1,2}, Chang Wook Kim^{1,2}, Do Seon Song^{1,2}, U Im Chang^{1,2}, Jin Mo Yang^{1,2}, Soon Woo Nam^{1,2}, Seok-Hwan Kim^{1,2}, Myeong Jun Song^{1,2}, Ji Hoon Kim^{1,2}, Ahlim Lee^{1,2}, Hyun Yang^{1,2}, Si Hyun Bae^{1,2}, Ji Won Han^{1,2}, Heechul Nam^{1,2}, Pil Soo Sung^{1,2}, Jeong Won Jang^{1,2}, Jong Young Choi^{1,2}, Seung Kew Yoon^{1,2}

¹Division of Hepatology, Department of Internal Medicine, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

²The Catholic University Liver Research Center, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

Background & Purpose

- Immune checkpoint inhibitors (ICI), such as atezolizumab plus bevacizumab (Ate/Bev), have revolutionized treatment strategy for advanced hepatocellular carcinoma (HCC). Transarterial chemoembolization plus radiotherapy (TACE+RT) has also shown notable outcomes in HCC patients with portal vein tumor thrombosis (PVTT). In this study, we compared the treatment outcomes of Ate/Bev and TACE+RT in HCC patients with PVTT.

Methods

- Between June 2009 and October 2022, we consecutively enrolled 855 HCC patients with PVTT who were treated at the Catholic University of Korea. Patients with metastasis were excluded in the study.
- After excluding 760 patients, 97 patients (n=37 for the Ate/Bev group and n=60 for the TACE/RT group) were finally analyzed in the study.

Methods

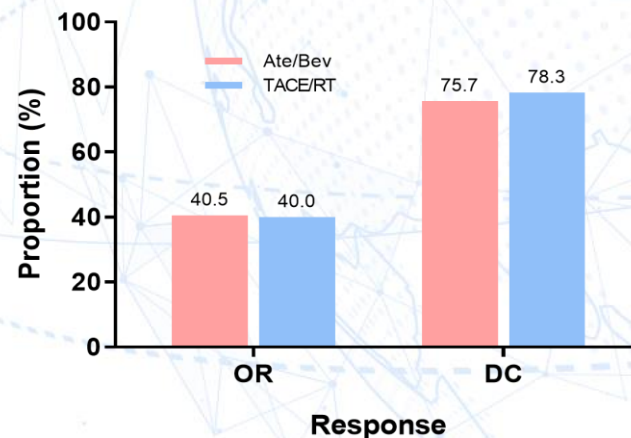
- The primary outcome was one-year survival.
- Secondary outcomes were one-year progression-free survival (PFS), objective response rate (ORR), and disease control rate (DCR). Treatment outcomes were also assessed using propensity-score matching (PSM).

Results

- The median age was 59.1 years, and 87 patients were male. The majority of patients (n=73, 76.0%) had HBV infection. There was no significant differences in baseline characteristics between the Ate/Bev and TACE+RT groups.

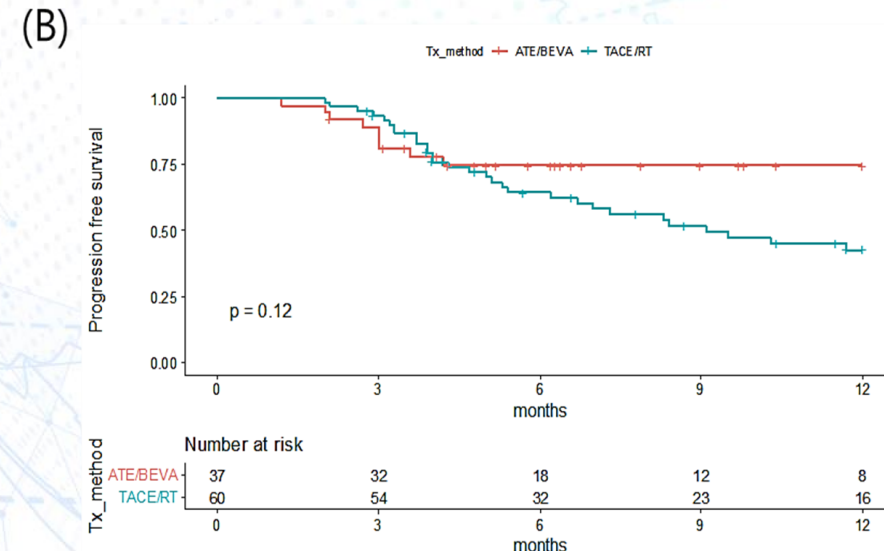
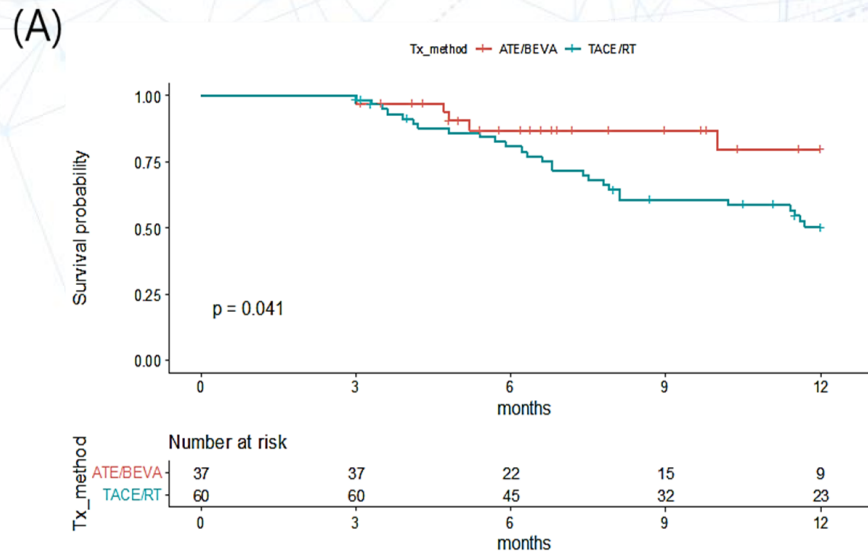
Results

- The TACE+RT and the Ate/Bev group had similar ORR (40.0% vs. 40.5%, $P=1.000$, respectively) and DCR (75.7% vs. 77.3%, $P=0.957$, respectively). There was no significant differences in adverse events between the Ate/Bev and TACE+RT groups (18.9% vs. 13.3%, $P=0.653$, respectively).



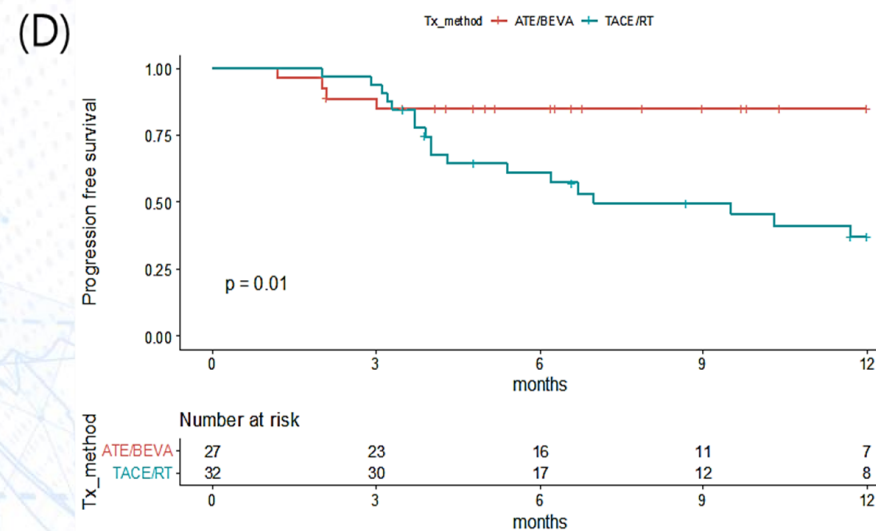
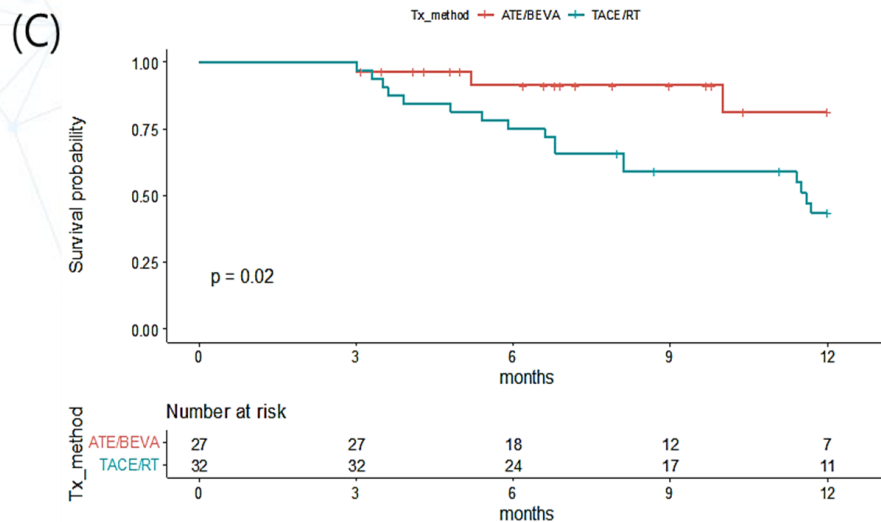
Results

- The Ate/Bev group showed significantly higher one-year survival rate than the TACE+RT group ($P=0.041$, Figure A). The one-year PFS were marginally higher in the Ate/Bev group ($P=0.12$, Figure B).



Results

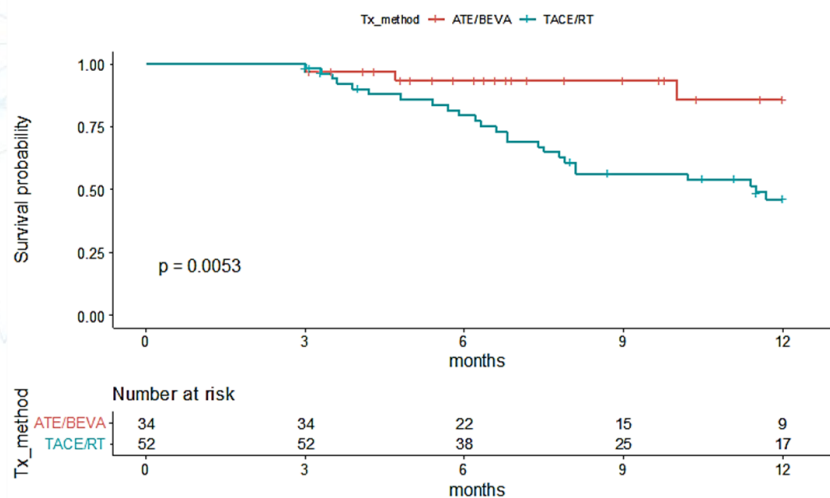
- After PSM, the Ate/Bev group had better one-year survival ($P=0.02$) and PFS ($P=0.01$) than the TACE+RT group (Figure 3C,D).



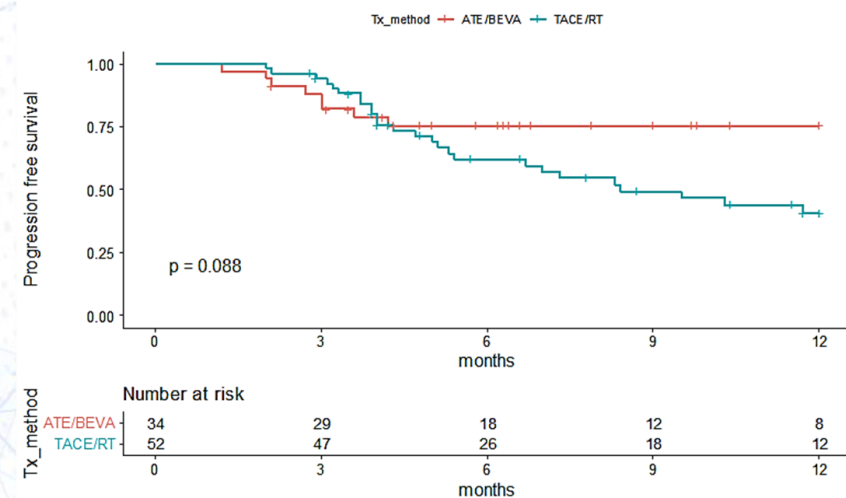
Results

- The Ate/Bev group still showed significantly higher one-year survival rate and marginally higher one-year PFS than the TACE+RT group in patients with extensive HCC burden*.

(A)



(B)



*Extensive HCC burden: size ≥ 7 cm or multiple or VP4

Conclusions

- The Ate/Bev treatment shows better clinical outcomes than the TACE+RT treatment in HCC patients with PVTT. Further studies with large number of patients are needed.