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LETTER TO THE EDITOR

# Effectiveness and safety of tenofovir amibufenamide in chronic hepatitis B patients

Li-Yang Meng, Chao-Ting Yang, Jian-Feng Bao, Jin-Song Huang

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## Abstract

This letter to the editor relates to the study entitled "Tenofovir amibufenamide *vs* tenofovir alafenamide for treating chronic hepatitis B: A real-world study", which was recently published by Peng *et al*. Hepatitis B virus infection represents a significant health burden worldwide and can lead to cirrhosis and even liver cancer. The antiviral drugs currently used to treat patients with chronic hepatitis B infection still have many side effects, so it is crucial to identify safe and effective drugs to inhibit viral replication.

**Key Words:** Tenofovir amibufenamide; Chronic hepatitis B; Non-alcoholic fatty liver disease; Alanine transaminase normalization; Virological response



**Core Tip:** It is well known that every chronic hepatitis B (CHB) patient should receive antiviral therapy. Although nucleos(t)ide analogs are still the first choice for CHB treatment, they are associated with many side effects, such as renal damage, osteoporosis, and lipid metabolism disorders. Therefore, as a new antiviral drug in China, tenofovir amibufenamide (TMF) is as effective as tenofovir alafenamide (TAF) in treating CHB and has comparable safety profiles, which suggests that TMF may be a viable alternative to TAF for CHB treatment.

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## TO THE EDITOR

We read with interest the retrospective study by Peng *et al*[1] titled "Tenofovir amibufenamide *vs* tenofovir alafenamide for treating chronic hepatitis B: A real-world study" published in the *World Journal of Gastroenterology*. The results of this study highlight the effectiveness and safety of tenofovir amibufenamide (TMF) for 48 weeks in patients with chronic hepatitis B (CHB). TMF may replace tenofovir alafenamide (TAF) for CHB treatment.

CHB remains the leading cause of liver cirrhosis and cancer in China[2]. Nucleos(t)ide analogs (NAs) are still the first choice for CHB treatment. Most patients receiving antiviral therapy can achieve long-term hepatitis B virus (HBV) DNA suppression. However, long-term follow-up studies have revealed that drugs that inhibit HBV replication, such as those aimed at reducing the risk of renal damage and osteoporosis and affecting lipid metabolism, are still ineffective[3]. Therefore, it is still important to find new drugs with the best antiviral effects and the fewest side effects. TMF is a newly launched antiviral drug in China, and there is still a lack of real-world research data in the Chinese population. Therefore, we endorse this literature to evaluate the safety and effectiveness of TMF in the treatment of patients with CHB patients in China, which has made outstanding contributions to the treatment of patients with CHB. We want to emphasize the following points about this study. First, this retrospective study has inherent limitations: The nonrandom selection of antiviral drugs can impact the clinical prognosis under investigation.

Second, the exclusion of CHB patients with concomitant nonalcoholic fatty liver disease (NAFLD) deserves consideration in research studies. While the study exclusion criteria (study design and patient selection) did mention CHB concurrent with NAFLD, data from "Table 1: Baseline characteristics of the study population" revealed that there were percentages of CHB patients with NAFLD in the TMF and TAF groups. Consequently, this study did not exclude CHB patients with NAFLD from its analysis. The findings from a retrospective study suggest that the presence of NAFLD can compromise the effectiveness of NA therapy in hepatitis B e antigen-positive CHB patients, leading to diminished rates of biochemical response and fibrosis improvement[4]. Additionally, liver biopsy is the most accurate modality for diagnosing and staging the severity of liver fibrosis, but this method is invasive and associated with potential complications. As a noninvasive alternative, liver stiffness measurement based on FibroScan was utilized to diagnose liver cirrhosis in this study[5]. However, it should be noted that the reliability of diagnosing cirrhosis based on liver stiffness measurement may be compromised by severe hepatic steatosis. The presence of significant hepatic steatosis affects the degree of hepatic fibrosis and reduces the specificity of liver fibrosis detection[6]. Therefore, the exclusion of CHB patients with NAFLD is imperative due to the detrimental impact of hepatic steatosis on the progression of fibrosis and compromised antiviral effectiveness. It is recommended to compare the effectiveness of this antiviral between CHB patients with and without NAFLD if CHB patients with NAFLD cannot be excluded.

Moreover, it is essential to note that NAs require time to inhibit the replication of HBV[7]. Therefore, in attempts to protect patient safety, researchers have explored combining NAs with various liver protection drugs. However, this approach may impact the accuracy of the study results. It is important to recognize that different liver protection drugs can have varying effects on outcomes, such as the alanine aminotransferase normalization rate and blood lipid metabolism. To increase the validity of the findings and ensure greater comparability between groups, we recommend using the same liver protection drugs for the TMF and TAF groups.

Peng *et al*[1] have made a significant contribution to the effectiveness and safety profile of TMF in CHB patients. We agree with the limitations of demonstrating the safety of TMF, as clearly described by the author. The points we propose are all related to the antiviral effectiveness of TMF in this study. Nonetheless, because of some influencing factors, the effectiveness of TMF remains to be further demonstrated. It is advisable to exclude CHB patients with NAFLD and reduce the impact of different hepatoprotective drugs.

## FOOTNOTES

**Author contributions:** Meng LY and Yang CT wrote the manuscript with the support from Huang JS; Bao JF edited this letter; Huang JS conceived the original idea.

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