

Tenofovir versus entecavir on the prognosis of hepatitis B-related hepatocellular carcinoma after surgical resection: A systematic review and meta-analysis

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Hepatitis B virus

❖ HBV infection is the major cause of HCC, accounting for more than 60% of all HCC cases

Hepatocellular carcinoma

❖ Hepatocellular carcinoma (HCC) is responsible for 80–90% of primary liver cancer cases.

Recurrence

❖ After surgical resection, 70% of patients develop tumor recurrence within 5 years

Nucleotide analog

❖ Entecavir (ETV) and tenofovir disoproxil fumarate (TDF) are both recommended as first-line antiviral agents

Assess the effectiveness and safety of ETV and TDF on the OS and prevention of tumor recurrence after curative surgery treatment for HBV-related HCC patients.

1 Registration in Prospero

2 Search strategy in Pubmed, Embase and Cochrane

3 Data extraction

4 Outcomes of interest: RFS, OS, early and late recurrence, mortality

5 Statistical analysis: Leave-one-out strategy, meta-regression analyses

6 Quality assessment: ROBINS-I and RoB2

❖ 1 RCT and 11 non-RCT, 8036 patients, 2819 (35%) were exposed to TDF and 5217 (65%) to ETV

❖ RFS, OS, survival at 3 and 5 years and mortality was significantly less frequent in patients treated with ETV as compared with TDF (Figure 1,2,3)

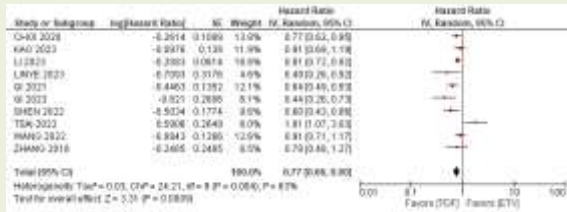


Fig 1. Forest plot for RFS

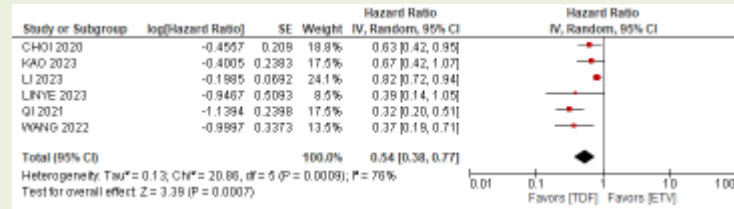


Fig 2. Forest plot for OS

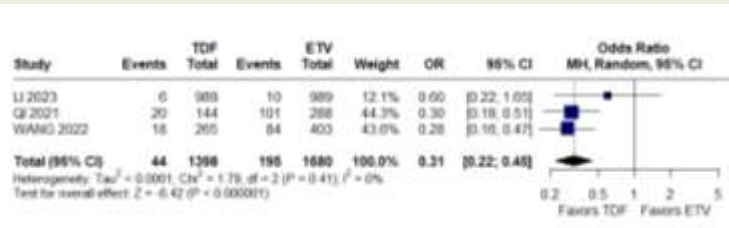


Fig 3. Forest plot for mortality

Meta-regression

❖ Outcome of overall survival:

❖ age (estimated effect 0.0953, $p < 0.0001$) and MVI (estimated effect 0.0063, $p < 0.0001$), when increased, worsened the odds ratio and, subsequently, treatment effect

❖ albumin (estimated effect is -0.0158, $p = 0.0255$), ALT (estimated effect is -0.0470, $p = 0.0024$) and total bilirubin (estimated effect is -0.0623, $p < 0.0001$), when increased, the risk ratio decreases, indicating a more beneficial treatment effect.

❖ **Comparative Effectiveness:** Both Tenofovir and Entecavir are effective in managing hepatitis B-related hepatocellular carcinoma post-surgery, with Entecavir showing slightly better outcomes.

❖ **Superior Efficacy of Entecavir:** Entecavir is associated with a reduced risk of cancer recurrence and improved overall survival rates compared to Tenofovir.

❖ **Future Research Directions:** Continued research is needed to refine antiviral treatment strategies and improve long-term patient outcomes and quality of life.

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