INPLASY

Meta-analysis of the therapeutic effect of Entecavir combined with milk thistle on hepatitis B

INPLASY202390043
doi: 10.37766/inplasy2023.9.0043
Received: 13 September 2023
Published: 13 September 2023

Ma, YY[1].

Corresponding author:
Yingying Ma

17866525890@163.com

Author Affiliation:
Dalian Medical University.

ADMINISTRATIVE INFORMATION

Support - Dalian Medical University.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202390043

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 13 September 2023 and was last updated on 13 September 2023.

INTRODUCTION

Review question / Objective P: Hepatitis B patients, may be accompanied by cirrhosis or fatty liver. I: The intervention in the observation group was Entecavir combined with milk thistle. C: Entecavir was the only intervention in the control group. O: Outcome measures included response rate, HBV-DNA negative conversion rate, IVC, ALT, AST. S: Randomized controlled trial.

Condition being studied Hepatitis B is caused by HBV infection, so it is difficult to cure, repeated attacks and other characteristics, if the disease can not be effectively controlled in time, often develop into cirrhosis and even liver cancer, a direct threat to the life of patients. At present, Entecavir, lamivudine and other antiviral treatments are often used in clinical treatment of hepatitis B, but the efficacy is not ideal. Silybin meglumine tablets are commonly used in clinical adjuvant treatment of hepatitis in recent years, which can play a better protective effect on the liver function of patients. Milk thistle has been used in Europe for thousands of years to treat liver disease. Milk thistle can activate the regeneration of liver protein, restore the activity of liver cells destroyed by alcohol and viruses, but also can clear free radicals, maintain the permeability of liver cell membrane, reduce the damage of toxins to the liver, protect the long-term alcohol injury and suffering from acute and chronic hepatitis, fatty liver, cirrhosis and toxic liver damage. So, maybe using entecavir in combination with milk thistle for hepatitis B will have unexpected results.

METHODS

Participant or population 1. Meet the diagnostic criteria for hepatitis B.2. The intervention in the observation group was Entecavir combined with milk thistle.3. Entecavir was the only intervention in the control group.4. It may be accompanied by cirrhosis or fatty liver.

Intervention 1. The intervention in the observation group was Entecavir combined with milk thistle.2. Entecavir was the only intervention in the control group.

Comparator Entecavir combined with milk thistle.

Study designs to be included Randomized controlled trial.

Eligibility criteria Inclusion criteria: ① Hepatitis B patients (may be combined with cirrhosis or fatty liver); (2) Randomized controlled trials; ③ The observation group was treated with entecavir combined with milk thistle, while the control group was treated with entecavir alone: ④ The effective rate, negative conversion rate, IVC, ALT and AST were reported. Language limit is Chinese and English, race, age, gender is not limited. Exclusion criteria: ① The study type was not a randomized controlled trial or was not specified; (2) Unable to extract effective outcome data from the text; ③ Duplicate literature; ④ The full text cannot be obtained; ⑤ The sample size is too small; ⑥ Studies on the effect of intervention with other drugs.

Information sources I will search the following database: Cochrane Central Database of Controlled Clinical Trials, PubMed, Web of Science, Dutch Database of Medical Abstracts (Embase), Clinical Trials, China Biomedical Literature Database (CBM), Wanfang Database, China Journal Full-Text Database (CNKI), China Science and Technology Journal Database (VIP), China Clinical Trial Center Registry. The start and end time of literature search were from the establishment of the database to July 2023. Limit English and Chinese.

Main outcome(s) Outcome indicators included two categorical variables: effective rate and negative conversion rate. Continuous variables: IVC, ALT, AST. The effect size used for binary variables is RR, and the effect size used for continuous variables is MD. Both RR and MD were calculated and analyzed by STATA16.0.

Quality assessment / Risk of bias analysis The methodological quality of the included studies was evaluated according to the bias risk assessment criteria of randomized controlled trials in Cochrane: (1) Randomized allocation method; ② The distribution scheme is hidden; ③ Whether blind method is used; ④ Integrity of the result data; (5) Whether the research results are selectively reported; Whether there are other sources of bias (small sample size, uneven baseline).
Evaluation Criteria:
1. if an original study mentions that all patients were divided into a control group and an experimental group according to the principle of randomization, then it conforms to random assignment.
2. if an original study mentions that all patients signed informed consent, then it is non-blinded.
3. if the number of cases in the control and experimental groups at the beginning of an original study is different from the number of cases in the control and experimental groups in the charts in the results section, then it has incomplete results data.
4. if an original study has many outcome indicators, then I would consider it not selective in reporting the findings.
5. if an original study mentions that there is no statistically significant difference ($p > 0.05$) in comparing the clinical data of the two groups, then it has no other source of bias.

Strategy of data synthesis STATA 16.0 and STATA 14.0 were used for meta-analysis. RR was used as the effect size for bitaxonomic variables, and mean difference (MD) was used as the effect size for continuous variables. The results were expressed by each effect size and its 95% confidence interval (CI). First, clinical heterogeneity test (Q test) was performed on the included studies. If there was no heterogeneity among the results ($I2 < 50\%$, $P > 0.1$), the fixed-effect model was selected for meta-analysis. If there was heterogeneity among the findings ($I2 \geq 50\%$, $P < 0.1$), a random effects model was used for meta-analysis. $P < 0.05$ was considered statistically significant. Then a sensitivity analysis was performed on the included studies to see if any of the articles would have influenced the results. Funnel plots were then used to analyze potential publication bias for all included studies to ensure study accuracy. If there is publication bias, I will use the scissor supplement method to determine its stability.

Subgroup analysis None.

Sensitivity analysis Sensitivity analysis was performed using STATA 14.0.

Country(ies) involved China.

Keywords Hepatitis B; Entecavir; Milk thistle.

Contributions of each author
Author 1 - Yingying Ma.
Email: 17866525890@163.com