INPLASY PROTOCOL

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Corresponding author:
Dachuan Jin

1452359342@qq.com

Author Affiliation:
Henan Provincial Infectious Disease Hospital

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None declared.

Comparison of therapeutic effects of anti-diabetic drugs on non-alcoholic fatty liver disease patients without diabetes: A network meta-analysis

Jin, DC[1]; Gao, P[2]; Jin, SQ[3]; Zhou, T[4]; Guo, BQ[5]; Li, GM[6].

Review question / Objective: **To evaluate the efficacy of different anti-diabetic drugs in the treatment of non-diabetic non-alcoholic disease by network meta-analysis, and find the best intervention.**
Condition being studied: **Non-alcoholic fatty liver disease (NAFLD) refers to the disease in which the liver fat content exceeds 5%, and excludes the secondary causes of alcohol, infection, drugs or other specific metabolic diseases. As a spectrum of disorders, it includes hepatocyte steatosis and steatohepatitis at the initial stage, liver fibrosis at the later stage, cirrhosis at the final stage, and even liver cancer. Nowadays Non-alcoholic fatty liver disease (NAFLD) has become the most common chronic liver disease in the world with an incidence rate as high as 25% which has been rising steadily worldwide in the past 30 years. Currently there are still no approved specific therapeutic agents and global treatment guidelines for NAFLD. For non-diabetic NAFLD, there is far from a consensus, too.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 November 2022 and was last updated on 03 November 2022 (registration number INPLASY2022110014).

INTRODUCTION

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cirrhosis at the final stage, and even liver cancer. Nowadays Non-alcoholic fatty liver disease (NAFLD) has become the most common chronic liver disease in the world with an incidence rate as high as 25% which has been rising steadily worldwide in the past 30 years. Currently there are still no approved specific therapeutic agents and global treatment guidelines for NAFLD. For non-diabetic NAFLD, there is far from a consensus, too.

METHODS

Participant or population: All patients included must have been diagnosed with non-alcoholic fatty liver but without diabetes. There are no limitation on age, gender, race, and nationality.

Intervention: All anti-diabetic drugs.

Comparator: Placebo or usual care in lifestyle.

Study designs to be included: Randomized controlled trials only.

Eligibility criteria: Studies were included if they fulfilled all of the following inclusion criteria: (1) Patients diagnosed with NAFLD but without diabetes; (2) Drug intervention with any anti-diabetic medications. Control group with placebo or routine care only (3) Clinical randomized controlled trial (4) Clearly reported outcome indicators including at least one of the following: Serum ALT, AST.

Information sources: Pubmed, Embase, Cochrane library, Web of science.

Main outcome(s): The main outcomes are serum concentration of alanine transaminase and aspartate transaminase.

Quality assessment / Risk of bias analysis: Cochrane 5.1 handbook.

Strategy of data synthesis: We applied Stata software (version 15.1) to draw the network map of the data, which showed the direct comparisons and the indirect comparisons between the included studies and between the different interventions. The consistency test was used to detect heterogeneity. If $P<0.05$, it indicated inconsistency. To rank different anti-diabetic drugs, we applied the rank probability ranking chart. At last, we used funnel plots to show whether a selection bias exists.

Subgroup analysis: No subgroup analysis was performed in this study

Sensitivity analysis: No sensitivity analylsis was performed in this study.

Language restriction: No language restriction in this study.

Country(ies) involved: PR China, the United Kingdom of Great Britain and Northern Irelandthe United Kingdom.

Keywords: Hypoglycemic agents; NAFLD; Randomized controlled trials; Network meta-analysis.

Contributions of each author:

Author 1 - Dachuan Jin - Drafted the manuscript.
Email: 1452359342@qq.com
Author 2 - Gao Peng - The author provided statistical experitise.
Email: ehang@126.com
Author 3 - Shunqin Jin - Contributed to the development of the selection criteria.
Email: 2973686748@qq.com
Author 4 - Tao Zhou - The development of the selection criteria and the risk of bias assessment strategy.
Email: zhoutao@sdu.edu.cn
Author 5 - Baoqiang Guo - The development of the selection criteria and the risk of bias assessment strategy.
Email: b.guo@gmx.co.uk
Author 6 - Guangming L - Provided feedback, provided finalcial support and approved the final manuscript.
Email: lgm177@sina.com