INPLASY PROTOCOL

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Support: **DMF Chia-Yi Christian Hospital.**

Review Stage at time of this submission: **Data extraction.**

Impact of interferon-free antivirus therapy on lipid profiles in patients with chronic hepatitis C: A network meta-analysis

Hung, HY[1]; Lai, HH[2]; Lin, HC[3]; Chen, CY[4].

Review question / Objective: **P: ("Hepatitis C"[Mesh] AND "Hepacivirus"[Mesh] AND "Hepatitis C, Chronic"[Mesh]) I: (direct acting antiviral OR asunaprevir OR boceprevir OR daclatasvir OR dasabuvir OR elbasvir OR glecaprevir OR grazoprevir OR ledipasvir OR ombitasvir OR paritaprevir OR pibrentasvir OR simeprevir OR sofosbuvir OR telaprevir OR velpatasvir OR voxilaprevir) C: placebo O: ("Cholesterol, VLDL"[Mesh] OR "Cholesterol, LDL"[Mesh] OR "Cholesterol, HDL"[Mesh] OR "Dyslipidemias"[Mesh] OR "lipoprotein cholesterol ester, human" [Supplementary Concept] OR "lipoprotein cholesterol" [Supplementary Concept]) OR ((lipoprotein cholesterol) OR ("lipidemia") OR (lipid metabolism) OR (lipid)).**
Information sources: **We conducted a comprehensive literature search of PubMed, Cochrane Library, Embase, and Ovid MEDLINE electronic databases from their inception to May 20, 2022.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 July 2022 and was last updated on 11 July 2022 (registration number INPLASY202270055).

INTRODUCTION

Review question / Objective: **P: ("Hepatitis C"[Mesh] AND "Hepacivirus"[Mesh] AND "Hepatitis C, Chronic"[Mesh]) I: (direct acting antiviral OR asunaprevir OR boceprevir OR daclatasvir OR dasabuvir OR elbasvir OR glecaprevir OR grazoprevir OR ledipasvir OR ombitasvir OR paritaprevir OR pibrentasvir OR simeprevir OR sofosbuvir OR telaprevir OR velpatasvir OR voxilaprevir) C: placebo O: ("Cholesterol, VLDL"[Mesh] OR "Cholesterol, LDL"[Mesh] OR "Cholesterol,**

HDL"[Mesh] OR "Dyslipidemias"[Mesh] OR "lipoprotein cholesterol ester, human" [Supplementary Concept] OR "lipoprotein cholesterol" [Supplementary Concept]) OR ((lipoprotein cholesterol) OR ("lipidemia") OR (lipid metabolism) OR (lipid)).

Condition being studied: Patients with chronic hepatitis C.

METHODS

Search strategy: We conducted a comprehensive literature search of PubMed, Cochrane Library, Embase, and Ovid MEDLINE electronic databases from their inception to May 20, 2022. By using Boolean operators and search terms without language or publication year restrictions. The search was not restricted to the published English-language articles and articles that were obtained by filtering cohort study and human subjects.

Participant or population: Chronic hepatitis C patients.

Intervention: Multiple DAAs, SOF-base, SOF/RBV, PTVr/OBV, DCV/ASV.

Comparator: Baseline.

Study designs to be included: Cohort study.

Eligibility criteria: Inclusion criteria:(1) described the SVR and relapse states after DAA treatment for HCV infection (2) Eligible studies reported: data in adults (>18 years) with HCV chronic infection treated with DAAs(3) DAA regimen data on lipid profle before starting therapy at least one follow-up assessment during antiviral treatment and/or after treatment completion.(4) Filtering cohort study. Exclusion criteria: (1) patients have received early IFN regimen treatment (2) Studies that have not revealed the SVR12 or serum lipid profiles were not measured(3) patients had comorbidities, HIV infection, hepatitis B infection, or any other cause of liver disease other than chronic HCV infection, and posttransplant patients(4) Not excluded or adjusted confounding factors (prescription of lipid-lowering agents)(5) Article low quality (<7 score)(6) publications that consisted only of book chapters, abstract-only articles, conference papers, reviews, theses, posters, editorials, and letters.

Information sources: We conducted a comprehensive literature search of PubMed, Cochrane Library, Embase, and Ovid MEDLINE electronic databases from their inception to May 20, 2022.

Main outcome(s): In total cholesterol, total 9 studies, including 17 treatments. In HDL, total 9 studies, including 18 treatments. In triglyceride, , total 7 studies, including 13 treatments. In LDL, total 8 studies, including 17 treatments.

Quality assessment / Risk of bias analysis: The Newcastle-Ottawa Scale (NOS) for Assessing the Quality of Cohort Studies. We only included high quality article (≥7 score). Star system based on three domains: (1)Selection of Study Groups (2)Comparability of Groups (3)Ascertainment of outcome. Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for Comparability.

Strategy of data synthesis: Aggregate study data were used for a quantitative synthesis and the random-effects model. RevMan Calculator was used to calculate the mean diference (MD) and 95% confdence intervals (CI) for each time-point. Means and medians were considered equivalent and used directly according to the Cochrane guidelines. Before analysis interquartile ranges were converted to standard deviations (SD) by dividing them by 1.35. The calculator converts cholesterol units form the popularly used the SI units mmol/L to mg/dL.

Subgroup analysis: Not applicable.

Sensitivity analysis: Not applicable.

Country(ies) involved: Taiwan/Department of Pharmacy, Ditmanson Medical

Foundation Chia-Yi Christian Hospital, Chiayi, Taiwan.

Keywords: **lipoprotein cholesterol, cholesterol, LDL, HDL, triglyceride, DAA.**

Contributions of each author:

Author 1 - Hsuan-Yu Hung contributed to the research conception, research design, and data acquisition, analysis, and interpretation.
Email: ameeyo36@gmail.com
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