

INPLASY PROTOCOL

To cite: Li et al. Effect of SGLT2 inhibitors on cardiovascular and renal outcomes in patients with eGFR less than 30 ml/min per 1.73 m². Inplasy protocol 202170099. doi: 10.37766/inplasy2021.7.0099

Received: 31 July 2021

Published: 31 July 2021

Corresponding author:
Ning Li

lin1439244902@163.com

Author Affiliation:
Affiliated Hospital of Nanjing
University of Chinese
Medicine.

Support: JPHOTCM.

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

Conflicts of interest:
None declared.

Effect of SGLT2 inhibitors on cardiovascular and renal outcomes in patients with eGFR less than 30 ml/min per 1.73 m²

Li, X¹; Zheng, YW²; Zhang, L³.

Review question / Objective: The effects of sodium-glucose cotransporter-2 (SGLT2) inhibitors on cardiovascular and renal outcomes in patients with eGFR < 30 ml/min per 1.73 m² remain questionable.

Condition being studied: Integrate the studies which explore the effects of SGLT2 inhibitors in patients with eGFR < 30 ml/min per 1.73 m².

Information sources: Two authors searched for relevant randomized controlled trials that investigated the efficacy of SGLT2 inhibitors in patients with eGFR < 30 ml/min per 1.73 m². The following electronic databases were searched: PubMed, Web of Science, Sciencedirect, Embase, and Clinical trialsEmbase, PubMed, Web of Science, and Cochrane library databases, we performed several exhaustive searches of major international conference proceedings, grey literature (the noncommercial bibliography of doctors' and masters', technical documents (including government reports)) and clinical trials that may be ongoing or not yet published to minimize loss or omission of suitable articles that met our inclusion criterion.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 31 July 2021 and was last updated on 31 July 2021 (registration number INPLASY202170099).

INTRODUCTION

Review question / Objective: The effects of sodium-glucose cotransporter-2 (SGLT2) inhibitors on cardiovascular and renal

outcomes in patients with eGFR < 30 ml/min per 1.73 m² remain questionable.

Condition being studied: Integrate the studies which explore the effects of SGLT2

inhibitors in patients with eGFR < 30 ml/min per 1.73 m².

METHODS

Participant or population: Patients with eGFR < 30ml/min per 1.73 m².

Intervention: SGLT2 inhibitors.

Comparator: Placebo.

Study designs to be included: Randomized controlled trials(RCTS) will be included.

Eligibility criteria: Inclusion criteria: Patients with eGFR < 30ml/min per 1.73 m².

Information sources: Two authors searched for relevant randomized controlled trials that investigated the efficacy of SGLT2 inhibitors in patients with eGFR < 30ml/min per 1.73 m². The following electronic databases were searched: PubMed, Web of Science, Scisearch, Embase, and Clinical trials Embase, PubMed, Web of Science, and Cochrane library databases, we performed several exhaustive searches of major international conference proceedings, grey literature (the noncommercial bibliography of doctors' and masters', technical documents (including government reports)) and clinical trials that may be ongoing or not yet published to minimize loss or omission of suitable articles that met our inclusion criterion.

Main outcome(s): The primary cardiovascular outcome of interest were: The composite outcome of cardiovascular death or hospitalization for heart failure. The primary kidney outcome of interest were: The composite outcome of Kidney failure(defined as requirement for chronic dialysis or kidney transplantation, or sustained eGFR below 15 mL/min/1.73 m²), worsening kidney function (defined as doubling of serum creatinine or sustained 40% decline in eGFR), or kidney death.

Quality assessment / Risk of bias analysis: The Cochrane quality assessment tool provided by RevMan was used to evaluate the risk of bias in each trial.

Strategy of data synthesis: Risk ratio(RR) and 95% confidence intervals (CIs) were used to estimate the pool value of each outcome. We assessed heterogeneity between studies using the I² statistics. Values of 25%, 50%, and 75% represented mild, moderate, and high heterogeneity, respectively. If the I² less than 50, we used the fixed effects model with application of the inverse variance method for analysis, otherwise, use random effects model(With DerSimonian-Laird).

Subgroup analysis: NA.

Sensitivity analysis: For sensitivity analysis, we alter the relative statistical model for analyzing.

Country(ies) involved: China.

Keywords: SGLT2 inhibitors, cardiovascular outcome, renal outcome, meta-analysis, poor kidney function SGLT2 inhibitors; Kidney; Chronic kidney disease.

Contributions of each author:

Author 1 - Ning Li.

Author 2 - Ya Wei Zheng.

Author 3 - Lu Zhang.