INPLASY PROTOCOL

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None declared.

The Efficacy and Safety of Sacubitril/Valsartan in CKD Patients: A Systematic Review and Meta-Analysis

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Review question / Objective: **To assess the efficacy and safety of LCZ696 compared to ACEI/ARBs in patients with CKD(eGFR<60ml/min/1.73 m2), we carried out the meta-analysis.**
Condition being studied: **CKD is a global health problem that costs health-care systems a bunch of prices, and it has a high prevalence of between 11% and 13% around the world. Many large clinical trials have shown the advantages of LCZ696 for patients with heart failure, but the effect of it on people who have CKD has not been tested in a great number of studies.**
Information sources: **Two reviewers independently conducted comprehensive searches until January 15(th), 2022 in the widely used medical databases, including PubMed, the Cochrane Library and Embase.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 08 April 2022 and was last updated on 24 May 2022 (registration number INPLASY202240045).

INTRODUCTION

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METHODS

Participant or population: Randomized controlled trials that included patients with CKD(eGFR<60ml/min/1.73 m2).

Intervention: Sacubitril valsartan(LCZ696).

Comparator: ACEI/ARBs.

Study designs to be included: Randomized controlled trials.

Eligibility criteria: (I)The type of trial was RCT; (II)The subjects contained CKD (eGFR<60ml/min/1.73 m2) patients; (III)The experimental group was LCZ696 and the control group was ACEI/ARB; (IV)All studies had data about renal function and renal outcomes.

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Main outcome(s): The change of Scr; The change of eGFR; The incidence of ESRD; The incidence of cardiovascular events; The incidence of hyperkalemia; The incidence of hypotension.

Quality assessment / Risk of bias analysis: We used the Cochrane Collaboration's tool for assessing risk of bias to evaluate the bias of the trials presented.

Strategy of data synthesis: All statistical analysis in this meta-analysis were performed on Review Manager 5.3. Due to the outcomes of the study were dichotomous data, the OR with 95% CI was computed. The heterogeneity of studies was assessed with the Q test, I2 statistic and forest maps. Heterogeneity was low when I2 was less than 25%, moderate when I2 was between 25% and 50% and high when I2 was greater than 50%. When I2<50% we chosen a fixed-effects model, otherwise the random-effects model was picked. Due to the small population of trials, meta regression could not be used to assess the sources of heterogeneity. We conducted sensitivity analysis and subgroup analyses based on interventions and duration of treatment.

Subgroup analysis: Subgroup analyses were carried out according to intervention and duration of treatment.

Sensitivity analysis: Some of I2 statistics in our meta-analysis was reduced after the exclusion of PARAGON-HF trial.

Country(ies) involved: China.

Keywords: LCZ696, CKD, efficacy, safety.

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