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Meta-analysis of the effect of finerenone on serum potassium in diabetic

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ADMINISTRATIVE INFORMATION

Support - Jiangsu Provincial Hospital of Traditional Chinese Medicine peak academic talent project（Y2021rc10）.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 January 2024 and was last updated on 19 January 2024.

INTRODUCTION

Review question / Objective P:diabetic nephropathy patients; I: finerenone; C: placebo; O: The incidence of hyperkalemia; S: RCT.

Condition being studied Diabetic kidney disease (DKD) is a serious microvascular complication caused by diabetes. The main clinical manifestations are persistent proteinuria and progressive decrease of glomerular filtration rate, which are important causes of kidney failure.

METHODS

Participant or population Subjects were diabetic nephropathy (DKD) or type 2 diabetes combined with chronic kidney disease. DKD is DM-induced CKD (UACR≥30 mg/g and/or eGFR < 60 mL/min/1.73m2 for more than 3 months) . The patient's age, gender, and course of disease are not limited.

Intervention The experimental group was treated with finerenone.

Comparator Control group received placebo.

Study designs to be included RCT.

Eligibility criteria The published RCT of finerenone in the treatment of diabetic nephropathy or type 2 diabetes complicated with chronic kidney disease.The exclusion criteria were as following:(1) The full text of the literature cannot be obtained; (2) Non-randomized controlled trials; (3) Review, review or conference reports; (4) Animal testing; (5) Duplicate literature; (6) Literature with inconsistent intervention measures or outcome indicators.

Information sources Using the four databases of PubMed, Web of Science, Embase and Cochrane Library, a systematic literature search was

conducted in October, 2023.The language was restricted to English.

Main outcome(s) The incidence of hyperkalemia.

Quality assessment / Risk of bias analysis Cochrane systematic review tools were used to evaluate the quality of the included literature, including randomization, assignment concealment, blindness, outcome data integrity, selective reporting of results, and other sources of bias.

Strategy of data synthesis Meta-analysis was performed using RevMan5.4 software. Odds ratio (OR) is used for binary classification data and mean difference (MD) is used for measurement data. Both are expressed as 95% confidence intervals (CI). For heterogeneity, Cochran's Q test and I^2 test were used. If $P > 0.1$, $I^2 \leq 50\%$, there was no statistical heterogeneity among studies, and the fixed effects model was used for meta-analysis. If P 50%, the source of heterogeneity should be analyzed, and the random effects model was used for meta-analysis. $P \leq 0.05$ indicates a statistically significant difference. When the number of studies was greater than 10, the funnel plot was used to assess potential publication bias.

Subgroup analysis None.

Sensitivity analysis None.

Country(ies) involved China.

Keywords finerenone; Diabetic nephropathy; serum potassium ; Randomized controlled trial; Meta-analysis.

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