INPLASY

The effect of KCNJ5 mutation on postoperative clinical and biochemical outcomes in patients with primary aldosteronism: a cumulative meta-analysis

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ADMINISTRATIVE INFORMATION

Support - No fund support.

Review Stage at time of this submission - Preliminary searches.

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 11 July 2023 and was last updated on 11 July 2023.

INTRODUCTION

Review question / Objective P:Primary aldosteronism I: KCNJ5 mutation C:KCNJ5 wild type O:Postoperative clinical and biochemical outcomes clinical and biochemical outcomes.

Condition being studied Studies have found that the mutation rate of KCNJ5 mutation in APA in Asian population can reach 75%, while that in European population is mostly 25-50%, and it has the advantages of being young and female. However, there are some contradictory research results on the effect of KCNJ5 mutation on the outcome after surgical treatment of aldosteronism.

METHODS

Search strategy Search in the database ; keywords: KCNJ5 、 primary aldosteronism; Date: till 2023-2-7.

Participant or population Primary aldosteronism in patients underwent adrenalectomy .

Intervention KCNJ5 mutatio.

Comparator Without KCNJ5 mutation.

Study designs to be included Observational study.

Eligibility criteria Inclusion: 1. Observational study 2. PA as defined by at least one definitive test and adrenal resection.3. Comparison of postoperative results between the KCNJ5 mutant group and the non-KCNJ5 mutant group was presented, and the definition criteria for the results were provided.2. No detailed outcome data were provided, and the rest, such as non-English articles, animal experiments, reviews, meta-analyses, conference abstracts, editorial reviews, case reports, and grey literature, were excluded.Inclusion criteria.:1. The PA diagnosed by Confirmatory test and underwent adrenalectomy.2. With the data about postoperative outcome.Exclusion criteria:1. Other Secondary hypertension.2.without the outcome data we need.3.no human. 4.no comparative cohort.

Information sources The database such as PubMed、Embase、Web of Science.

Main outcome(s) 1.clinical and biochemical outcomes in PASO criteria 2.hypertension cure rate 3.DBP 、SBP 、PAC 、PRA 、ARR、Potassium after surgery. The number of antihypertensive drugs.

Quality assessment / Risk of bias analysis Included studies were independently assessed by two authors (Ruohan Dai and Jinxin Ran) each using the Newcastle-Ottawa Scale (NOS) to assess the quality of the included literature in terms of selectivity, comparability, and follow-up of results, with one-star given for terms that met the criteria and disagreements resolved by consultation with the third author (Bo Wang), where scores of 1-3, 4-6, and 7-9 were defined as low, medium, and high quality studies, respectively.

Strategy of data synthesis Data were synthesized and analyzed using stata 15.1, and $P< 0.05$ was considered statistically significant. Dichotomous variables used OR (ratio of ratios) and continuous variables used WMD (weighted average), and the results were pooled using a random effects model due to differences in PA diagnosis and treatment processes between regional centers. Analysis of heterogeneity was performed by Q-test and I^2, with $I^2>50\%$ and $P<0.0.5$ Significant heterogeneity was considered to exist. Subgroup analysis was performed for continuous and dichotomous variables results using pre-assumed factors. Publication bias was visually tested by funnel plot and quantitatively assessed using Egger's test ($P< 0.05$ considered the presence of publication bias), with an attempt to correct the findings using the metatrim for the presence of bias. Finally, cumulative analyses were presented to show the trend of the pooled results with time and sample size.

Subgroup analysis The PA patients could be divided by the region or comparability.

Sensitivity analysis Sensitivity analysis was performed using the one-by-one exclusion method for the results of studies with significant heterogeneity.

Country(ies) involved China.

Keywords KCNJ5 mutation ;postoperative outcomes ; primary aldosteronism.

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