

INPLASY

A Systemic Review and Network Meta-Analysis of Cardiovascular Safety of Benzbromarone, Febuxostat, and Allopurinol in Patients with Gout

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ADMINISTRATIVE INFORMATION

Support - No funding was received for this research.

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 13 June 2024 and was last updated on 13 June 2024.

INTRODUCTION

Review question / Objective The objective of this research is to assess the cardiovascular safety of benzbromarone, febuxostat, and allopurinol in gout patients.

Condition being studied Gout is caused by hyperuricemia and is associated with cardiovascular diseases. Treatment for hyperuricemia primarily involves urate-lowering medications. Some trials showed higher cardiovascular mortality rates with febuxostat compared to allopurinol. However, data are limited about the cardiovascular safety of benzbromarone compared to febuxostat and allopurinol.

METHODS

Participant or population The population included adult patients (≥ 18 years) with the diagnosis of gout.

Intervention Benzbromarone.

Comparator Febuxostat or allopurinol.

Study designs to be included RCTs and comparative observational studies were both included.

Eligibility criteria Inclusion criteria were randomized controlled trials (RCTs) and cohort studies including adult patients with the diagnosis of gout, with urate-lowering medications. The outcome was the incidence of major adverse cardiovascular events.

Information sources PubMed and EMBASE.

Main outcome(s) The outcome was the incidence of major adverse cardiovascular events.

Quality assessment / Risk of bias analysis We applied Cochrane risk of bias tool to appraise the methodological quality.

Strategy of data synthesis Network meta-analyses with random-effects models.

Subgroup analysis Subgroup analysis of RCTs versus observational trials was also performed to evaluate the potential heterogeneity.

Sensitivity analysis Sensitivity analysis was performed to elucidate overlapping of population.

Country(ies) involved Taiwan.

Keywords febuxostat, allopurinol, benzbromarone, cardiovascular, gout.

Contributions of each author

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