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Network meta-analysis of different doses of rivaroxaban and the risk of bleeding in patients with atrial fibrillation

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202410114

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 January 2024 and was last updated on 27 January 2024.

INTRODUCTION

Review question / Objective The purpose of this study was to compare the risk of bleeding in patients with atrial fibrillation with different doses of rivaroxaban.The study of the selected article asks for a cohort study.

Condition being studied Five electronic databases (PubMed, EMBASE, Cochrane Central Register of Controlled Trials [CENTRAL] and Web of science) were searched.Endnote X9 literature management software was used to manage the literature search records.In the initial phase, three reviewers independently screened the yielded articles based on title. In the case of doubt, the articles were included in the abstract review phase.In Phase 2, all articles selected from the initial phase were reviewed by abstract and assessed for eligibility by two independent reviewers. Any disagreements were resolved by discussion between reviewers and consultation with a third party from the review team.We used STATA software (Version 14.0) command 'mvmeta' to perform a multivariate NMA within a frequentist framework 33 in accordance with current PRISMA NMA guidelines.

METHODS

Participant or population Participants were patients with atrial fibrillation who had taken different doses of rivaroxaban and were 18 years of age or older.

Intervention 15mg of rivaroxaban.

Comparator 20mg and 1omg of rivaroxaban.

Study designs to be included cohort study.

Eligibility criteria Studies were included if:(1)They compared different doses of rivaroxaban;(2)They

consisted only of patients with AF;(3)They reported bleeding events among their clinical endpoints.

Information sources PubMed, EMBASE, Cochrane Central Register of Controlled Trials [CENTRAL] and Web of science.

Main outcome(s) a.Any bleeding event; b.Intracranial bleeding; c.Gastrointestinal (GI) bleeding.

Quality assessment / Risk of bias analysis The quality of included studies were evaluated with the Newcastle-0ttawa scale.

Strategy of data synthesis We used STATA software (Version 14.0) command 'mvmeta' to perform a multivariate NMA .The 'networkplot' function of STATA was employed to create network plots that describe and present the geometry of the different exercise interventions. In the plots generated, nodes represent the different exercise interventions and the control condition of no exercise and lines connecting the nodes represented the direct head-to-head comparisons between interventions.If there are closed loops in the evidence structure, the inconsistency of the evidence should be assessed.If there is no relevant inconsistency in the evidence, or there is no closed loop in the evidence structure, a consistency model could be used to conclude the relative effect of the included treatments.We calculated the surface under the cumulative ranking (SUCRA) value to evaluate the rankings of treatment strategies.The examination of the homogeneity assumption was performed through direct treatment comparisons, and thus the χ2-based Q-test and I2 test were used for the analysis.The transitivity assumption was assessed by comparing the distribution of clinical variables, which were considered interfering factors that might affect the outcomes. The consistency assumption was tested to verify the feasibility of mixed comparisons.To check for the presence of bias due to small-scale studies, which may lead to publication bias in NMA, a network funnel plot was generated and visually inspected using the criterion of symmetry.

Subgroup analysis Subgroup studies were conducted for ages 65 years or older and younger than 65 years.

Sensitivity analysis Sensitivity analysis was performed using stata, which reflected the change of effect size after deletion of an article.

Country(ies) involved China.

Keywords doses of rivaroxban ; atrial fibrillation ; bleeding.

Contributions of each author
Author 1 - Yuan Lin.
Author 2 - Jun Chen.
Author 3 - Jiyu Chen.