INPLASY

Safety study of Nafamostat mesilate for continuous renal replacement therapy in intensive care patients: a systematic review and metaanalysis

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ADMINISTRATIVE INFORMATION

Support - North Sichuan Medical College.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202470052

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 July 2024 and was last updated on 12 July 2024.

INTRODUCTION

Review question / Objective The objective of this study was to evaluate the effects of different anticoagulant regimens in continuous renal replacement therapy on filter duration, patient survival, and bleeding rates.Randomized controlled and cohort controlled experiments were selected for the study.

Condition being studied A comprehensive literature search was conducted on Embase, Web of Scienc, and PubMed, and two reviewers (Binglin Song and Chun Liu) independently conducted preliminary eligibility screening for all article types, titles, and abstracts.

METHODS

Participant or population Intensive care patients.

Intervention Nafamostat mesilate.

Comparator Heparin AND No heparin for anticoagulation AND Sodium citrate hydrochloride.

Study designs to be included RCT.

Eligibility criteria Indications for CRRT treatment: AKI is greater than or equal to stage 2; pH<7.1; Anuria/oliguria (urine volume 160 mmol/L or 5.5mmol/L); Risk of pulmonary edema or ARDS; Blood products need to be imported in large quantities for patients with coagulation mechanism disorders. CRRT is required to regulate the internal environmental balance [10]. The activated partial thromboplastin time (APTT) before receiving CRRT was >37 s or 1.3 or < 0.8 or bleeding occurred within 24 hours.

Information sources Embase、Web of Scienc、PubMed.

Main outcome(s) Filter life time.

Quality assessment / Risk of bias analysis Cochrane.

Strategy of data synthesis Use Review Manager (RevMan) version 5.4 software. With reference to the Cochrane Handbook of Systematic Reviews, 30d mortality and bleeding complications (dichotomous variables) were expressed with 95% confidence intervals (ci).
The relative risk (RR) was calculated using the Mantel-Haenszel method [19]. The continuous variable (filter duration) is expressed as the mean difference (MD) of 95%cl. The outcome indicators of multiple articles were recorded as the median and interquartile distance (IQR), and the mean and standard deviation were calculated using a calculator [11] based on the sample size. Statistical heterogeneity was measured using the I^2 test. When I^2 =0, there is no heterogeneity. When $I^2$50%, the random effects model was used for analysis.

Subgroup analysis Subgroup studies were conducted according to anticoagulation methods and different control methods.

Sensitivity analysis The sensitivity analysis was carried out in stata software to reflect the sensitivity of the article by the change of the effect size after deleting one of the articles.

Country(ies) involved China.

Keywords Nafamostat mesilate, In vitro anticoagulation, Coagulation dysfunction, Continuous renal replacement therapy.

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