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Personalized Anticoagulant Therapy in Sepsis: A Scoping Review

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Ji, Y; Luo, RB.

Corresponding author:
Yun Ji

yunji@zju.edu.cn

Author Affiliation:
Department of Surgical Intensive Care Unit, the Second Affiliated Hospital, School of Medicine, Zhejiang University.

ADMINISTRATIVE INFORMATION

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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 21 August 2024 and was last updated on 21 August 2024.

INTRODUCTION

Review question / Objective The aim of this scoping review is to assess the methods that have been utilized to study personalized approaches to anticoagulant therapy in sepsis to date.

Background Despite the theoretical potential of anticoagulant therapy in sepsis, many clinical trials have failed to demonstrate significant benefits, likely due to the heterogeneous clinical presentations and pathophysiological responses among patients. As a result, personalized anticoagulant therapy, tailored to the individual patient's specific condition, may offer a more effective approach. Therefore, this scoping review aims to assess the methods that have been utilized to study personalized anticoagulant therapy in sepsis to date.

Rationale It remains uncertain which sepsis patients could benefit from anticoagulant therapy and whether treatments can be tailored to their specific conditions. This scoping review aims to evaluate the methods utilized to study personalized anticoagulant therapy approaches in sepsis to date. Patient stratification will be crucial in identifying those who may benefit from targeted anticoagulant therapy.

METHODS

Strategy of data synthesis A comprehensive search was conducted across PubMed, Embase, Web of Science, Cochrane Library, and Scopus databases using the MeSH terms 'anticoagulants' and 'sepsis' to identify relevant articles. The search strategy incorporated a combination of MeSH terms and entry terms to ensure thorough

coverage. Additionally, the reference lists of all included articles were manually reviewed to locate any further relevant studies.

Eligibility criteria Clinical trials and cohort studies (including case-control studies and observational cohorts) that investigated the methods used to study personalized anticoagulant therapy in adult (≥16 years) patients with sepsis were included. A personalized approach was defined as one that classifies patients into distinct subgroups or subphenotypes. Only full-text articles published in peer-reviewed English-language journals were considered. Reviews, protocols, meta-analyses, editorials, letters, conference papers, comments, stand-alone abstracts, case reports, and animal studies were excluded.

Source of evidence screening and selection The study selection was approached systematically using the eligibility criteria described above. After removing duplicates, we screened each title and abstract. Next, we reviewed each full-text paper. Any disagreements were resolved through discussion between the reviewers.

Data management For each included study, we extracted the following data: author information, publication year, study type, sample size and patient profile, sepsis definition, the type of anticoagulant therapy and comparator (if any), the personalized approach utilized, outcomes, and main findings. Any disagreements or inconsistencies will be resolved through discussion.

Language restriction English.

Country(ies) involved China.

Keywords Sepsis, Anticoagulant, Personalized, Scoping review.

Contributions of each author

Author 1 - Yun Ji.
Email: yunji@zju.edu.cn
Author 2 - Rubin Luo.
Email: zr_lrb@zju.edu.cn