

INPLASY PROTOCOL

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None declared.

The role of hemoperfusion combined with hemodialysis in acute severe organophosphorus poisoning: a meta-analysis

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Review question / Objective: Our meta-analysis aims to conduct a more comprehensive and in-depth analysis of the efficacy of hemoperfusion combined with hemodialysis on ASOPP patients through several different outcome indicators, providing clinical evidence for ASOPP blood purification therapy.

Information sources: The PubMed, EMBase, Cochrane, Web of science, Ovid, Scopus, ProQuest, Chinese National Knowledge Infrastructure (CNKI), Chinese Biomedical literature (CBM), WanFang, Weipu (VIP), Duxiu, Chinese clinical trial Registry and Clinical Trials.gov databases.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 16 November 2021 and was last updated on 02 June 2022 (registration number INPLASY2021110056).

INTRODUCTION

Review question / Objective: Our meta-analysis aims to conduct a more comprehensive and in-depth analysis of the efficacy of hemoperfusion combined with hemodialysis on ASOPP patients through several different outcome indicators,

providing clinical evidence for ASOPP blood purification therapy.

Condition being studied: Lack of evidence-based medical evidence for hemoperfusion combined with hemodialysis in treating acute severe organophosphorus pesticide poisoning.

METHODS

Participant or population: Acute severe organophosphorus pesticide poisoning.

Intervention: Hemoperfusion combined with hemodialysis.

Comparator: 1) Conventional emergency treatment. 2) Conventional emergency treatment plus hemoperfusion 3) Conventional emergency treatment plus hemodialysis.

Study designs to be included: RCT.

Eligibility criteria: Articles were included if they met all of the following criteria: 1) Randomized controlled study (RCT) 2) Study population consisted of accidental or suicidal OP poisoning patients, and diagnosed as acute severe organophosphorus pesticide poisoning (ASOPP) and there are clinical manifestations of pulmonary edema, respiratory failure, coma, cerebral edema or other important organ failures. 3) The study population included patients who received hemoperfusion combined with hemodialysis or hemoperfusion or hemodialysis alone on the basis of conventional emergency treatment once they presented to the emergency department. 4) One or more of the following were reported: the success rate of rescue, time of hospitalization, the incidence of complications, time for cholinesterase level to return to normal, coma time and atropine dosage. 5) Articles were from inception to May 2022. Articles were excluded if any of the following were present: 1) Studies were not published in Chinese or English. 2) Study data was unavailable or the content of article was not rigorous. 3) Studies involving primarily special populations (e.g. AIDS or tuberculosis patients) 4) Repeated literature.

Information sources: The PubMed, EMBASE, Cochrane, Web of Science, Ovid, Scopus, ProQuest, Chinese National Knowledge Infrastructure (CNKI), Chinese Biomedical Literature (CBM), WanFang,

Weipu (VIP), Duxiu, Chinese Clinical Trial Registry and ClinicalTrials.gov databases.

Main outcome(s): The success rate of rescue, time of hospitalization and the incidence of complications.

Additional outcome(s): Time for cholinesterase level to return to normal, coma time and atropine dosage.

Data management: NoteExpress and Endnote.

Quality assessment / Risk of bias analysis: Cochrane Collaboration tool.

Strategy of data synthesis: We used the RevMan software (version 5.3) provided by the Cochrane Collaboration and Stata (version 14 and 16) for data analysis. Dichotomous variable was presented as Risk Ratios (RR). Continuous outcomes were presented as the mean difference and with a 95% confidential interval (CI) rate.

Subgroup analysis: Subgroup analysis according to the units of outcomes.

Sensitivity analysis: After deleting any one of the documents, merge them again. If the effect size is not much different, then pass the sensitivity analysis.

Language: English and Chinese.

Country(ies) involved: China.

Keywords: hemoperfusion combined with hemodialysis, acute severe organophosphorus pesticide poisoning, meta-analysis.

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