INPLASY PROTOCOL

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Support: **None.**

Review Stage at time of this submission: **Piloting of the study selection process.**

Conflicts of interest:
None declared.

Levosimendan to facilitate weaning from cardiorespiratory support in critically ill patients: A meta-analysis

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Review question / Objective: **We aimed to assess the efficacy and safety of levosimendan in facilitating weaning from cardiorespiratory support in this patient population.**
Condition being studied: **Cardiorespiratory support in critically ill patients.**
Eligibility criteria: **1) comparing levosimendan to control (i.e., placebo, any other drug or no drug) in patients undergoing MV/ECMO; 2) reporting data on the successful weaning rate from MV/ECMO.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 09 July 2021 and was last updated on 09 July 2021 (registration number INPLASY202170024).

INTRODUCTION

Review question / Objective: **We aimed to assess the efficacy and safety of levosimendan in facilitating weaning from cardiorespiratory support in this patient population.**

Condition being studied: **cardiorespiratory support in critically ill patients.**

METHODS

Participant or population: **Adult (≥18 years old) ICU patients received levosimendan.**

Intervention: **Levosimendan.**

Comparator: **Control (i.e., placebo, any other drug or no drug).**

Study designs to be included: The search strategy was restricted to RCTs and observational studies with matched groups (cohort studies with two-arms or case-control studies).

Eligibility criteria: 1) comparing levosimendan to control (i.e., placebo, any other drug or no drug) in patients undergoing MV/ECMO; 2) reporting data on the successful weaning rate from MV/ECMO.

Information sources: We will search the references in the included trials and personal files. We will request advice from experts in the field. In addition, we will search associated articles from critical care meetings; and contacted the authors of included trials, if need.

Main outcome(s): The primary outcome was the ECMO or MV weaning. Secondary outcomes included MV duration, length of stay in ICU, overall mortality at the longest following-up available, and adverse events.

Quality assessment / Risk of bias analysis: We evaluated the methodological quality of the individual studies using the Cochrane risk of bias tool for RCTs and the Newcastle-Ottawa Quality Assessment Scale.

Strategy of data synthesis: For studies that reported median with accompanying interquartile range (IQR)as the measure of treatment effect, we estimated the mean from median and standard deviations (SD) from IQR using the methods described in previous studies before data analysis.

Subgroup analysis: subgroup analysis was performed separately by pooling trials focusing on MV and ECMO for the primary outcome.

Sensitivity analysis: We conducted sensitivity analyses to investigate the influence of a single study on the overall pooled estimate of each predefined outcome.

Language: We limited our language to English and Chinese.

Country(ies) involved: China.

Keywords: cardiopulmonary support; extracorporeal membrane oxygenation; mechanical ventilation; levosimendan; weaning.

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