INPLASY PROTOCOL

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Conflicts of interest:
None declared.

Transplumonary pressure guided mechanical ventilation for acute respiratory distress syndrome adult in critical ill：A systematic review and meta analysis

Wang, S[1]; Shi, Y[2]; Wang, Y[3]; Dong, Y[4]; Liu, M[5]; Li, X[6]; Xu, H[7].

Review question / Objective: **The aim was to investigate the effect of mechanical ventilation guided by transpulmonary pressure in patients diagnosed with Acute Respiratory distress syndrome in comparison with standard strategy guided mechanical ventilation pressure and ventilator setting.**
Information sources: **We will search the following databases: 1. MEDLINE (PubMed), 1966 to present; 2. EMBASE; 3. PubMed; 4. Web of Sience. There will be no restrictions based on language or publication status. We will not include any abstracts in this review or consensus. We will search the reference lists of the included studies for additional eligible articles. We will email experts to ask them for key trials in this topic area. We will search for ongoing and unpublished studies in: · ClinicalTrials.gov (www.ClinicalTrials.gov) · World Health Organization International Clinical Trials Registry Platform (www.who.int/trialsearch) · Controlled trials (www.controlled-trials.com) We will search the proceedings of the Society of Critical Care Medicine, American Academy for Respiratory Care and European Respiratory Society meetings from the last three years.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 April 2022 and was last updated on 15 April 2022 (registration number INPLASY202240084).

INTRODUCTION

Review question / Objective: **The aim was to investigate the effect of mechanical ventilation guided by transpulmonary pressure in patients diagnosed with Acute Respiratory distress syndrome in comparison with standard strategy guided mechanical ventilation pressure and ventilator setting.**

Condition being studied: **Acute Respiratory Distress Syndrome; Clinical outcomes of ARDS.**

METHODS

Participant or population: Acute respiratory distress syndrome adult patients with invasive or non-invasive mechanical ventilation requirement in the intensive care unit.

Intervention: Transplumonary pressure guided mechanical ventilation.

Comparator: Standard strategy guided mechanical ventilation pressure and ventilator setting.

Study designs to be included: We will not include any abstracts in this review or consensus. We will search the reference lists of the included studies for additional eligible articles.

Eligibility criteria: Random Controlled trials that are eligible for inclusion in the review.

Information sources: We will search the following databases: 1. MEDLINE (PubMed), 1966 to present; 2. EMBASE; 3. PubMed; 4. Web of Sience. There will be no restrictions based on language or publication status. We will not include any abstracts in this review or consensus. We will search the reference lists of the included studies for additional eligible articles. We will email experts to ask them for key trials in this topic area. We will search for ongoing and unpublished studies in: · ClinicalTrials.gov (www.ClinicalTrials.gov) · World Health Organization International Clinical Trials Registry Platform (www.who.int/trialsearch) · Controlled trials (www.controlled-trials.com) We will search the proceedings of the Society of Critical Care Medicine, American Academy for Respiratory Care and European Respiratory Society meetings from the last three years.

Main outcome(s): All cause mortality. Mechanical ventilation days. Adverse events.

Additional outcome(s): 1. mechanical ventilation days. 2. oxygenation index. 3. ventilation parameters (PEEP, the plat pressure, the peak airway pressure, lung compliance, respiratory rate, tidal volume, pulmonary volume, and extravascular lung water index). 4. hemodynamics(heart rate, central venous pressure, mean arterial pressure, cardiac index). 5. cytokines levels(interleukin-6 and interleukin-8).

Quality assessment / Risk of bias analysis: We will use the Cochrane Risk of Bias Tool for Randomized Controlled Trials. For observational studies we will use the ROBINS-I tool. We will integrate these assessments of the quality of the conduct of studies to summarize the overall quality of evidence considering the consistency of the findings, directness of the evidence, the precision of results and the evidence of publication bias according to the guideline provided by the GRADE Handbook. We will use the Summary of Findings Table format for the primary outcomes.

Strategy of data synthesis: Review Manager 5.3 software will be used to analyze data. Mean deviation±standard deviation and 95% confidence interval will be used in continuous variables.

Subgroup analysis: Subgroup analysis will be performed according to the severity of ARDS who received transplumonary pressure guided mechanical ventilation.

Sensitivity analysis: Odds ratio and pertinent 95%CI will be used in dichotomous variables.

Language: English.

Country(ies) involved: USA; China.

Keywords: Transplumonary pressure; Acute respiratory distress syndrome.

Contributions of each author:
Author 1 - Wang Song - drafted the manuscript.
Author 2 - Shi Yachen - The author provides statistical analysis technical support.
Author 3 - Wang Yifeng.
Author 4 - Dong Yan - The author participated in the literature screening.

Author 5 - Liu Min - The author participated in the literature screening.
Author 6 - Li Xiaowan - The author participated in the literature screening.
Author 7 - Xu Hongyang - The author provides overall quality control of the document.