

# INPLASY PROTOCOL

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None declared.

## To explore the possibility of penehyclidine completely replacing atropine as an anticholinergic antidote in acute organophosphorus pesticide poisoning: a meta-analysis

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**Review question / Objective:** This meta-analysis aims to provide evidence-based medical evidence for penehyclidine as an anticholinergic antidote to completely replace atropine in acute organophosphorus pesticide poisoning.

**Condition being studied:** There is no evidence-based medical evidence for penehyclidine as an anticholinergic antidote to completely replace atropine in acute organophosphorus pesticide poisoning.

**Information sources:** The Cochrane, ProQuest, Web of science, PubMed, Scopus, EMbase, Ovid, 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 23 March 2022 and was last updated on 24 March 2022 (registration number INPLASY202230133).

## INTRODUCTION

**Review question / Objective:** This meta-analysis aims to provide evidence-based medical evidence for penehyclidine as an anticholinergic antidote to completely

replace atropine in acute organophosphorus pesticide poisoning.

**Condition being studied:** There is no evidence-based medical evidence for penehyclidine as an anticholinergic

antidote to completely replace atropine in acute organophosphorus pesticide poisoning.

## METHODS

**Participant or population:** Acute organophosphorus pesticide poisoning.

**Intervention:** Penehyclidine.

**Comparator:** Atropine.

**Study designs to be included:** Randomized controlled trial.

**Eligibility criteria:** Articles were included if they met all of the following criteria: 1) Randomized controlled study (RCT) 2) The study population is patients with acute organophosphorus pesticide poisoning, including living poisoning, use poisoning and production poisoning. 3) In the study, penehyclidine was used as the anticholinergic antidote in the experimental group and atropine was used as the anticholinergic antidote in the control group. Other general first aid measures of the experimental group and the control group are the same. 4) Articles report one or more of the following: (i) cure rate, (ii) mortality rate, (iii) hospitalization time, (iv) incidence of complications, including delayed polyneuropathy, intermediate syndrome, rebound, and respiratory failure, and (v) occurrence of adverse reactions, including blurred vision, thirst, urinary retention, tachycardia, fever, restlessness, and disturbance of consciousness, and (vi) disappearance time of clinical symptoms, including disappearance time of muscarinic symptoms, disappearance time of nicotinic symptoms, and disappearance time of central nervous system symptoms, and (vii) cholinesterase level recovery time, (viii) coma time and (ix) mechanical ventilation time. 5) Articles are all articles as of March 17, 2022. Articles were excluded if any of the following were present: 1) Articles are not randomized controlled trials. 2) The language of the articles are not Chinese or English. 3) The study population of articles are not adults. 4) Animal experiment 5)

Articles are not available. 6) The content of the articles are not rigorous. For example, the statistical results have no p value. 7) The articles are reviews or meta-analyses. 8) The data in the articles are duplicated or there is no data in the articles.

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

**Main outcome(s):** Cure rate, mortality rate, hospitalization time.

**Additional outcome(s):** Incidence of complications, including delayed polyneuropathy, intermediate syndrome, rebound, and respiratory failure, and occurrence of adverse reactions, including blurred vision, thirst, urinary retention, tachycardia, fever, restlessness, and disturbance of consciousness, and disappearance time of clinical symptoms, including disappearance time of muscarinic symptoms, disappearance time of nicotinic symptoms, and disappearance time of central nervous system symptoms, and cholinesterase level recovery time, coma time and mechanical ventilation time.

**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 unit of the outcomes, such as days, hours, minutes.

**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.

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**Language:** Chinese and English.

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**Keywords:** acute organophosphorus pesticide poisoning, penethyclidine, atropine, meta-analysis.

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