

# INPLASY PROTOCOL

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**Corresponding author:**  
Cheng Tao

hxjz\_CT1989@163.com

**Author Affiliation:**  
West China Hospital

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**Conflicts of interest:**  
The authors have no potential conflicts of interest to disclose.

## Efficiency of free thyroxine in predicting severity and mortality of patients with acute pancreatitis: A protocol for systematic review and meta-analysis

Cheng, T<sup>1</sup>; Liu, BF<sup>2</sup>; Han, TY<sup>3</sup>; Pan, P<sup>4</sup>; Yu, HF<sup>5</sup>; Li, N<sup>6</sup>; Xiao, BJ<sup>7</sup>.

**Review question / Objective:** **P:** Patients with acute pancreatitis **I:** Patients with higher free thyroxine level **C:** Patients with lower free thyroxine level **O:** Severity, hospital mortality and duration of hospital stays **S:** RCTs and case-control Studies.

**Condition being studied:** Free thyroxine may be used to predict the prognosis of patients with acute pancreatitis. But at present, there is no systematic evaluation report on its efficiency. This protocol aims to reveal the efficacy of free thyroxine in predicting severity and mortality of patients with acute pancreatitis.

**Information sources:** We will search the EMBASE, Web of Knowledge, PubMed, ClinicalTrials.gov and Cochrane Library from inception to September 30, 2021 to retrieve relevant studies. We will also search citations of relevant primary and review. Authors of abstract in the meeting will be further searched in PubMed for potential full articles. To minimize the risk of publication bias, we will conduct a comprehensive search that included strategies to find published and unpublished studies.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 January 2021 and was last updated on 22 January 2021 (registration number INPLASY202110088).

### INTRODUCTION

**Review question / Objective:** **P:** Patients with acute pancreatitis **I:** Patients with higher free thyroxine level **C:** Patients with lower free thyroxine level **O:** Severity,

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## METHODS

**Participant or population:** Patient age  $\geq 18$  years old, a minimum hospital stays of 24 h and a diagnosis of AP.

**Intervention:** Patients with higher free thyroxine level.

**Comparator:** Patients with lower free thyroxine level.

**Study designs to be included:** RCT and observational research.

**Eligibility criteria:** The inclusion criteria for the study will include: (1) studies with patient age  $\geq 18$  years old, a minimum hospital stay of 24 h and a diagnosis of AP; (2) conference abstracts were only included when they provided adequate relevant information for assessment; (3) the patients with AP was divided into two groups (Patients with higher free thyroxine level and Patients with lower free thyroxine level); Exclusion criteria will include: age  $< 18$  years old, patients with chronic pancreatitis or pancreas carcinoma and patients with incomplete data.

**Information sources:** We will search the EMBASE, Web of Knowledge, PubMed, ClinicalTrials.gov and Cochrane Library from inception to September 30, 2021 to retrieve relevant studies. We will also search citations of relevant primary and review. Authors of abstract in the meeting will be further searched in PubMed for potential full articles. To minimize the risk of publication bias, we will conduct a comprehensive search that included strategies to find published and unpublished studies.

**Main outcome(s):** Severity.

**Additional outcome(s):** Hospital mortality and duration of hospital stays.

**Quality assessment / Risk of bias analysis:** Risk of bias assessment will be carried out according to the Newcastle-Ottawa Scale (NOS) to rate the internal validity of the individual studies, and funnel plots will be constructed to assess the risk of publication bias.

**Strategy of data synthesis:** All pairwise meta-analytic calculations will be performed with Review Manager software (RevMan) version 5.3 (Cochrane Collaboration). Heterogeneity will be examined by computing the Q statistic and  $I^2$  statistic, and presence of reporting bias by visual inspection of funnel plots. Statistical significance was considered when the P value  $< 0.05$ .

**Subgroup analysis:** Patients with higher free thyroxine level and Patients with lower free thyroxine level.

**Sensibility analysis:** Heterogeneity will be examined by computing the Q statistic and  $I^2$  statistic, and presence of reporting bias by visual inspection of funnel plots. Statistical significance was considered when the P value  $< 0.05$ .

**Country(ies) involved:** China.

**Keywords:** acute pancreatitis; free thyroxine; severity; prognosis; mortality.

### Contributions of each author:

Author 1 - Cheng Tao.

Email: hxjz\_CT1989@163.com

Author 2 - Bo-Fu Liu.

Email: 837718077@qq.com

Author 3 - Han Tian-Yong.

Email: 654191633@qq.com

Author 4 - Pan Pan.

Email: 2210670239@qq.com

Author 5 - Yu Haifang.

Email: yuhaifang@wchscu.cn

Author 6 - Li Na.

Email: 741815450@qq.com

Author 7 - Xiao Bo-Jie.

Email: huaxi654191633@163.com