INPLASY PROTOCOL

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Review Stage at time of this submission: **The review has not yet started.**

Conflicts of interest:
None.

Effect of trimetazidine on incidence of major adverse cardiac events in coronary artery disease patients undergoing percutaneous coronary intervention: A protocol for systematic review and meta-analysis

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Review question / Objective: **To evaluate effect of trimetazidine on incidence of major adverse cardiac events in coronary artery disease patients undergoing percutaneous coronary intervention.**
Condition being studied: **Trimetazidine; major adverse cardiac event; coronary artery disease; percutaneous coronary intervention.**
Information sources: **PubMed, Embase, Web of Science, Cochrane Library, the China National Knowledge Infrastructure, Chinese Biomedical Literature Database, and China Science and Technology Journal Database will be searched to collect RCTs of trimetazidine for CAD patients undergoing PCI. The range of publication time will be from the inception of the database to October 2020 without language limitation. The detailed search strategy of PubMed will be created. The similar search strategies will be used for other electronic databases.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 September 2020 and was last updated on 23 September 2020 (registration number INPLASY202090083).

INTRODUCTION

Review question / Objective: **To evaluate effect of trimetazidine on incidence of major adverse cardiac events in coronary artery disease patients undergoing percutaneous coronary intervention.**

Condition being studied: **Trimetazidine; major adverse cardiac event; coronary artery disease; percutaneous coronary intervention.**

METHODS

Participant or population: **Participants who suffer from CAD and receive PCI treatment will be included without restrictions of the nationality, age, gender, and race.**

Intervention: In the treatment group, patients were given trimetazidine with no limitations of administration routes, dosage or duration of intervention.

Comparator: RCTs that have control groups with conventional treatments (such as drug therapy and physical therapy), or no treatment will be included.

Study designs to be included: All randomized controlled trials (RCTs) of trimetazidine for CAD patients undergoing PCI will be considered for inclusion without language limitation. Case reports, non-RCTs, animal experiments, reviews and repeatedly published studies will be excluded.

Eligibility criteria: Of trimetazidine for CAD patients undergoing PCI.

Information sources: PubMed, Embase, Web of Science, Cochrane Library, the China National Knowledge Infrastructure, Chinese Biomedical Literature Database, and China Science and Technology Journal Database will be searched to collect RCTs of trimetazidine for CAD patients undergoing PCI. The range of publication time will be from the inception of the database to October 2020 without language limitation. The detailed search strategy of PubMed will be created. The similar search strategies will be used for other electronic databases.

Main outcome(s): The incidence of MACE (such as stent restenosis, stent thrombosis, new significant coronary stenosis, myocardial infarction, heart failure and cardiac arrest) will be designated as the outcomes.

Quality assessment / Risk of bias analysis: Two reviewers will independently assess the risk of bias using the Cochrane risk of bias assessment tool. seven items will be assessed including random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective reporting, and other bias. A bias value of 'high', 'unclear', or 'low' was evaluated for each item. Any disagreement about assessment of risk of bias will be resolved by discussion with the third reviewer.

Strategy of data synthesis: Review Manager Software 5.3 will be used for data synthesis. Risk ratio will be used for dichotomous outcomes with 95% confidence interval. The random effects model or fixed effects model will be selected according to the I2 value. Heterogeneity will be examined using the I2 test. The I2 value > 50% means significant heterogeneity, and the random effects model will be used. Otherwise, the I2 value ≤ 50% means minor heterogeneity, and the fixed effects model will be utilized. If significant heterogeneity still exists after subgroup analysis, meta-analysis will not be pooled, and descriptive summary will be reported.

Subgroup analysis: Subgroup analysis will be performed to check the potential heterogeneity and inconsistency based on the different participant characteristics, administration routes and dose of trimetazidine, control methods, and outcome indicators.

Sensibility analysis: Sensitivity analysis will be applied to check the robustness and reliability of pooled results. We will perform meta-analysis again after eliminating studies in low quality and will apply different statistical methods.

Country(ies) involved: China.

Keywords: trimetazidine, major adverse cardiac event, coronary artery disease, percutaneous coronary intervention, protocol, systematic review.

Contributions of each author:
Author 1 - Kun Zhu.
Author 2 - Yu-shui Zheng.
Author 3 - Yong Fang.