INPLASY PROTOCOL

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None.

A systematic review and meta-analysis of the predictors to the successful thrombolysis treatment in STsegment elevated infarction

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Review question / Objective: **To evaluate the predictors of the successful thrombolysis therapy in STEMI patients that can help both doctors and patients to choose the best reperfusion therapy and save the heart.**
Condition being studied: **The ST-segment elevated infarction is the most dangerous disease that causes patients mortality in cardiac area. The thrombolysis treatment is one of the reperfusion therapy to save the heart. But the therapy has a possibility to be failed. If we can predict the success of the therapy, we will save more time to protect the heart.**
Information sources: **English data base: PubMed, Embase, the Cochrane Library. Chinese data base: CNKI, CBM, Wanfang, VIP.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 August 2020 and was last updated on 12 August 2020 (registration number INPLASY202080049).

INTRODUCTION

Review question / Objective: **To evaluate the predictors of the successful thrombolysis therapy in STEMI patients that can help both doctors and patients to choose the best reperfusion therapy and save the heart.**

Condition being studied: **The ST-segment elevated infarction is the most dangerous disease that causes patients mortality in cardiac area. The thrombolysis treatment is one of the reperfusion therapy to save the heart. But the therapy has a possibility to be failed. If we can predict the success of the therapy, we will save more time to protect the heart.**

METHODS

Participant or population: **Inclusion criteria were STEMI presenting up to 12h from the onset of symptoms, or stuttering**

symptoms and clinical evidence of ongoing ischemia, fibrinolytic therapy after ruling out any contraindications, close hemodynamic and continuous electrocardiographic monitoring, and later underwent coronary angiography. Exclusion criteria were: contraindications forfibrinolysis or coronary angiography or drop out before coronary angiography due to any other reason; previous PCI, coronary artery bypass grafting, rheumatic heart disease, congenital heart disease, pulmonary embolism, chronic kidney disease, cor pulmonale, a pacemaker, and no informed consent.

Intervention: The ECG taken 90 min after administration. ST-segment elevation was measured at 80 ms from the J-point. Subsequently, patients were classified as "successful thrombolysis" if there was ? 50% ST-segment resolution in the ECG obtained 90 min after fibrinolytic therapy compared to the particular lead showing maximum ST-segment elevation at baseline, along with resolution of chest pain or appearance of reperfusion rhythmia.

Comparator: Patients were classified as "failed thrombolysis" if there was 50% ST-segment resolution in the lectrocardiograms taken 90 min after fibrinolytic therapy compared to the particular lead showing maximum ST-segment elevation at baseline, along with persistence of chest pain.

Study designs to be included: Case control studies, cohort studies, cross-sectional studies.

Eligibility criteria: The data in the studies can be extracted directly or obtained after conversion.

Information sources: English data base: PubMed, Embase, the Cochrane Library. Chinese data base: CNKI, CBM, Wanfang, VIP.

Main outcome(s): The results of thrombolysis were assessed after 2 h of STEMI patients, those in the observation group meeting the criteria for thrombolysis success and those in the control group failing to meet the criteria. Basic clinical data (including demographic characteristics, medical history and vital signs before thrombolysis) were compared between the two groups to evaluate predictors of thrombolysis outcomes.

Quality assessment / Risk of bias analysis: The Newcastle - Ottawa Scale (NOS) was used for quality assessment.A total score of up to 9 points is used to comprehensively evaluate the included studies, and studies with a score of 6 or above can be considered as high-quality studies for analysis.

Strategy of data synthesis: The Stata 12.0 will be used to calculate the OR WMD, SMD and 95%CI. The differences between the two groups will be compared.

Subgroup analysis: None.

Sensibility analysis: The Egger test is used to evaluate the publication bias among different studies, and the trim and filling method is used to evaluate the stability of the results.

Country(ies) involved: China.

Keywords: ST-segment elevation myocardial infarction (STEMI); Thrombolysis Therapy; Predictor.

Contributions of each author:
Author 1 - Xingbang Pan - Author 1 drafted the manuscrip.
Author 2 - Xiangfei Chen - The author participates the data extraction procedure.
Author 3 - Jingtao Guo - the author provides the main strategy of the review.
Author 4 - Donglei Luo - The author contributed to the development of the selection criteria, and the risk of bias assessment strategy.
Author 5 - Jiang Zhou - The author read, provided feedback and approved the final manuscript.