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INPLASY

Efficacy and safety of teneplase and alteplase before mechanical thrombectomy

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ADMINISTRATIVE INFORMATION

Support - Science and Technology Project of Changzhou Health Commission (ZD202019).

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

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 30 August 2023 and was last updated on 30 August 2023.

INTRODUCTION

Review question / Objective None reported.

Condition being studied Tenaiplase is a transgenic variant of atenase. Compared with alteplase, tenepase has higher fibrin specificity and longer plasma half-life. It is a new type of fibrinolytic drug in recent years. Meta-analysis has been published to show that the role of tenaiplase in thrombolysis, early homooutcome and improvement of functional outcome is not inferior to that of alteplase. Although a small number of trials have studied the improvement of neurological function and safety outcome before thrombectomy, the sample size is small. Compared with alteplase, the efficacy and safety of tenepril before thrombectomy are not clear. Therefore, we aim to collect current relevant studies to determine the efficacy and safety outcome of thrombectomy patients after thrombolytic therapy with teneplase.

METHODS

Search strategy The published randomized controlled trials and non-randomized controlled trials were searched in webofscience, PubMed, embase and other databases. The search keywords include "atenase", "tenepase" and "thrombectomy".

Participant or population Patients with acute cerebral infarction treated with tenaiplase / atenase thrombolysis before thrombectomy.

Intervention Acute cerebral infarction patients treated with tenepril thrombolysis before thrombectomy.

Comparator Patients with acute cerebral infarction treated with alteplase before thrombectomy.

Study designs to be included Randomized and non-randomized controlled trials published in peer-

reviewed journals; 2. Patients with acute ischemic stroke who meet the conditions of both IVT and MT, age ≥ 18 years old, 3. The patients in the intervention group were treated with tenaiplase before thrombectomy, and the patients in the control group were treated with alteplase before thrombectomy. At least one outcome indicator related to this study was reported.

Eligibility criteria 1. The type of article belongs to review, systematic review, expert opinion or case report; 2. Lack of complete information and data; 3. The study lacks the control group; 4. There were less than 10 participants in each group.

Information sources We retrieve the relevant research in the electronic database, screen out the research that meets the inclusion criteria, and extract the relevant data from the literature. When complete data cannot be obtained from the literature, we will try to contact the original author.

Main outcome(s) The main outcome required for this study was 90 days of functional independence, represented by a MRA score of 0-2.

Additional outcome(s) The secondary outcomes of the study included excellent 90-day neurological function, early neurological improvement, parenchyma hematoma, symptomatic intracranial hemorrhage, spontaneous recanalization of thrombus (imaging images of lateral branches ≥ 50% of the blood supply area after thrombolytic therapy), successful recanalization (symptom improvement after thrombolysis to avoid new thrombectomy or TICI grade ≥ 2b after MT), and 90-day mortality.

Data management We use NoteExpress to manage the data.

Quality assessment / Risk of bias analysis For randomized controlled trials, Cochrane risk bias assessment tool was used to evaluate publication bias and research quality, and Newcastle-Ottawa scale (NOS) was used to evaluate research quality for non-RCT trials.

Strategy of data synthesis We incorporate the extracted result data into the meta-analysis and use these data to calculate the relative risk of the outcome of interest. All analyses were carried out in stata software. Random effect method and fixed effect method were used to calculate the aggregate estimates of individual studies, and the forest map was used to display the results. Funnel chart was used to evaluate publication bias. I2 statistics and Q-test results can evaluate the heterogeneity of the study, and we think that I2 > 50% or Q-test P < 0.05 indicate heterogeneity. The sensitivity of the results with heterogeneity was analyzed to find out the reasons for the existence of heterogeneity.

Subgroup analysis We will conduct a subgroup analysis of age, sex and other factors.

Sensitivity analysis Delete a study and do a new Meta analysis to get the new combined effect, and see if there is any change compared with the total effect.

Language restriction English.

Country(ies) involved China.

Keywords Alteplase Tenepase Thrombectomy Safety Efficacy.

Contributions of each author

Author 1 - min peng - The author was involved in the design of the research theme, the strategy of the search and the writing of the paper.
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Author 2 - Zhuoyou Chen - The author was involved in the design of the study topic, quality evaluation and risk of bias assessment.
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Author 3 - Jianfang Liu - The author participated in the screening of the study and extracted the relevant data afterwards.
Author 4 - Hongran Fu - The author participated in the screening of the study and extracted the relevant data afterwards.