INPLASY PROTOCOL

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None.

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

Conflicts of interest:
None declared.

Endovascular Thrombectomy for Stroke Due to Basilar-Artery Occlusion: a systematic review and meta-analysis

Zhang, Y[1].

Review question / Objective: Whether endovascular thrombectomy is superior to usual care for stroke patients with basilar artery occlusion.

Condition being studied: Randomized trials have provided robust evidence for the use of endovascular treatment as standard care of acute ischemic stroke due to large artery occlusion in the anterior circulation. These trials excluded patients with basilar-artery occlusion, which accounts for approximately 10% of all proximal intracranial occlusions and is associated with the highest morbidity and mortality among all strokes.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 October 2022 and was last updated on 23 October 2022 (registration number INPLASY2022100088).

INTRODUCTION

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METHODS

Participant or population: Stroke patients with basilar artery occlusion.

Intervention: Endovascular thrombectomy.

Comparator: Usual care.

Study designs to be included: RCT.

Eligibility criteria: (1) RCTs; (2) comparison of the safety and efficacy of endovascular thrombectomy with usual care in treating stroke patients with basilar artery occlusion: (3) studies reported at least one predefined outcome.

Information sources: The following electronic databases will be searched: the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library), Embase (Ovid), and MEDLINE (Ovid). The search strategy will include only terms relating to or describing the intervention. Keywords will be customized to database-specific indexing terms, e.g. the use of Medical Subject Headings (MeSH terms). As appropriate, the terms and their substitutes will be combined using Boolean connectors (AND/OR/NOT).
The search strategy will follow the PICO format, and similar search strategies will be used on the different databases.
In addition to the electronic searches, a manual search of the bibliographies and references of the identified articles will also be carried out. Search filters: no language restrictions Search dates: from database inception to date run.

Main outcome(s): Modified Rankin Scale (mRS) score of 0-3 at 90 days.

Additional outcome(s): mRS score of 0-2 at 90 days, symptomatic intracerebral hemorrhage, 90-day mortality.

Quality assessment / Risk of bias analysis: Two authors independently will perform the quality assessment using the Cochrane Collaboration's tool.

Strategy of data synthesis: The risk ratio (RR) along with 95% confidence intervals (CI) will be calculated for dichotomous data, and the mean difference (MD) along with 95% CI were used to describe the continuous data. A 2-tailed P value of < 0.05 will be set for statistical significance. Statistical inconsistency will be quantified by use of the I² statistic, with I² values exceeding 50% representing high heterogeneity. We will use a random-effects weighted model to calculate the pooled estimates.

Subgroup analysis: Subgroup analyses will be performed to test interactions according to sex, age, baseline stroke severity (NIHSS score), intravenous thrombolysis, study population.

Sensitivity analysis: Sensitivity analysis will be performed to use fixed-effects models and calculate the odds ratio (OR) estimates.

Country(ies) involved: China.

Keywords: Basilar artery occlusion; Endovascular thrombectomy; Standard medical treatment.

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