INPLASY PROTOCOL

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Conflicts of interest:
None.

The efficacy and safety of flow-diverting device and coil embolization for intracranial aneurysms: a meta-analysis

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Review question / Objective: **The efficacy and safety of flow-diverting device and coil embolization for intracranial aneurysms; P: Patients diagnosed with intracranial aneurysms; I:Flow-diverting device; C: coil embolization therapy; O: The proportion of patients with aneurysm occlusion, aneurysm retherapy rate, complication rate, mortality and postoperative follow-up mRS score 0-2; S: a metal analysis.**
Condition being studied: **Intracranial aneurysm; Flow-diverting device ; Coil embolization therapy; Curative effect; Security; Meta analysis.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 December 2020 and was last updated on 22 December 2020 (registration number INPLASY2020120108).

INTRODUCTION

Review question / Objective: **The efficacy and safety of flow-diverting device and coil embolization for intracranial aneurysms; P: Patients diagnosed with intracranial aneurysms; I:Flow-diverting device; C: coil embolization therapy; O: The proportion of patients with aneurysm occlusion, aneurysm retherapy rate, complication rate, mortality and postoperative follow-up mRS score 0-2; S: a metal analysis.**

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Condition being studied: Intracranial aneurysm; Flow-diverting device ; Coil embolization therapy; Curative effect; Security; Meta analysis.

METHODS

Participant or population: Exclusion :(1) trauma, dissection, infective aneurysm, arteriovenous fistula or arteriovenous malformation with aneurysm; (2) Receive other treatments besides FDD and CET; (3) Insufficient basic information of the patient; (4) Insufficient research data or no comparison results of FDD and CET treatment; (5) Serious loss of follow-up; (6) Reviews, case reports and animal experiments.were included :(1) studies comparing the treatment of intracranial aneurysms with blood flow guiding device and coil embolization; (2) Data including aneurysm occlusion, aneurysm retherapy rate, incidence of complications, mortality, and proportion of patients with mRS score of 0-2 in postoperative follow-up were reported; (3) The study included at least two end points (one each for efficacy and safety); (4) the total number of samples > was 10.

Intervention: Flow-diverting device was the main intervention.

Comparator: coil embolization therapy.

Study designs to be included: All the included studies were observational.

Eligibility criteria: (1) studies comparing the treatment of intracranial aneurysms with blood flow guiding device and coil embolization; (2) Data including aneurysm occlusion, aneurysm retherapy rate, incidence of complications, mortality, and proportion of patients with mRS score of 0-2 in postoperative follow-up were reported; (3) The study included at least two end points (one each for efficacy and safety); (4) the total number of samples > was 10.

Information sources: Systematic electronic search was conducted on all published articles as of December 2020 in PubMed, Embase, Cochrane Library, CnKI, Wanfang, Vipp and China Biomedical Database (CBM), and citation catalogues of relevant literatures were manually consulted.

Main outcome(s): The proportion of patients with aneurysm occlusion, aneurysm retherapy rate, complication rate, mortality and postoperative follow-up mRS score 0-2.

Quality assessment / Risk of bias analysis: Observational studies used the Newcastle-Ottawa Scale (NOS) to evaluate the quality of literature.

Strategy of data synthesis: Review Manager 5.3 software was used for statistical analysis. Since all clinical endpoints were dichotomous variables, odds ratio (OR) and 95% confidence interval (CI) were used as effect indicators. The fixed-effect model was used to merge the endpoint data of each study. The heterogeneity between studies was evaluated by The Q test, and the P value < 0.1 indicated significant heterogeneity. At the same time, I2 value was used to measure the heterogeneity, and I2> 50% suggested a high heterogeneity. If the cause of heterogeneity is unknown, the random-effect model is selected within the acceptable extent of heterogeneity. Sensitivity analysis was carried out by excluding one study at a time and excluding low-quality studies. Funnel plot was used to evaluate publication bias. P< 0.05 indicated a statistical difference.

Subgroup analysis: If subgroup analysis was performed, follow-up time was used for analysis.

Sensibility analysis: Sensitivity analysis was carried out by excluding one study at a time and excluding low-quality studies.

Country(ies) involved: China.

Keywords: Intracranial aneurysm; Flow-diverting device ; Coil embolization therapy; Curative effect; Security; Meta analysis.

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