INPLASY

The ability of computed tomography angiography to identify nontraumatic cerebral vascular abnormality-related hemorrhage in patients with traumatic intracranial hemorrhage

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ADMINISTRATIVE INFORMATION

INTRODUCTION

Review question / Objective The incidence of nontraumatic cerebral vascular abnormality in patients with traumatic intracranial hemorrhage. The ability of computed tomography angiography to identify nontraumatic cerebral vascular abnormality.

Rationale In the management of patients experiencing traumatic intracranial hemorrhage, particularly in scenarios lacking witnesses, healthcare workers often grapple with the question of whether the intracranial hemorrhage occurred before or after the traumatic event. Common diagnostic approaches involve neurosurgeon consultation and subsequent computed tomography angiography. However, previous research has indicated that only a minority of patients with traumatic intracranial hemorrhage exhibit evidence of nontraumatic cerebral vascular abnormality.

Condition being studied If a spontaneous intracranial hemorrhage attacks before the traumatic event, the nontraumatic cerebral vascular abnormality might need additionally management, which might change the treatment and outcome of patients with trauma.

METHODS

Search strategy The search will be performed by using the search Terms ("Computed Tomography Angiography"[Mesh]) AND ("Brain Injuries, Traumatic"[Mesh] OR "Cerebrovascular Trauma"[Mesh]).

Participant or population Patients with traumatic intracranial hemorrhage.

Intervention Computed tomography angiogarphy.

Comparator Not applicable.

Study designs to be included Randomized controlled trial and retrospective study.

Eligibility criteria Original studies that recruited patients with traumatic intracranial hemorrhage who undergone computed tomography agiography to search for nontraumatic vascular abnormality.

Information sources 1. PubMed and Google Scholar 2. References of potentially included studies are screened for additional articles.

Main outcome(s) The incidence of nontraumatic cerebral vascular lesions in patient with traumatic intracranial hemorrhage.

Additional outcome(s) The findings of computed tomography angiography change the management and outcome of patients with traumatic intracranial hemorrhage.

Data management Data extraction includes the first author, year, sample size, type of traumatic brain injury, findings on computed tomography angiography, and managements for the nontraumatic vascular abnormality.

Quality assessment / Risk of bias analysis Newcastle-Ottawa Scale.

Strategy of data synthesis We use Excel (Microsoft Office 2011, Microsoft) to manage studies found.

Subgroup analysis We will divide the suggestions of conducting computed tomography angiography from neurosurgeons or radiologists. We anticipate to know whether the source of suggestion showing higher predictive value.

Sensitivity analysis No sensitivity analysis.

Language restriction No language limitation.

Country(ies) involved Taiwan.

Keywords Intracranial hemorrhage; brain computed tomography; head trauma; cerebral aneurysm; computed tomography angiography.

Dissemination plans We plan to merge the collected data from this systemic review meta-analysis with the results of an unpublished retrospective study. Then we write a paper and publish the article.

Contributions of each author
Author 1 - Yi Lin - Author 1 conducted searching and identifying possible included articles. He also reviewed included articles and collected data.
Email: mew0618@gmail.com
Author 2 - Chien-Chin Hsu - Author 2 analyzed the collected data and resolved the disagreement between author 1 and 2. He also refined the original article to final manuscript.
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Author 3 - Kuo-Tai Chen - Author 3 reviewed included article, collected and tabulated data, and wrote original article.
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