

INPLASY PROTOCOL

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Conflicts of interest:
None.

Shunting outcomes in post-hemorrhagic hydrocephalus: A protocol for systematic review and meta-analysis

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Review question / Objective: Which is the best option in the treatment of posthemorrhagic hydrocephalus? How are the long-term outcomes of patients with posthemorrhagic hydrocephalus treated by shunts? How to attenuate the risk of shunt failure?

Condition being studied: Ventriculoperitoneal shunt (VPS) surgery remains the most widely accepted and used option method to treat post-hemorrhagic hydrocephalus (PHH) worldwide while lumboperitoneal shunt (LPS) serves as an effectively alternative treatment. It is demonstrated that LPS had some advantages over VPS. However, the best treatment remains controversial.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 June 2020 and was last updated on 17 June 2020 (registration number INPLASY202060063).

INTRODUCTION

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some advantages over VPS. However, the best treatment remains controversial.

METHODS

Participant or population: Adult patients diagnosed as PHH.

Intervention: Patients with PHH treated by VPS.

Comparator: Patients with PHH treated by LPS.

Study designs to be included: Randomized and non-randomized controlled trials.

Eligibility criteria: Randomized or non-randomized controlled trials that compared the efficacy and safety in the treatment of PHH.

Information sources: We search literatures through PubMed, Web of Science, Embase, Cochrane Library, China National Knowledge Infrastructure (CNKI), the Chinese Science and Technology Periodical Database (VIP) and Wan fang databases, and Chinese Biomedical Literature Database (CBM) from the beginning of database to Jun 15, 2020. The search strategy is (“clinical outcomes” OR “efficacy” OR “safety” OR “follow-up”) AND (“post-hemorrhagic” OR “intracranial hemorrhage” OR “intraventricular hemorrhage” OR “subarachnoid hemorrhage”) AND (“hydrocephalus” OR “ventriculomegaly” OR “accumulation of cerebrospinal fluid”) AND (“ventriculoperitoneal shunt”) AND (“lumboperitoneal shunt”).

Main outcome(s): The primary outcome is the rate of shunt failure after shunt implantation.

Additional outcome(s): The secondary outcome is the rate of complications.

Quality assessment / Risk of bias analysis: An independent monitoring committee, including statisticians and data analysts, will assess the quality. We use Cochrane

risk-of-bias tool to evaluate the randomized controlled trials.

Strategy of data synthesis: The risk of bias was first assessed followed by the extraction of data from included studies. The main outcomes contain the rate of shunt failure and each complication, and To compare the 2 groups on above data, Chi-square test is used (Fisher’s exact test is used while appropriate).

Subgroup analysis: NA.

Sensibility analysis: NA.

Language: English or Chinese.

Country(ies) involved: China.

Keywords: post-hemorrhagic hydrocephalus; ventriculoperitoneal shunt; lumboperitoneal shunt; clinical outcomes.

Contributions of each author:

Author 1 - Tong Sun - conceptualization, review design and data collection.

Author 2 - Jingguo Yang - data collection and analysis.

Author 3 - Yikai Yuan - data collection and analysis.

Author 4 - Chao You - supervision and revision.

Author 5 - Junwen Guan - conceptualization, supervision, and validation.