

INPLASY PROTOCOL

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Corresponding author:

Wenke Liu

wkliu_wch@126.com

Author Affiliation:

West China hospital, Sichuan University, China

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Conflicts of interest:

None declared.

Analysis of risk factors associated with shunt obstruction following ventriculoperitoneal shunts: A protocol for systematic review and meta-analysis

Qi, X¹; Yang, JG²; Sun, T³; Zhang, S⁴; Liu, WK⁵.

Review question / Objective: What are the risk factors associated with shunt obstruction following ventriculoperitoneal shunt?

Condition being studied: To date, the risk factors of shunt obstruction following ventriculoperitoneal shunt is unclear.

Information sources: PubMed, Web of Science, Embase, Cochrane Library, China National Knowledge Infrastructure (CNKI), Chinese Science and Technology Periodical Database (VIP) and Wan fang databases, and Chinese Biomedical Literature Database (CBM).

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 January 2021 and was last updated on 27 January 2021 (registration number INPLASY202110101).

INTRODUCTION

Review question / Objective: What are the risk factors associated with shunt obstruction following ventriculoperitoneal shunt?

Condition being studied: To date, the risk factors of shunt obstruction following ventriculoperitoneal shunt is unclear.

METHODS

Participant or population: Patients occurring shunt obstruction after ventriculoperitoneal shunt implantation.

Intervention: Patients occurring shunt obstruction after ventriculoperitoneal shunt implantation.

Comparator: Patients without shunt obstruction or shunt revisions after ventriculoperitoneal shunt implantation.

Study designs to be included: Perspective studies including cohort studies, randomized controlled trials (RCTs), non-RCTs, and retrospective studies including case-control studies.

Eligibility criteria: Study analyzed the incidence of shunt obstruction, risk factors or predictors of shunt obstruction, and the risk estimates after shunt insertion.

Information sources: PubMed, Web of Science, Embase, Cochrane Library, China National Knowledge Infrastructure (CNKI), Chinese Science and Technology Periodical Database (VIP) and Wan fang databases, and Chinese Biomedical Literature Database (CBM).

Main outcome(s): The incidence of shunt obstruction, risk factors or predictors of shunt obstruction, and the risk estimates.

Data management: Quality assessment will be conducted according to guidance of Newcastle-Ottawa Scale (NOS) by 2 independent assessors.

Quality assessment / Risk of bias analysis: Quality assessment will be conducted according to guidance of Newcastle-Ottawa Scale (NOS) by 2 independent assessors.

Strategy of data synthesis: Review manager software 5.3 will be applied in the data synthesis. We will extract the risk factors if they showed statistical significance in univariate or multivariate analyses.

Subgroup analysis: If the results of meta analyses are heterogenous, subgroup analysis will be performed based on several aspects, such as etiology and age.

Sensitivity analysis: Sensitivity analysis will be performed by removing low-level quality study one by one.

Language: English and Chinese.

Country(ies) involved: China.

Keywords: ventriculoperitoneal shunts, hydrocephalus, shunt obstruction, risk factors, shunt revision.

Contributions of each author:

Author 1 - Xin Qi.

Email: 552032965@qq.com

Author 2 - Jingguo Yang.

Email: 574627969@qq.com

Author 3 - Tong Sun.

Email: tongsun@stu.scu.edu.cn

Author 4 - Si Zhang.

Author 5 - Wenke Liu.

Email: wkliu_wch@126.com