INPLASY

The Impact of Prognostic Risk Factors on Functional Outcome in Patients with Cerebral Venous Sinus Thrombosis-Systematic Review and Meta-analysis

INPLASY202480072
doi: 10.37766/inplasy2024.8.0072
Received: 14 August 2024
Published: 14 August 2024

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ADMINISTRATIVE INFORMATION

Support - Self-supported.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202480072

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 14 August 2024 and was last updated on 14 August 2024.

INTRODUCTION

Review question / Objective What is the prognostic risk factors that affected the functional outcome in patients with cerebral venous sinus thrombosis?

Rationale The aim of this review is to investigate the impact of prognostic risk factor on functional outcome in patients with cerebral venous sinus thrombosis (CVST). This systematic review and meta-analysis is going to quantitatively analyzing the articles that evaluate the factors which associated with poor functional outcome in patients with CVST by statistical method.

Condition being studied All the factors that associated with functional outcome in patients suffered from CVST were investigated through literature search.

METHODS

Search strategy The searching strategy will be adjusted based on different electronic databased. Take Scopus as an example, the following strategy was: ((TITLE-ABS-KEY(("cerebral" OR "intracranial") AND ("venous" OR "vein*" OR "sinus*") AND ("thrombosis" OR "thrombus")) AND TITLE-ABS-KEY("prognosis" OR "prognostic" OR "risk factors" OR "predictive factors") AND TITLE-ABS-KEY("National Institutes of Health Stroke Scale" OR "NIHSS" OR "mRS" OR "Modified Rankin Scale" OR "ADL" or "activities of daily living" OR "Barthel index" OR "functional" OR "function" OR "scale") AND ALL("odds ratio" OR "risk ratio" OR "hazard ratio" OR "logistic regression" or "Cox" OR "regression")) AND (LIMIT-TO (DOCTYPE,"ar")) AND (LIMIT-TO (LANGUAGE,"English") OR LIMIT-TO (LANGUAGE,"Chinese"))).

Participant or population The patients that diagnosis with CVST but except for retinal or DVT or VTE associated disease. The patients should compare with the functional outcome that determined by different measurement tool (e.i., mRS or NIHSS or GOS) to see the overall recovered or severity of the disease. The patients with CVST were divided into good / favorable

functional outcome and poor / unfavorable functional outcome based on the specific measurement tool in that article.

Intervention The demography, clinical, laboratory, radiological examination et al. factors that statistically significant in related to poor / unfavorable functional outcome of CVST patients.

Comparator The demography, clinical, laboratory, radiological examination et al. factors that statistically significant in related to good / favorable functional outcome of CVST patients.

Study designs to be included The cross-sectional studies, cohort studies, and case-control studies with samples size more than 30, and statistic inferential method were applied into studies were included in this review.

Eligibility criteria (1) Human studies were considered with patients aged ≥ 18 years old.
(2) Patients were diagnosed of CVST based on any neuroradiological examination that listed below (e.g. intra-arterial angiography (DSA), magnetic resonance imaging (MRI), MR angiography (MRA), MR venography (MRV), computed tomography venography (CTV), or CT angiography (CTA).
(3) Outcome measurement should included functional assessment by different tools (e.g. National Institutes of Health Stroke Scale (NIHSS), Modified Rankin Scale (mRS), Activities of Daily Living (ADL)), which could reflect physical function in different aspects.
(4) The study included control group for comparison. The between group analysis involved binary outcome, such as poor/unfavorable functional outcome vs. good / favorable outcome, which defined in grounded theory or measurement tools.
(5) To minimize bias, retrospective and prospective studies were required to contain at least 30 patients diagnosed with CVST to be eligible, whereas case and case-series reports were not required to meet this limit.
(6) Papers concerning the epidemiology, clinical manifestations, treatment, or prognosis, especially with logistic regression or cox regression inferential-statistic analysis of CVT were eligible.

Information sources This review included 5 electronic databases: Pubmed / Medline, Scopus, EBSCOhost, Web of Science, and Cochran Library.

Main outcome(s) The prognostic risk factors that associated with functional outcome in CVST were summarized.

Additional outcome(s) No.

Data management The articles were pull into EndNote for duplication checking and further management. Throughout the articles screening step and data extraction, the Micro Excel had been setup for document recoding.

Quality assessment / Risk of bias analysis The Newcastle-Ottawa Scale included cross-sectional, cohort, and case-control studies was applied to the quality assessment in meta-analysis.

Strategy of data synthesis The meta-analysis will be conducted by SPSS v.29.

Subgroup analysis Subgroup analysis will be according to the definition of functional outcome level based on different measurement tool.

Sensitivity analysis The sensitivity analysis was performed in SPSS v.29 by Trim-and-fill method for meta-analysis. The heterogeneity analysis was reported in I2 value.

Language restriction All selected articles are written in English.

Country(ies) involved Malaysia and China.

Keywords Cerebral Venous Sinus Thrombosis; Stroke; Prognosis; Functional outcome.

Contributions of each author

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