INPLASY

Incidence and risk factors of post-stroke seizures and epilepsy: systematic review and meta-analysis

Corresponding author:
Elysa Widjaja

ewidjaja@luriechildrens.org

Author Affiliation:
The Hospital for Sick Children.

Nandan, A[1]; Zhou, YM[2]; Demoe, L[3]; Waheed, A[4]; Jain, P[5]; Widjaja, E[6].

ADMINISTRATIVE INFORMATION

Support - n/a.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 October 2023 and was last updated on 03 October 2023.

INTRODUCTION

*R*eview question / Objective The objective of this systematic review and meta-analysis was to evaluate the incidence and risk factors of early seizures and epilepsy post stroke.

Condition being studied The conditions being studied are post-stroke early seizures and post-stroke epilepsy. Post-stroke epilepsy (PSE) is defined as two unprovoked seizures or a single seizure associated with an enduring condition that increases the chance of future seizures, if the probability of further seizures is similar to the general recurrence risk (at least 60%) after two unprovoked seizures, occurring over the next 10 years and post-stroke epilepsy.

METHODS

Participant or population Patients with a diagnosis of stroke.

Intervention n/a.

Comparator if available, patients without a diagnosis of stroke.

Study designs to be included n/a.

Eligibility criteria Inclusion criteria were primary studies (observational studies), ischemic stroke (both arterial and venous stroke), hemorrhagic stroke, and post-stroke seizures or epilepsy. Exclusion criteria included review article, non-English article, abstract, conference publication, case reports or case series (<5 cases).

Information sources MEDLINE, EMBASE, and Web of Science databases.

Main outcome(s) Incidence of early seizures or epilepsy post stroke.

Quality assessment / Risk of bias analysis
Assessed using Newcastle-Ottawa Scale (NOS) for observational study.

Strategy of data synthesis Random effects model was used to calculate the pooled estimates of incidence and risk factors, and 95% confidence intervals (CI). The pooled odds ratio (OR) and 95% CI for the risk factors of ES and PSE were evaluated.

Subgroup analysis Subgroup analysis of incidence and risk factors of ES and PSE in children and adults.

Sensitivity analysis The Duval and Tweetie's trim and fill test.

Country(ies) involved Canada - The Hospital for Sick Children.

Keywords Epilepsy, incidence, post-stroke, risk factors, seizures.

Contributions of each author
Author 1 - Aathmika Nandan - Design, data acquisition, analysis and interpretation of data, drafting the article, and critically revising the article.
Email: aathmikanandan@gmail.com
Author 2 - Yi Mei Zhou - Data acquisition and critically revising the article.
Email: soph.zhou@mail.utoronto.ca
Author 3 - Lindsay Demoe - Data acquisition and critically revising the article.
Email: lindsay.demoe@gmail.com
Author 4 - Adnan Waheed - Data acquisition and critically revising the article.
Email: adnan.waheed@sickkids.ca
Author 5 - Puneet Jain - Data acquisition and critically revising the article.
Email: puneet.jain@sickkids.ca
Author 6 - Elysa Widjaja - Design, data acquisition, analysis and interpretation of data, drafting the article, and critically revising the article.
Email: ewidjaja@luriechildrens.org