2019

The risk of new-onset epilepsy and refractory epilepsy in older adult stroke survivors

Jorge G. Burneo

Western University, jburneo2@uwo.ca

Tresah C. Antaya

Western University, tantaya2@uwo.ca

Britney N. Allen

ICES Western, britney.allen@ices.on.ca

Andrea Belisle

ICES Western, andrea.belisle@ices.on.ca

Salimah Z. Shariff

ICES Western, salimah.shariff@ices.on.ca

See next page for additional authors

Follow this and additional works at: <https://ir.lib.uwo.ca/neuruprojectsummaries>

Part of the [Diagnosis Commons](#), [Epidemiology Commons](#), [Health Services Research Commons](#), [Nervous System Diseases Commons](#), [Neurology Commons](#), and the [Neurosciences Commons](#)

Recommended Citation

Burneo, Jorge G.; Antaya, Tresah C.; Allen, Britney N.; Belisle, Andrea; Shariff, Salimah Z.; and Saposnik, Gustavo, "The risk of new-onset epilepsy and refractory epilepsy in older adult stroke survivors" (2019). *Neuro-Epidemiology Research Unit Project Summaries*. 1. <https://ir.lib.uwo.ca/neuruprojectsummaries/1>

This Book is brought to you for free and open access by the Neuro-Epidemiology Research Unit at Scholarship@Western. It has been accepted for inclusion in Neuro-Epidemiology Research Unit Project Summaries by an authorized administrator of Scholarship@Western. For more information, please contact wlsadmin@uwo.ca.

Authors

Jorge G. Burneo, Tresah C. Antaya, Britney N. Allen, Andrea Belisle, Salimah Z. Shariff, and Gustavo Saposnik

The risk of new-onset epilepsy and refractory epilepsy in older adult stroke survivors

RESEARCH SUMMARY

Key Findings

- Stroke is a common cause of epilepsy in older adults, but little is known about stroke-related epilepsy or its outcomes in this population.
- 1.1% of older adult stroke survivors developed epilepsy in this study, of whom 12.9% developed refractory epilepsy, indicating that this population is particularly responsive to treatment.
- Over 85% of deaths in this population are not due to stroke or epilepsy.

THE ISSUE

- Older adults have the highest incidence of epilepsy and stroke is a common cause, however little is known about stroke-related epilepsy in this age group.
- This study assessed the risk of new-onset epilepsy and refractory (i.e. drug-resistant) epilepsy following stroke in an older adult population.

OUR RESEARCH

- We used the Ontario Stroke Registry to identify stroke patients 67 years of age and older discharged from a designated stroke centre in Ontario between April 1, 2003 and March 31, 2009, and were previously free of epilepsy.
- We followed participants for 2 years to determine epilepsy diagnosis and from epilepsy diagnosis until March 31, 2015 for refractory diagnosis. We used Fine-Grey competing risk regression models to identify risk factors of epilepsy and refractory epilepsy, accounting for the competing risk of death.
- We also estimated the risk of death within 5 years of epilepsy diagnosis and the proportion that received an electroencephalogram (EEG) and magnetic resonance imaging (MRI) within 1 year of diagnosis.

WHAT WE FOUND

- 19,138 patients were included, 210 (1.1%) developed epilepsy and 27(12.9%) became refractory to anti-seizure medications.
- In multivariable analysis, younger age and thrombolysis treatment increased epilepsy risk. Lesser stroke severity and anticoagulation also increased risk, but the effect decreased over time. Younger age and female sex increased refractory epilepsy risk.
- Within 5 years of epilepsy diagnosis, 97(46.2%) patients died of any cause, 13(6.2%) of stroke-related causes, and none of epilepsy-related causes.
- Within 1 year of epilepsy diagnosis, 24(11.4%) patients were assessed with EEG and 19(9.0%) with an MRI.

Figure 1. Patient exclusion flow diagram.

CONCLUSIONS & IMPLICATIONS

- Though stroke is a common cause of epilepsy in older adults, stroke-related epilepsy is particularly responsive to treatment in this age group.
- In this population, most deaths within 5 years of epilepsy diagnosis are not due to stroke or epilepsy.

For more information, please refer to:

Burneo et al. The risk of new-onset epilepsy and refractory epilepsy in older adult stroke survivors. Neurology, 2019.