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Factors contributing to readmissions in stroke patients

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Background: Patients who suffer from a stroke are known to be susceptible to multiple complications related to vascular events, infections, or complications due to impaired mobility, with re-admission rates ranging from 20-40% per year, with approximately 25% of admissions occurring within the first month. Once factors contributing to re-admissions are identified, measures can be taken to help reduce readmissions. This study was undertaken to investigate the rates of re-admission within 90 days at a tertiary hospital in Singapore, and the factors contributing to re-admission among patients admitted for their first stroke in efforts to launch initiatives to reduce re-admissions among stroke patients.

Methods: This retrospective observational study included 1283 patients who were admitted for stroke between January 2014 and October 2015. All patients who had previous history of stroke, or died on initial presentation were excluded from the study, resulting in 957 patients with first stroke presentation for whom dates and diagnoses of readmissions in the first 90 days were collected. The diagnoses at re-admissions were reviewed with their demographics, site of stroke, and deterioration in activities of daily living. Inclusion criteria contain preventable re-admissions due to infection, impaired immobility, falls, and social issues. Exclusion criteria contain elective admissions, and admissions resulting from recurrent strokes and further cardiovascular or cerebrovascular events.

Results: Out of 957 patients, 129 (13.4%) of patients were re-admitted within 90 days for preventable reasons. 98 (10.2%) patients were re-admitted once in 90 days, while 31 (3.2%) were re-admitted multiple times. In the single readmission group, 15.3% patients were re-admitted for urinary tract infections, 21.4% were admitted for chest infections, 12.2% were admitted for congestive heart failure symptoms, and 17.3% were admitted for falls or social issues. A majority (59%) of readmitted patients were over the age of 70. 24% of the patients had an MCA stroke, and 34% had a decrease in function of activities of daily living.

Conclusion: This study helped illustrate needs for intervention in preventing readmissions for stroke patients and demonstrated a target group of patients likelier to be readmitted, for whom such interventions should be targeted upon. Follow-up data regarding implementations of re-admissions reduction will be studied.

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