Mortality Rate, Predictor Factor and Cause of Death of Stroke in Young Adult in Thailand

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Background: Stroke in young adults (aged 18-45 years) is a major problem in Thailand and many countries.

Objective: This study aimed to describe mortality rate, predictive factor, and cause of death of stroke in young adults in Thailand.

Methods: This study was designed as descriptive retrospective study. Data from the National Health Security Office (NHSO), Thailand, and medical records of all stroke cases in young adult patients (aged 18-45 years) were collected during 2004-2015 (from October 2004 to September 2015). Mortality rate, predictive factor, and cause of death of stroke in young adults in Thailand were analyzed.

Results: The total stroke was 59,666 in young adults (aged 18-45 years). There were 60.3% male and 39.7% female. Most common comorbidity associated with stroke in young adults were 1) Hypertension (24.1%), 2) Diabetes mellitus (9.3%), 3) Atrial fibrillation (4.4%), 4) Dyslipidemia (3.1%), and 5) HIV associated (1.1%). Total mortality rate of stroke in the young was 44.7% after follow-up until 5 years with hemorrhagic subtype more than ischemic subtype. Predictive factors of death stroke in young adults included male gender (p-value<0.001), more than age group (p-value<0.001), co–morbid associated with mortality, diabetes mellitus, hypertension, atrial fibrillation, alcohol drinking, bacterial endocarditis, valvular heart disease, arrhythmia, cardiomyopathy, moyamoya disease, thrombophilia, HIV associated, malignancy, chronic kidney disease, and dyslipidemia. Causes of death of stroke in young adults were 1) Neurological causes (34.47%), 2) Cardiovascular cause (14.04%), 3) Infection (13.66%), 4) Diabetes mellitus and complications (4.27%), 5) Malignancy (4.27%), 6) Respiratory causes (3.74%), 7) Hypertension and complications (2.14%), 8) Trauma, Toxic and traffic accident (1.18%), 9) Liver cirrhosis (1.06%), 10) Chronic kidney disease (0.45%), 11) SLE and other connective tissue disease (0.15%), 12) HIV associated (0.09%), 13) Other causes (20.4%).

Conclusion: Total mortality rate of stroke in the young is 44.7% after follow-up until 5 years. Predictive factors of death stroke in young adults are male gender, more than age group, co–morbid associated with mortality, diabetes mellitus, hypertension, atrial fibrillation, alcohol drinking, bacterial endocarditis, valvular heart disease, arrhythmia, cardiomyopathy, moyamoya disease, thrombophilia, HIV associated, malignancy, chronic kidney disease, and dyslipidemia. Causes of death of stroke in young adults are 1) Neurological causes, 2) Cardiovascular cause, 3) Infection, 4) Diabetes mellitus and complications, 5) Malignancy, 6) Respiratory causes, 7) Hypertension and complications, 8) Trauma, Toxic and traffic accident, 9) Liver cirrhosis, 10) Chronic kidney disease, 11) SLE and other connective tissue disease, 12) HIV associated, 13) Other causes.

Keywords: Stroke in young adults, Mortality rate, Predictor factor, Cause of death, Thailand.