Prevalence and Risk Factors of Wake-Up Ischemic Stroke in Indonesian Population

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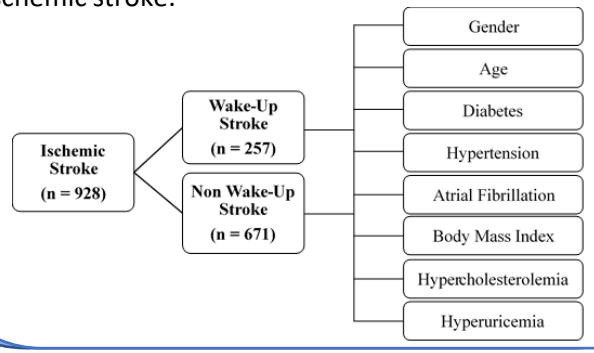
Background

Prevalence and risk factors of wake-up stroke patients in Indonesia are still limited. It is believed that there is no significant difference. The aim of this study is to identify the prevalence and risk factors of wake-up ischemic stroke.

Method

Data were collected from the Stroke Registry in National Brain Center Hospital Jakarta between January 2022 and June 2022. It is included demography, clinical comorbidities, and BMI. We performed the cross-sectional study and analyzed multivariate logistic regression by using STATA 16 ver to establish independent factors for increasing the risk of wake-up ischemic stroke.



Results

Among 928 ischemic stroke patients, 258 (27.8%) patients had wake-up stroke with 168 were male and 66 (28.1%) were female. The most affected age was ≥60 years (53.8%) with hypertension 216 (92.3%), diabetes 98 (41.8%), hypercholesterolemia 70 (29.9%), hyperuricemia 46 (19.6%), atrial fibrillation 6 (2.5%), and the most affected patient whose Body Mass Index 25-29.9 (32.0%). In multivariate data analysis, the risk factors of wake-up stroke were more common in patients with hyperuricemia (OR 1.693 (95% CI, 1.133-2.530) p-value 0.010).

VARIABLES	WAKE-UP STROKE	NON WAKE-UP STROKE	UNIVARIATE ANALYSIS		MULTIVARIATE ANALYSIS	
			OR (CI 95%)	P-value	aOR (CI 95%)	P-value
Gender						
Female	66 (28.1%)	241 (34.7%)				
Male	168 (71.7%)	453 (65.2%)	1.354 (0.978 – 1.873)	0.067	1.358 (0.971 - 1.899)	0.073
Age						
< 40	9 (3.85%)	10 (52.6%)				
40 - 59	99 (42.3%)	302 (75.3%)	0.364 (0.143 – 0.921)	0.033	0.438 (0.168 - 1.144)	0.092
≥ 60	126 (53.8%)	382 (75.2%)	0.366 (0.145 – 0.922)	0.033	0.450 (0.173 - 1.173)	0.103
Hypertension	216 (92.3%)	656 (75.2%)	0.695 (0.388 - 1.243)	0.220	0.724 (0.393 - 1.335)	0.302
Diabetes	98 (41.8%)	316 (76.3%)	0.861 (0.638 - 1.163)	0.331		
Hypercholesterolemia	70 (29.9%)	198 (73.8%)	1.069 (0.772 - 1.479)	0.686		
Hyperuricemia	46 (19.6%)	95 (67.3%)	1.542 (1.046 - 2.274)	0.029	1.693 (1.133 -2.530)	0.010
Atrial Fibrilation	6 (2.5%)	37 (86.0%)	0.467 (0.194 - 1.121)	0.089	0.437 (0.179 – 1.064)	0.069
Body Mass Indeks						
< 18.5	11 (4.7%)	18 (62.0%)				
18.5 – 22.9	68 (29.0%)	200 (74.6%)	0.556 (0.250 – 1.236)	0.150	0.518 (0.230 – 1.168)	0.113
23 – 24.9	57 (24.3%)	134 (70.1%)	0.696 (0.309 – 1.567)	0.382	0.623 (0.272 – 1.424)	0.262
25 – 29.9	75 (32.0%)	263 (77.8%)	0.466 (0.211 – 1.031)	0.060	0.413 (0.184 – 0.928)	0.032
≥ 30	23 (9.8%)	79 (77.4%)	0.476 (0.197 – 1.151)	0.099	0.409 (0.165 – 1.015)	0.054
NIHSS						
0 – 7	167 (71.3%)	499 (74.9%)				
8 – 14	44 (18.8%)	140 (76.0%)	0.939 (0.641 - 1.375)	0.747		
> 14	23 (9.8%)	55 (70.5%)	1.249 (0.744 - 2.096)	0.399		

Conclusion

Risk factors between wake-up stroke ischemic and non-wake-up stroke ischemic were relatively similar with predominantly hypertension followed by diabetes, hypercholesterolemia except for hyperuricemia. Further study with cohort design is recommended.

Keywords: *Wake-Up Stroke, Stroke Ischaemic, Risk Factors*

World Stroke Organization