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A MALAYSIAN SINGLE CENTRE EXPERIENCE OF NOAC EFFICACY SAFETY AND FOR STROKE PREVENTION IN NVAF

Aina Mardiah Zulkifle¹, Syed Zulkifli Syed Zakaria², Wan Asyraf Wan Zaidi², Law Zhe Kang², Wan Nur Nafisah Wan Yahya²

¹Hospital Sultan Ismail, Johor Bahru, Malaysia

²Universiti Kebangsaan Malaysia

ABSTRACT

Background: In non-valvular atrial fibrillation (NVAF), oral anticoagulant has been shown to reduce the risk of cardioembolic stroke. RCTs have shown non-inferiority or superiority of novel oral anticoagulants (NOAC) to the vitamin K antagonist, warfarin. Four NOACs have been approved for treatment of AF but only 3 are available in Malaysia: apixaban, dabigatran and rivaroxaban.

Objective: To compare the stroke outcome and bleeding rate of apixaban, dabigatran and rivaroxaban in NVAF.

Methods and study design: Single center retrospective with prospective follow-up study. All patients who were prescribed NOACs from January 2011 onwards were identified from the UKM Medical Centre (UKMMC) online pharmacy system and eligible patients who were vitamin K naïve were recruited using convenience sampling based on inclusion and exclusion criteria. They were followed up from 2011 to 2020. Patient data was obtained from their medical records and outcomes were determined from these records and/or phone visits. The first onset of stroke after initiation of NOACs will be taken as final efficacy outcome. Safety outcome was any significant bleeding event. Approval from the ethical standards committee of UKMMC was received.

Results: A total of 235 patients were included in the study and fell into six different treatment groups: dabigatran 150 mg bd, dabigatran 110 mg bd, rivaroxaban 20 mg od, rivaroxaban 15 mg od, apixaban 5 mg bd, and apixaban 2.5 mg bd. Type and dosage of NOACs prescribed determined by the treating physician according to clinical suitability. Eighteen stroke events occurred throughout the study period. Survival analysis, using Kaplan-Meier curve and log rank test, showed that there was no significant difference in survival among all treatments groups ($p = 0.46$) but there was an increase of stroke events in patients with non-aspirin NSAID exposure ($p < 0.05$ and HR 6.19 at 95% CI [1.363-28.166]). There was no significant difference in bleeding rate (gastrointestinal bleeding, intracranial bleeding or other bleeding events).

Conclusion: We conclude that all treatments group had similar cumulative proportion of stroke survival at the end of the study regardless of NOAC type or dose. This study showed no difference in bleeding outcome in the treatment groups. We find it reassuring that lower and higher doses appeared to be equally efficacious regardless of NOAC types.

AN OBSERVATIONAL STUDY ON THE OVERVIEW OF YOUNG STROKE PATIENTS

Soo Ping Lim¹, Hong Chuan Loh¹, Yi Fang Lim¹, Zariah Abdul Aziz^{2,3}, Irene Looi^{1,4}

¹Clinical Research Centre, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia

²Medical Department, Hospital Sultanah Nur Zahirah, Terengganu, Malaysia

³Clinical Research Centre, Hospital Sultanah Nur Zahirah, Ministry of Health Malaysia, Terengganu, Malaysia

⁴Medical Department, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia

ABSTRACT

Introduction: Stroke has been known as a disease of aging [1] but there is a recent trend of rising stroke incidence at a younger age. This will likely have a great public health impact since stroke in younger patients carries the potential for a lifetime of disability.[2] Risk factors profile, stroke types, severity, and outcomes in young adults are different from those in older patients.[3] This study was conducted to explore the characteristics of young stroke patients in Hospital Seberang Jaya, Penang.

Methods: There were 1373 patients recruited from the National Neurology Registry of Hospital Seberang Jaya who were patients between January 2013 and December 2018. All the data were presented with descriptive analysis.

Results: The mean (SD) age for young adults was 38.7 (0.4), while for older adults it was 63.9 (0.3). Both age groups had over 60% male stroke patients. Ischaemic stroke accounted for the highest number in both age groups and over 70% of them showed lacunar cerebral infarct as the most common ischaemic subtype. Hypertension was the most common risk factor (70.4%) in older adults, while second in younger adults (56.2%). Smoking was the most common risk factor (63.5%) in younger adults, while smoking in older adults was noted to be the third most common risk factor (43.2%). Younger adults had better scores on clinical indicators on presentation and on discharge, compared to older adults, thus had more favourable outcomes. Both age groups had over 90% of patients survive on discharge, slightly higher in younger adults (95.6%).

Conclusion: Understanding on the demographic patterns and risk factors of different age groups in stroke patients is needed to have a more targeted and specified prevention model. More studies on young stroke patients are needed to understand and reduce the impact of stroke on the patients' health and to reduce the burden on the healthcare system.

AN OVERVIEW OF STROKE PATTERNS FROM A STROKE READY HOSPITAL

Soo Ping Lim¹, Hong Chuan Loh¹, Yi Fang Lim¹, Zariah Abdul Aziz^{2,3}, Irene Looi^{1,4}

¹Clinical Research Centre, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia

²Medical Department, Hospital Sultanah Nur Zahirah, Terengganu, Malaysia

³Clinical Research Centre, Hospital Sultanah Nur Zahirah, Ministry of Health Malaysia, Terengganu, Malaysia

⁴Medical Department, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia

ABSTRACT

Introduction: Stroke is one of the dominant causes of death and disability globally. Stroke incidence in Malaysia is reported as 67/100,000 person-years.[1] It is a major burden on the healthcare system, is the third leading cause of death, and among all disabling diseases it had the nation's highest disability rate.[2] This study was conducted to determine the stroke patterns in Hospital Seberang Jaya, Penang.

Methods: Data was obtained from the National Neurology Registry of Hospital Seberang Jaya, Penang, on 1373 stroke patients between January 2013 and December 2018. We used the descriptive analysis method to present the data.

Results: The mean age was 61.62 years \pm 12.517, with a preponderance of males (62.9%) and those of Malay ethnicity (53.7%). Out of the entire sample, 77.9 % presented with first stroke. We identified 80% of the cases were ischaemic stroke (lacunar cerebral infarct, LACI 50.3%) and 11.6% were haemorrhagic stroke. Hypertension was the most common risk factor (69.2%), followed by diabetes mellitus (43.8%), hyperlipidaemia (15.5%), smoking (15.4%), and ischaemic heart disease (8.4%). The average number of days of hospitalization in median (IQR) was 2(3) days and the in-hospital mortality rate was 5.8 %.

Conclusion: When compared to other nations, Malaysia has room for improvement. Measures are needed for stroke prevention to reduce cardiovascular burdens and healthcare resources for stroke care need to be increased to ensure better stroke management.

MORTALITY AFTER STROKE: A 9-MONTH OBSERVATIONAL STUDY

Jia Ni Kwan¹, Hong Chuan Loh¹, Ghayathiri Chelladurai¹, Chen Joo Chin¹, Irene Looi^{1,2}.

¹Clinical Research Centre, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia.

²Medical Department, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia.

ABSTRACT

Introduction: According to the Malaysian Burden of Disease and Injury Study 2009-2014, the biggest killer in 2014 was cerebrovascular disease, particularly stroke, which contributed 15.2% of the total deaths in Malaysia.(1) The aim of this study is to determine the stroke mortality of patients admitted to Hospital Seberang Jaya, a primary stroke centre in Penang.

Methods: We performed an observational study of patients with stroke who were admitted to Hospital Seberang Jaya from July 2020 to March 2021. Those patients were followed by post-stroke telephone calls 30 days after discharge and monthly thereafter. During the phone call, patients were asked if their stroke symptoms were resolved.

Results: During the 9-month study period, there were a total of 160 patients with stroke. During the follow-up period, it was determined that 143 (89%) patients were living and 17 (11%) patients were deceased. Of the 17 deceased patients, 15 had ischaemic stroke, 1 had haemorrhagic stroke and 1 had transient ischaemic attack. Among the 15 patients with ischemic stroke, 1 patient was given thrombolysis with an intravenous recombinant tissue plasminogen activator.

Conclusion: Post-stroke management is important since stroke is associated with an increased risk of death over time. Better stroke prevention and management could lead to a higher long-term survival rate.

References:

1. Malaysian Burden of Disease and Injury Study 2009-2014
<http://iku.moh.gov.my/images/IKU/Document/REPORT/BOD/BOD2009-2014.pdf>

THE CHARACTERISTICS OF POST-STROKE PATIENTS FROM HOSPITAL SEBERANG JAYA

Ghayathiri Chelladurai¹, Hong Chuan Loh¹, Jia Ni Kwan¹, Chen Joo Chin¹, Irene Looi^{1,2}.

¹Clinical Research Centre, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia.

²Medical Department, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia.

ABSTRACT

Introduction: Following a stroke, a variety of issues may arise. The majority of them are normal and will get better with time but some will indicate a serious condition. Therefore, monitoring the condition of post-stroke patients is crucial. Reaching post-stroke patients over the phone is much easier than face-to-face interviews (1).

Methods: We made telephone calls to post-stroke patients from Hospital Seberang Jaya. We looked at six months of data from July to December 2020. We used descriptive analysis to present the data obtained during the study period.

Results: There were 114 stroke patients. Among them, 68 patients were male (60%) and 46 patients were female (40%). The mean (SD) age of the patients was 59 (13.3). Ethnically, the majority were Malays 57 (50%), followed by Chinese 36 (32%) and Indians 21 (18%). Hypertension is the main risk factor. We identified 78 (75.7%) patients had hypertension, 33 (32.0%) of them had diabetes mellitus, 34 (33.0%) had dyslipidaemia, 20 (19.4%) had ischaemic heart disease, and 7 (6.8%) had atrial fibrillation. Less than half of the patients, 52 (45.6%) were smokers and 9 (7.9%) were alcoholics. Among the patients, 86 (81.1%) had ischaemic stroke, 15 (14.2%) had transient ischaemic stroke, and 5 (4.7%) had haemorrhagic stroke.

Conclusion: Since social distancing is one of the most important measures to curb the spread of infection, especially during the COVID-pandemic, follow up by telephone is important. It is a feasible and cost-effective way to monitor post-stroke patients in order to detect any deterioration in the patient's condition.

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THE IMPACT OF COVID-19 PANDEMIC ON ACUTE STROKE CARE: AN EXPERIENCE FROM A PRIMARY STROKE CENTRE IN MALAYSIA

Hong Chuan Loh¹, Kar Keong Neoh¹, Angelina Siing Ngi Tang¹, Jia Ni Kwan¹, Irene Looi^{1,2}.

¹Clinical Research Centre, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia.

²Medical Department, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia.

ABSTRACT

Introduction: The COVID-19 pandemic had a profound impact on medical care services, necessitating significant service reorganisation to ensure patient continuity [1]. According to recent reports, the outbreak had some detrimental effects on acute stroke treatment, resulting in a substantial decrease in stroke admissions and recanalisation therapies [2,3]. We sought to investigate the impact of the COVID-19 pandemic on acute stroke care at a primary stroke centre in Malaysia.

Methods: We only included adult ischaemic stroke patients in this study. Variables of the study included the number of ischaemic stroke patients, the number of recanalisation therapies, and the number of COVID-19 cases in Malaysia between March 2020 and September 2020. Pearson's or Spearman's correlation analyses were performed to determine the strength of association between two variables and the direction of the relationship.

Results: There is a significant positive correlation between the number of ischaemic stroke patients and those receiving acute recanalisation therapy during the COVID-19 period ($r = 0.791$, $P = 0.034$). The increased number of ischaemic stroke patients shows no significant correlation with COVID-19 cases ($r = -0.306$, $P = 0.504$). A similar trend was also observed for acute recanalisation therapy with COVID-19 cases ($r = -0.072$, $P = 0.878$).

Conclusion: There was a strong positive correlation between the number of ischaemic stroke patients and those receiving acute recanalisation therapies during the COVID-19 period. More research is needed to assess the acute stroke care in the rapidly evolving COVID-19 pandemic in order to provide high-quality care while minimising the risk of COVID-19 infection.

YOUNG STROKE ON PREVALENCE OF EPIDEMIOLOGICAL FACTORS, STROKE SUBTYPES AND STROKE EVENTS - AN OBSERVATIONAL STUDY

Soo Ping Lim¹, Hong Chuan Loh¹, Yi Fang Lim¹, Zariah Abdul Aziz^{2,3}, Irene Looi^{1,4}

¹Clinical Research Centre, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia

²Medical Department, Hospital Sultanah Nur Zahirah, Terengganu, Malaysia

³Clinical Research Centre, Hospital Sultanah Nur Zahirah, Ministry of Health Malaysia, Terengganu, Malaysia

⁴Medical Department, Hospital Seberang Jaya, Ministry of Health Malaysia, Penang, Malaysia

ABSTRACT

Introduction: There is a trend toward increasing stroke incidence at younger ages. This is of great public health significance because strokes in younger patients carry the potential for a greater lifetime burden of disability and some of the potential causes that have been identified as possible contributors to this trend are modifiable.[1] Heterogeneity in incidence rates, stroke subtypes, and aetiology among younger stroke patients in both developed and developing countries is often noted.[2] This study was conducted to provide an overview of stroke among young people in Hospital Seberang Jaya, Penang, detailing stroke types and stroke events.

Methods: We recruited 1373 patients from the National Neurology Registry of Hospital Seberang Jaya who were treated between January 2013 and December 2018. Descriptive analyses were performed to determine the characteristics of the patients.

Results: In this study, stroke in young adults encompassed 8.8% of the study population, while stroke in older adult constituted the majority, of 90.2%. We noticed that in more recent years, the age at presentation for ischaemic and haemorrhagic stroke had been dropping, involving more younger adults. The youngest ages were noted in the year 2018. The youngest age was 23 years old and 20 years old for ischaemic and haemorrhagic stroke patients respectively. Over the last few years, the age for stroke events had also been dropping, with the youngest age noted in the year 2018: 20 years old for the first-ever stroke and 32 years old for recurrent stroke.

Conclusion: Stroke in younger adults had a slight rise in the last few years, involving not only more young adults, but also younger patients. More studies on young stroke are needed to understand and reduce the negative health impacts and burden to society.