Results: The cohort consisted of Chinese (50.8%), non-Malay Bumiputera (38.3%), Malay (10.2%) and Indian (0.8%). 61.7% were males. The mean age was 66.78 (+/-10.57) years. The mean TTR was 59.22 (+/-24.28), 74 (57.8%) patients had poor TTR (< 65%). The mean CHA2DS2-VASc score was 3.47 (+/-4.3). The mean TTR was significantly lower in patients with Diabetes Mellitus (DM) at 52.32 (+/-22.95) [(p<0.05, OR: 4.19; 95% CI (4.13-20.72)] and heart failure (HF) at 52.93 (+/-23) [(p<0.05, OR: 4.58; 95%CI (0.09-18.21)]. There was a progressive decline in mean TTR with increasing number of co-morbidities. Co-morbidities of ≥ 1, ≥ 2, ≥ 3 and ≥ 4 corresponded to a mean TTR of 59.27 (+/-24.28), 57.32 (+/-23.8), 53.89 (+/-24.35) and 48.63 (+/-23.23) respectively with significant difference observed with 2, 3 and 4 or more comorbidities [(p<0.05, OR:5.72; 95% CI 0.19-21.86)]. The mean TTR was also significantly lower in patients on Digoxin, Metformin and subcutaneous insulin at 45.18 (+/-20.8) [(p<0.05, OR: 5.88; 95% CI (4.83-28.11)], 48.36 (+/-21.66) [(p<0.05, OR: 4.75; 95% CI (5.22-24.02)] and 40.3 (+/-23) [(p<0.05, OR: 7.8; 95% CI (4.79-35.69)] respectively.

Conclusion: The quality of anticoagulation is poor in our center. Predictors of poor anticoagulation control include DM, HF, number of co-morbidities, and use of drugs like digoxin, metformin and subcutaneous insulin.

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10. Is Impaired Cerebral Autoregulation Associated with Falls in Older Persons with Orthostatic Hypotension?


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Background: While it is considered well-established that orthostatic hypotension (OH) is associated with falls, population-based studies have found that a large proportion of community-dwelling older adults fulfil the criteria for OH without experiencing falls. It is therefore postulated that older individuals with OH may only experience fall if cerebral autoregulation, which is the mechanism by which the brain blood flow is maintained constant through a autoregulatory range, is impaired.

Objective: To evaluate the relationship between cerebral autoregulation and OH in older individuals with and without a history of falls.

Method: Individuals aged 60 years were recruited from medical clinics, by word of mouth, and from existing research registries. Baseline sociodemographics, detailed medical history and medication history were obtained. Bilateral middle cerebral artery (MCA) blood flow were recorded using transcranial Doppler ultrasound (TCD) synchronized with non-invasive continuous blood pressure and ECG recordings. Synchronized brain blood flow signals, heart trace and blood pressure signals were first recorded during 10 minutes supine rest. Participants were then be asked to perform a standard set of mathematical calculations, a Valsalva maneuver and to stand up from a seated position.

Results: 15 participants have been evaluated to date (8 fallers, 7 non-fallers). There is no statistically significant difference in gender, ethnicity or height and weight between groups. Fluctuations in MCA flow velocity were observed with spontaneous fluctuations in blood pressure at rest and with induced blood pressure changes during the challenge maneuvers. Visual inspection of the signals obtained suggested that changes in MCA flow velocity were more marked among fallers and non-fallers.

Conclusion: Synchronization of cerebral blood flow and continuous blood pressure signals opens up numerous new possibilities in research and clinical practice. Our preliminary findings suggest that cerebral autoregulation does play a role in determining the presence of symptoms in older individuals with OH.

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11. Precipitants of Acute Heart Failure During Initial Admission and Readmissions Throughout 12-Months, As Well As Precipitants of 30-Days Mortality

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Background: A major contributor to the burden of heart failure (HF), is the cost associated with acute admissions. However, there is limited data on precipitants of acute HF in a Malaysian context.

Objective: To identify common precipitants of initial admissions and re-admissions, as well as 30-days mortality in acute heart failure patients in Northern Kuala Lumpur.

Materials & methods: A retrospective, observational study was conducted on 418 patients admitted for acute HF, and subsequently re-admitted for acute HF within 12-months, to Hospital Sungai Buloh between 1st January 2012 to 31st December 2013. Case notes were analysed and likely precipitants to each admission were identified at 4 distinctive periods - one, three, six and twelve months from initial presentation within the study period.

Results: The mean age was 62.6 years (SD=12.5), of which 234 (56%) were male. 261 (62.4%), 61 (14.6%), 89 (21.3%), and 7 patients (1.7%) were Malays, Chinese, Indians and of other races respectively. The three most common precipitants of acute HF on initial admission include non-compliance (to medication, diet or fluid restriction), acute coronary syndrome (ACS) and hypertensive emergencies [n=188 (45.0%), n=122 (29.2%) and n=21 (5.2%) respectively]. Other common precipitants identified include sepsis, cardio-renal syndrome and hospital-acquired pneumonia [n=19 (4.6%), n=15 (3.6%) and n=14 (3.4%) respectively]. One-month, three-months, six-months and twelve-months re-admission rates were 16.0%, 24.0%, 25.6% and 28.5% respectively. 154 patients (36.9%) admitted within the study period had at least one subsequent re-admission within 12 months. Coincidently, ACS, non-compliance and hypertensive emergencies were, again, common precipitants of readmissions. Mortality rates were highest within the first month of admission [n=60 (14.4%)], and the most common cause of deaths given was acute pulmonary oedema [n=29 (48.0%)] followed by ACS [n=16 (27.0%)].

Conclusion: This study reveals that in a multi-ethnic Asian population, ACS, non-compliance and hypertensive emergencies are major precipitants of both acute HF admissions, and subsequent readmission, highlighting the need for clinicians to address these 3 factors by identifying their risk factors.

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