Wake-up Stroke and Onset-to-door Duration Delays: Potential Future Indications for Reperfusion Therapy
Melissa SH Tan, 1BS, Elaine SL Ang, 2BS, Shu Swen Ho, 2BS, Szu Chyi Ng, 3BS, Loreto Talabucon, 2MD, FPNA, Fung Peng Woon, 3MSc, Deidre A De Silva, 2MRCP (UK), FAMS (Neurology)

Abstract

Introduction: There is limited utilisation of acute stroke reperfusion treatments which have narrow therapeutic windows, with delayed hospital presentation being a major limiting factor in Singapore. Most patients who wake up with symptoms are ineligible for reperfusion treatments as duration from onset time is not known. We studied the profile of wake-up strokes, onset-to-door duration and their associated factors among ischaemic stroke patients in the context of potential new treatments. Materials and Methods: This is an observational study of consecutive ischaemic stroke patients presenting within 2 weeks of symptom onset to the Singapore General Hospital in 2012. Results: Of the 642 ischaemic stroke patients studied, 33% of the cases were wake-up strokes [median age 64 years, 88% <80 years; median NIHSS score 4, 98% <20]. The median onset-to-door duration was 14.3 hours (Interquartile range, 4.8 to 38.2 hours), 20% of them arrived <3.5 hours (considering eligibility for intravenous alteplase in the proven 4.5 hours window accounting for a one hour door-to-needle duration), 14%: ≥3.5 to <8 hours, 11%: ≥8 to <12 hours, and 56%: ≥12 hours. Most patients with known stroke risk factors including atrial fibrillation (66%), hypertension (78%) and prior stroke (81%) presented beyond 3.5 hours. Conclusion: The one-third proportion of wake-up stroke in this cohort and low prevalence of relative contraindications suggest this is a promising group for emerging thrombolysis indications. With the majority of patients presenting after 8 hours, widening of the therapeutic window with new potential reperfusion treatments would not appreciably increase treatment utilisation. This study reaffirms the urgent need for public education to improve stroke awareness in Singapore.

Key words: Hospital presentation, Ischaemic stroke, Stroke awareness

1Duke-NUS Graduate Medical School, Singapore
2National Neuroscience Institute (Singapore General Hospital Campus), Singapore
3Singapore General Hospital, Singapore

Address for Correspondence: Dr Deidre Anne De Silva, Department of Neurology, Singapore General Hospital, Outram Road, Singapore 169608.
Email gnrdsd@sgh.com.sg

January 2014, Vol. 43 No. 1