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Ischaemic Stroke in Young Asian Women: Incomplete Investigations and Geographical Bias

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We refer to the article by Wasay et al. [1], which provided important insights into ischaemic strokes in young women in Asia. The authors concluded that unlike Caucasians, the causes of ischaemic stroke in young Asian women are large-vessel thrombosis in 24%, cerebral venous thrombosis in 21%, cardioembolism in 19%, and small-vessel thrombosis in 15%. We would like to raise three issues in the study, which may affect the conclusions. Firstly, the large majority (756 of 958, 79%) of patients were recruited from South Asia, with 11% of patients from South East Asia, 9% from the Middle East and no patient from North East Asia. Therefore, this study is more reflective of South Asia, rather than Asia at large.

Secondly, 59% (n = 570) of the cases were collected retrospectively over 6 years from January 2001 to December 2006, while 41% were collected prospectively over 18 months from January 2007 to July 2008. This translated to 95 cases per year recruited retrospectively and 258 cases per year recruited prospectively. Thus, there was substantial missing data in the retrospective cohort of patients, which may seriously distort the overall results.

Thirdly, in classifying the diagnosis according to the TOAST [2] criteria, important investigations were incomplete. We estimated that about 14% did not have CT or MR brain imaging. Transthoracic echocardiography was performed in 55%, carotid Doppler ultrasound in 37%, MR angiography in 28% and MR venography in 17% of the patients. It is understandable that there are practical difficulties in the access to these investigations. However, there is valid concern about the accuracy of the classification according to the TOAST criteria.

We performed a comparative study of young adults with ischaemic stroke between two centres in Kuala Lumpur, Malaysia, and Melbourne, Australia, in 2009 [3]. All the patients in the Malaysian centre had CT or MRI of the brain, 74% received full cerebrovascular evaluation with transcranial Doppler, CT or MR angiography and 70% underwent transthoracic or transoesophageal echocardiography. Our results showed that Malaysian patients from our centre had significantly more large-vessel atherosclerosis (28.3%) and small-vessel occlusion (32.8%) by TOAST classification when compared with Australia, but less cardioembolic strokes (12.6%) and less patients categorized under 'determined aetiologies' (5.6%) [2]. Cerebral venous thrombosis accounted for 10.7% of ischaemic strokes among the young women in Malaysia, substantially less than the 21% reported by Wasay et al. [1].

In conclusion, there is a need for further studies from all parts of Asia with extensive use of modern imaging in order to clarify the pathogenesis and aetiology of ischaemic stroke in young patients within the diversity of Asia.

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