Alzheimer’s disease with cerebrovascular disease: current status in the Asia–Pacific region


From the 1Department of Pharmacology, National University of Singapore; 2Memory Aging and Cognition Center, National University Health System, Singapore, Singapore; 3Research Institute for Dementia Care, Tokyo, Japan; 4Lui Che Woo Institute of Innovative Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China; 5Neurokrish Consulting Pvt Ltd, Chennai; 6Department of Neurology, Nizam’s Institute of Medical Sciences, Hyderabad, India; 7Division of Geriatric Behavioral Neurology, CYRIC, Tohoku University, Sendai; 8Department of Neurology, Okayama University, Okayama, Japan; 9Memory Center, St Luke’s Medical Center, Quezon City; 10Department of Neurology and Psychiatry, University of Santo Tomas Hospital, Manila, Philippines; 11Department of Neurology, National Neuroscience Institute and Duke-NUS Singapore, Singapore, Singapore; 12Department of Neurology, Seoul National University College of Medicine; 13Neurocognitive Behavior Center, Seoul National University Bundang Hospital; 14Department of Psychiatry, Seoul National University, College of Medicine, Seoul, Korea; 15Clinical Trials Unit, Department of Pharmacology, Faculty of Medicine, University of Kelaniya, Ragama, Sri Lanka; 16Department of Neurology, Kaohsiung Medical University Hospital, Kaohsiung Municipal Ta-Tung Hospital; 17Master’s Program in Neurology, Faculty of Medicine, Kaohsiung Medical University, Kaohsiung; 18Division of Behavioral Neurology, Department of Neurology, Alzheimer’s Disease Research Center, Medical College and Hospital, National Cheng Kung University, Tainan City, Taiwan; 19Division of Neurology, Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand; and 20Eisai Co. Ltd, Mumbai, India

Abstract. Chen C, Homma A, Mok VCT, Krishnamoorthy E, Alladi S, Meguro K, Abe K, Dominguez J, Marasigan S, Kandiah N, Kim S, Lee DY, De Silva HA, Yang Y-H, Pai M-C, Senanarong V, Dash A (National University of Singapore; National University Health System, Singapore, Singapore; Research Institute for Dementia Care, Tokyo, Japan; Lui Che Woo Institute of Innovative Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China; Neurokrish Consulting Pvt Ltd, Chennai; Nizam’s Institute of Medical Sciences, Hyderabad, India; CYRIC, Tohoku University, Sendai; Okayama University, Okayama, Japan; Memory Center, St Luke’s Medical Center, Quezon City; University of Santo Tomas Hospital, Manila, Philippines; National Neuroscience Institute and Duke-NUS Singapore, Singapore, Singapore; Seoul National University College of Medicine; Seoul National University Bundang Hospital; Seoul National University, College of Medicine, Seoul, Korea; University of Kelaniya, Ragama, Sri Lanka; Kaohsiung Medical University Hospital, Kaohsiung Municipal Ta-Tung Hospital; Kaohsiung Medical University, Kaohsiung; Medical College and Hospital, National Cheng Kung University, Tainan City, Taiwan; Mahidol University, Bangkok, Thailand; Eisai Co. Ltd, Mumbai, India). Alzheimer’s disease with cerebrovascular disease: current status in the Asia–Pacific region. J Intern Med 2016; 280: 359–374.

Background. There is growing awareness of the coexistence of Alzheimer’s disease and cerebrovascular disease (AD+CVD), however, due to lack of well-defined criteria and treatment guidelines AD+CVD may be underdiagnosed in Asia.

Methods. Sixteen dementia specialists from nine Asia Pacific countries completed a survey in September 2014 and met in November 2014 to review the epidemiology, diagnosis and treatment of AD+CVD in Asia. A consensus was reached by discussion, with evidence provided by published studies when available.

Results. AD accounts for up to 60% and AD+CVD accounts for 10–20% of all dementia cases in Asia. The reasons for underdiagnosis of AD+CVD include lack of awareness as a result of a lack of diagnostic criteria, misdiagnosis as vascular dementia or AD, lack of diagnostic facilities, resource constraints and cost of investigations. There is variability in the tools used to diagnose AD+CVD in clinical practice. Diagnosis of AD+CVD should be performed in a stepwise manner of clinical evaluation followed by neuroimaging. Dementia patients should be assessed for cognitive, behavioural and psychological symptoms, functional staging and instrumental activities of daily living. Neuroimaging should be performed using computed tomography or magnetic resonance imaging. The treatment goals are to stabilize or slow progression as well as to reduce behavioural and psychological symptoms, improve