Cerebral involvement in neuromyelitis optica spectrum disorders among Hong Kong Chinese

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Introduction: Neuromyelitis optica spectrum disorders (NMOSD) are typified by longitudinally extensive transverse myelitis (LETM) and/or optic neuritis (ON), a significant proportion of patients are seropositive for aquaporin-4 autoantibodies (AQP4 Ab). Cerebral involvement is increasingly recognised.

Aim: To study clinical, neuroradiological features of cerebral involvement documented by MRI in local NMOSD patients.

Methods: NMOSD patients diagnosed (according to Wingerchuk's criteria) and followed up in Queen Mary Hospital from 1988 to 2008 were studied. All have MRI brain and spinal cord with gadolinium performed on initial presentation and repeated

6 to 12 months later or during relapse. Since 2002, all had repeated MRI brain yearly for 3 years even without relapse. AQP4 Ab was assayed by cell-based immunofluorescence using HEK293 cells transfected with human AQP4 gene.

Results: Thirty-three NMOSD patients (18 NMO, 9 relapsing myelitis [RM], 6 relapsing ON) were studied, mean onset age was 39.0 years (range, 17-70), 30 (91%) were female; mean follow-up duration was 6.0 years (range, 2-16 years). AQP4 Ab were detected in 23 (69.7%). MRI brain lesions were detected in 19 (58%) in (i) brainstem (14 patients, 42%) in medulla, midbrain, pons, cerebellar peduncles, peri-ependymal regions around third, fourth ventricles, peri-aqueductal region, (ii) peri-ventricular regions around lateral ventricles (7, 21%), (iii) frontal/temporal/parietal lobes as small white matter lesions (7, 21%), (iv) corpus callosum (4, 12%), (v) parietal and occipital lobes as large confluent (>3 cm) white matter lesions (2, 6%), (vi) hypothalamus (1, 3%). Gadolinium-enhancing lesion were detected in 3 (9%), and 2 (6%) had MRI abnormalities fulfilling criteria for MS. Ten (53%) of the 19 patients had clinical manifestations due to cerebral involvement including (i) brainstem encephalitis with diplopia, ataxia, nausea, vomiting, internuclear ophthalmoplegia, facial weakness, dysphagia, aspiration pneumonia, autonomic dysfunction, facial sensory loss and long-tract sign (7, 70%), (ii) hemispheric syndrome with hemiparesis, homonymous hemianopia (2, 20%), (iii) cortical signs including aphasia, acalculia, agnosia, agraphia, neglect, and cognitive impairment (1, 10%), (iv) hyperphagia, weight gain from hypothalamic involvement (1, 10%), (v) trigeminal neuralgia in 1 (10%).

Conclusion: Cerebral involvement is common in our NMOSD patients; brainstem is the most frequently affected site.

Post-stroke orthostatic hypotension, its pattern of recovery

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Introduction: Orthostatic hypotension (OH) is common in stroke patients due to damage to central autonomic centres or pathways. Its pattern of recovery is not well defined.

Methods: First-ever stroke patients admitted to Queen Mary Hospital were recruited, excluded those with known cardiac illness or disorders that can affect ANS. 60° tilt table was performed in Tung Wah Hospital at 14 and 90 days post-stroke. NIHSS and BI were measured at 6-month follow-up.

Result: A total of 75 patients were recruited; 72 underwent initial assessment (3 patients died before assessment), 69 patients completed second assessment 3 months later (4 died and 2 dropped out), and 67 completed 6-month follow-up assessment. Of those 25 patients (34.7%) with OH, only 23 underwent reassessment. OH resolved in 13 (57%) of these 23 patients, 4 (17%) have milder degree of OH and 6 (26%) have similar degree of OH. There is a 10% relative reduction of prevalence of OH at 3 months. Patients with OH resolved is demonstrated to have made better recovery at 6 months with mean NIHSS 1.83 versus 6.78 compared to those with persistent OH (P=0.003). No patients developed new-onset OH at 3-month assessment.

Conclusion: Over 50% of patients with OH recovered at 3 months post-stroke. Patients with OH resolved at 3 months' assessment were expected to have better recovery at 6 months compared to those with persistent OH.