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Multiple sclerosis, corpus callosum and bedside test

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Statement of the Problem: Demyelination affects highly myelinated structures like Corpus Callosum (CC). CC is unique in function that it connects right and left hemisphere. It synchronises bimanual or bipedal activities. Affecting CC can disturb synchrony between the two hemispheres.

Methodology: Seventy multiple sclerosis patients from outpatient clinics and home visits were tested for bimanual hand function. Comparison of speed between rapid supination/pronation of left and right hand separately and then clapping of both hands supination/pronation of each hands alternatively has been done. Patients have to do as fast as they could. Noticeable slowing of clapping was taken as a sign of slowing down of conduction through CC. Exclusion criteria are upper limb power <3/5 MRC scale, pain, visual impairment, intentional tremors, stroke or cognitive impairment. Study period started from 01/09/2016.

Findings: 31 patients were excluded, 34 patients showed no noticeable difference, 2 patients were difficult to make conclusions and 3 patients showed definite slowing down in clapping.

Conclusion & Significance: It is possible to detect CC involvement by doing bedside test. Positive patients will have difficulties in doing bimanual activities like mobility using two sticks, typing using keyboard, pushing wheel chair bimanually, etc. The magnitude of slowing down can be used as an indicator of the reference day (a good or a bad day). Clapping can also be used as an exercise for CC. It is difficult to test CC conduction speed electro physiologically. The sample size taken is not large enough and larger studies need to be performed to validate the findings.

Biography

Khin Bo is a Lecturer (Hon.) in Hull York Medical School. He is a Specialist in Spasticity Management and Functional Electrical Stimulation. He has been involved in the management of long term neurological patients in MDM setting for over 10 years.

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