

Cognition in Treated and Untreated Spasmodic Torticollis

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Some movement disorders are associated with cognitive deficits. Medication may exacerbate or induce cognitive deficits. This study reports attention and verbal learning/recall patterns in 108 patients (79F/29M) with spasmodic torticollis (age 20-75, mean age 52 years). 67 patients had isolated cervical dystonia (ST) while 41 patients exhibited additional dystonic features (ST+). Three-Letter Cancellation Task (LCT) and Auditory Verbal Learning Test (AVLT) were employed. Medications with anticholinergic properties were investigated and designated as either on or off Rx. Anxiety and depression were monitored by MMPI, Beck and Spielberger Anxiety Rating Scales. Type, severity and duration of ST, Rx dose and age were analyzed.

Of 74 patients studied off Rx, 47% had increased LCT scores, suggesting impaired vigilance. One-third of these were associated with anxiety and/or depression. 12% had a flat learning curve or reduced verbal recall. Seven of these nine patients had phasic ST+. Of 49 patients on Rx, 49% had impaired vigilance, 33% flat learning curves ($P < .05$) and 37% impaired verbal recall ($P < .005$). Of 15 patients (ages 35-64, mean age 50 years) studied both on and off Rx, 11 had worse verbal recall, five worse vigilance and three worse verbal learning on Rx.

Focal cervical dystonia not uncommonly is associated with impaired vigilance, not solely related to anxiety and/or depression, severity or type of movement disorder. Segmental cervical dystonia (ST+) may increase an otherwise low rate of impaired verbal learning/memory. Anticholinergic drugs even at low doses and in relatively young patients frequently impair learning and verbal memory. These observations may suggest an impairment of attention mechanisms mediated between the basal ganglia and frontal lobes as well as lowered intrinsic CNS levels of acetylcholine in focal cervical dystonia. Patients medicated for dystonia should have monitoring with serial cognitive studies.

Platform presentation September 29, 1991, Seattle, Washington, American Neurological Association Pre-conference Symposia on Etiology, Pathogenesis and Prevention of Parkinson Disease and Hyperkinetic Movement Disorders. Sponsored by the Movement Disorder Society. Movement Disorders, 6, 3:274, 1991.

Poster presentation, September 30, 1991, American Neurological Association, Seattle, Washington. D.D. Duane, J.L. Case, L.L. LaPointe: Cognition in Treated and Untreated Spasmodic Torticollis. Annals of Neurology, 30:238-239, 1991.