

Urinary MHPG Levels in Cervical Dystonia: A Possible Aid to Subtyping

D.D. Duane, L. Gottlob, M. Clark, M.E. Brennan, T.P. Moyer, S. Daly
Arizona Dystonia Institute / Arizona State University • Scottsdale / Tempe, Arizona
Mayo Clinic, Rochester, Minnesota

3-methoxy-4-hydroxy-phenylglycol (MHPG) is a product of cerebral norepinephrine (NE) metabolism, the turnover of which is reflected in 24-hour urine collections. Clinically, this measure may be used as an index for pharmacologic management of depressed mood. The locus ceruleus is a rich source of cerebral NE. Brain stem mechanisms have been speculated, like mood disorder, to correlate with dystonia. There has been no previous report of this measure in dystonia patients.

198 cervical dystonia patients (CD) (148 female/50 male, age range 21-88, mean 54 years) assessed by protocol between January 1989 and December 1993 had drug-free 24-hour urinary MHPG determinations (mg/24-hour) performed at Mayo Clinic, Rochester. The results were compared to 94 controls (47 female, 47 male, age range 20-60, mean 41 years). Comparisons included: control vs. CD; gender; CD age of onset and duration of symptoms; isolated CD vs CD plus another dystonic site; antecedent drug exposure; family history of movement disorder; eye color; history of trauma; presence of tremor; MMPI evidence of depression or anxiety. Statistical analysis was by t-test and ANOVA.

Statistically significant at or below $P=.05$:

- All males (2.6+/- .9) vs all females (1.8+/- .7)
- Controls (2.3+/- .7) vs CD patients (1.9+/- .8)
- Female controls (2.0+/- .5) vs female CD patients (1.7+/- .7)
- CD patients no antecedent trauma (2.0+/- .9) vs antecedent trauma (1.6+/- .6)
- CD patients no family history of tremor (2.0+/- .8) vs family history of tremor (1.7+/- .8) $P=.06$.

This measure of catecholamine metabolism suggests some heterogeneity in the biologic concomitants of focal dystonia and may be of assistance in explaining female preponderance, occurrence of family history of tremor and predisposition to the inciting effects of painful trauma.

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