

Elevated Autoimmune Antibody Titers in Cervical Dystonia Versus Controls

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Objective: To determine if elevated serologic titers of a variety of autoimmune antibodies is more frequent in cervical dystonia patients as contrasted with controls.

Background: Although genetic mechanisms are conceded to predominate in the genesis of focal, as well as in generalized dystonia, the specific etiology and pathophysiology of focal dystonia remains unknown. Other neurologic disorders with demonstrated autoimmune etiologic mechanisms were initially suspected as autoimmune because (1) there was an increased association with conditions characterized by disordered immune mechanisms and/or (2) by the presence of either specific neurotoxic antibodies or of other autoimmune antibodies. Prior reports have suggested that there is an increased rate of autoimmune disorders in those with focal dystonia¹. Whether there is an increased rate of autoimmune antibodies in cervical dystonia is not clear as a prior report suggested only a borderline significance ($p = .01$) rate of elevated autoimmune antibody titers in women with cervical dystonia (CD) versus female controls².

Design/Methods: Retrospective analysis of 254 cervical dystonia patients (188 female, mean age 55 years) serially evaluated between 01/08 and 07/94 by a protocol which included serologic assay of antinuclear (ANA), thyroid microsomal and thyroglobulin antibodies (Thyroid), rheumatoid factor (RhF) and a miscellaneous group of three gastrointestinal antibodies (Gut) and serum protein electrophoresis (SPEP). Results were contrasted with 137 control (88 female, mean age 52 years) evaluated during the same time frame with the same serologic assay profile, suffering with subacute or chronic spine pain. Positive titers were ANA > 1:80; thyroid microsomal > 1:400, thyroglobulin >42ng/ml; RhF > 39 ng/ml; Gut-antiparietal antibody > 1:80, antismooth muscle > 1:80, antimitochondrial > 1:80 and gamma globulin > 1.7 gm/dl. Statistical analysis was by a G test.

Results: Positive ANA: CD –45 female (24%), 15 male (23%), Control – 9 female (10%), 4 male (8%), $p=.005$. Positive thyroid antibodies: CD – 20 female (10.6%), 5 male (7.5%), Control – 5 female (5.7%), 2 male (4%), $p=.01$. Positive RhF: CD – 11 female (5.9%), 2 male (3%), Control – 10 females (11.4%), 1 male (2%), $p=NS$. Gut: CD – 7 female (3.7%), 3 male (4.5%), Control -- 1 female (1.1%), 2 male (4.1%), $p=NS$.

Conclusions: CD patients do not generate elevated levels of ANA and possibly thyroid antibodies. Whether this observation represents a link to an autoimmune etiology or an additional expression of the genetics of focal dystonia requires further analysis.

Poster presentation, American Academy of Neurology, Seattle, Washington. May 11, 1995.

Duane D, Clark M, Gottlob L: Elevated autoimmune antibody titers in cervical dystonia versus controls. Neurology, 1995; (supplement 4): 456.