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The potential importance of steroids in the treatment of autistic spectrum disorders and other disorders involving mercury toxicity

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Summary Autism is a neurodevelopmental disorder that according to the Centers for Disease Control and Prevention (CDC) affects 1 in 150 children in the United States. Autism is characterized by impairments in social relatedness and communication, repetitive behaviors, abnormal movements, and sensory dysfunction. Recently emerging evidence suggests that mercury, especially from childhood vaccines, appears to be a factor in the development of the autistic disorders, and that autistic children have higher than normal body-burdens of mercury. In considering mercury toxicity, it has previously been shown that testosterone significantly potentates mercury toxicity, whereas estrogen is protective. Examination of autistic children has shown that the severity of autistic disorders correlates with the amount of testosterone present in the amniotic fluid, and an examination of a case-series of autistic children has shown that some have plasma testosterone levels that were significantly elevated in comparison neurotypical control children. A review of some of the current biomedical therapies for autistics, such as glutathione and cysteine, chelation, secretin, and growth hormone, suggests that they may in fact lower testosterone levels. We put forward the medical hypothesis that autistic disorders, in fact, represents a form of testosterone mercury toxicity, and based upon this observation, one can design novel treatments for autistics directed towards higher testosterone levels in autistic children. We suggest a series of experiments that need to be conducted in order to evaluate the exact mechanisms for mercury–testosterone toxicity, and various types of clinical manipulations that may be employed to control testosterone levels. It is hoped by devising therapies that address the steroid hormone pathways, in addition to the current treatments that successful lower heavy metal body-burdens of mercury, will work synergistically to improve clinical outcomes. In light of the fact that there are a number of other diseases that may have a chronic mercury toxicity component, such as Alzheimer's disease, heart disease, obesity, ALS, asthma, and other various forms of autoimmune disorders, it is imperative that further research should be conducted to understand mercury–testosterone toxicity.

Introduction

Autism is a neurodevelopmental disorder characterized by impairments in social relatedness and

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