Thimerosal-Containing Vaccines: Tics and NeuroDevelopmental Disorders

A large-scale retrospective study by Verstraeten, et al, on the use of vaccines containing Thimerosal (mercury) and neurodevelopmental disorders was reported in the December issue of *Pediatrics*. Partial results suggested that cumulative exposure to vaccines at three months resulted in a significant positive association with tics. A separate measure found increased risks of language delay for cumulative exposure at three months and seven months. During a separate phase of the research, no significant associations were found. In no analyses were significant increased risks found for autism or attention-deficit disorder.

The authors of the study acknowledge conflicting findings, and suggest that studies with uniform neurodevelopmental assessments of children, with a range of cumulative Thimerosal exposures, are needed. The study’s lead author, former Center for Disease Control researcher Dr. Thomas Verstraeten, reportedly now works for a vaccine maker, creating the appearance of a conflict of interest.

A comment on the study (published in the same journal issue) by Dr. Neal Halsey of Johns Hopkins Bloomberg School of Public Health, finds flaws in the approach and questions the outcomes. 

**Editor:** The apparent flaws in this Thimerosal study may have resulted in a false-positive association with mercury-containing vaccines and tics. Or the opposite, study weaknesses may have resulted in the failure to consistently identify a causal relationship.

The findings as related to autism are not yet conclusive. The full letter to the editor by Halsey is presently available free of charge online at http://pediatrics.aappublications.org/cgi/eletters/112/5/1039. The research article is available at www.Pediatrics.com for a $10 fee.

A Note on Copper Levels and Tourette Syndrome

Dr. Jon Pangborn indicated to ACN that biochemical reasons for elevated dopamine can include copper deficiency or ascorbate deficiency. Yet elevated copper levels have been connected with some cases of Tourette syndrome. In such cases, supplementation with copper would worsen the problem.

ACN asked Dr. Pangborn to explain why both a copper deficiency and copper excess would be mentioned by experts. His explanation follows. It’s technical, but helps highlight the complexities of biochemical interactions in the body and the importance of seeking professional help for certain supplementation protocols:

“The main enzyme that processes dopamine is called dopamine beta-hydroxylase. It promotes the change of dopamine into noradrenalin, and it requires copper to be active. This enzyme is also assisted by ascorbate. When dopamine beta-hydroxylase doesn’t work well, dopamine accumulates up to a level where other processes dispose of it.

“Excess copper may be clinically observed in Tourette, and that actually may be maldistribution of copper among body tissues and fluids. In fact, it could result in the same situation, not enough copper at the enzyme sites. Medical texts attribute ‘neurological effects’ to dopamine beta-hydroxylase deficiency.”

**Tics, OCD, and Omega 3s**

Researchers gave an encouraging preliminary report at the American Academy of Child & Adolescent Psychiatry 50th Annual Meeting (October 2003). A 20-week study on the use of omega 3/fish oils was showing promise, with some subjects having an improvement in tics and obsessive compulsive disorder (OCD) symptoms. The study had not been completed, but they felt it was important to report on this observation given the lack of suitable drugs to treat tics.

**Editor:** Numerous health benefits are being found with supplementation of essential fatty acids (EFA). Previous articles in *Latitudes* have noted that these can be key nutrients for some, though not everyone will improve with the same type of EFA supplementation. We will report the final study results when available.

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