

Biomedical Update:

EPA: mercury risk up

Researchers at the Environmental Protection Agency (EPA) now acknowledge that mercury is a far worse threat to America's children than the agency has previously reported. According to the EPA's revised figures, one in every six pregnant women may have mercury levels high enough to disrupt fetal development.

EPA studies have routinely measured mercury levels in pregnant women's blood as a means of determining the mercury exposure of their fetuses. However, EPA biochemist Kathryn Mahaffey explained at a January 26 forum that "we did not routinely measure [umbilical] cord blood. We had thought that the mother and the fetus had the same level."

New research, she said, reveals that mercury levels in the fetal umbilical cord blood are actually 70 percent higher than levels in the mother's blood. This means that even when mothers have blood mercury levels well below dangerous levels, their infants can suffer from mercury toxicity.

"Mercury threat to fetus raised: EPA revises risk estimates," Guy Gugliotta, *Washington Post*, February 6, 2004.

Surgery risk for SSRIs

Autistic individuals taking selective serotonin reuptake inhibitors (SSRIs) could be at increased risk for dangerous bleeding if they undergo surgery, according to a large-scale European study.

Kris Movig et al. conducted a retrospective study of 520 patients undergoing orthopedic surgery over a two-year period. The researchers used routine hospital and pharmacy data to measure each patient's blood loss during surgery, and to determine which patients required blood transfusions. They found that "the risk of blood transfusion almost quadrupled for the serotonergic antidepressant group [SSRIs, venlafaxine, and clomipramine], as compared with the nonusers." No elevated risk was seen for patients taking other types of antidepressants, calcium channel blockers, or prescription steroid drugs.

Movig and colleagues recommend that surgeons, who generally do not ask surgical patients if they are taking SSRIs, add this question to their pre-surgery workups.

"Relationship of serotonergic antidepressants and need for blood transfusion in orthopedic surgical patients," Kris L. L. Movig, Michiel W. H. E. Janssen, Jan de Waal Malefijt, Peter J. Kabel, Hubert G. M. Leufkens, and Antoine C. G. Egberts, *Archives of Internal Medicine*, Vol. 163, No. 19, October 27, 2003, 2354-8. Address: Kris Movig, Hospital Pharmacy

Midden-Brabant, St Elisabeth Hospital and TweeSteden Hospital, Tilburg, the Netherlands.

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"Excess bleeding after surgery found in patients taking SSRIs," Jim Rosack, *Psychiatric News*, Vol. 38, No. 24, December 19, 2003.

Perchlorate: no evidence of link to autism seen

The chemical perchlorate, used as a propellant in rocket fuel, contaminates a number of water resources in Western states. Many researchers are concerned about the potential health effects of perchlorate, which interferes with thyroid function, and a preliminary assessment by the Environmental Protection Agency concluded that potential health risks include "effects on the developing nervous system." However, a new study suggests that the chemical is not a factor in the rising rate of autism and attention deficit hyperactivity disorder (ADHD).

S. Chang et al. collected statistics on rates of ADHD and autism in different regions in Nevada, using data from the Medicaid system. In addition, they analyzed fourth-grade school performance results. Data for Clark County, which has water supplies contaminated by perchlorate, were compared to data for counties with no perchlorate contamination. The researchers report, "Analysis... shows that the rates for ADHD and for autism in the area where perchlorate was in the drinking water did not exceed the rates in those areas where there was no perchlorate contamination in the drinking water." In addition, no differences were seen in fourth-grade performance tests.

"Pediatric neurobehavioral diseases in Nevada counties with respect to perchlorate in drinking water: an ecological inquiry," S. Chang, C. Crothers, S. Lai, and S. Lamm, *Birth Defects Research Part A, Clinical and Molecular Teratology*, Vol. 67, No. 10, October 2003, 886-92. Address: S. Chang, Johns Hopkins University, Bloomberg School of Public Health, Baltimore, MD 21205.

IN MEMORIAM

F. Jack Warner, M.D.

1928-2004

Jack Warner, M.D., of Fullerton, California, died March 7, 2004, at age 75, after bringing about major improvement in many thousands of children with autism and Down Syndrome world-wide. A pioneer in the nutritional treatment of Down syndrome, Dr. Warner recognized that many autistic children also respond to non-drug treatment and joined our network of Defeat Autism Now! (DAN!) doctors. Jack, we miss you!

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Lead, celiac disease linked to schizophrenia

Two factors strongly linked to autism—lead toxicity and gluten intolerance—also appear to play a role in the development of schizophrenia, according to two new studies.

Ezra Susser and colleagues analyzed blood samples taken from pregnant women in the United States between 1959 and 1976, before leaded gasoline was banned. The researchers found that offspring of mothers whose blood samples showed evidence of high levels of lead (as indicated by high levels of delta-ALA, a protein whose breakdown is hindered by lead) were more than twice as likely as other offspring to develop schizophrenia in adulthood.

"The results of our study," Susser says, "suggest that lead-induced prenatal damage to the developing brain may show itself decades following initial exposure to the substance."

In separate research, William Eaton and colleagues examined the records of nearly 8,000 schizophrenic patients admitted to a Danish psychiatric facility between 1981 and 1998, comparing them to non-schizophrenic controls. Using Denmark's national patient registry, the researchers identified which patients or controls had also been treated for autoimmune disorders, including celiac disease (which impairs the body's ability to digest the protein gluten, found in wheat and many other foods).

Eaton and colleagues report that people with a history of celiac disease were three times more likely to develop schizophrenia than those without celiac disease. While only a small number of schizophrenic patients (1.5 per 1,000) have celiac disease, the researchers say it is important to determine if treating these individuals' celiac disease can ameliorate their schizophrenic symptoms as well.

"Prenatal lead exposure, delta-aminolevulinic acid and schizophrenia," M.G.A. Opler, A. S. Brown, J. Graziano, M. Desai, W. Zheng, C. Schaefer, P. Factor-Litvak, and E. S. Susser, *Environmental Health Perspectives*, in press. Address not listed.

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"Studies suggest brain injury results from developmental exposure to alcohol, anesthesia, and lead," news release, American Association for the Advancement of Science, Feb. 13, 2004.

—and—

"Coeliac disease and schizophrenia: population based case control study with linkage of Danish national registers," W. Eaton, P.B. Mortensen, E. Agerbo, M. Byrne, O. Mors, and H. Ewald, *British Medical Journal*, Vol. 328, February 21, 2004, 438-9. Address: William Eaton, weaton@jhsph.edu.