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MERCURY, AUTISM CONNECTION FOUND IN STUDY

Autism is a severe developmental disorder in which children seem isolated from the world around them. There is a broad spectrum of symptoms, but the disorder is marked by poor language skills and an inability to handle social relations.

Increases in the reported prevalence of autism and autistic spectrum disorders in recent years have fuelled concern over possible environmental causes. There is evidence (1) of large increases in prevalence in both the United States and the United Kingdom that cannot be explained by changes in diagnostic criteria or improvements in case ascertainment. Comparison of autism rates by year of birth for specific geographies provides the strongest basis for trend assessment. Such comparisons show large recent increases in rates of autism and autistic spectrum disorders in both the U.S. and the U.K. Reported rates of autism in the United States increased from < 3 per 10,000 children in the 1970s to > 30 per 10,000 children in the 1990s, a 10-fold increase. In the United Kingdom, autism rates rose from < 10 per 10,000 in the 1980s to roughly 30 per 10,000 in the 1990s. Reported rates for the full spectrum of autistic disorders rose from the 5 to 10 per 10,000 range to the 50 to 80 per 10,000 range in the two countries. A precautionary approach suggests that the rising incidence of autism should be a matter of urgent public concern.

Researchers have been hard-pressed to explain the increase, but mercury is toward the top of the list of suspected culprits. Acute and chronic exposure to mercury can significantly affect the health of a population, specifically the children. Elemental mercury, or quicksilver, poses a threat to children because it may be found readily in schools, hospitals, and medicine cabinets. It has been suggested that parents should be informed of possible exposure sources, and alert to new government advisories and recommendations. They should also be knowledgeable regarding classic clinical presentations of mercury toxicity. Preventing mercury exposure and consequent toxicity is of importance because therapies are controversial and long-term consequences may be significant. (2)

Worryingly, Texas researchers have recently found a possible link between autism and mercury in the air and water. (3,4) Studying individual school districts in Texas the researchers found that those districts with the highest levels of mercury in the environment also have the highest rates of special education students and autism diagnoses.

The purported link between autism and mercury has recently been a subject of intense debate. In the past that debate has centered primarily on the mercury- containing preservative thimerosal, which was once widely used in vaccines. Despite the lack of confirmatory research evidence, many parents have argued that thimerosal might cause autism because their children seemed to develop the neurological disorder shortly after they received childhood vaccinations. Researchers are now also beginning to look at the potential effects of the metal from other sources.

Mercury is routinely released from power plants burning fossil fuels, and it spreads widely in air and water. Much of the fish consumed in some regions is contaminated with mercury. In California, gold mining was a big mercury source, and there are many mercury hot spots near mines and downstream.

In the new study (3) Environmental Protection Agency data about the release of mercury in 2001 in Texas' 254 counties was used and correlated that with the number of special education cases and autism diagnoses in the 1,200 school districts. Texas is fourth in the amount of mercury released into the environment annually, trailing California, Oregon and West Virginia.

The study, which will appear in the journal *Health & Place*, found that for every 1,000 pounds of mercury released into the environment, there was a 43% increase in special education services and a 61% increase in the autism rate.

More work is required in order to determine whether mercury is the agent that causes the disorder. The authors of the latest research (3) are expanding their studies to look for historical correlations - attempting to determine, for example, if increases in the rate of autism over time can be associated with increases in mercury release.

References -

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