



The Birmingham News

Scientists study mercury's links to autism, Alzheimer's

Monday, February 13, 2006

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Between 2000 and 2004 the number of American babies born to mothers with unsafe levels of mercury increased from an estimated 60,000 to 320,000 and then 640,000.

Mercury did not become hazardous or prevalent only in this decade. But now, scientists are looking at it from more angles than ever and finding more trouble than before.

No one can say for certain what was the tipping point to make mercury a hot topic of this decade, but it is certain that across the nation, fish standards are being tightened, mercury bans are being enacted, and industrial sources are being challenged to clean up their stacks.

Boyd Haley, an expert on mercury at the University of Kentucky, believes that the controversy over autism brought mercury to the top of many agendas.

Haley, who believes that mercury will be ultimately linked to autism, Alzheimer's disease and other neurological problems, has been studying mercury in dental fillings for many years. But, he says, it took the unlikely event of a congressman's grandson's autism to get his work any attention.

U.S. Rep. Dan Burton, R-Ind., has become a champion of parents and scientists who believe that autism is caused by mercury, most likely in a preservative used in childhood vaccines. Burton speaks before Congress and in other venues on the meteoric rise in autism rates in the United States, increasing 500 percent or more since the early 1990s.

"It has sensitized people to the fact that exposure to very low levels of mercury to infants in utero or infants at birth can be disastrous," said Haley, a chemistry professor and researcher on mercury in the brain.

Until 2002, mercury was present in most infant and childhood vaccines because it was used in the preservative thimerosal. Then in 1999, the American Academy of Pediatrics and the U.S. Public Health Service called for drug companies to voluntarily remove thimerosal from vaccines, after a federal study determined that children on the recommended vaccine schedule would exceed recommended mercury doses.

Scientists are still studying a link between autism and thimerosal, which has not been proven. It is known that mercury can cause birth defects, including retardation and learning disorders. It can damage the brain and kidneys.

In 2004, two important conclusions were announced. The FDA stated that five types of fish were unsafe for children and pregnant women. Most - tilefish, shark, swordfish and king mackerel - are not common in the American diet. But the list also included tuna, including the canned variety that is one of the top-selling American fish.

Also that year, the EPA announced that, based on women's mercury levels, one in six pregnancies was exposed to mercury above its safe level.

That may be the catalyst for much of the current interest in mercury, said Jackie Savitz director of the Campaign to Stop Seafood Contamination for Oceana.

"Of all the chemicals we hear about - PCBs, mercury, chemicals that come from oil - mercury is the only one that is in our food supply at levels the government deems unsafe," Savitz said. "FDA has only issued an advisory about fish for one chemical."

Power plant emissions Coal-fired power plants are the largest source of mercury in the environment of the United States. From there, as well as other industrial sources such as chlorine plants, mercury enters the air and rains down into the streams.

In recent years, so many state advisories have been issued against eating sport fish that in some states there are no streams where fish are considered safe for children or women in their childbearing years.

Alabama's standard gets tougher this spring, when the Department of Public Health will issue new fish advisories. Some state scientists have said that past tests show that nearly every stream tested is likely to now fall into the danger zone.

Environmental Management Commissioner Pat Byington said he was compelled to call for the tighter freshwater fish standard in Alabama after discovering that the state was acting under an older Food and Drug Administration rule instead of a more recent number from the U.S. Environmental Protection Agency.

In 2000, the National Academy of Sciences endorsed the EPA number, which may be what drew the increasing attention of many nonprofit health and environmental groups to mercury, said David Ludder, general counsel for the Legal Environmental Assistance Foundation that works on mercury issues in Alabama.

At the same time, mercury has come under fire in dental fillings, where it can be as much as 50 percent of silver fillings. In recent years, many states, including Alabama, have considered bans on the silver fillings for children and pregnant women.

Mercury accumulates up the food chain in animals and is extremely long-lived in the environment. So it's not likely that the issue that has become so prominent in recent years will be resolved quickly.

Environmental groups have not been satisfied with the mercury reductions on industry and power plants proposed by the EPA. And they want fish warnings in the supermarkets. Others want the mercury out of dentistry.

And they want everyone to keep watching the continuing studies on mercury.

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What you can do to reduce your exposure to mercury:

Before taking an immunization, ask the doctor whether a shot contains thimerosal and if an alternative is available.

Pay attention to advisories issued by the Alabama Department of Public Health before eating fish caught by friends or family in local lakes, rivers or coastal areas.

The Food and Drug Administration advises that women and young children not eat shark, swordfish, king mackerel, or tilefish because they contain high levels of mercury.

Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, pollock, and catfish.

Albacore or "white" tuna has more mercury. The FDA recommends no more than 6 ounces a week.

Sources: The Food and Drug Administration, the Alabama Department of Public Health and the American

Academy of Pediatrics

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