

Research Shows Mercury to be a Potential Cause for Alzheimer's Disease

In an article to be published in the November 15th issue of the *Journal of Alzheimer's Disease*¹, researchers have found that mercury is likely to be one of the multiple causes of Alzheimer's disease. Mercury is one of the most toxic natural substances. It poses a danger to humans and may lead to neurodegenerative diseases like Alzheimer's. After a systematic review of existing experimental and clinical research literature, researchers associated with the Viadrina European University, the Samuelli Institute (Virginia, USA), Northeastern University (Boston, MA, USA) and the University Hospital Freiburg found that the symptoms and features of Alzheimer's disease were reproduced or accelerated when mercury was introduced.

Mercury binds tightly to selenium, a naturally occurring metal found in our diet that is important for good health. Proteins associated with selenium form a class of molecules that help prevent damage due to oxidative stress, which is the stress that occurs when metabolism takes place. Oxidative stress leads to cell death and thus aging. When mercury binds to selenium, this process may be accelerated, as are other degenerative processes in the brain.

The experimental research literature indicates that animal and cell models reproduce all the features of Alzheimer's disease when mercury is given. For instance, one of the more widely-known uses of mercury is in amalgam dental fillings, the most common type of fillings used by dentists. Studies of low-dose human exposure, such as to dentists and their staff, show that exposure to mercury is significantly correlated with neurological or psychological harm, or both.

“The situation is similar to the early 1970's regarding smoking: enough experimental evidence existed, but human studies were inconclusive at the time and were under attack by groups with a vested interest,” said Professor Harald Walach, PhD, Viadrina European University and Samuelli Institute Fellow. “To wait until irrefutable evidence has accumulated is not the best option in view of what we already know about the toxicity of mercury. The removal of inorganic mercury from ecological cycles might prove to be the easiest and most effective public health measure to contribute to the prevention of Alzheimer's disease.”

Mercury can be introduced to the body in several ways because it evaporates at room temperatures. It can be taken up as a gas, reaching the brain directly, via the nose or indirectly via the blood. It then crosses the blood-brain barrier and gets trapped inside the brain, where it can accumulate over long periods of time.

¹ Joachim Mutter, Annika Curth, Johannes Naumann, Richard Deth, Harald Walach **Does Inorganic Mercury Play a Role in Alzheimer's Disease? A Systematic Review and an Integrated Molecular Mechanism.** *Journal of Alzheimer's Disease*, Vol. 22, No. 2, to be published online 15 November 2010.
<http://www.j-alz.com/issues/22/vol22-2.html>