

Mercury – The Issue of Excretion

The issue of heavy-metal toxicity has increasingly become a complication in health care because of its ability to interrupt normal physiological processes. As a result for effective strengthening of individual glandular and organ system to occur heavy-metal body burden must be considered. Heavy metal exposure is entirely environmental, especially including vaccinations and flu shots, dental applications, and pesticide or xenobiotic exposure.

There are several ways to gain impressions of what the heavy-metal toxic load status is in the body. These include hair analysis, stool analysis and challenged urine tests, which are more expensive and complicated. Primarily, when evaluating heavy-metal toxicity it is important to determine whether a healthy degree of excretion is occurring. If there is no excretion present it indicates that the individual is impaired in his ability to excrete. Because mercury is to some degree present in our modern-day lifestyle it is in a constant state of excretion. If the excretion is above the normal level it indicates that the person is challenged with excessive heavy-metal toxicity. Therefore when interpreting heavy-metal toxic load it is important to determine that some excretion is occurring and is within normal limits.

The reason heavy-metals are considered so toxic is that they may interrupt normal physiological processes at cellular levels. There are many ways they may cause this, and they are sometimes called hormone disruptors or biochemical disruptors. What this means is that instead of the hormone being able to bind at its appropriate physiological site a heavy-metal displaces it and binds instead, thus interrupting the ability of the hormone to activate a certain function. This can often appear like a hormonal or physiological deficiency when in fact is simply because heavy-metal toxicity has interrupted normal physiological pathways. It should be noted that heavy metal toxicity can often result in moodiness and energy depletion and emotional congestion.

The most severe heavy-metal interference is clearly caused by mercury. Recent studies at the University of Calgary showed visual microscopic evidence of how mercury interrupts normal physiological processes. It was demonstrated that mercury displaced and occupied the beta receptor of the GTP (Guanisine tri-phosphate) receptor site on the tubulin molecule, thus impairing its ability to link together creating the cellular skeleton. This is especially important because it destroys the cytoskeletal structure resulting in a collapse of cellular integrity. While this does not kill the cell completely, it does melt and turn the cell to mush, interfering with normal function. In the case of nerve tissue it specifically creates tangles in the nerve extensions due to a loss of a healthy sheath and structure. Mercury can do this in any tissue since tubulin is the fundamental cytoskeletal structure of every cell. This becomes a very severe issue to the person who is impaired or unable to excrete mercury

The excretion of mercury requires normal physiological methyl formation. It was recently discovered that certain genes are essential to the ability to form healthy methyl groups. Specifically the genes for MTHFR (Methylenetetrahydrofolate Reductase), MTRR and MTR are required to form methyl groups, and that when these are deficient (from one or both parents) it results in the inability to induce methyl detoxification. This can be supported nutritionally and assisted in these types of individuals. Recently there was a study done at Stanford University that showed of five different strains of mice injected with mercury only one strain developed autistic tendencies. This suggested that there are certain genetic tendencies amongst the population toward methyl formation. It is suggested that with a genomic study identifying the MTHFR gene that this segment of the population that is deficient could be predicted and therefore support may be anticipated. This is a new development in our ability to understand why certain people have difficulty with mercury and why others don't.

Regardless of whether one has genetic potential to produce methyl groups or not it continues to be an issue of overall toxic metal body burden. If the mercury body burden exceeds the person's ability to excrete then

in fact bioaccumulation and toxicity result. This may be what occurs in senility and Alzheimer's in the geriatric who is given flu shots or extensive metal dental appliances and secondarily develops an increased heavy metal burden. It is now understood how to prevent and improve these tendencies in people.

With the use of cilantro, coriander and chlorella it is possible to encourage binding and excretion of mercury and other heavy-metals. It is said that mercury is the most severe heavy-metal to detoxify, and thus if excretion of mercury is achieved the other heavy-metals follow as well. As well nutritional support of the homocysteine pathway may simultaneously promote healthy methyl formation, promoting detoxification of mercury. This is accomplished by supplementation of vitamin B-6, B12, folic acid and folate. Healthy parotid gland function is also essential for the body to identify heavy-metal presence and thus with parotid nutritional support it is possible to intensify heavy-metal elimination.

While everything is as yet not understood about heavy-metal physiological impact, much more is known than was 10 years ago, and it is increasingly possible to reduce the overall heavy-metal body burden.