

## Cilantro, Chlorella, and Heavy Metals

by John Millet, NAIMH, C.Hom.

In recent years, concerns over environmental toxicity have spawned a wide array of herbal detoxification products designed to promote the excretion of heavy metals from body tissues. Many of these products contain cilantro (*Coriandrum sativum*), and green algae of the Chlorella genus. Cilantro purportedly “mobilize(s) mercury and other toxic metals,” while chlorella allegedly “enhances mobilization of mercury compartmentalized in non-neurologic structures” and “facilitates fecal mercury excretion” (Mercola). Given that these claims appear in a peer-reviewed medical journal, *Journal of Nutritional & Environmental Medicine*, one would expect them to be scientifically sound. The pervasiveness of similar statements on the Internet and in product literature attests to this expectation. However, a closer look at the source of these claims reveals some significant scientific shortcomings.

The theory that cilantro promotes heavy metal excretion first appeared in two case reports published in *Acupuncture and Electro-Therapeutics Research* in 1995 and 1996 (Omura 1995, 1996). The researcher stated that he noticed an increased amount of mercury in organs following the injection of radioactive Thallium for cardiac SPECT imaging. Following a meal of Vietnamese soup containing cilantro, he claimed “successful elimination” of the mercury deposits. Further research supposedly confirmed his initial observations and demonstrated cilantro’s efficacy in promoting the excretion of lead and aluminum as well. The researcher then claimed that cilantro aided the excretion of heavy metals putatively associated with persistent chlamydia and herpes infections (1995), and facilitated the excretion of mercury following the removal of dental amalgam fillings (1996).

Surprisingly these case reports have become the foundation for subsequent cilantro and heavy metal literature, despite their evidentiary paucity, and without subsequent replication of their results in peer-reviewed literature. First, the concentration and location of mercury and other heavy metals were assessed using a Bi-Digital O-Ring Test, a highly unorthodox and unreliable method of diagnosis via muscle testing. Second, the reports lack controls. In both reports cilantro was administered in conjunction with electroacupuncture and antibiotic or antiviral medications. In the absence of legitimate diagnostic tests or the use of controls en-

abling sound conclusions, these reports do not warrant the biochemical claims about cilantro that have been extrapolated from them.

Another article investigates the effects of cilantro on the deposition of lead in the bones of mice (Aga). While significantly more refined in its design, this study still offers little in the way of solid evidence. Mice were administered cilantro for twenty-five days in conjunction with lead-laced water. The cilantro group showed a significant decrease in the amount of lead deposited in femurs, as well as a decrease in markers of lead excretion through their kidneys. The authors concluded that cilantro was effective at reducing the injury caused by lead poisoning, and that it could prove to be a successful treatment for lead intoxication. This conclusion could only be remotely significant for humans if cilantro products were intended to be ingested in conjunction with lead. However, heavy metal “detox” products are designed to aid the excretion of metals already built up in body tissues. To date, this study is the only other article related to the topic available in the PubMed database of the National Library of Medicine.

The claims for chlorella are even less scientifically supported than those of cilantro. To date, no human studies evaluating the use of chlorella in promoting heavy metal excretion are available in the PubMed database. In a 2003 study, mice that were administered chlorella extract in conjunction with lead exhibited reduced blood lead levels (Queiroz). However, like the cilantro study on mice, this study does not suggest that chlorella would benefit humans without the simultaneous ingestion of significant amounts of lead. Although bioremediation studies have shown that living chlorella absorbs heavy metals (Aktar 2003, 2004, Matsunaga, Yoshida), they do not imply that lead and processed chlorella achieves the same results in humans. Indeed, if chlorella tends to absorb heavy metals, then ingesting it might actually introduce them into the body.

Despite all of this, some practitioners swear by cilantro and chlorella for aiding heavy metal excretion, and are skeptical of orthodox methods aimed at measuring their efficacy. We cannot disregard the clinical observations of these practitioners, for it is upon clinical observations accrued over time that herbal medicine is largely based. However, even if their observations can truly measure heavy metal status, those observations are still in their infancy, and the biochemical claims from which they draw strength are

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scientifically unsound. Until these claims are scientifically validated, or until enough time has passed for credible clinical assessments to amass a compelling body of evidence, the efficacy of cilantro and chlorella in promoting heavy metal excretion from body tissues remains an “herban” legend.

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