Case study:

Detoxification from mercury poisoning

This case study was prepared by Eko-svest with financial support from IPEN-Arnica.

The information given does not necessarily reflect the views of IPEN-Arnica nor should be taken as professional advice from a doctor.

Eko-svest is not responsible for the consequences that might arise from implementing the proposed protocol for detoxification and strongly recommends consultation with a doctor / specialist before beginning the protocol.

Introduction

This case study has been prepared for the purpose of distributing information on the possibilities and methodologies for mercury detoxification. It is based on practical experience that Eko-svest gained during the implementation of mercury related campaigns and researches, and combined with the experience of a chosen individual who was detected with high levels of mercury in the course of the implementation of our activities.

Mercury is toxic for our body

Mercury can severely diminish health. It is something that the body has no use for, at all. Most of the mercury that enters the body is stored in the kidneys. The rest is dispersed throughout the body, blood, spleen, brain, liver, bones and fatty tissues also hold mercury. It poses a threat to growing foetuses and it can get into breast milk.

Some of the responses to mercury are varying in intensity depending on the form and level of exposure. Functional changes from occupational exposure include irritability, excitability, shyness and insomnia. Continued exposure can develop into violent muscular spasms. Acute exposure to mercury vapour has been recorded as the cause of profound effects on the nervous system including psychotic reactions like hallucinations, suicidal tendencies and delirium.

Mercury in vaccines and medicine has been connected to the occurrence of autism and Alzheimer's disease.

Sources of mercury

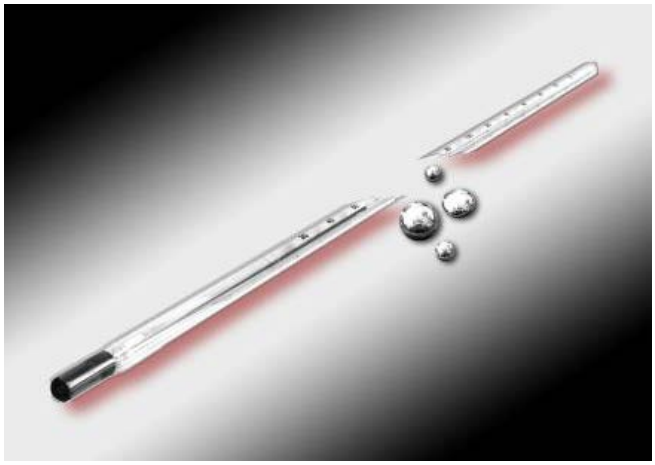
Mercury is often a danger in industrial settings. Most commonly the threat is present in power plants that use coal, medical applications (including vaccinations). It gets into the water supply and into seafood. It's still used in the cinnabar form as components of Tibetan, Chinese and Auyrvedic medicines. Mercury (I) chloride is used in medicine sometimes. Mercury (II) sulphide is used in the paint pigment, vermillion. It's still used in fluorescent light bulbs because of its efficiency. Organic compounds of mercury are the most toxic forms. Examples are methyl mercury and dimethyl mercury.

Methyl mercury affects the immune system, alters genetic and enzyme systems, and damages the nervous system, including coordination and the senses of touch, taste, and sight. Methylmercury is particularly damaging to developing embryos, which are five to ten times more sensitive than adults.

Dimethyl mercury is usually used in chemistry labs and is known to be extremely toxic. The case of the professor who died 5 months after exposure to few drops of dimethyl mercury clearly shows the high toxicity of dimethyl mercury.

Mercury can enter the body through inhalation, ingestion and skin absorption. It is often used in meters, like thermometers, barometers, and other scientific equipment.

Elemental mercury, Hg(0), the form released from broken thermometers, causes tremors, gingivitis, and excitability when vapors are inhaled over a long period of time.
Due to the toxicity of mercury, many people are phasing out these mercury items in favour of alcohol-filled, digital and other alternative instruments.



Mercury is contained in most dental filling material and all silver amalgam material. Surface particles of the amalgam filling material are being chemically broken down and released into the oral cavity. These minute particles of mercury filling are acted upon by oral and intestinal bacteria to produce methyl mercury, with target areas being primarily the pituitary gland, thyroid gland, and the brain.

The effects of dental amalgam fillings can be illustrated in the following way:
Eight amalgams in a single mouth can release 3–17 mcg of mercury per day. 1 mcg of mercury contains 120,827,403,000,000,000,000 atoms. Each mercury atom can potentially destroy a nerve cell or lymphocyte blood cell. As the lymphocytes are the "back-bone" of our body's immune system it is considered that this is the way how mercury compromises our immune system and damages the health.

The show case for detoxification

At the end of January 2011 Eko-svest finalised the first phase of testing for mercury occurrence in humans. The testing was done on 50 individuals from Macedonia. They were requested to fill out a questionnaire and provide a hair sample for the test. The questionnaire contained relevant questions regarding the person's diet and preference of fish. The testing was performed by the Institute for chemistry, from the the Macedonian Faculty of Natural Sciences and Mathematics in Skopje.

The results which came back after the first round of tests were not too surprising- the vast majority of the individuals tested has low level of mercury in their hair samples (from 0,05- 0,65 mg/kg). One individual though, had abnormal level of mercury. The test for this particular individual was repeated in order to avoid testing mistakes, but came back exactly the same. The level detected was 1,61 mg/kg. According the US standards for mercury levels in humans, the maximum allowed level of mercury is fixed at 1,0 mg/kg. In the EU, there is no limitation yet, as the discussions about adoption of a Mercury Protocol are still on-going. Although a small level of mercury in

the organism is considered to be “safe”, there is literally no such thing as a safe level of mercury in the organism, because mercury can cause serious health problems.

We concluded that this particular individual had elevated level of mercury in the organism. As we were aware of the possibilities for detoxification, we offered guidance which was accepted, and the detoxification process started.

The process began at the end of January 2011. The individual was given a concrete guideline (described below) which he strictly followed for 3 months. At the end of the third month, another hair sample was taken, and mercury levels tested. The measured level of mercury, after the detoxification process was 0,2 mg/kg, meaning that the level of mercury dropped 8 times from the initial level.

The detoxification protocol

The guidelines given to the individual were grouped in several categories. In this case study we will present all categories in detail and provide useful information so the guideline can be used by anyone intending to detoxify from mercury contamination.

1. Diet

The diet during the detoxification process is a very important aspect. All carbohydrates (sugars, including fruits) and dairy products (milk, cheese etc) should be avoided, all processed foods and most grains limited, especially wheat.

Having a high protein diet is of utmost importance as the sulfur bearing amino acids in the protein will greatly facilitate detoxification. Vegetarians need to have a large amount of protein in their diet to avoid risks.

The protein diet mainly consists of: eggs, meat, legumes (beans) and nuts.

Vegetables are very beneficial- fresh vegetables of all kinds, including avocado as well as nuts (walnuts, Brazil nuts and almonds).

2. Beneficial Bacteria

Probiotics help maintain an optimized bowel flora for detoxification. Depending on the product, 1-2 tablets per day would be sufficient. There is a wide range of probiotics capsules on the market.

3. Maintain two to three bowel movements per day

If you are not having this many bowel movements make certain that your thyroid status has been checked. It is very common for mercury to affect the thyroid. If your thyroid function is fine then you should add some magnesium.

If you are on long-term magnesium it is important to take some calcium with it or after awhile you will develop an imbalance in your calcium magnesium ratio which could result in severe cramping.

Freshly ground flax seed several teaspoons per day will facilitate intestinal movement and also contribute some healthy essential fatty acids.

4. Unload the connective tissue with Chlorella or Chitosan

Chlorella and Chitosan are an important part of the detoxification program, as approximately 90% of the mercury in our bodies is eliminated through the stool. Chlorella is an algae and, unlike Chitosan, has protein high levels of chlorophyll and other nutrients which can be used for nourishment.

The chlorella powder is the most cost effective approach but some people will prefer the tablets or capsules for convenience. A simple way to dissolve the powder is to place it in a container with a lid partially filled with water. Then tighten the lid and shake to dissolve and drink the solution.

Caution: About 30% of people can't tolerate chlorella. This may be due to optimized function of the enzyme cellulase. If you are unable to tolerate this it would be wise to consider adding an enzyme with cellulase in it to help digest the chlorella.

Dose: One can start out with a one quarter of a teaspoon of the powder (one 500 mg tablet) once a day initially to confirm that there is no hypersensitivity present. Work up slowly over one to two weeks to a dose of one teaspoon (ten tablets or capsules) per day. Once you tolerate this dose you are able to use it to bind the mercury. The chlorella will thoroughly coat your intestine and bind like a sponge to any mercury released in the digestive system.

The above dose is based on a 70 kg adult. If you are using the program for children reduce the dose proportionately. (So a child which weighs 14 kg would have 20% of the dose).

Caution: If at any time one develops nausea or starts "burping up" the chlorella taste then the chlorella should be stopped immediately as a food sensitivity is developing

which will only worsen if you continue taking it. If this happens you should switch to Chitosan. Chitosan is a fiber-like product made from ground shells of shrimp that helps inhibits fat absorption by helping fat intake and reducing the amount of fat the body can absorb.It binds similarly to mercury.

The dose for Chitosan is two capsules (500 mg) or one capsule (1000 mg) three times a day. Be sure to drink it with plenty of water and increase magnesium if constipation develops.

Chlorella in Macedonia can be found in pharmacies from various producers, clean, and in combination with other blue-green algae. For example, through NutriVita is available in the product Power3, at a price of 2,090 MKD for 160 capsules, and through the company GreenMaster2 at price of 2,140 MKD for 180 capsules.

Chitosan in Macedonia can be found in pharmacies from various producers, as well as from shops specialised for body-builders. Make sure you read the content indicated on the package to make sure you are taking the right dose.

5. Start Garlic

It would be wise to start on garlic regularly to enhance sulfur stores. Use the food, rather than the supplement garlic. Try to get in three cloves per day, but decrease the dose if your odor becomes socially offensive.

Again, as indicated in the chlorella section above, children will have proportionately lower doses.

There are various garlic supplements available on the market. Odourless garlic capsules could be a solution if the garlic smell is not tolerated.

6. Mineral Replacement

It is important to have a generally healthy mineral base. The body works better with toxic metals than no metals at all. Enzymes have certain binding sites that require a metal for them to perform their function as a catalyst. When you are deficient in

magnesium, sodium, zinc and other minerals, the body does not let go of the toxic metals very easily.

Selenium and zinc are particularly important trace minerals in mercury detoxification and should be used for most people. There is a wide range of selenium and zinc supplements on the market.

Generally the citrate form of minerals works quite nicely unless one has a low blood phosphorous level. It is important to not take copper or iron though unless a clinician has examined a hair analysis and or blood work and recommended these minerals.

Hydrochloric Acid:

If you do not have a sufficient amount of hydrochloric acid secreted by your stomach then it will be very difficult to ionize mineral supplements to absorb them properly. There is a hydrochloric acid reflex present on the lowest rib approximately one inch lateral to the midline. If this area on the rib is tender to palpation there is a strong likelihood the person is deficient in hydrochloric acid and would benefit from supplementation.

This is especially common in individuals over 50 years old, and also in individuals with food allergies. Betaine hydrochloride is a supplement (usually combined with other digestive enzymes) which can help this problem. The Betaine can be discontinued once the reflex point in non-tender to deep palpation.

In Macedonia Betaine HCL can be found in the Digestive Enzymes supplement by CaliVita for the price of 1274 MKD for 100 capsules.

7. Digestion Support

Liver and gallbladder congestion are major issues in states of toxicity. Liver detoxification from mercury can be promoted by taking Alpha-Lipoic Acid capsules. In Macedonia they can be obtained from Swanson for the price of 393,00 MKD for 60 capsules.

Your ability to clear toxins will be impaired if you do not have proper fats to support digestive function. Your diet should contain adequate fat from unprocessed pure oils:

- sunflower
- safflower
- sesame

OR fats naturally found in foods:

- seeds
- nuts
- avocado
- free range organic poultry, eggs, or meats.

8. Antioxidants

Vitamin C and E are most important. It would be wise to take 400 IU vitamin E one capsule per day and about 250-500 mg of vitamin C with each meal. If you are exercising aggressively you can take 1000 mg of C 15-30 minutes prior to exercising. It is also wise to consider adding 2-4,000 mg of Vitamin C powder to 4 litres of water and drinking that throughout the day.

Summarized, the detoxification protocol would look the following:

- Have a protein diet
- Take 1-2 capsules of probiotics
- Maintain two to three bowel movements per day
- Take magnesium and calcium supplements
- Take Chlorella (up to 10 tablets/capsules per day) or Chitosan (1-2 capsules 3 times a day) during the period of detoxification
- Take garlic (naturally or with a supplement)
- Take selenium and zinc supplements
- Eat unprocessed pure oils and/or nuts
- Take antioxidants.