

Functional Medicine: Mercury Toxicity: Associated Symptoms and Conditions

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The respiratory system

Up to 80% of inhaled mercury vapor is absorbed through the lungs. From here it travels to all the other tissues and organs of the body in the circulation, but particularly concentrates within the kidney, liver and brain.

The presence of mercury in the lungs causes chronic breathing disorders including:

Asthma

Bronchitis

Breathlessness

Persistent cough and

Bad breath

Compromised cognitive function

Mercury is both highly neurophilic (which means that it binds tightly to nerves) and highly lipophilic (which means that it binds tightly to fats). When distributed around the body in the circulation it is absorbed into the nerve endings that regulate all the functions of the body (the autonomic nervous system). From there it slowly tracks up the nerves into the central nervous system, in what is known as retrograde axonal transport.

It prevents nerves regenerating by disrupting the protein tubulin, disrupts nerve function and also attacks the insulating myelin sheaths surrounding some nerves.

Mercury from amalgam easily crosses the blood-brain barrier and can damage any part of the central nervous system including the master endocrine glands at the base of the brain which control both the nervous and endocrine systems.

The levels of mercury in the brain have been shown to be directly related to the number of amalgam fillings in the mouth. Whilst mercury is highly detrimental on its own, its destructive power can be increased 100 fold by exposure to other toxic metals such as aluminum, lead or cadmium.

Mercury can produce a host of mental, emotional, and behavioral changes and what are considered 'psychiatric' disorders by disrupting neurotransmitters, interfering with endocrine gland function and hormones and causing destruction of nervous pathways.

The effects of mercury on cognitive function include:

Poor memory

Difficulty multitasking

Difficulty finding words

A lack of initiative

An inability to concentrate

An inability to make decisions and

Lack of motivation

Changes in mood

Mercury is also known to have profound effects upon mood including:

Fears

Anxieties

Irritability

Fits of anger

Panic attacks

Mood swings

Loss of self-confidence

Withdrawal

Being easily embarrassed

Feeling overwhelmed

Feeling easily discouraged

A loss of sense of humor and

Life seems an endless, joyless struggle

'Psychiatric' symptoms

The ability of mercury to induce 'mercury madness' is well recognized and symptoms include:

Hallucinations

Depression

A persistent death wish

Suicide attempts

Obsessive-Compulsive Disorders

Manic-Depressive Disorder

Panic disorders and

Schizophrenia spectrum disorders

Peripheral nervous system symptoms

The profound disruption of nerve structure and function leads to difficulty with motor nerve function including:

Difficulty articulating words

Numbness and tingling

Clumsiness

Difficulty doing fine tasks such as typing or adding numbers on a calculator

Tremors

Ticks and twitches (especially of the face and eyes)

A loss of coordination and

Restless legs

Reproductive and sexual function

Mercury is also recognized to collect in the reproductive organs in both men and women where it can cause a variety of disorders including infertility.

It is known to directly cross the placental barrier in pregnant women and also to concentrate in breast milk and mercury levels in newborn babies have been shown to be directly related to the number of amalgam fillings in the mother's mouth.

The symptoms of mercury toxicity in both sexes include:

A low or non-existent libido

Precocious or late puberty and

Infertility

In women, the effects of mercury on reproductive function include:

Heavy, missed or irregular periods

Severe period pains

Pre-menstrual tension (PMT)

Miscarriages and

Still births

In men, mercury accumulates in the reproductive organs and particularly the testes causing:

Impotence

Premature ejaculation and

Low sperm count, defective sperm and sperm with poor motility

The urinary system

Mercury from dental amalgam fillings is also recognized to severely impact kidney function such that animal studies have shown a 50% reduction within a month of placement of the first amalgam filling.

Effects of mercury on the urinary system include:

Kidney damage

Frequent urination

Frequent nocturnal urination (2-3 times a night or more)

Incontinence (especially in women)

Difficulty urinating (especially in men)

An urgent need to urinate and

A variety of kidney and bladder diseases.

The musculoskeletal system

Mercury also accumulates throughout the body in muscles and joints causing the muscle tenderness and pain familiar to fibromyalgia sufferers and the joint pain, stiffness and swelling of rheumatoid arthritis.

The symptoms of mercury toxicity on the musculoskeletal system include:

Tender, sore muscles

Rapid muscle fatigue

Joint pain

Joint swelling

Joint stiffness

Muscle cramps

Low-back pain

Muscle weakness and

Jaw joint or Temporomandibular joint dysfunction (TMJD)

The cardiovascular system

In particular, mercury seems to collect in the heart muscle and valves and has been found at 22,000X the levels found in the blood. Mercury is strongly associated with elevated levels of homocysteine and cholesterol and heart attacks.

It also causes red blood cells to rupture and replaces the iron in hemoglobin so that the oxygen carrying capacity of the blood can be reduced by half. Mercury also causes a weakening in the walls of the small blood vessels leading to a reduced blood supply to the organs and tissues.

The cardiovascular symptoms of mercury poisoning include:

Heart palpitations

An irregular heart beat

Angina or chest pain

A racing heart beat

Either an abnormally slow or rapid heart rate

Low or high blood pressure

Frequently feeling faint

Elevated blood cholesterol and homocysteine levels and

Easy bleeding and bruising.

The endocrine system

Mercury disrupts hormone production and release from the endocrine glands, and also blocks the receptors which allow the hormones to dock on to the target cells in the tissues.

The endocrine system has a high requirement for specific trace minerals and accumulation of mercury within the glands may occur because of the chemical similarity to the essential mineral, zinc.

Symptoms of mercury poisoning in the endocrine system include:

Hypoglycemia and dysglycaemia (low and poorly controlled blood sugar respectively)

Hypothyroidism (an underactive thyroid gland)

Hypoadrenalism (under-functioning adrenal glands)

Constant fatigue (adrenal and thyroid gland exhaustion) and

A poor physiological response to stress.

The oral cavity

Mercury also collects in very high concentrations in the jaw bones and the soft tissues of the mouth.

This is a result of it being a heavy metal that literally sinks to the bottom of each body compartment including the jaws and pelvis and the fact that mercury is driven into the tissues of the mouth which act as a cathode to the anode of the amalgam fillings.

Mixing gold and amalgam restorations in the mouth is also recognized to increase the amount of mercury vapor given off several fold and placing gold crowns over amalgam cores particularly drives mercury into the surrounding bone.

Symptoms of mercury toxicity in the mouth include:

Bleeding gums

Periodontal (gum) disease

Mouth ulcers

A metallic taste

Excessive salivation

A loss of the sense of taste

A burning, red, inflamed mouth

'Bald' patches on the tongue or cheeks (includes geographical tongue) and

Dark spots on gums ('amalgam tattoos')

The ears: Hearing and balance

Mercury also seems to collect in the many sensory nerves of the ear that serve hearing and balance.

Symptoms include:

Dizziness

Vertigo

Poor balance

Tinnitus (ringing or whining noises in the ears)

Pain in the ear canals

Poor hearing and deafness and

Difficulty interpreting what you hear.

Skin, hair and nails

For the body, the skin is a major route of excretion and it will try to expel mercury via the skin

leading to itchy rashes, and dry, flaking skin. It can also strange crawling sensations and reddening of the palms of the hands and soles of the feet.

It also seems to interfere with the regulation of perspiration so that some people become unable to sweat while others sweat profusely.

Cold, clammy skin

Dry skin

Peeling or flaking skin on the hands, feet and face

A puffy face

Red, flaky skin around the eyes

Thick, red skin on hands & feet

Pricking, stabbing, fizzing or crawling sensations in the skin (vermiculation)

Very itchy rashes

Eczema and psoriasis.

Mercury also seems to interfere with the autonomic control of perspiration causing:

Excessive perspiration

An inability to sweat or

Night sweats.

The quality of the hair and nails is also adversely affected causing:

Loss of axillary, pubic, body or head hair

Greying of hair

Dry, thin, wiry, dull hair and

Weak, flaky nails that split and tear easily.

The nose and sinuses

Some of the mercury vapor from amalgam fillings adheres to the lining of the nose and sinuses from where it can be transported directly into the brain and cause the following symptoms:

Chronic sinusitis

Poor sense of smell

Chronic or recurrent rhinitis

Nasal congestion

A persistently sore throat and

Chronic tonsillitis.

Eyesight

Mercury appears to collect within the eye balls themselves leading to the appearance of 'floaters' (dark cloudy areas), but also adversely affects the muscles controlling focusing of the eyes and lens and the sensory nerves of the retina itself leading to:

Intermittent visual blurring

Deteriorating peripheral vision or 'tunnel' vision

Bulging eyes

Sensitivity to light

Difficulty focusing

Poor color vision

Poor night vision and

Difficulty moving the eyes.

The digestive system

Much of the mercury from dental amalgams is swallowed along with foods or in the saliva and the digestive system is usually one of the first to be affected. Mercury binds with and blocks the actions of digestive enzymes leading to poor digestion and the development of food intolerances.

It also alters the normal ecology of the colon, favoring the overgrowth of yeasts (most commonly *Candida albicans*) and suppressing the growth of 'friendly' bacteria which can lead to the development of intestinal permeability or a so called 'leaky gut'. Digestive symptoms of mercury poisoning include:

The development of food sensitivities and intolerances

Abdominal cramps and pain

Constipation and/or diarrhea

Irritable bowel syndrome

Malabsorption

Leaky gut

Gastroenteritis

Nausea and

Heartburn.

The immune system

The immune system is one of the first casualties of mercury toxicity. It causes a reduction in the number of natural killer (NK) cells which are responsible for policing tumors and viruses leading to the development of chronic viral infections and cancer.

The effects of mercury toxicity upon the immune system include:

Chronic, recurrent or frequent infections.

Chronic or recurrent yeast infections. Mercury actively promotes the overgrowth of yeasts such as *Candida albicans* causing thrush, 'jock' itch and athlete's foot.

The development of allergies and sensitivities. Mercury alters the ratios of T-helper cells to T-suppressor cells so that the immune response is turned on more readily but not terminated, leading the immune system to over-react to a wide variety of foods and chemicals.

Autoimmune diseases. Mercury binds to proteins on the surface of the cells of the body (the histocompatibility complex), leading the immune system to identify them as being foreign and initiating one of the 100 or more autoimmune diseases such as multiple sclerosis, scleroderma or Hashimoto thyroiditis.

Various cancers. The undermining of the immune response and in particular the disabling of the natural killer cells leads to the development of one of the most prevalent immune deficiency disease of all: cancer.

The lymphatic system works to drain and filter excess fluid from the tissues and to initiate an immune response if required. The effects of mercury toxicity on the lymphatic system include:

Water retention (especially of the legs) and

Swollen lymph nodes (especially in the neck).

General symptoms of mercury toxicity

Last, but not least, mercury particularly accumulates in the mitochondria ('powerhouses') of the cells where it poisons energy production. The presence of mercury in the circulation and the effects on energy production lead to:

A profound exhaustion and fatigue (chronic fatigue syndrome and fibromyalgia)

Low body temperature

Cold hands and feet

Unexplained changes in weight

Changes in appetite

Excessive thirst

Headaches and migraines

Anemia

Difficulty getting to sleep

Early waking

Insomnia and

Sleepiness during the day

Illnesses associated with mercury poisoning

There are a wide range of illnesses that have been linked with mercury poisoning including:

Fibromyalgia

Chronic fatigue syndrome (CFS)

Rheumatoid arthritis (RA)

Multiple sclerosis (MS)

Parkinson's disease

Alzheimer's disease (AD)

Colitis

Crohn's disease

Autoimmune diseases

Attention deficit hyperactivity disorder (ADHD)

Autism and

Cancer.

Dr. Badanek has been and currently is 40 years into active/private practice in the Ocala/Marion County, Florida region. Dr. Badanek practices Natural/Holistic Medicine through the use of Functional/Integrative Models for diagnostic and treatment protocols for the health challenged. Find him online at Dr.Badanek.com and www.alternativewholistic.com, and see what the facility has to offer the sick and health challenged. To schedule an appointment call 352-622-1151