

Improvement of Nerve and Immunological Damages after Amalgam Removal

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Summary: Dental amalgams cause neurological and immunological damages. Besides mercury, silver and copper, the metal tin is greatly responsible. Mouth bacteria convert organic salts into highly toxic organic compounds. The poisonous effects can be recognized by measuring the saliva before and after the so-called chewing gum test, which can cause abrasion test values up of to 100,000 times higher than normal. High abrasion values correlate with high values in the mobilization test with the DMPS antidotes. Only after amalgam sanitation and detoxification will damaged organs improve. It was found that high poison concentration corresponds with psychiatric symptoms, while low concentrations relate to allergic symptoms. Even after outlawing amalgams, dentists and personnel would still be at great risk. This report describes the results and treatment procedures of one clinic having treated 2,500 patients with over 15,000 measurement values. Specific detoxification procedures are recommended.

PHYSICIANS as well as dentists are coming to the realization that dental amalgam fillings are much more dangerous than had been commonly believed. After placement in the mouth, these fillings not only release large amounts of heavy metals for several weeks, but during strong chewing or when drinking hot and/or sour liquid they are responsible for the release of up to 100,000 times the amount of mercury legally allowed in drinking water. Additionally, for instance, in the case of a 21-year-old, 740 micrograms

of silver and up to 450 micrograms of tin are released via the saliva into the body. Mouth bacteria are responsible for changing mercury and tin into highly toxic organic compounds which are stored in the body's brain and immune system. Further, the largest amount of mercury (80 percent) is absorbed in gaseous form by the lung.

The Chewing Gum Test

Since many dentists still claim that good amalgam fillings do not release toxic metals, the following test reveals whether we are dealing with inferior amalgam:

1. Have patient refrain from chewing for at least 2 hours.
2. Obtain spontaneous urine specimen (100 milliliter).
3. Collect 5 milliliter of saliva.
4. Have patient chew intensively on amalgam fillings with sugar-free chewing gum, and collect in a second container another 5 milliliter of saliva.

Tests are to be performed in a special laboratory for mercury and tin and possibly for silver and copper as well (a competent laboratory in Germany, Tel. 0421/349640). The amalgam fillings are considered inferior

when the chewing process releases more than 5 micrograms of mercury or tin into the saliva, respectively when before chewing there are higher amounts in the urine than in saliva. Without the amalgam stress, the saliva values are about equal to the ones in the blood, since saliva is the ultrafiltrate of serum. The concentration is about equal to that of the serum.

Toxicity

Amalgam fillings contain 53% mercury, about 20% silver, approximately 16% tin and roughly 12% copper. The inorganic mercury and tin is transformed into extremely toxic organic compounds by mouth bacteria, which can damage the nervous system to a major degree, since both are dissolved and stored in fat. In amalgam poisonings, 80% of organic mercury is excreted via the DMPS. Organic tin is an approximately 100 times more powerful nerve poison than is mercury, from which otherwise there is little difference. Modern amalgams release more tin, older ones more mercury. Copper amplifies the damage to nerves and liver. These in the nervous system stored metals can be removed by means of an antidote.

It is only possible to measure a portion in the urine. The measurement is approximate since the metals, due to the antidote, are excreted in differing degrees of intensity and in the following sequence: Zinc, Copper, Mercury, Tin.

Silver is not caught. In chronic amalgam toxicity there will be a copper deposit formation. Flushing these deposits from the body requires more antidote, causing less mercury excretion. The next urine test yields the best information as to the ratio of elimination. The level of elimination here reflects exactly the severity of the chronic poisoning. Since copper as antidote to zinc tends to displace the latter, typical symptoms of zinc deficiency are seen, such as hair loss, sterility, etc.

DMPS—A Mobilizations Test

Available since 1957 in the USSR, an antidote has been found which is effective in mercury-tin-copper poisonings caused by dental amalgams. The chemical dimercaptopropane sulfonate, or DMPS for short, is a chelating agent with the ability to transport metal ions via the kidneys from the body. However, repeated use can cause an unpleasant allergy, therefore the substance should be used as infrequently as possible. The following test is recommended:

1. Urine I (100 ml) in a special container for shipping.
2. Adults: The suggested dose is 3 mg DMPS per kilogram of body weight, introduced slowly intravenously (available from the German pharmacy, Tel. 089/220069).
Children receive 10 mg DMPS (a commercial preparation called Dimaval per kg of body weight) on an empty stomach. No food for 2 hours.
3. About 150 ml water, tea, etc., is given.
4. Adults are to provide 100 ml urine (II) after approximately 45 minutes, children after 120 minutes into a special shipping container.

Urine I is examined for zinc, urine II for mercury, copper and tin (the special shipping containers are available from the laboratory in Germany, Tel. 0421/349640).

We have now altogether treated over 6,000 patients, but have never experienced any serious complications after giving the injection. Almost all patients were happy with their progress results during the detoxification program, although the most severe nerve damages improved only very gradually. Patients with weak defense systems, respectively known zinc deficiency, also receive 10 ml zinc (Unizink) intravenously.

Severe cases of poisonings require repetition of the DMPS-test every 6 to 12 weeks. About half of our patients needed half a year,

while 40 percent of the cases had to be treated over one year. In 5 percent of the patients we had to break off therapy after 5 to 10 injections due to a DMPS allergy (mucous tissue and skin symptoms). If the preparation is used in capsule form, it must be taken every two weeks at the most as single dose of 3 mg/kg on an empty stomach.

Since zinc is also strongly excreted and additionally promotes the elimination of mercury, it should always be determined in spontaneous urine. If lacking, it needs to be given. Selenium and iron need to be supplied only if necessary.

Border Values of Occupational Medicine

Lately it has been found that practitioners of occupational medicine utilize this mobilization test although they previously strictly refused to see any value in our method of recognizing and eliminating poison deposits which we discovered ten years ago.

Now they would like to extend their border values, which are valid for healthy workers, to severe ill patients, allergics, and children. It should be obvious, however, that an amalgam-poisoned patient with multiple sclerosis or sudden deafness, spontaneous visual disturbance, lameness or AIDS cannot tolerate an additional nerve or immune poison in whatever concentration.

Since we know in a mobilization when and how the elimination begins, we do not need a 24-hour urine, which is only indicated when one does not know when the poison was received or the elimination begins.

Our method was developed in a toxicological practice for the general physician and has of course been compared with clinical methods and is standardized. An evaluation of mercury elimination by DMPS makes only sense with a co-determination of copper, proving the amalgam is made possible by the additional tin determination. Com-

parison with the chewing gum test verifies depot formation from the amalgam components. This clinically verifiable toxicological diagnosis is still lacking up to now in occupational medicine examinations.

Error of the Dentists

Dentists are in error when they evaluate only the mercury in amalgam, while not considering the poisonous effects of the other components such as tin, copper and silver. If they were to do so, they would not have accepted the erroneous view that mercury deposits come from food but not from the fillings. The fact that the chewing of gum on amalgam fillings releases up to 194.8 micrograms of mercury into the saliva was already described by the dentist Prof. Krönke and the occupational physician Prof. Valentin (Ott, 1984), who therefore knew that amalgam poisons the saliva. This makes the denials of many dentists difficult to understand.

A Brief History

Amalgam was developed in 1826 by Taveau, but was prohibited 1840 in the U.S. because of mercury vapor poisoning problems, although it was reintroduced by the dentists in 1855. In more recent times, its use was prohibited in January 1985 in the USSR due to the many chronic cases of amalgam intoxications. Prof. Stock of Berlin, warned already in 1926 of the mercury vapor poison danger by amalgam. He himself died of chronic mercury poisoning, although his warnings did not succeed in an amalgam prohibition.

Symptoms of Amalgam Poisoning

The following symptoms of illness were found by us in lessening frequency in 3,000 afflicted cases: No drive or initiative for work, stomach pain, susceptibility to infections, memory disturbances, sleep problems, depressions, dizziness, tremors, muscular

weakness, visual disturbances, hearing problems, malignant tumors, and multiple sclerosis.

Indications for the Amalgam Test

Before the sanitation in: AIDS, allergy, generalized (1 ml) amyotrophy, lateral sclerosis, loss of sight (partial), hearing loss, heart rhythm disturbances, paralyses of other types, malign melanoma, multiple sclerosis (also nontypical), sensibility disturbances (loss of feeling).

Chewing gum test: If Hg values are over 100, Sn over 30 µg/l saliva. Comment: Amalgam removal after giving the antidote should be performed with a rubber dam and without fast turbine. Six to twelve weeks after removal, repeat mobilization (shorter interval without above protection). Reason: Amalgam sanitation with the unavoidable additional poison ingestion can lead to irreversible damage in the patient's condition.

After the sanitation: Allergies, loss of drive, asthma bronchiale, stomach pains, colitis ulcerosa, eczema, gastritis, susceptibility to infections, infertility, ischialgia, carcinomas, headaches, cancer, Crohn's disease, muscle pains, neuritis, T-helper cell depression, trigeminus neuralgia.

Chewing gum test: When Hg under 100, Sn under 30 µg/l saliva.

Alternatives

Approximately 800 dentists in Germany, who have joined together in the International Association for Total Dental Medicine, have had a policy for many years of not utilizing amalgam. Their patients do not suffer from allergies nor do they show symptoms of poisoning due to their dental sanitations. We have to thank this association for the following information:

1. After the exchange of many amalgam fillings and in severe chronic poisonings, no gold or ceramics must be used for at least six

months (or preferably one year) until detoxification is completed, since the amalgam depots in the jaw bone (which can be observed in panorama views) may still act as a disturbance.

2. The dental gold must not contain palladium, indium, gallium and vanadium and should contain as little copper as possible.

3. Allergic patients should be tested for a gold allergy.

4. Light-hardening plastics or glass ionomer cements are suitable for longer temporaries.

5. At least in serious organ damages by amalgam poisoning, removal should be made with rubber dam and without fast turbine. Deaths have occurred in cases of grave organ damages without protection and prior and accompanying detoxification

6. The National Health Insurance Service will pay readily for the cheaper alternatives.

7. The official dental spokesmen limited themselves early on by choosing the amalgam side and did not show flexibility to investigate new measurement results, respectively to work with physicians regarding the subsequent diseases. As in all modern environmental problems, the afflicted have to discover their own protection.

8. Old amalgam fillings must be removed as quickly as possible.

Should Amalgam be Prohibited?

In Switzerland, dental treatment is not paid by the National Health Service. Because of unfavorable amalgam publicity, amalgam sales went down by 99 percent. Herein can be seen the wishes of the patients.

In July of 1990 the Swedish government released preliminary information about prohibiting amalgams. Final rules are said to be forthcoming in late 1990.

In the U.S., Canada and Australia, the amalgam question is being hotly debated. Informed patients in Germany will also de-

mand an early amalgam prohibition. Even when passed, we will have to suffer from the amalgam consequences for many decades. Compensation claims for damages can be expected in positive amalgam test cases when typical organ damages are involved, since a dentist must not cause iatrogenic harm to his patients.

Amalgam Fillings: An Error in the State of the Art

Case Reports

A nine-year-old girl received five amalgam fillings within one year. After having hit her head in a fall, she developed a grave encephalopathy during the same year. The EEG became flat, she was extremely agitated, jerked rhythmically and stopped interacting with her environment, and finally needed force feeding. Hg spontaneous 18.5 µg/l, after 3.5 mg/kg KO DMPS orally, 213.5 µg/l in urine (1), although 80 percent of the elimination was in the urine.

The hair showed a mercury level six times higher than normal.

During a seven-month DMPS therapy (100 mg/week orally), the severe poisoning symptoms gradually reversed themselves. A considerable improvement, however, occurred only after removal of the amalgams.

A thirty-year-old female patient suffered for years with permanent migraine and pains in the lower abdomen. Since her dentist suspected her amalgam filling as the cause, he exchanged them for 11 new ones. Immediately after the exchange, her symptoms became worse. Hg in spontaneous urine was 11 µg/l, after 3 mg DMPS/kg i.v. 236 µg/l. The headaches and stomach pains disappeared after this mobilization spontaneously and only returned in milder form six weeks later. After removal of her amalgam fillings and remobilization, the patient finally became free of symptoms.

A 33-year-old female patient with 14 amalgam fillings, which had been in place for 25 years (and were occasionally renewed), felt very tired, exhausted and suffered from constant feelings of dizziness, nausea, headaches, could not concentrate or remember, formication, and paresthesias on the extremities as well as a pronounced decrease in her ability to resist infections. She complained about a bitter taste in her mouth and unpleasant body smell, abdominal pains, gas, diarrhea, cardiac palpitation, tachycardia and paroxysmal arrhythmias. In addition, she developed a candida bronchitis, asthma bronchiale and nickel allergy. Hg in spontaneous urine was 7 µg/l, after 250 mg DMPS i.v.: Creatinine 1.36 g/l, Pb 121 µg/l, Cu 2,493 µg/liter, Hg 2,794.3 µg/l (border value according to our experiences after mobilization free of symptoms up to 50 µg/l). After detoxification by mobilization and removal of amalgams, there was substantial improvement of all complaints.

A 64-year-old patient with 21 amalgam fillings experienced in the area of an old spinal fracture lancinating pains similar to a prolapse of an intervertebral disk without organic substrate. After removal of all his teeth and supplementary zinc, the Hg excretion increased from normal values to over 5,000 µg/l in urine and normalized itself under continuation of the zinc substitute over two years.

The patient felt well for eight years. After an implantation in the lower jaw eight years later, another dumping occurred of the mercury stored in this area. Hg increased spontaneously to 20 µg/l in urine. After 250 mg of DMPS i.v., the measurement the next day was 22,579 µg Hg per liter in polyuric urine. Till documented these high mercury concentrations in bone under the amalgam fillings.

Some of Our Own Observations

When we examined the question of whether amalgam carriers showing neurologic obvious symptomatology always experience a Hg dumping after a dosis of the DMPS, we found up to now in 800 patients the following:

—Patients who never had amalgam in the mouth, showed values to maximal 20 µg/l in urine after 3 mg DMPS/kg i.v. and no appreciable increase of the simultaneously mobilized copper.

—Patients who regularly ate seafood, especially tuna and crabs, showed maximal 50 µg/l Hg per liter urine 30 minutes after 3 µg/kg DMPS i.v.

—Ninety-eight percent of patients with amalgam fillings or recently removed fillings, had over 50 µg/l in urine after the described mobilization, as well as significantly elevated copper elimination with values above 500 µg/l in urine. Immediately after removal of the fillings and mobilization, the neurological complaints improved by an obvious degree.

—Patients with the most serious symptoms had as a rule a strong zinc deficiency, an increased store of copper, as well increased concentrations of cadmium and lead in the saliva. These burdens, including an occasional additional stress caused by wood preservatives (pentachlorophenol, "Lindan") lead to a potentizing of the neurological organ damages.

—The extent of the intoxication is not only determined by the number of fillings, but first of all by the level of zinc, which determines the level of detoxification of the heavy metals. Copper is an antagonist to zinc and potentizes neurological complaints, just like other poisons do.

—Leading symptoms of amalgam intoxication are apathy, tiredness, headaches,

stomach pain, muscle and joint pains, disturbed memory, depression, sleep disturbances and susceptibility to infections.

—Typical is a sudden onset of the complaints caused by an infection (lack of zinc!) after latency which can be of many years.

—Zinc substitution promotes the elimination of the extracellular mercury, but not the mercury from the depots.

—A lack of selenium could be diagnostically verified only rarely.

—Many cases of a colitis (ulcerosa) and a multiple sclerosis showed improvement after the amalgam fillings were removed and detoxification by DMPS.

—The type of amalgams did not seem to play a role in the severity of detoxification.

—Because of the amalgam-caused mercury poisoning and its therefore resultant zinc deficiency, other poisonous heavy metals such as lead and cadmium, as well as arsenium, increase in the body and retransform.

—As long as the amalgams remained in the mouth, the symptomatic complaints improved after antidote therapy only on a temporary basis. Definite healing resulted only after the amalgams were removed.

—The mercury from amalgams can be fairly well differentiated from other sources by:

1. Co-determination of the other amalgam components (Cu, Ag, Sn, etc.).

2. Causal connection of the appearance of symptoms after amalgam fillings.

3. The extremely high formation of depots can only develop during continuing release of poison.

4. The sudden improvement of the clinical picture and the T-helper cell depression after amalgam removal.

Co-determining factors of increased release of Hg from amalgam fillings are:

—Frequent hot drinks, sour foods, fluor-containing toothpaste.

—Chewing of gum, grinding of teeth, other metals in the mouth and the already mentioned lack of zinc.

—In severe cases of intoxication there was a clear T-helper cell depression, which disappeared after therapy.

—A depot could be recognized and treated in cases of continuing symptomatic complaints up to 20 years after amalgam fillings were removed.

How to Proceed

After a series of varying methods, the following procedure has shown itself most practical for the day-to-day routine of a general practitioner:

1. Spontaneous urine I: Testing for zinc and possible nickel.

2. Injection of 3 mg/kg KG DMPS slowly i.v. (German pharmacy Tel. 089/220069).

3. After 45 minutes, urine II for mercury and copper (plus lead in high pressure, plus cadmium in osteoporosis).

If given orally, the antidote is resorbed only uncertainly, this is why the test must be given on an empty stomach. Since only about 30 percent is orally resorbed, the needed dosis is 10 mg/kg KG as bolus. The capsules have been on the market for 13 years under the name of Dimaval®. Our first grave intoxication case (arsenical poisoning) in 1976 was treated with it successfully.

Each physician should himself conduct the treatment before and after removal of the amalgam fillings for the appropriate clinical symptomatology. We send the urine samples to an experienced laboratory physician (Tel. 0421/349640 in Germany).

Legal Consequences

1. Even if the observed cases had been singular events—although everything speaks against it—the severity of the side effects and the impossibility to prevent them, makes it mandatory to *immediately stop all further use of dental amalgams containing mercury.*

2. Gold is a good alternative, routinely approved by the National Health Service and is to be employed for allergics (after careful testing for compatibility) as well as for intoxicated patients.

3. Filing of claims for damages in severe documented diseases involving private and job-related losses must be allowed (common fund?).

4. All dental materials should be meticulously tested as regards their longterm effects according to current drug tolerance laws before they are permitted on the market (economic gold: indium, gallium, vanadium, nickel, beryllium, plastics, formaldehyde in root canals, etc.).

5. Dentists, general practitioners, neurologists and others need to be informed post haste about the diverse intoxication symptoms and their therapeutic possibilities.

An Open Scientific Question

—Immune deficiency caused through amalgams: Can mycetogenic and virus diseases, multiple sclerosis, colitis ulcerosa, rheumatic forms, etc., be induced or intensified?

—Mercury is teratogenous: Can these concentrations cause fetal malformations?

—Mercury is mutagenic: In which frequency in this concentration?

—Mercury concentration in bones under amalgam fillings in dissection material?

—Are there irreversible injuries (misshaped, neoplasms, MS)?

Conclusion

Prohibiting Hg-amalgams in 1840 in the U.S. was clearly justified, but was reversed because of industry and dentist pressure since, due to inadequate scientific methods at that time, it was not possible to verify depot formation. *However, as of now, the use of amalgams must be seen as a serious error in the state of the dental art.*

Literature

Daunderer, M.: *Klinische Toxikologie*. Volume 13, Umweltgifte. Amalgam. Ecomed, München-Landsberg-Zürich, 1989.

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