

The Amalgam Connection

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The responses to the first LAF survey raised the interesting possibility that dental amalgam (silver) fillings could somehow be involved as a causative agent for LAF (Lone Atrial Fibrillation).

Survey Results

The first survey showed that 74% of all respondents had amalgam fillings, an average of 10 fillings each. There were some indications that afibbers without amalgam fillings tended to have significantly fewer episodes than did those with amalgams (2 episodes versus 19 episodes over the 6-month survey period).

The next, somewhat larger, survey found that most (76%) paroxysmal afibbers had amalgam (silver) dental fillings as did most permanent afibbers (75%). There was a clear correlation between the time spent in fibrillation and the presence of amalgam fillings. Paroxysmal afibbers without amalgam fillings spent an average of 35 hours in fibrillation over the six-month survey period while those with amalgam fillings spent 143 hours in afib. This difference was statistically significant ($p=0.04$).

There was also a clear linear relationship between time spent in fibrillation and the number of fillings ($r=0.4173$ $p=0.002$). An afibber with 0 fillings could expect to spend 35 hours in afib while someone with 8 fillings could expect 140 hours and someone with 20 fillings could expect an average 300 hours in afib over a six-month period. Afibbers with amalgam fillings also tended to have more episodes (20) and of longer duration (15 hours) than afibbers without (13 episodes of average duration of 9 hours). These differences were, however, not statistically significant.

The findings that afibbers with amalgams have more severe episodes than those without support the contention that at least part of the inflammatory response underlying LAF could be caused by oxidative stress or electrical instability generated by the presence of mercury in the heart tissue.

Seventy-six per cent of permanent afibbers (100% of female permanent afibbers) had dissimilar metals (amalgam fillings, gold crowns, bridges) in their mouth as compared to only 44% of paroxysmal afibbers (54% of female paroxysmal afibbers). There was no overall significant difference in episode severity between paroxysmal afibbers with dissimilar metals and those without. It would thus appear that dissimilar metals are primarily a problem with permanent afibbers. However, this conclusion is somewhat confounded by the fact that amalgam fillings and dissimilar metals often go hand in hand.

Afibbers with dissimilar metals may wish to have a measurement made of the galvanic currents in their mouth. This can be done by a holistic dentist who can also advise on remedial action.

The latest LAF survey regarding amalgam fillings did not reach a clear conclusion as to whether they are detrimental or not. One major reason for this is the difficulty in sorting out the individual effects of age, drug treatment, and other preventive treatments with that of having amalgam fillings. Nevertheless, the comments of 10 afibbers (6 vagal, 3 mixed, 1 adrenergic) who had had their amalgam fillings replaced are of interest.

- “I have had no afib episodes since replacement of my amalgam fillings and gold alloy bridges in December 2000. I would absolutely recommend this procedure to other afibbers provided it is carried out by an outstanding holistic dentist and is followed up by complete detoxification. Watch out for residual amalgam under old bridges and crowns.” – vagal afibber
- “I have had no episodes since June 2001 when I had all my amalgam (silver) fillings replaced. I am still undergoing detoxification, but hope to stop this once my mercury levels are back to normal. I feel the replacement has been beneficial.” – vagal afibber
- “I had all my amalgam fillings replaced in 1992, but did not undergo detoxification. I still have dissimilar metals in my mouth. I have had no episodes in the past 6 months, but do not believe that this is due to the replacement. Nevertheless, I would, for other reasons, recommend replacement.” – vagal afibber
- “I had all my amalgam fillings replaced in 1995 and followed up with chelation therapy. I did not find the amalgam replacement beneficial.” – mixed afibber
- “I had all my amalgam fillings replaced in 1997 and am now doing detoxification. I feel this was beneficial and would recommend the procedure to other afibbers.” – mixed afibber
- “I had all my amalgam fillings replaced in 2000 followed by detoxification. I have not noticed much difference in the number and severity of episodes.” – mixed afibber
- “I had all my amalgam fillings replaced in the latter part of 2001. I did not follow up with detoxification and am not sure the replacement has made any difference.” – vagal afibber
- “I had my fillings replaced in September 2000. No detoxification though. The frequency of episodes did not decrease, but the duration did. I think the procedure was beneficial and would recommend it to other afibbers.” – vagal afibber
- “I had my fillings replaced in November 2001. I am not sure yet whether it has decreased my episode severity. So I cannot yet recommend the procedure for atrial fibrillation relief, but I am sure my general all round health will be improved.” – vagal afibber
- “I had all my fillings replaced in July 1999 and followed up with partial detoxification – not long enough though to bring my mercury levels to normal. I don’t think the removal helped a lot.” – adrenergic afibber

So, it’s a fairly mixed bag of results. Amalgam replacement and detoxification would likely have overall health benefits including a reduction in the risk of developing neurodegenerative diseases such as Alzheimer’s and Parkinson’s. However, it is not clear that it should be the first measure taken against lone atrial fibrillation unless you have proven toxic levels of mercury in your body and/or are especially sensitive to mercury. In any case, amalgam replacement should always be performed under strictly controlled conditions and followed up by thorough detoxification.

The Evidence

The major component of amalgam (silver) fillings is mercury. Mercury is highly toxic and is a powerful neurotoxin. It has been implicated in Alzheimer’s disease, Parkinson’s disease, multiple

sclerosis, amyotrophic lateral sclerosis (ALS), heart attacks, manic depression (bipolar disorder), hearing loss, inflammation, and depression and anxiety[21,126-134].

There is ample evidence that mercury is released from amalgam fillings and readily enters the blood stream. It tends to accumulate in the brain and kidneys. A team of researchers at the University of Calgary did the original work in this area. They placed amalgam fillings in sheep and then measured how mercury levels built up in the various organs of the body. They found extremely high concentrations in the jawbones, gums, kidneys, stomach and liver[135]. More recently Saudi Arabian researchers reported that women with amalgam fillings had significantly higher mercury concentrations in their urine than did women with no amalgam fillings[136]. There is evidence that chewing and, to some extent, exposure to computer terminals and digital (cell) phones accelerate the release of mercury from amalgam fillings[126].

The World Health Organization (WHO) concluded in 1991 "The general population is primarily exposed to mercury through the diet and dental amalgams." [137] Their estimates of the intake of mercury from various sources are:

- Dental amalgam – 3.0 to 17.0 mcg/day (mercury vapour)
- Fish and seafood – 2.3 mcg/day (methyl mercury)
- Other food – 0.3 mcg/day (inorganic mercury)
- Air and water – negligible traces.

These and other research findings have finally set off the alarm bells. Sweden and Austria have now completely banned amalgam fillings[126]. The New Zealand Ministry of Health is reviewing its policy on the use of mercury-containing amalgams for tooth fillings. This review comes hard on the heels of precautionary advice from the UK Department of Health, which warns pregnant women not to have amalgam fillings installed. Dr. Mike Godfrey, a leading environmental physician, points out that several major amalgam manufacturers have issued Material Safety Data Sheets and Directions for Use that clearly warn of the many dangers of amalgam fillings. Among the restrictions – amalgam fillings should not be used next to fillings or crowns containing other metals, they should not be used under crowns, they should not be used in patients with kidney disease, in pregnant women or in children aged 6 years or younger. The manufacturers also warn that mercury vapours from amalgam fillings can induce psychiatric symptoms in extremely low concentrations. Depression, mental deterioration, and irritability are among the symptoms listed[138].

So mercury is bad and amalgam fillings are a potent source of this toxin. But, do amalgam fillings actually cause lone atrial fibrillation? I have not come across any scientific papers that come right out and say this is indeed the case. However, there is evidence in the literature that amalgam fillings are associated with heart palpitations, irregular pulse, and rapid heart beat[126,139,140]. It is conceivable that the researchers who made these observations did not take the next step and actually identified the irregular pulse and rapid heart beat as atrial fibrillation.

My own feeling is that amalgam fillings can indeed be a major trigger of LAF in people who are sensitive to mercury toxicity. I made the observation that I had had a LAF episode within 2 days after each of my last 5 dental appointments to have amalgam fillings replaced. Afibbers who are sensitive to mercury and have a high body burden of this toxic material, as revealed by hair analysis or urine test, should consider having their amalgam fillings replaced.

Amalgam Removal

It is very unlikely that one can get rid of a toxic build-up of mercury in your body without having your amalgam fillings replaced. Unfortunately, unless the removal is done under the strictest protocol and followed by effective detoxification it can actually make things worse. Holistic

dentists have now pretty well agreed that the patient, as a minimum, should receive the following protective measures:

- a rubber dam (a rubber sheet placed over the relevant teeth isolating them from the throat and rest of the mouth);
- a nosepiece so that air is breathed in from a distant source;
- eye protection such as damp gauze or wrap-around goggles;
- suction to remove and filter air from around the mouth.

Some dentists also recommend an intravenous vitamin C drip during or immediately after the procedure and all stress the importance of ensuring an adequate intake of vitamins and minerals (particularly vitamins C, B-2 and selenium) prior to and after amalgam removal. Contrary to popular belief, amalgam fillings covered with a gold or porcelain crown are not any safer than an exposed filling – they may actually be worse. Dr. Jack Levenson, a holistic dentist in London, UK recommends that amalgams be removed from the teeth in the following order[126]:

- Root canal treated teeth with pins of non-precious metals;
- Teeth with metal crowns and amalgam cores;
- Amalgams in direct contact with gold (either in the same or an opposing tooth);
- Amalgam-filled teeth in direct contact with partial chromium-cobalt dentures or base metal crowns;
- Amalgam fillings in contact with gum tissue;
- All other amalgam fillings.

Having dissimilar metals (e.g. gold crowns and amalgam fillings) in the mouth can set up very powerful electrical currents that can directly affect the nervous system. A recent report from the Mayo Clinic relates the case of a woman with painful trigeminal neuralgia who was cured after removal of an amalgam filling situated next to a gold crown[141]. Closer to home, a LAF Forum contributor, reported a complete elimination of ectopic (premature) heart beats within a couple of hours after removal of amalgam fillings in close proximity to a gold crown and bridge.

Detoxification

Amalgam removal without subsequent thorough detoxification is a very bad idea. Even if the dentist takes all the recommended precautions, and most don't, release of a large quantity of mercury vapours and miniscule amalgam particles is hard to avoid. These vapours and particles head straight for the brain and lungs and also get into the blood stream creating all kinds of havoc[165].

Detoxification comes in 2 different flavours – drug-aided or natural:

DMPS (sodium dimercaptopropane sulfonate) and DMSA (dimercapto-succinic acid) are the two drugs of choice for mercury detoxification. They are not officially approved for this purpose, but are approved for the removal of lead, another heavy toxic metal. DMPS is usually administered via a slow intravenous injection while DMSA is taken orally. There is an on-going controversy as to which one is most effective. DMSA is claimed to be able to cross the blood brain barrier so theoretically should remove mercury from the brain. DMPS though may be quicker acting, but tougher on the system overall. Neither DMPS nor DMSA should be administered until **ALL** amalgams have been removed from the mouth. DMPS definitely, and DMSA possibly, get into the saliva and actually start dissolving the mercury from any remaining amalgams – not a good idea! Both DMPS and DMSA need to be administered by a physician or naturopath trained in their use. Close monitoring of mercury levels in the urine is a must.

Natural detoxification is based on the use of intravenous vitamin C infusions and various sulfur-containing compounds. Sulfhydryl groups (sulfur) bind very strongly to mercury and the resulting compounds are eliminated in the urine or feces. MSM (methyl sulfonyl methane) and alpha-lipoic acid (thioctic acid) are both good mercury binders. NAC (n-acetylcysteine) also works, but may tend to spread the mercury around before eliminating it[126]. Most natural detoxification programs also include chlorella or seaweed that also tend to mop up mercury.

Because the detoxification protocols all remove other metals it is essential that any regimens include supplementation with vitamins (especially B, C and E) and minerals (especially selenium, zinc and magnesium).

Effective detoxification is absolutely essential if an amalgam removal program is to be successful, but it is a bit complicated, so for this reason it is best carried out with the guidance of an experienced naturopath or holistic physician.

Should you have your amalgam fillings and dissimilar metals removed? If you can find a competent dentist and physician to work with you and you can afford the expense I would say, "Go ahead". If you are not sure, start out by having your mercury level determined through a hair analysis or urine test. If it is high or you have other symptoms of mercury sensitivity I would seriously consider removal even if you have to stretch the process out over a couple of years.

From *Lone Atrial Fibrillation: Towards a Cure* by Hans R. Larsen MScChE.

The book is available at <http://www.afibbers.org>