

I was honored to edit this paper for Bob Jones and it appeared in the January, 2010 edition of Dental Truth a publication of DAMS Intl.

## Dental Toxins, Oral Infections & Parkinson's Disease By Bob Jones

Foreword: In writings and at conferences, Bob Jones has documented the science on the proteins of cancer, such as P53, P21, P27 and CDK2 proteins. This research paper on Parkinson's disease discusses the exposing of the nucleotide proteins DAT1 and DAT2 to micro amounts of toxins, mostly from dental, oral toxins. But other, non-oral toxins were introduced for comparison. The most interesting part of Jones' research is the fact that all 85 known proteins in this class are inhibited (harmed) by the toxins produced by avital (dead) teeth and necrotic (dead) bone lesions, with the loss of vitality occurring either from root-canals or from dental mercury amalgam fillings. Unfortunately, he has only been able to afford to look at the oncogene cancer related proteins and, just now, the proteins of Parkinson's disease. Remission in more than one patient with Parkinson's disease has been observed. As this study on Parkinson's disease is the first in this area, better funded research groups may wish to take notice and further advance these exciting results. Parkinson's appears to be treatable, producing remissions.

Dopamine is a protein hormone made inside the substantia nigra of the brain. The substantia nigra is an area in the brain stem that has melanin, a brown to black pigment which can be identified with the naked eye on dissection of the brain --thus the name "substantia nigra".

In addition to the production of dopamine, the substantia nigra also has a protective role against toxicants by the binding of chemicals to melanin. The melanin then migrates from the brain and is disposed of, probably in the liver. In Parkinson's disease, the neurons in the nigra fail and eventually die. There is mitochondrial respiratory failure due to oxidative stress, caused by the high dopamine content, resulting in a pronounced deficiency of a component called nigral mitochondrial complex1 (NADH<sup>1</sup> and CoQ10 complexed together). High levels of iron, with reduced levels of ferritin, and a deficiency of mitochondrial complex I also cause neuronal damage. So it becomes necessary to know the mineral status of a patient in order to determine helpful supplementation.

### **Dopamine and Parkinson's**

Normally, from the nigra the dopamine flows or diffuses to parts of the brain and functions to decrease excitability of nerve transmission and smooth the flow of electrons from nerve to organs or groups of muscles. That is, the nigra regulates the nerve impulses which are the signals to move muscles. Without this control of excitability by the nigra, incoordination of movements, and agitation, disruption or alteration of thought processes, can occur. Parkinson's disease is marked by the ineffective function of dopamine. The dopamine is taken into a nerve cell across the outer membrane of the cell, across the mitochondrial membranes, and into the nuclear membrane by transport proteins that are called chaperones. These particular transmembrane transport proteins are named DAT-1 and DAT-2 proteins (dopamine axonal transport proteins). They each have only one binding site. These proteins are made in brain cells under the direction of

the genes in the nuclei which are programmed to construct such proteins. They flow from inside the brain cells, where they are made, attach to the binding sites, and are ready to bind and transport the dopamine into the nerve cells. The problem of Parkinson's disease occurs when the DAT chaperones cannot do their job -- they are inhibited, and cannot bind the dopamine that they are supposed to be transporting.

### **The Toxic Connection**

Some toxins will interfere with the action of the DAT chaperones so they cannot transport dopamine into the cells where it is needed for its calming and regulating action. The action of toxins is to inhibit the DAT-1 and DAT-2 function by blocking or binding to the binding sites where dopamine is supposed to attach. Because of these toxic inhibitions, the DAT proteins cannot hold onto the dopamine and carry it along.

The dopamine hormonal system (like many other hormonal systems) is regulated by a "negative feedback mechanism". When the pineal gland and the pituitary gland do not get adequate dopamine, they send a message (by yet another hormonal chemical messenger) to increase the production of dopamine. DAT-1 primarily effects the pituitary gland (the "master gland"). The pineal calls for DAT-2 production, when DAT-1 is not transporting enough Dopamine, making matters worse. We will explain how.

Since dopamine cannot enter into the cells, it will instead accumulate in tissues of the nigra, much like water backing up in a blocked plumbing system, causing soggy ground outside of a building. Then the palsy and shakiness begin. Dopamine malfunction also decreases female sexual pleasure. An early symptom of the poisoning of DAT protein receptors and dopamine malfunction is the inability of affected women to experience orgasms; this is due to the lack of the effects of the "feel good" hormone, dopamine, in the target cells.

As the dopamine accumulates, dopamine flooding begins, and more systemic symptoms occur. Finally the "back up" floods the source of the dopamine -the substantia nigra itself. Dramatically worse symptoms are noted. As accumulated dopamine permeates back into the neurons of the nigra and brain cells surrounding the Nigra, plaques form, giving the anatomic features seen on x-rays and on tissue samples. Eosinophilic cytoplasmic inclusions, called "Lewy bodies", in the pars compacta of the substantia nigra, may represent degenerating mitochondria.

As stated above, the DAT-1 and DAT-2 can be inhibited by toxins in their ability to transport dopamine. On genetic testing reports, the genes that are active in making DAT-1 and DAT-2 look as though they are damaged; but the DAT proteins are being made, and are present, but they are inhibited. Various toxins cause the inhibition of DAT proteins: pesticides, various other man-made toxic chemicals, the toxic breakdown products of aspartame, and dental toxins coming from the bacteria, fungi, and viruses of oral infections such as are found in root canaled teeth and in cavitational osteonecrosis (dead, infected jawbone areas).

In root canaled molar or premolar teeth, especially in the upper right quadrant (though there can be a cross over from the left), there are often toxins exuded into the bone by the residual infections that may have caused the root canal to be done in the first place. Extraction sites are another location where residual infections are located, often undetected. The toxins from the dead teeth, jawbone cavitations and any dead bone around the tooth can flow into the lymphatic, nerve and meridian pathways to reach the substantia nigra of the brain.

Toxins that inhibit dopamine have been comparatively studied for potency. These toxins, that have been known for many years to block dopamine, include pesticides of several kinds, aspartame (Nutrasweet) and related compounds, and dental toxins. Of all of these, by far the most potent inhibitors of dopamine function are the dental and oral toxins.

As an example of measured inhibition: paraquat, the pesticide sprayed on tobacco in drying barns, took 15 micromolar concentration to reach total inhibition; aspartame required a lot more (but people consume it with virtual abandon); dental toxins caused complete inhibition in tiny 5 micromolar (minuscule) concentration. The pesticide organophosphates and organochlorides also required small amounts and in addition were also associated with P-21 protein inhibition,<sup>2</sup> which blocked making ATP, the energy molecule. With adequate DAT and P-21 (for making ATP), a person can exercise more and can experience the "exercise high."

The more the various binding sites are blocked with accumulated toxins, the more that aging accelerates, due to failure of apoptosis<sup>3</sup> to occur and the more toxin there is the greater the acceleration of the cell reproduction leading to cancer.

### **Nicotine and Parkinson's**

Nicotine patches may stop the shaking of Parkinson's patients, but the helpful result of nicotine wears off in six hours. Nicotine is the mirror image of the DAT proteins and has been demonstrated to bind and transport dopamine and has some ability to mimic DAT 1 and DAT 2. Nicotine itself will bind to dopamine and take it into the neurons, giving the "feel good syndrome". The reason people crave nicotine is that it enhances the soothing effect they need because they are toxic, and have ineffective, inhibited DAT proteins. Mercury (with dental amalgam fillings being a major source) is the primary cause of this agitation of the central nervous system blocking the effect of the DAT proteins -thus the craving for nicotine. Within two weeks of getting the mercury amalgam fillings out safely and starting detoxification, a hard-case smoker should be able to quit smoking.

In 1993, R.L. Siblingud at Colorado State University published a study comparing 115 human subjects with mercury dental fillings with 119 subjects who had no amalgam fillings; the amalgam group had 2.5 times more smokers as compared with the nonamalgam group. In 1994 Siblingud published findings that correlated mercury from amalgam fillings to depression, excessive anger, and anxiety. The ability of mercury to bind to the binding sites of DAT proteins, explains the Siblingud findings.

Of course, it stands to reason then that mercury, both from fillings in the mouth and from vaccines, fish and environmental exposures, is closely associated with Parkinson's disease, and should be removed properly and safely, before any improvement can be expected. But the root canal infections and toxins and the jawbone cavitation toxins cannot be ignored as they, too, are toxic to DAT 1 and DAT 2. Mercury that is present from amalgam fillings combines with toxic waste products from the root canaled teeth and from the jawbone disease to form extremely toxic organic mercury compounds -that are much more toxic than mercury by itself. So, it is essential that the root canaled teeth and other dead teeth must be extracted properly, and jawbone cavitations must be addressed by an experienced biological dentist.

But dental improvement is only the beginning. Following dental revision, the toxins and heavy metals must be removed from soft tissue, where the actual damage is being done. This involves a safe and effective program, carried out over a period of time. DMPS IV chelation<sup>4</sup> is the best and most thorough way to accomplish this but some patients do not tolerate DMPS as well as others. Oral chelation may also be used but is extremely slow compared to IV administration. Exposure to all other toxins must also be eliminated, and the body must be cleansed of accumulated toxic residues in any way feasible, such as with the help of saunas, liver-bowel assistance, and immune support.

The toxic connections of Parkinson's disease are also true of other chronic illnesses, such as heart disease, cancer, autoimmune disease, and other neurological diseases. It is becoming clear that all of these illnesses have their own malfunctions associated with dental toxins and infections, and are associated with inhibition of normal cellular proteins by toxins, and are not generally associated with genetic defects. In fact, Ames testing by Independent Certified Labs has demonstrated that these toxins do not polymorph [Ames testing]<sup>5</sup> these cellular proteins, but do bind to the binding sites to inhibit function. Thus these conditions are preventable, reversible or, at the least, treatable -- by correcting exposure to toxins and with conscientious dentistry and medicine.<sup>6</sup>

Footnotes:

<sup>1</sup> NADA (ubiquinone reductase enzyme (complex I) .[ see paper J Biol Chem Vol 259 no 24 Dec '84,p15040+] oxidizes nad to nad+ and reduces CoQ10.

<sup>2</sup> P21 inhibition has also been scientifically linked to the start of lupus.

<sup>3</sup> Apoptosis is the programmed drop out or death of old cells.

<sup>4</sup> DMPS has gotten a bad rap because of technique of administering, DMPS remains in the blood stream for only six hours and mineral replenishment has to be done by IV at that 6 hour time or the patient will have adverse effects so DMPS should be administered before 9:00 a.m. and the mineral replenishment at 3:00 p.m. for the best results. Some people have allergies or sensitivity to sulfur compounds and should be tested for this sensitivity before administering any Sulfur compound such as DMPS or DMSA: EDTA should never be administered orally or IV when mercury is still present in the mouth.

<sup>5</sup> Ames test is named for the Professor who developed the technique used in testing for polymorphism of a cell structure or genetic alteration of genes.

<sup>6</sup> Polymorph is a term used to describe a chemical or radiation induced change in appearance and function of a cell form.

Addendum by Dr. Braun.

Statement in article:

DMPS IV chelation<sup>4</sup> is the best and most thorough way to accomplish this but some patients do not tolerate DMPS as well as others.

This phrase does not represent my experience with DMPS. I have administered thousands of doses to all age groups including children and the elderly without one serious side effect. I have had three instances of allergy resulting in a minor rash and one that developed blisters and that happened to be me. People's concept of allergy to sulfur refers more to "sulfa-drug" antibiotics which were extremely allergenic but it was so because of the compound itself and not the sulfur in particular. I find DMPS well tolerated and effective in safely removing mercury.

Statement in Jones DAMS article:

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DMPS has been much maligned because there are no physicians teaching how to administer it properly. While the one day therapy of DMPS saves out of town patients a night in a motel, six hours from DMPS to mineral replacement is not absolutely necessary, but I do believe it is better for the patient. I absolutely do feel that the mineral replacement IV is necessary. We used to administer this IV within 24 hours without ill effects.

There is mention of oral chelation. I have scientific proof that oral and rectal chelation for mercury is a waste of time and money. Cilantro and algae like blue-green and chlorella contain heavy metals! Zeolite is not absorbed into the body and because it is of volcanic origin may, indeed, contain mercury. While a small amount of liquid DMPS may be absorbed through the cheeks and gums, the swallowed capsules are not. DMSA has been prescribed for autistic children and this may be the best approach if the child will not tolerate IV therapy. EDTA is neither absorbed orally nor through the rectum, in fact, it binds up the minerals in your food. Oral chelation with EDTA does not lower the body level of lead. For more information about chelation myths and truths, please see the section on chelation or EDTA found elsewhere on this site. PBMD