

To: "RXH@CFSAN.FDA.GOV" <RXH@CFSAN.FDA.GOV>
From: Betty Martini <Bettym19@mindspring.com>
Subject: Citizens Petition for the Recall of Aspartame
Cc:
Bcc:
Attached:

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Dockets Management Branch
Food and Drug Administration
Department of Health and Human Services
Room 1023
12420 Parklawn Drive
Rockville, Maryland 20857

CITIZENS PETITION

The undersigned, Mrs. Betty L. Martini, founder of the global volunteer force, Mission Possible International, submits this petition to the Commissioner of Food and Drugs or Acting Commissioner under 21 CFR 5, 10 to request the Commissioner of Food and Drugs to have recalled the neurotoxic drug, aspartame, masquerading as an additive. Under the new terrorism law, the FDA now has the right to recall dangerous chemicals even without request from the manufacturer.

Statement of Grounds

The approval of aspartame violated many laws which were even admitted by its own FDA toxicologists on site. Marketing a chemical poison for human consumption has resulted in a mass outcry by the public in the United States and many other countries. Even admitted in congressional hearings resulting from this outcry that the FDA was flooded with so many complaints that victims were being reported to the AIDS Hotline. Consumers operations have existed since its approval to alert consumers because of its dangers including one by James Turner, Attorney, in Washington, D.C. Mission Possible International has operations in most states and 22 countries of the world. From Aspartame Victims and Their Friends of Ocala, Florida by Shannon Roth who went blind in one eye to Joyce Wilson's, Aspartame Victims and Their Friends of Georgia, who lost her life to the toxin, they have not stopped. Post Marketing Surveillance Reports from thousands and thousands of victims show such a pattern and predictable symptoms and diseases, that H. J. Roberts, M.D., FACP, FCCP, has declared Aspartame to be a Disease and global plague.

Because the manufacturers, professional organizations funded by the manufacturers, FDA, and front groups, as well as manufacturers using the toxin in food and drug constantly push false and misleading information on aspartame, physicians have found it difficult to diagnose thousands of patients who wonder from doctor to doctor. This in itself is a crime under Title 18, Section 1001 of the Criminal Code, and has caused untold disability and death.

Because of this Dr. H. J. Roberts published an entire 1038 page medical text on the global

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plague titled Aspartame Disease: An Ignored Epidemic, www.sunsentpress.com or 1 800 814 - 9800. There has continued to be medical books published on the issue by physicians to alert the public since the FDA has refused to do so Excitotoxins: The Taste That Kills by neurosurgeon Russell Blaylock, M.D., is another one.

As an example, the manufacturers have said that aspartame does not get into the blood stream as NutraSweet said in August, 1999, "It is physiologically impossible for aspartame to cause brain tumors because it never enters the bloodstream and thus cannot travel to essential organs, including the brain." This was in a news release when it was made public that studies would be carried out on aspartame and brain cancer headed by neurochemist, Dr. Peter Nunn of Kings College in London. However, proof that aspartame gets in the blood stream is even in industry's own pro-aspartame book, significantly corporate sponsored: Aspartame, Physiology and Biochemistry, Marcel Dekker, Inc., New York, L.D. Stegink and L. J. Filer, Jr., 1984

Page 161: TISSUE DISTRIBUTION OF ORALLY ADMINISTERED ISOTOPICALLY LABELED ASPARTAME IN THE RAT Yoshimasa Matsuzawa and Yuichi O'Hara, Life Science Laboratory, Central Research Laboratories, Ajinomoto Co., Inc., Yokohama, Japan.

Page 162: RESULTS: Phenylalanine Moiety: "The pattern of distribution of (U-14CPhe) aspartame following its oral administration was very similar to that of (U-14C) phenylalanine after 0.5, 2.6 and 24 hr and 7 days. Thirty minutes after administration of these compounds, very high levels of radioactivity were observed in the lumen of the stomach and upper small bowel. Significant uptake of radioactivity was observed in the pancreas, gastrointestinal mucosa, hair follicles, salivary gland and liver. Radioactivity was observed in the kidney, adrenal gland, bone marrow, spleen and eye. Some radiolabel was localized to the BRAIN, SPINAL CORD (emphasis added) heart, thymus, lung and testes.

It has also been proven by the original manufacturer's own study, Searle, used pivotal in the approval of aspartame. This was a 52 week Oral Toxicity Infant Monkey Study (SC-18862). This study orally dosed aspartame to seven infant Rhesus monkeys in work conducted at the University of Wisconsin Medical Center at Madison. This study reported in 1972: "All animals in the medium and high dosage groups exhibited seizure activity. Seizures were observed for the first time following 218 days of treatment. The seizures were of the grand mal type. One monkey, m38 of the high dose group, died after 300 days of treatment. The cause of death was not determined..." The study correlates brain seizures with high amounts of phenylalanine ingested by the monkeys. The study determined: "following the end of the experiment, medium and high dose monkeys were kept under observation for three months. No further convulsions were detected during this period. Elevated levels of phenylalanine in the blood of monkeys fed medium and high levels of aspartame prove that the compound is absorbed into the blood stream. The brain seizures followed. How could FDA claim a "pivotal" study in which all of the medium and high dose monkeys suffer brain seizures, confirm Aspartame's safety for humans?

So here we have proof by a pro-aspartame industry book and the manufacturer's own study used in the approval of this neurotoxin.

Further, the proof is so well established its published in books on aspartame such as Aspartame

(NutraSweet) Is It Safe? by H. J. Roberts, M.D. He writes aspartame is a molecule composed of three components, aspartic acid, methanol and phenylalanine:

Page 30: "After ingestion there is a rapid breakdown and absorption of aspartame within the upper gastrointestinal tract. This results in a prompt rise of the two amino acids in the bloodstream."

Page 32: "Influence of Method of Administration "Both phenylalanine and aspartame concentrations in the blood plasma are significantly higher when aspartame is given as a solution rather than capsule form."

Lying by industry to misinform the public that a chemical poison is safe for human consumption is in violation of Title 18, Section 1001. Disinformation from a powerful industry should be punishable by law.

As Dr. Roberts stated in Aspartame Disease: An Ignored Epidemic, page 862, in discussing "industry's information tyranny" - "Physicians are among its prominent victims owing to the readiness with which large pharmaceutical and chemical companies currently monopolize both research and advertising. A contributory element has been the corrupted passion for seeking "the truth" by corporate-subsidized spin doctors. For example, a major food producer concluded its pamphlet on what health professional should know about aspartame: "The ingredients of aspartame (aspartic acid and phenylalanine methyl ester) occur naturally in the normal diet and, hence, our metabolism is well adjusted to their utilization ... Aspartame, even at abuse doses, is safe for adults and children."

"Pro-aspartame apologists have become proficient in deflecting the warnings from health professionals and anti-aspartame activists. Their rhetoric employs terms and phrases such as "pseudoscience," "bogus scare tactics," "self-proclaimed prophets of this hoax who twist the facts," and "a conspiracy babble by flat-earthers." An anti-aspartame activist regarded the apparent addiction to diet sodas of highly critical persons in the media and government as "drinking on the job."

"Various industries have used propagandists posing as consumer advocates in attempts to undermine grassroot organizations of concerned consumers by disseminating disinformation. In the aspartame controversy, they include watchdog organizations touted to be "food police." Similarly, professors of nutrition have asserted the safety of large amounts of aspartame as sodas and tabletop sweeteners taken for a "lifetime." In The Ordeal of Change (Harper & Row 1963), Eric Hoffer emphasized that propaganda and advertising reflect a "general relentless drive to manipulate men."

"The control of medical information by the pharmaceutical industry should be cause for great concern. This has been achieved through the financing of medical research, placing expensive ads in medical journals that otherwise could not stay in business, compiling package inserts for the Physician's Desk Reference, the training of many "detail" men and women, expensive freebies for prescribing physicians, and the selection of physicians with significant prior ties to this industry as editors-in-chief of major journals. The problem becomes compounded by an incestuous relationship between drug firms and the FDA. Ambitious professionals use this

agency as a stepping stone to six-figure salaries within the pharmaceutical industry. While on their "tour of duty" at the FDA, they are likely to focus more on relatively minor issues (e.g., denigrating alternative-care practitioners) than disinformation concerning new drugs and supplements."

The FDA has been a large part of the misinformation mill on aspartame telling consumers aspartame is safe when their own Board of Inquiry report said its not (Docket No. 75F-0355), 9/30/80. And stated: "The Board has not been presented with proof of a reasonable certainty that aspartame is safe for use as a food additive under its intended conditions of use. The foregoing constitutes the Board's findings of fact and conclusions of law. Therefore, it is ORDERED that: (1) Approval of the food additive petition for aspartame (FAP 3A2885) is hereby withdrawn. (2) The stay of the effectiveness of the regulation for aspartame, 21 CFR 172.804, is hereby vacated and the regulation revoked.

When I lectured for the World Environmental Conference and an email made world news about the dangers of aspartame, it was the FDA and CDC who got on CNN and tried to say it was a hoax. As one victim said: "They are calling those who tell the truth about aspartame, toxic terrorists, the usual modus operandi of the manufacturer." But the FDA knew I lectured for the World Environmental Conference and had received a copy of my original post on it. Further I had spoken with Dr. Rudolph Harris. Still the FDA told consumers it was all a hoax, lying in the face of facts and reading my invitation to speak and correspondence with Dr. Gaylord of the EPA who gave the keynote address which still remains on www.dorway.com/nomarkle.html. The CDC who did the most damning investigation on aspartame which is on www.dorway.com shows their coverup in the issue by simply sending out and having on their web site the summary that contradicts the investigation instead of the actual investigation.

And what misinformation mills like David Emery's Urban Legends who knows its a fact and continues to lie about it. When written by former U.S. Attorney, Ed Johnson, to cease telling consumers its a hoax, Emery began telling consumers even Ed Johnson's letter was a hoax. American Council for Science and Health another front group saying the aspartame issue is a hoax is funded by NutraSweet, National Soft Drink Association, Coke, Searle and Monsanto for starters.

It is a heinous crime to approve a drug as an additive because of its interaction with other drugs and possible death, and in this case aspartame is a neurotoxic drug. Dr. Roberts mentions under interference with drug action (page 468 of Aspartame Disease) that aspartame can alter the action of important drugs. They include coumarin (Coumadin), phenytoin (Dilantin), antidepressants, other psychotropic agents, propranolol (Inderal), methyldopa (Aldomet), throxine (Synthroid) and insulin. This means that aspartame victims don't have a chance because physicians have been lied to, and having no knowledge that aspartame is a drug, can prescribe the very drug that will interact, since it reacts with just about every drug used to treat the problems it causes. If someone had a seizure from aspartame which is so common its epidemic, they would prescribe Dilantin or like drugs and they interact. It is pushed on diabetics and aspartame not only can precipitate diabetes but interacts with insulin. Aspartame damages the cardiac conduction system and interacts with cardiac medication. The phenylalanine in aspartame not only lowers the seizure threshold but depletes serotonin which triggers all kinds of behavioral and psychiatric problems, and aspartame interacts with antidepressants. It can

precipitate Parkinson's and interacts with L-dopa. The FDA approved the neurotoxin Redux and FenPhen and if they took this with an aspartame laced drink, its a double whammy as mentioned by psychiatrist Dr. Ralph Walton. This could be the reason so many died.

How does aspartame reduce or potentiate drug action? Dr. Roberts mentions just a few of the mechanisms on page 469:

- * Alteration of the blood proteins to which drugs attach.
- * Alteration of drug receptors on cell membranes.
- * Changes in the sites at which impulses are transmitted along nerves and to muscle.
- * Metabolic abnormalities in the elderly that are known to enhance their vulnerability to drug reactions (Weber 1986). This problem increases in the case of persons taking multiple drugs ("polypharmacy" prescribed by several physicians.
- * Interference with drug action by amino acids and protein. An example is the erratic therapeutic effects when patients with parkinsonism who were controlled on levodopa began to use aspartame products. The antagonism of levodopa by dietary protein presumably reflects impaired transport from serum across the blood-brain barrier by neutral amino acids (Pincus 1986).

Dr. Roberts mentions also drug reactions after the cessation of aspartame saying: "The phenomenon of increased sensitivity to a drug after the removal of some interfering factor is known to clinicians. Examples include sever insulin reactions in diabetics after cure of an infection, and bleeding from coumarin after terminating a drug that influenced its binding to carrier proteins. This type of encounter probably reflects an increase in the "free" forms of such drugs. It occurred, for example, when patients on maintenance coumarin or phenytoin avoid aspartame."

Extremely troubling to the consumer public is the FDA's lack of concern for safe food and drugs and desire to be loyal to industry instead of the public. They have literally turned their back on consumers in the aspartame issue. Researchers at the Massachusetts Institute of Technology surveyed 80 people who had brain seizures after consuming aspartame. Said the Community Nutrition Institute: "These 80 cases meet the FDA's definition of an imminent hazard to the public health, which requires FDA to expeditiously remove a product from the market." In 1986 the Community Nutrition Institute then petitioned the FDA to ban aspartame because so many were going blind and having seizures. The FDA presented with either stopping the seizures and blindness in the public or protecting Monsanto chose to sacrifice consumers and refused. Today thousands report seizures and eye deterioration from macular degeneration and retinal detachments to complete blindness. And we are now taking case histories for class action having to do with blindness, seizures and brain tumors and eye deterioration. If you had banned aspartame in 1986 all these people would not have sustained these problems, and many are dead because of it.

When consumers complain too much the FDA puts out a message in their propaganda FDA Talk Paper the same old industry propaganda that has no validity and saying they don't want to write about it anymore. Instead of taking care of the problem it has been the modus operandi to lie and deny about it. The FDA has full knowledge aspartame is a chemical poison and any employee telling consumers it's safe should be prosecuted under Title 18, Section 1001 as the

FDA tried to do to Searle when they lied to the FDA on the same basis. Unfortunately, in this case Searle was so powerful the U.S. Prosecutors hired on with the defense team and the statute of limitations expired.

The FDA is required by law to answer to a congressman. When Speaker of the House Newt Gingrich asked the FDA to answer our 26 questions attached and on www.dorway.com. It has been over 6 years and they are still unanswered. A packet full of propoganda and Federal Registers will not do. Isn't it the guilty who take the 5th.

Aspartame was approved for carbonated beverages by the FDA when even the National Soft Drink Association admitted it was not safe and quoted the law that forbid it. Section 402 of the FDC Act 21 provides a food is adulterated if it contains, in whole or in part" .. a decomposed substance or if it is otherwise unfit for food". The National Soft Drink Association in their protest against aspartame approval in 1983 recorded this, as found in the Congressional Record of May 7, 1985, Page S 5509, Senate.

NSDA knew aspartame decomposes in soft drinks. They objected: "Searle has not demonstrated to a reasonable certainty that aspartame and its degradation products are safe for use in soft drinks... Aspartame is inherently markedly and uniquely unstable in aqueous media. In a liquid, such as a soft drink aspartame will degrade as a function of temperature and pH." S5507

Inferior test methods were used by Searle as NSDA explained: "High pressure liquid chromatography is a far superior analytical method relative to thin layer chromatography and numerous HPLC methods exist for the detection and quantification of amino acids. Searle's choice of TLC over HPLC adversely affected the quality and type of analytical data generated on aspartame and its decomposition products in soft drinks." S5507 ... "An important decomposition product of aspartame, aspartic acid cannot be detected at all using TLC." S 5508

"The inability to account for as much as thirty-nine percent of aspartame's decomposition products is significant." "The Marked and rapid decomposition of aspartame in soft drinks under temperatures known to prevail is apparent from data in the present record and discussed above in these objections." S5509 (So aspartame could not be legally added to carbonated beverages under Section 402 because it decomposes and NSDA admitted that happens.)

This is the LAW, FDA, and while you're known to serve above it, this has to be answered. How the NSDA was talked into this, I don't know, but I do know industry has its ways. So with full knowledge of the decomposition of aspartame into a witches brew of toxins the pop companies sent aspartame laced pop to sit in the 120 degree Arabian sun for as long as 8 weeks at a time and the troops drank them all day. Aspartame is also a chemical hypersensitization agent and interacts with vaccines. Remember the troops were given Anthrax vaccine not even approved but the acting commissioner at the time Michael Friedman (later hired by Monsanto after he defended them on 60 Minutes) said to go ahead and have them use it. So 40,000 innocent man and women have perished and countless others still suffer disability and brain tumors, and many aspartame symptoms and diseases. Aspartame destroys the central nervous system and mimics MS and causes Lou Gehrigs symptoms. Now after all these years the government

admits after a study that Desert Storm Syndrome is Lou Gehrig's symptoms and reinstated the benefits to the troops. This never would have happened if the FDA had not violated the law.

In keeping with the fact that aspartame was never proven safe, consider the two FDA toxicologists involved, Dr. Adrian Gross and Dr. Jacqueline Verrett, who were on site. Dr. Adrian Gross spoke out against aspartame in the 8/1/85 Congressional Record. Gross said "at least one of the studies has established beyond any reasonable doubt that aspartame is capable of inducing brain tumors in experimental animals and that this is of extremely high significance. He also testified that because aspartame was capable of producing brain tumors and brain cancer, FDA should not have been able to set an allowable daily intake of the substance at any level.

Dr. Gross said: "...In view of these indications that the cancer causing potential of aspartame is a matter that had been established way beyond any reasonable doubt, one can ask: What is the reason for the apparent refusal by the FDA to invoke for this food additive the so-called Delaney Amendment to the Food, Drug and Cosmetic Act?" The Delaney Amendment makes it illegal to allow any residue of cancer causing chemicals in foods. In his concluding testimony Gross asked, "Given the cancer causing potential of aspartame how would the FDA justify its position that it views a certain amount of aspartame as constituting an allowable daily intake or 'safe' level of it? Is that position in effect not equivalent to setting a 'tolerance' for this food additive and thus a violation of that law? And if the FDA itself elects to violate the law, who is left to protect the health of the public?" Congressional Record SID835:131 (8/1/85)

Instead of obeying the law, it was seen to years later that the Delaney Amendment was appealed. The FDA knew nobody would forget what was done.

Dr. Jacqueline Verrett, the other FDA toxicologist was absolutely appalled at the shenanigans involved in the aspartame approval. She was also a member of an FDA task force that investigated the authenticity of research done by Searle to establish the safety of aspartame. She said she believes the original aspartame studies were "built on a foundation of sand." She testified in front of a U.S. Senate hearing in 1987 that flawed tests conducted by Searle -- used as the basis of FDA approval -- were a "disaster" and should have been "thrown out". She said she believed the studies left many unanswered questions about possible birth defects and the safety of aspartame. (Testimony of Dr. Jacqueline Verrett, FDA Toxicologist, before the U.S. Senate committee on Labor and Human Resources regarding "NutraSweet Health and Safety Concerns", Nov 3, 1987.

So let's put this in perspective. The Board of Inquiry of the FDA said not to approve it because it wasn't proven safe. One of the two toxicologists said FDA violated the law, and the other said the studies that approved aspartame were built on a foundation of sand, were a disaster and should have been thrown out. The FDA doesn't have a leg to stand on. No wonder all the lying and denying and refusal to answer questions.

Yet in Toxicological Principles For Safety Assessment of Direct Food Additives and Color Additives Used in Foods, Redbook II, Draft 1993, Chapter V, Part C. Neurotoxicity Studies, paragraph 8:

"Because of the impact that nervous system toxicity can have on human health, assessing the

neurotoxic potential of a chemical proposed for use in food or color additive should be an essential element in that chemical's toxicological profile ..."

Yes, its very important since it can trigger neurodegenerative disease and kill. Yet the FDA has known that aspartame is a neurotoxic drug for over 20 years while it has been on the market taking the lives of innocent victims and murdering babies in their mother's womb, and done absolutely nothing but lie about the issue. As Arthur Evangelista, former FDA Investigator said about this issue: "...Aspartame (aka; NutraSweet, Equal, etc.) a neurotoxin by nature, is extremely damaging to the central nervous system, and subsequent neural-dependent systems like endocrine and liver functions. That the very fact aspartame is in our food supply, implies an unregulatory agency which better serves the industry that it was supposed to be regulating. "

Grounds for recall? They are so vast they fill a 1038 page medical text. Volumes could be written on the FDA's refusal to put out honest facts instead of lies on the subject, and the impact on consumers in 100 countries of the world.

ECONOMIC AND SOCIAL IMPACT:

Dr. H. J. Roberts in Aspartame Disease: An Ignored Epidemic discusses accidents and deaths for starters. Convulsions and blackouts are important causes of driving accidents. Accordingly, they pose major considerations relative to driver licensure and insurability. He says that the cited experiences of pilots who lost their licenses because of aspartame induced seizures underscore this issue. The FAA's position is they can't do anything about it because the FDA approved it. One Captain on American reported 5 deaths of pilots who were heavy users of aspartame including one who died in flight. Crashes of planes considered to have been due to pilots using aspartame have been reported to Mission Possible Aviation. To approve a neurotoxic seizure triggering drug and have full knowledge of its impact on accidents on both the land and in the air, and still refuse to care or do anything about the issue is emphatic irresponsibility on the part of the FDA.

Consider the medical costs as patients go from physician to physician for diagnosis, and never receive help because with the FDA and industry lying to the medical industry, their hands are tied. They do not make the correlation because they are unaware the FDA approved, for instance, a seizure triggering drug. They have no idea when they prescribe most anti-seizure medication that it can interact with aspartame.

Consider the increased burden on health care facilities and even the costs from an increase of seizure disorders in the elderly as Dr. Roberts discusses. In triggering a host of epidemics health insurance has risen so high the average person can no longer afford it. Needless diagnostic studies and surgery are being done when the only help to the victim is the elimination of aspartame.

The Guardian in England wrote only yesterday about the incredible epidemic of diabetes. It was a "call for urgent action to combat diabetes spread. Dr. Roberts wrote: "Allow me to focus on just one aspect of this "curse visited upon mankind in the next century": the prodigious amount of products containing the sweetening chemical aspartame. They are currently being consumed by an estimated 70 per cent of the US population, usage that is enthusiastically approved by

most physicians and dietitians.

In my experience and researches over the past 20 years, however, numerous patients with known diabetes and hypoglycemia ("low blood sugar attacks") have suffered serious metabolic, neurologic, eye, allergic and other complications that could be specifically attributed to using aspartame products. they include the loss of diabetes control, the apparent precipitation of diabetes, the aggravation or simulation of diabetic complications (particularly neuropathy and retinopathy), the intensification of hypoglycemia, and a profound gain of weight -- with dramatic improvement after avoiding aspartame, AND their predictable recurrence shortly after resuming these products. The details and mechanisms have been exhaustively reviewed in my books on the subject. (www.sunsentpress.com). "

So what we are dealing with is a product being used by 70% of the population in this country alone that can precipitate diabetes, then keeps it out of control, and also interacts with insulin.

And we are dealing with a product used by this great amount in the population that is a teratogen and abortifacient causing the murder of hundreds of thousands babies as they attempt to thrive in their mother's womb. Autism and ADD are two epidemics alone that arise from aspartame use, and in staggering proportions. This is discussed in *Aspartame Disease: An Ignored Epidemic* by H. J. Roberts, M.D., and *Excitotoxins: The Taste That Kills* by neurosurgeon Russell Blaylock, M.D. James Bowen, M.D., said "At every point in the fertility process aspartame destroys, beginning with the gleam in Mom and Pop's eyes, it ruins female sexual response and induces male sexual dysfunction. Beyond this, aspartame disrupts fetal development by aborting it or inducing defects. And if a live child is born aspartame may have heinously damaged the DNA of the baby, cursing future generations. You can't listen to radio without hearing constant advertisements for Viagra and products for women as well. With damage to the hypothalamus of the brain and the mitochondria of the cell nobody has a chance.

Brain tumor victims cry out on the Brain Tumor List - "why do so many people you know have brain tumors - where are they coming from." Yet, again, we know aspartame breaks down to diketopiperazine, a brain tumor agent which has triggered brain tumors in original studies and in studies by Searle in 1983/84 that they never published, sacrificing people in South America. Some developed seizures, others brain tumors and some died. These studies also explained the agonizing joint pain aspartame victims suffer from as they showed aspartame hardens the synovial fluids. The studies further showed that aspartame destroys the central nervous system and the brain.

And to allow a blinding agent to be marketed for human consumption is simply madness.

The economic and social impact is mind boggling with cries from aspartame support groups from frightened victims suffering anguish, broken marriages and lost jobs. Too sick to work, and some frightened they will die.

Is loyalty to aspartame manufacturers so important to twist the consumer's life with pain, tears, disability, depression, confusion, impoverishment and early death. It's deranging the human gene pool.

ENVIRONMENTAL IMPACT: The environmental impact no doubt is staggering with lost wages, lower productivity of the sick trying to work and services necessary for the sick and improvised. An informant, Monsanto researcher, once said: "The first thing they told me was do not use NutraSweet, its a poison, and we don't want people out sick. Also notify your family." This same informant worked for a time for Searle after Monsanto bought it and finally quit disgusted because he said "their research is negotiable".

The Material Safety Data Sheet on aspartame lists the potential adverse effects on the eyes, skin and respiratory tract, along with required personnel protective equipment (including an approved air purifying or mist respiratory) and first aid measures. Even visitors to an aspartame manufacturing plant are advised to wear protective clothing in order to avoid hazardous exposure.

Horror stories come in from people working where aspartame is made and some people have died in these plants including a worker discussed in the journal article: Aspartame: Methanol and the Public Health by Dr. Woodrow Monte. Journal of Applied Nutrition, Volume 36, Number 1, 1984.

H. J. Roberts, M.D., in Aspartame Disease: An Ignored Epidemic discusses aspartame as a co-carcinogen and says:

"A potential carcinogenic effect by aspartame in our increasingly complex environment demands study. Others share a similar orientation:

- * Dr. Samuel S. Epstein (1999) (Professor of Environmental and Occupational Medicine, University of Illinois) stated, "Much cancer is avoidance and due to past exposure to chemical and physical carcinogens in the air, water and food and the workplace."
- * Huff, Haseman and Rall (1991) offered this summary concerning chemical carcinogens.

"We believe our scientific and public responsibility must continue to be directed toward identifying those chemicals, mixtures of chemicals and exposure circumstances that present potentially the most predictable carcinogenic (and other toxicologic) hazards to humans." ... "

In original studies aspartame triggered brain, mammary, uterine, ovarian, thyroid, pancreatic and testicular tumors - for starters.

Dr. Roberts continues giving the possible carcinogenic mechanisms on page 798 of his medical text. He says that many constituents in the human diet are nitrosated within the gastrointestinal tract to form potentially carcinogenic nitroso compounds. Shephard et al (1993) reported mutagenic activity by aspartame after nitrosation, using Salmonella typhimurium as the test organism. The diketopiperazine derivative of aspartame has been incriminated as a tumor causing chemical. Formaldehyde released from the breakdown of methyl alcohol is known to be carcinogenic. He mentions the potential carcinogenic effects of chronic hyperinsulinemia which he has discussed in prior publications, with special reference to the prostate (Roberts 1967d). Others have implicated hyperinsulinemia in the pathogenesis of breast cancer (Diamanti-Kandarakis 1999). He says that alteration of glucose transport is a characteristic of experimental tumors. Reporting on this phenomenon, and the dramatic increase in total cellular

glucose transporter protein, Birenbaum et al (1987) emphasized the induction of such transformation when fibroblasts are starved for glucose.

On page 799 he discusses that increased phenylalanine may play a role. Animal and human studies indicate that restricting dietary phenylalanine decreases tumor growth and metastases (Norris 1990). Also, the brown substances created by the heating of amino acids during cooking may be mutagenic and carcinogenic (Abelson 1983). They include a number of DNA-damaging agents.

And the list goes on and on. Dr. Richard Caldecott (1961) of the Atomic Energy Commission said: "By far the most mutagenic agents known to man are chemicals, not radiation. And in this regard, food additives rather than fallout at present levels may present a greater danger."

IN CONCLUSION:

(1) The FDA now has the right to recall dangerous food and drugs, especially under the new terrorist bill. Aspartame has been proven to be a deadly neurotoxic drug and interacts with many drugs. As a chemical hypersensitization agent it also interacts with other dangerous sweeteners and vaccines. Aspartame has a synergistic effect with MSG. See www.truthinlabeling.org It has been proven by the manufacturers own studies to trigger brain tumors and seizures. A new medical text by H. J. Roberts, M.D., Aspartame Disease: An Ignored Epidemic discusses symptoms and diseases triggered by this neurotoxin in a 1038 page medical text. Twenty years of post marketing surveillance reports show that aspartame is a disease because the symptoms are predictable and there is a pattern. A review in the Journal of Neurosurgery on the medical text admits it reads like a PDR of adverse reactions. The only difference is that in a PDR there are a few lines of reactions, not a 1038 page medical text of horror stories. This petition is a demand for recall.

(2) The FDA under the law must answer a congressman. To this day the FDA has refused to answer the 26 questions attached. An FDA Talk Paper and a stack of federal registers is not answering the questions. The FDA must answer these questions for then Speaker of the House Newt Gingrich without fail and under the law.

(3) No drug is safe on the market today because so many of them interact with aspartame. All pharmaceutical companies should be instructed to add a warning that their drugs cannot be used with aspartame because they could react, until it is recalled which should be immediate. The modus operandi of the FDA has been to listen and then ignore the whole subject, tantamount to "have your say, now we won't discuss it again" such as when James Turner, Washington Attorney met with officials of the FDA some years ago. For this reason, this petition is being sent in copy form to lists and web sites all over the Internet, and with this note to add it to all their lists.

As Dr. James Bowen said to the FDA years ago: "Every known metabolite of aspartame is of marked or questionable toxicity and patently unsafe for human use. Methyl alcohol is metabolized to nascent formaldehyde in the eye, nervous system and other metabolically active organs. It immediately attacks and denatures the tissue structure proteins in which it is metabolized to nascent formaldehyde. This stimulates specific organ and subcellar

autoimmunity which seems to be a preponderant source of the bad experiences reported by NutraSweet victim. Aspartic acid is a neuroexcitotoxin present in damaging amounts, in its own right at the ADI for aspartame. Simple logic tells one that it will vastly increase the metabolism of methyl alcohol to formaldehyde in the desinosomes of the periventricular cells of the central nervous system, thus focusing the nascent formaldehyde attack there. This corresponds well with the symptomalogies often experienced such as Lou Gehrigs Disease, bulbar palsies, neurohormonal disorders, etc. Also visual disturbances, heart palpitations, infertility and fetal loss may be traced to aspartame ingestion. The diketopiperazine issue remains totally unresolved and dangerous. The amino acids that are released by hydrolysis, form eimers and isomers that are either not sufficiently studies, or undesirable pathological states such as Alzheimer's Disease.

(4) The FDA must instruct all employees to stop lying and denying in the issue on aspartame. It has been proven beyond a shadow of a doubt that aspartame is not safe and they should tell the truth to the consumer. Dr. Ralph Walton wrote a paper on peer reviewed research. Ninety two percent of independent unbiased studies showed problems with aspartame. Only industry research said aspartame was safe. That could not be if problems are found when the manufacturer is not controlling or funding the research. In fact, if you remove the 6 studies that the FDA had something to do with and 1 proindustry review, it would be 100% of independent research showing problems with aspartame.

An example of industry funded and controlled research is the Rowen Study, 1995. Sixteen of the 18 subjects were taking anti-seizure medication during the study. The aspartame was given in capsules so that instead of spiking the plasma phenylalanine level and significantly changing the phenylalanine/LNAA ratio the phenylalanine was absorbed very slowly - more like what happens when ingesting food (Stegink 1987). These researchers discussed in detail the issue of plasma phenylalanine and LNAA levels. It was particularly absurd is that they gave the aspartame in capsules even though they cited industry research (Burns 1990) which proves capsule administration of aspartame eliminates the spike in plasma phenylalanine levels! Simply stated, the researchers were pretending to test the hypothesis that phenylalanine/LNAA ratio changes would cause seizures, but they knowingly administered aspartame in a way that eliminated the possibility of a large change in plasma phenylalanine levels and phenylalanine/LNAA ratios.

Capsule administration of aspartame slows the absorption of methanol and may reduce its toxicity somewhat similar to the way ingestion of food with methanol may slightly reduce its toxicity (Posner 1975). Capsule administration of aspartame also eliminates the quick absorption of the excitotoxin, aspartic acid (Stegink 1987). When aspartic acid is absorbed quickly, it can be excitotoxic (Blaylock 1994, Olney 1980) especially in conjunction with formaldehyde derived from methanol.

The study consisted of only single dose of aspartame ingestion! The results of this study only apply to people who ingest a single dose of encapsulated aspartame while taking anti-seizure medication. Not only is this study worthless, but key information was not put in the abstract, namely, the fact that the subject were on anti-seizure medication and that the aspartame was given in capsules.

Why is it that FDA can accept this absurd research from an aspartame manufacturer but

disregards all the damaging effects shown on unbiased, independent peer reviewed research?

5. As Dr. Bowen told the FDA many years ago: "There is the issue of the approval of aspartame for market, which has violated every principle of responsible science and responsible government. " When the FDA received this note which had to do with labeling they sent an agent to see Dr. Bowen. The agent was not concerned with the fact aspartame is mass poisoning of the public, only that Dr. Bowen brought it to their attention. The agent did not want to accept the other 30 cases Dr. Bowen had to present them. It's eighteen years later, and we're presented with a global plague that would not exist if the FDA had acted on this issue when they got Dr. Bowen's note.

This is an open Petition for recall of aspartame, being sent by certified mail , but also being sent to saturate the global Internet.. This way the world can read it as well and send it to their congressman. The issue for the FDA is to recall aspartame, and if the FDA chooses to defend the manufacturer instead of protecting the lives of the people, that Congress take action immediately. Everybody receiving this send a copy to their congressman.

Respectfully, 

Mrs. Betty Martini, Founder, Mission Possible International, 9270 River Club Parkway, Duluth, Georgia 30097

Enclosures

Copy of Letter to Ajinomoto

26 Questions given the FDA by Newt Gingrich over 6 years ago, still unanswered

From: "Jaffe, Lyle D" <LJAFJE@OC.FDA.GOV>
To: "'BettyM19@mindspring.com'" <BettyM19@mindspring.com>
Subject: Certification Statement for Citizen Petitions
Date: Mon, 15 Jul 2002 16:40:07 -0400
X-Mailer: Internet Mail Service (5.5.2655.55)

Dear Ms. Martini:

Here is the certification statement as it appears in 21CFR 10.30 (E) that is required for filing of your June 15, 2002 citizen petition:

The undersigned certifies, that, to the best knowledge and belief of the undersigned, this petition includes all information and views on which the petition relies, and that it includes representative data and information known to the petitioner which are unfavorable to the petition.

which shows petition should be granted and aspartame banned, info only unfavorable to those who approved aspartame violating the law,

(Signature) Mrs. Betty Martini
(Name of petitioner) Mrs Betty Martini
(Mailing address) 9270 River Club Parkway
Duluth, Ga 30097
(Telephone number) 770 242-2599

You may fax it to my attention at 301-827-6870 or mail it to me at Dockets Management Branch, Food and Drug Administration, Department of Health and Human Services, Room 1061, 5630 Fishers Lane, Rockville, MD 20852.

Sincerely,

Lyle D. Jaffe
Dockets Management Branch

Hey... FDA!
Answer these questions on aspartame...
TRUTHFULLY!

2073 02 JUL -3 1983

1. Why did you give blanket approval to the neurotoxin and teratogen aspartame in June, 1996 that has been controversial since approval because of 92 documented symptoms from seizures and blindness to coma and death by your own report, and without public notification?
2. Why is there a warning on saccharin that it causes cancer when there is no warning on aspartame. According to Joseph Rodicks in CALCULATED RICKS, page 161: "Saccharin is the least potent carcinogen ever detected in an animal study, the dose required to produce a given lifetime incidence of tumors is greater than that of any other known animal carcinogen."

From Sweet'ner Dearest by H. J. Roberts, M.D., page 212: (Regarding the Wisconsin Alumni Research Foundation and Saccharin) "Urinary bladder tumors were found in a few male rats given large amounts of saccharin. There are two flaws. First, the validity of this rat model has been challenged by experts. Second, other researchers haven't been able to reproduce these findings. So you ask, "what's the big deal?" It became a real big deal when bureaucrats pounded on this mouse-to-man controversy by invoking the Delaney Amendment relative to use of saccharin. The FDA mandated that products containing it were to be labeled as potentially causing cancer in man. The producers of other sweeteners clearly were not displeased."

Report (FDA audit)

In the case of aspartame in the Bressler ~~Study~~ it produced mammary tumors, uterine tumors and ovarian tumors. It also produced brain tumors in rats. In 1985 the late Dr. Adrian Gross, honest FDA toxicologist, told Congress that aspartame violated the Delaney Amendment which forbids cancer causing additives being added to food. He said:

"In view of all these indications that the cancer causing potential of aspartame is a matter that has been established way beyond any reasonable doubt, one can ask: What is the reason for the apparent refusal by the FDA to invoke for this for this food additive the Delaney Amendment to the Food, Drug and Cosmetic Act? Is it not clear beyond any shadow of a doubt that aspartame had caused brain tumors or brain cancer in animals, and is this not sufficient to satisfy the provisions of that particular section of the law?" 1985b pg 1835-40

Further, secret trade information which was not so secret was discussed during Congressional Hearings where it was admitted complete conversion to DKP. This is diketopiperazine, a brain tumor agent.

3. Why do you consider yourself above the law and violate it?

Honest FDA Toxicologist, Dr. Gross continued in Congress:

"...how would the FDA justify its position that it views a certain amount of aspartame (50 mg/kg body-weight) as constituting an ADI (Allowable Daily Intake) or "safe" level of setting a "tolerance" for this food additive and thus a violation of that law? AND IF THE FDA ITSELF ELECTS TO VIOLATE THE LAW, WHO IS LEFT TO PROTECT THE HEALTH OF THE PUBLIC?"

4. You know the ADI was set for rats not humans. Why is this allowed?

From Sweet'ner Dearest by H. J. Roberts, M.D., chapter 34: MOUSE OR MAN? MAYBE THE RATS WERE RIGHT?, page 211

"Fairy tales....can be dismissed as myths. On the other hand, our licensing and regulatory agencies must not be "myth-led". Which brings me to the FDA's arbitrary increase of aspartame's ADI to 50 milligrams (mg)/kilograms (kg) body weight. (One kilogram is 2.2 pounds.) This questionable decision qualifies as an action that succeeds in a'canceling reality."

.The ADI represents the projection of animal studies based on their lifetime intake. This was the testimony of Dr. Frank Young, former FDA Commissioner, before a committee of the U.S. Senate at a hearing on Nov 3, 1987 titled, "NutraSweet" Health and Safety Concerns."

.Market research indicates that diabetics use about 11.4 mg. aspartame/kg daily (The Palm Beach Post) March 8, 1990, p. D-13)

.The vast majority of my patients with severe reactions attributed to use of aspartame products got into trouble when their daily aspartame intake ranged from 10 to 18.3 mg/kg. Once this threshold was exceeded, they predictably suffered itching, rashes, severe headache, mental confusion, depression, visual problems, et cetera. (Hundreds of others experienced adverse effects after consuming amounts far below these levels.)

5. Since there is an ADI showing there can be abuse, even though it was

set for rats, how do you dismiss consideration altogether and give blanket approval of aspartame like it was sugar? Estimates today are that at least 9000 products contain this deadly poison.

6. Why did you allow the drug aspartame to be marketed as an additive when you knew it was a drug and had biologic effects? And you can't say that's not the case since Searle actually filed a drug application for aspartame in the 60's to treat peptic ulcers. You also know that as an additive there would be no safety monitoring. In other words, when deadly reactions and symptoms were reported, you could simply dismiss them as anecdotal. And Isn't that what you have done - listed 92 documented symptoms from four different types of seizures, coma, and blindness and dismissed them as simple anecdotes knowing they are reactions to a deadly drug that has no safety monitoring.
7. Why have you permitted a drug that interacts with other drugs, including monoamine oxidase inhibitors, alpha-methyl-dopa and L-dihydroxyphenylalanine to go unmonitored, when it is obvious that in the case Parkinson's Disease, the patient could easily lose his life.

From ASPARTAME (NUTRASWEET) IS IT SAFE? by H. J. Roberts: "Aspartame or its components and breakdown products (metabolites) may cause changes in the brain comparable to those that appear to initiate or aggravate Parkinsonism. This is especially applicable to dopamine, a neurotransmitter whose concentration is reduced in Parkinsonism. Shabin and Albert (1988) indicated that patients with Parkinsonism" .. appear to be more prone to aspartame's neurological adverse effects."

"A few of the changes in dopamine and serotonin concentrations within the brain induced by aspartame, phenylalanine and aspartic acid are listed.

- * Phenylalanine is converted to tyrosine by the enzyme phenylalanine hydroxylase. Tyrosine undergoes a change to dihydroxyphenylalanine (levodopa, L-DOPA), which then is transformed to dopamine.
- * The chronic administration of excess phenylalanine and aspartic acid tends to decrease serotonin and other neurotransmitter within several regions of the brain, and may alter dopamine receptors in certain brain cells.
- * Crippling fluctuations in the motor performance of patients with Parkinsonism who are treated with levodopa have been improved by eliminating protein from their breakfast and lunch. Pincus et al (1986,1987) demonstrated a close correlation between elevated

levels of the large neutral amino acids and aggravated symptoms of Parkinsonism, notwithstanding high plasma levodopa concentrations. These motor fluctuations improved when the amino acid levels declined. Such antagonism of levodopa's action by protein and amino acids probably reflects interference with its transport across the blood-brain barrier."

From EXCITOTOXINS: THE TASTE THAT KILLS by neurosurgeon, Russell L. Blaylock, M.D., page 106: "...persons with Parkinson's disease should avoid all foods and drinks containing excitotoxin additives such as MSG, hydrolyzed vegetable protein, cysteine, and aspartate (NutraSweet)." and page 39 "Both glutamate and aspartame can cause neurons to become extremely excited and, if given in large enough doses, they can cause these cells to degenerate and die."

8. How do you justify adding "DEATH" as a SYMPTOM of aspartame in your report of documented symptoms? Or do you just consider it the "ultimate symptom"? And when a product that causes DEATH is given blanket approval how do you justify no safety monitoring?
9. How many complaints about aspartame/NutraSweet/Equal, etc. does it take for you to take action? In the early 80's there were 10,000 complaints and even then you were telling people you were not taking complaints. It was even discussed in Congress that the FDA was sending them to the Aids Hotline? In the past year countless people say you would not take complaints and in the 1996 report you say you had to destroy hundreds because you changed your bookkeeping system. Several organizations have existed since aspartame was approved warning the public and each of these have had hotlines with over 10,000 complaints. Mission Possible with operations around the world get case histories daily of those seriously ill and some even dying on this poison. Is it a policy that you won't list over 10,000 by not taking complaints or sending them somewhere else, or do you just constantly change your bookkeeping system! It is now estimated that 5 out of 7 people on aspartame already have symptoms or some disease!
10. Since the FDA does not mandate the reporting of aspartame side effects by health professionals, how many does the 10,386 (9,737-April 20, 1995 + 649 - early 1980s) complaints represent?
11. How can the FDA justify the remarks of their spokesperson on the 700 Club TV show (February 1994) who said: "further aspartame complaints by consumers would not make a difference in their deliberations." Do these remarks indicate a bias?

After two 700 club TV shows in January and February 1995, over 100,000 people sent for a fact sheet on aspartame and MSG!

12. Why does the FDA dismiss the rat' uterine polyps, mammary and ovarian tumors, marked atrophy of the testis, prostate, seminal vesicles, etc. in the FDA's 1977 Bressler Report, an investigation of lab practices of aspartame's manufacturer, G. D. Searle & Co. in Skokie, Illinois?
13. Why does the FDA dismiss the aspartame findings of:

Jeffrey Bada, Ph.D. Woodrow Monte, Ph.D. H. J. Roberts, M.D.
Russell Blaylock, M.D. John Olney, M.D. Ralph Walton, M.D.
Roger Columbe, Ph.D. Diana Dow-Edwards, Ph.D.

Is it the policy of the FDA to accept only the findings of the manufacturer that say its safe because of loyalty and dismiss the negative findings of world renowned physicians and researchers?

A good example of the way the game appears to be played is the way Dr. Dow-Edwards was treated. NutraSweet funded the aspartame on birth defects but when Dr. Dow-Edwards got disastrous results, rather than recall aspartame the NutraSweet Company withdrew the aspartame. Dr. Dow-Edwards finished the study. Then neither NutraSweet or the FDA would accept this study. Isn't the message clear? "If you won't say its safe we won't accept it, and neither will our loyal friends, the FDA."

14. Why do you allow the manufacturer to test its own product and accept their data without "independent" replications? Why weren't the original aspartame studies replicated and why do you stand behind Monsanto who wants to prevent this? Especially in the face of the original studies being a target for an indictment for fraud that was not carried out because two U.S. prosecutors decided to work for the law firm defending the case instead of doing their job. Quite a reward, wouldn't you say?
15. Why do you tell the public that aspartame was proven safe when what it proved is serious medical problems and cancer? FDA toxicologist Dr. Adrian Gross said in 1976 in a memo:

"The report of the Task force submitted in March 1976 in essence constituted a stinging indictment of Searle and it contained various recommendations for regulatory action including referral to the Justice Department for review of possible criminal violations of the law."

On Jan 10, 1977 in a 33 page letter, FDA Chief Counsel Richard Merrill recommended to U.S. Attorney Sam Skinner, a grand jury investigate Searle for "apparent violations of the Federal Food, Drug and Cosmetic Act 21 U.S.C. 355 and for concealing material facts and making false statements in reports of animal studies conducted to establish the safety of aspartame."

Since these studies were never replicated explain why the public should accept them as showing safety in light of the above statements? Especially explain how rats reported dead in the Bressler Report were listed as alive later in the document. Maybe the manufacturer can tell us how to work this trick on those who have perished from this poison!

16. Why did you approve aspartame in liquid based on the data of it in dry form? Why did the FDA officials tell the 3 member Board of Inquiry not to concern themselves with the liquid form?
17. Why do you mislead the public with an IFIC brochure on aspartame with false information? These false statements are answered in an attachment with the facts.

As an example: "Aspartic acid and phenylalanine are building blocks of protein and are found naturally in all protein-containing foods, including meats, grains and dairy products. Methanol is found naturally in the body and in many foods such as fruit and vegetable juices."

Why don't you tell the public that aspartic acid and phenylalanine are NEUROTOXIC when isolated from the other amino acids in protein and go past the blood brain barrier and deteriorate the neurons of the brain causing brain damage of varying degrees. In food phenylalanine may be 4% not 50% like in aspartame flooding the brain. And why don't you tell them that the phenylalanine in aspartame is genetically engineered in E. coli bacteria and breaks down into DKP or diketopiperazine, a brain tumor agent. In food unisolated from the other amino acids in protein it does not break down into a tumor agent!!!! And why don't you tell them the phenylalanine can concentrate the placenta and cause mental retardation, if the baby lives at all!

And why don't you tell the public that methanol is a cumulative poison that breaks down into formaldehyde and formic acid (ant sting poison) and causes metabolic acidosis? And why don't you admit

when methanol is in fruit or vegetables it is always accompanied by ethanol which is the antidote to methanol toxicity and takes it safely out of the body? And why don't you tell the public you don't slur your words when you eat an orange, go blind or die from methanol toxicity like Patricia Craine and Joyce Wilson did from aspartame?

From: Journal of Applied Nutrition, Volume 36, Number 1, 1984,
ASPARTAME: METHANOL AND THE PUBLIC HEALTH by Dr. Woodrow Monte

"Ethanol, the classic antidote for methanol toxicity, is found in natural food sources of methanol at concentrations 5 to 500,000 times that of the toxin. Ethanol inhibits metabolism of methanol and allows the body time for clearance of the toxin through the lungs and kidneys."

18. How do you consider one of the pivotal studies that approved aspartame, SC 18862, showing 6 out of 7 monkeys fed aspartame having grand mal seizures (1 died) as proving safety. Then you tell the public aspartame doesn't cause seizures! Wurtman's reports (MIT) on phenylalanine clearly explain how it lowers the seizure threshold of the brain! And you list 4 different types of seizures on your report of 92 documented symptoms!
19. Why when faced with the fact that you have approved a seizure triggering drug for the public you have done nothing to alert the FAA. As pilots continue to have grand mal seizures in the cockpits of commercial airliners how do you justify turning a blind eye and deaf ear when this is such a great hazard to aviation.

Both the U. S. Air Force and the Navy warned all pilots off aspartame in their publications.

In the Air Force journal, FLYING SAFETY, May 1992 it says:

"In pregnancy the effects of aspartame can be passed directly on to the fetus, even in very small doses. Some people have suffered aspartame related disorders with doses as small as that carried in a single stick of chewing gum. This could mean a pilot who drinks diet sodas is more susceptible to flicker vertigo, or to flicker induced epileptic activity. It also means that all pilots are potential victims of sudden memory loss, dizziness during instrument flight and gradual loss of vision."

Instead of telling the FAA to alert all pilots you open the floodgates pouring more of this poison into the marketplace with blanket approval. I can't help but wonder how you can muster the audacity to continue

your farce telling the public this deadly neurotoxin has been proven safe. Why don't you just put Monsanto's address on your stationery so the people know where you stand? On Hardcopy on 12/31/96 Continental pilot Haynes Dunn explained how he had a seizure losing his health and occupation. Another pilot admitted he completely blacked out. Nothing like having pilots having grand mal seizures and blacking out on commercial airliners flying a plane with hundreds of passengers! And what about the pilots lives or do you care? I guess to ask the question is to answer it. An American Airline pilot petitioned them to remove Equal but American kept their Monsanto account. And then pilot Virgil Culp died from it!

The FAA says they can't warn pilots off of aspartame as long as you say its safe. Here you are with a pivotal study in hand, SC 18862, that shows 6 out of 7 monkeys had grand mal seizures from using aspartame (7th died), and **KNOW WITHOUT A SHADOW OF A DOUBT IT CAUSES SEIZURES** and you **REFUSE** to tell the FAA to warn pilots. What kind of people are you anyway - this **TREMENDOUS** hazard to aviation which has already caused pilots to have seizures with a planeload of passengers and you do nothing but approve more of this poison. Your own report of symptoms list 4 different kinds of seizures in the population and Dr. Wurtman of MIT has mentioned these seizures from aspartame many times. So while U. S. Air Force and the U.S. Navy has already warned their pilots off the FDA simply shows more loyalty to Monsanto by dumping more of this seizure triggering drug on the public. And it doesn't take a rocket scientist to know if aspartame has 50% of phenylalanine in it, its going to lower the seizure threshold of the brain. Plus wood alcohol and the altitude make pilots particularly prone to problems.

You also know that wood alcohol (methanol) blinds, and have already had one petition to ban aspartame on this basis as people started losing their sight. You know this toxin causes people to have vertigo, and lose their equilibrium, on the FDA report as well. Yet, with full knowledge that pilots are flying planes with 300 and 400 passengers and can have seizures, lose their vision and equilibrium (and do), you continue to standby and do nothing. Do you not consider this irresponsible behavior by a Government agency that is suppose to protect the people from these kinds of poisons?

20. In October 1986 the Community Nutrition Institute in Washington, D.C. wrote a petition to ban aspartame because people were going blind. Why didn't you do it? In the 1980's Dr. James Bowen who also became deathly ill on aspartame told you it was mass poisoning of the

American public and more than 70 countries of the world. Why did again you turn a deaf ear? In his last paragraph he said: "In light of the above 4 points, I highly recommend that you deny in every way possible any subterfuge of respectability that the aspartame people have enshrouded themselves and their product in hopes of quickly denying its access to the worldwide marketplace. I write this, not believing that it will do the slightest bit of good in the sense of affecting the labeling issue per se, but that instead it might reach some honest, concerned, conscientious individuals in the process." It looks like more and more people know exactly what to expect from the FDA! Do you know how many people would still be alive if you had banned aspartame when you were petitioned?

21. When rats developed brain tumors in the original studies why did you not demand these studies be replicated?
22. Pate of the National Yogurt Assoc. petitioned that aspartame not have to be labeled in yogurt. What have you done about this? This would be against the labeling law that requires a PKU warning. But then Pate knows this since he was head of the National Soft Drink Assoc. who wrote a 30 page protest against aspartame being allowed in carbonated beverages. Then the NSDA switched sides and lobbied for NutraSweet! Do you know the reason why?
23. Why are companies like Coke allowed to have products like Fresca that contain aspartame in a machine that bears no PKU warning?
24. Why are drug companies not required to have aspartame labeled on the outer container with a PKU warning. In the case of Cherry Alka Seltzer, for example, it is not on the box and only on the insert. Therefore, people who have to read the labels to avoid this toxin would not realize until they opened the package it had aspartame in the product, and therefore have to take it back. And how many people would read the insert not seeing it on the box? And how many people carry magnifying glasses for this purpose?
25. What about other unpublished studies showing dangerous findings?
26. After refusing to approve NutraSweet for 16 years because of the brain tumor issue, knowing rats developed astrocytomas, why did you side with Monsanto instead of the people when Dr. John Olney brought this to the attention of the world as the population of heavy aspartame users begin to develop the very same rare brain tumor as the rats? Didn't you expect it?

Mr Betty Martine

The previous questions were composed and presented by:

Betty Martini, Founder
Mission Possible

The following comments are by an aspartame victim, and WebMaster of the "DORway to Discovery!" Internet WEB site now over 149 pages of information on aspartame.

As WEBMASTER of "DORway to Discovery", <http://www.dorway.com>

I would like to know why, as highly-paid PUBLIC SERVANTS, you are too busy to respond to anyone on the subject of aspartame. You only sent Senator Strom Thurmond your standard "canned" package of disinformation... the very same that the aspartame industry provides.

None of YOUR "answers" were factual or satisfactory... in any manner. If the FDA wants to resolve this growing HEALTH problem, it is time to recognize that the time is NOW... not later, to present the truth!

Answering the above twenty-six questions would be a good start, if answered completely, and truthfully, using ALL facts and common sense!

David Rietz

To: mailbox@aspartame.net

Subject: Open Letter to Ajinomoto, Aspartame Manufacturer

Dear Ajinomoto:

2004 02 11 10:00

You say your goal is to provide objective information about aspartame and that from time to time it has been the focus of unfounded criticism. Let's get this straight from the beginning, aspartame has been the focus of criticism for the 20 years it has been on the market as well as for the 16 years that the FDA was able to prevent its approval.

You say its your intention to let science speak for itself, so let's do just that. First of all, the FDA not only said it wasn't safe from the beginning but they also wanted Searle indicted. We all understand the power of the pharmaceutical company, even to the point that both U.S. Prosecutors, Sam Skinner and William Conlon hired on with the defense team, Sidley and Austin, and the statute of limitations expired.

If a product is safe you don't have to use psychomanipulation to get it approved. An internal G. D. Searle memo layed out the strategy. (Helling 1970): We have this on www.dorway.com labeled as Secret Trade Info, and it was released during Congressional Hearings. Here is an excerpt:

"At this meeting (with FDA officials), the basic philosophy of our approach to food and drugs should be to try to get them to say "yes," to rank the things that we are going to ask for so we are putting first those questions we would like to get a "yes" to, even if we have to throw some in that have no significance to us, other than putting them in a yes saying habit.

We must create affirmative atmosphere in our dealing with them. It would help if we can get them to get their people involved to do us any such favors. This would also help bring them into subconscious spirit of participation."

Just in case you're interested, Ajinomoto, you don't have to do this to get safe products approved. You simply have to submit honest studies. I was particularly interested in the last paragraph discussing DKP (diketopiperazine). Dr. John Olney, a world famous neuroscientist, who founded the field of neuroscience called excitotoxicity noticed that DKP, when nitrosated in the gut, produced a compound which was similar to N-nitrosourea, a powerful brain tumor causing chemical. Diketopiperazine is literally a cyclization of the entire aspartame molecule. And it arises from one of the carboxyl groups of the aspartic acid molecule reacting with the amine group of the phenylalanine molecule which is the way the amino acids always react with each other . Peptide bonds. Here is what Herbert Helling of Searle said:

"With the spoon-for-spoon, we have no way of estimating maximum likely abuse and hence need to utilize data based on almost complete conversion to DKP. If we include this use in the original FAP, we stand a good chance of ending up with nothing in the short run and nothing in the long run whereas the other approach would give us something in the short run and, quite likely as much as we would ever get in the long run. I think it becomes very important for us to start to get our sweetener into commercial channels as soon as possible to minimize the incentive that people now have to work on other sweeteners. Actions in the U.S. will tend to influence the actions in other countries as well."

Printed for Betty Martini <BettyM19@mindspring.com>

4/18/2002

So here is Searle admitting they have to consider almost complete conversion to a brain tumor agent and they don't want the FDA to know because they won't approve it. They could care less that humans would develop brain tumors just like the rats. And they did everything they could to cover up the brain tumor issue. Even in the FDA audit, the Bressler Report (on DORway) it is discussed how they would excise the brain tumors from the rats and then put them back in the study, and when the rats died they just resurrected them on paper. From the FDA Task Force Report here are just a few of the relevant findings:

a. "Excising masses (tumors) from live animals, in some cases without histologic examination of the masses, in others without reporting them to the FDA." (Schmidt 1976c, page 4 of US Senate 1976b). Searle's representatives, when caught and questioned about these actions, stated that "these masses were in the head and neck areas and prevented the animals from feeding." (Buzzard 1976a)

(Martini: Frankly, a burglar could think of a better alibi! And just how many brain tumors were excised that weren't caught?)

"Failure to report to the FDA all internal tumors present in the experimental rats, e.g. polyps in the uterus, ovary neoplasms as well as other lesions." (Gross 1987a, page 8)

b. G. D. Searle "stored animal tissues in formaldehyde for so long that they deteriorated." (Gordon 1987, page 496 of US Senate 1987; US Schmidt 1976c, page 25, 27 of US Senate 1976b)

c. "Instead of performing autopsies on rhesus monkeys that suffered seizures after being fed aspartame, the company had financed a new monkey seizure study with a different methodology that showed no problems." (Gordon 1987, page 496 of US Senate 1987)

d. "Reporting animals as unavailable for necropsy when, in fact, records indicate that the animals were available, but Searle choose not to purchase them." (Schmidt 1976c, page 5 of U.S. Senate 1976b)

e. "Animals which had died were sometimes recorded as being alive and vice versa. "These include approximately 20 instances of animals reported as dead and then reported as having vital signs normal again at subsequent observation periods." (Gross 1985, page S10835)

f. "Selecting statistical procedures which used a total number of animals as the denominator when only a portion of the animals were examined, thus reducing the significance of adverse

effects." (Schmidt
1976c, page 4 of US Senate 1976b)

g. G. D. Searle told the FDA that 12 lots of DKP were manufactured and tested in one study, yet only seven batches were actually made. (Gross 1985, page S10835).

h. "Significant deviations from the protocols of several studies were noted which may have compromised the value of these studies In at least one study, the Aspartame 52 week monkey study, the protocol was written after the study had been initiated." (Gross 1985, page S10835)

i. "It is significant to note that the Searle employee responsible for reviewing most of the reproduction studies had only one year of prior experience, working on population dynamics of cotton tail rabbits while employed by Illinois Wildlife Service. In order to prepare him for this title of 'Senior Research Assistant in Teratology' (fetal damage) Searle bought him books to read on the subject and also sent him to a meeting of the Teratology Society. This qualified him to submit 18 of the initial tests to the FDA, in addition to training an assistant and 2 technicians. He certainly must have kept them busy because Searle claimed that 329 teratology examinations were conducted in just 2 days. He estimated that he himself examined about 30 fetuses a day, but officials for the Center for Food and Applied Nutrition could never determine how that was possible." Graves 1984, page S5500, Congressional Record 1985a)

j. "In each study investigated, poor practices, inaccuracies, and discrepancies were noted in the antemortem phases which could compromise the study." (Gross 1985, page S10836 of Congressional Record 1985b)

k. "Presenting information to FDA in a manner likely to obscure problems, such as editing the report of a consulting pathologist ... Reporting one pathology report while failing to submit, or make reference to another usually more adverse pathology report on the same slide." (Schmidt 1976c, page 4 - 5 of US Senate 1976b)

l. Animals were not removed from the room during the twice per month exterminator sprayings. (Gross 1985, page S10836 of Congressional Record 1985b)

- m. Often the substance being tested which was given to the animals was not analyzed or tested for homogeneity. "No records were found to indicate that any treatment mixtures used in the studies were ever tested or assayed for pesticide content ... Running inventory records for either treatment mixtures or the test compounds used in treatment mixtures are not maintained." (Gross 1985, page S10836 of Congressional Record 1985b)
- n. In the aspartame (DKP) 115 week rat study the written observations of the pathology report was changed by the supervising pathologist, Dr. Rudolph Stejskal even though he was not physically present during the autopsies and could not have verified the observations of the pathologist who did perform the autopsies. The pathologist who did perform some of the autopsies had no formal training for such procedures. (Gross 1985, page S10837 of Congressional Record 1985b).
- o. "Contrary to protocol, slides were not prepared of this (unusual lesions from the aspartame (DKP) study tissue for microscopic examinations ..." (Gross 1985, page S10837 of Congressional Record 1985b)
- p. "In the aspartame 46 weeks hamster study, blood samples reported in the submission to FDA as 26 week values (for certain specified animals) were found by our investigators as being, in fact, values for different animals which were bled at the 38th week. Many of the animals for which these values were reported (to the FDA) were dead at the 38th week." (Gross 1985, page S10838 of Congressional Record 1985b).
- "It is apparent from the report, that the Appendix portion contains all the individual (animal) values of clinical lab data available from the raw data file. A selected portion of these values appears to have been used in computing group means (which were reported to the FDA). It is not clear what criteria may have been used for selecting a portion of the data or for deleting the others in computing the means (reported to the FDA)." (Gross 1985, page S10838 of Congressional Record 1985b)

r. (There were) "clerical or arithmetic errors which resulted in reports of fewer
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tumors." (Schmidt 1976c,
page 27 of US Senate 1976b).

s. (G. D. Searle) "delayed the reporting of alarming findings." (Schmidt 1976c, page 27 of US Senate 1976b).

So you say it is your intention "to let the science speak for itself"! Here it is Ajinomoto, all a matter of public record!!! If you want the science to speak for itself, how come you don't have these records on your site?

FDA Toxicologist and Task Force member, Dr. Andrian Gross really summed it up (Wilson 1985):

"They (G. D. Searle) lied and they didn't submit the real nature of their observations because had they done that it is more than likely that a great number of these studies would have been rejected simply for inadequacy. What Searle did, they took great pains to camouflage these shortcomings of the study. As I say filter and just present to the FDA what they wished the FDA to know and they did other terrible things for instance animals would develop tumors while they were under study. Well they would remove these tumors from the animals."

This is the kind of science that approved aspartame (NutraSweet/Canderel/Benevia/Equal, etc.) And there is no way to hide it because it's in the public domain. How come you don't have the FDA audit, the Bressler Report on your web site. You're welcome to take it off www.dorway.com After all, you want the science to speak for itself, don't you?

FDA Lead Investigator and Task Force Team Leader, Phillip Brodsky described the 1976 FDA Task Force members as some of the most experienced drug investigators. He went on to state that he had never seen anything as bad as G. D. Searle's studies (Graves 1984; page S5499 of congressional Record 1985a).

The report quoted a letter written to G. D. Searle on July 15, 1975 from its consultant in reproduction and teratology, Dr. Gregory Palmer, in regards to a review of some of G. D. Searle's reproductive studies submitted to the FDA (Gross 1985, page S10838 of Congressional Record 1985b):

"Even following the track you did, it seems to me you have only confounded the issue by a series of deficiencies or obvious lack of expertise in animal management. Because of these twin factors, all the careful and detailed examination of fetuses, all the writing, summarization and resummarization is of little avail because of the shaky foundation."

This reminds of what Dr. Jacqueline Verrett, a former FDA toxicologist, and also member of the Task Force that investigated the authenticity of research done by Searle to establish the safety of aspartame, said, and that was that she believes the original aspartame studies were "built on a foundation of sand." (Testimony of Dr. Jacqueline Verrett, FDA Toxicologist, before the U.S. Senate committee on Labor and Human Resources, regarding "NutraSweet Health and Safety Concerns," (November 3, 1987). She testified that flawed tests conducted by Searle - used as the basis of FDA approval - were a "disaster" and should have been "thrown out." She said she believed the studies left many unanswered

questions about possible birth defects and the safety of aspartame. And she let it be known that the team was instructed not to be concerned with, or comment upon, the overall validity of the study. She said a subsequent review discarded or ignored the problems and deficiencies outlined by her team's original report. She said, "serious departures from acceptable toxicological protocols" that her investigative team noted in the reevaluation of these studies were also discounted. She warned that any of the improper practices would compromise and negate a safety study of a food additive. Verrett concluded the data in the study was worthless, and the safety of aspartame and its breakdown products have therefore not been determined.

She emphasized that aspartame exists in the marketplace without basic toxicity information. She said there are no data to assess the interactions with DKP, excess phenylalanine, other aspartame metabolites, additives, drugs or other chemicals. In her testimony, Verrett elaborated on DKP problems, including significant increases of uterine polyps and changes in blood cholesterol. DKP is formed when liquids in particular are pre-sweetened with aspartame. The production of DKP is vulnerable to increase in temperature, and higher temperatures produce increasing amounts of DKP. She reminded members of the Congressional Committee "that is why initially, aspartame was not intended or not planned to be used in liquids because of this decomposition ... it was decided it was too unstable to be used in hot preparations, hot liquids and also in diet drinks."

And since you're so interested in letting science speak for itself, I would suggest that you also put on your web site the 30 page protest by the National Soft Drink Association which goes into detail about decomposition of aspartame even mentioning the law that forbids putting anything into drinks that decompose or adulterates it. It was made part of the Congressional Record for this reason and can be accessed on the DORway web site.

You mention a GAO Report which, incidentally, can be accessed from the GAO web site in full. It speaks of holding a Public Board of Inquiry to discuss safety issues surrounding aspartame's approval and forming a panel to advise the Commissioner. How come your web site doesn't discuss the fact that this Board of Inquiry not only advised the Commissioner not to approve aspartame but stated it had not been proven safe and the petition is revoked. You will find the summation of that report on www.dorway.com and soon we will have the ENTIRE report scanned in for the world to read.

It should be noted at this point that the FDA steadfastly refused to approve aspartame. No Commissioner would do it. But Searle had built a \$19 million dollar NutraSweet factory and had \$9 million dollars worth of inventory. So they hired now Secretary of Defense, Donald Rumsfeld, a veteran political operative, who was adept at the vulgar art of public relations. A house politician was precisely what Searle needed to compensate for the damage done by independent researchers concerned about the toxic effects of aspartame. Rumsfeld said he would call in his markers and get aspartame approved. This is documented in the 8 month investigation by United Press International and in the congressional record.

The day after President Reagan took office he appointed Dr. Arthur Hull Hayes as FDA Commissioner. Hayes was intent on getting aspartame approved but the Board of Inquiry told him he couldn't do it because aspartame had not been proven safe and had produced brain tumors. So Ajinomoto came to the rescue by telling Hayes they had done a study and he didn't have to worry about the brain tumor issue. But your study showed brain tumors as well. Hayes acknowledged in his 1981 decision that he had only consulted a

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preliminary report of the Japanese evaluation, and only skimmed it. More serious, Hayes violated federal law by basing approval on the test, as it had not been reviewed by the FDA board. He has refused to talk to the press ever since.

So Ajinomoto, why don't you really tell the world the facts, that the FDA said not to approve aspartame, that it was not proven safe, and had you not interfered it would not be on the market today.

As to this statement: "Furthermore, when questions were raised about the Searle studies, FDA had an outside group of pathologists review crucial aspartame studies. GAO found that throughout aspartame's approval history, the FDA addressed safety issues raised internally and by outside scientists and by concerned citizens."

In reality the failure to challenge the MANUFACTURER'S contract with Universities Associated for Research and Education in Pathology (UAREP) was a great shortcoming. This private group was engaged to determine the factual accuracy of prior aspartame studies - BUT with the stipulation that UAREP "shall not express an opinion regarding either the design or safety significance of these studies, nor make recommendations about the safety of aspartame for human use! Dr. M. Adrian Gross also challenged the credentials of UAREP relative to its ability to assess prior aspartame studies.

And how did it happen? On August 4, 1976, G. D. Searle representatives met with the FDA and CONVINCED them to allow G. D. Searle to hire this private agency, UAREP, and pay them \$500,000 to "validate" 12 studies. (Gordon 1987 page 498 of US Senate 1987). A half a million dollars to be sworn to silence!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Also, since you tell people that aspartame does not get into the blood we have just scanned one of the original studies used as pivotal in the approval of this toxin on www.dorway.com This is the 52 week oral toxicity study where 7 infant monkeys were fed aspartame. Five had grand mal seizures and one died. I fail to see how this study shows safety. It does say that the grand mal seizures were caused by the HIGH SERUM PHENYLALANINE LEVELS. That's in the blood. And if that's not significant for you, one of the pivotal studies, use a pro-industry book, Aspartame, Physiology and Biochemistry, Marcel Dekker, Inc., New York, L.D. Stegink and L. J. Filer, Jr. 1984. This is significantly corporate sponsored.

Page 161: TISSUE DISTRIBUTION OF ORALLY ADMINISTERED ISOTOPICALLY LABELED ASPARTAME IN THE RAT Yoshimasa Matsuzawa and Yuichi O'Hara, Life Science Laboratory, Central Research Laboratories, Ajinomoto Company, Inc. Yokohama, Japan As you notice, this is YOUR OWN WORK!!!

Page 162: RESULTS: Phenylalanine Moiety: "The pattern of distribution of (U-14CPhe) aspartame following its oral administration was very similar to that of (U-14C) phenylalanine after 0.5, 2.6 and 24 hr and 7 days. Thirty minutes after administration of these compounds, very high levels of radioactivity were observed in the lumen of the stomach and upper small bowel. Significant uptake of radioactivity was observed in the pancreas, gastrointestinal mucosa, hair follicles, salivary gland and liver. Radioactivity was observed in the kidney, adrenal gland, bone marrow, spleen and eye. Some radiolabel was localized to the BRAIN, SPINAL CORD (emphasis added) heart, thymus, lung and testes.

As you see, its all a matter of public record. You talk about unfounded controversy, when in fact, there is good reason for the outrage of the public. Aspartame should never have been approved, it is indeed, a chemical poison made up of three neurotoxins. As soon as aspartame was put on the market consumers over-flowed the FDA with complaints. So many complaints that it was admitted in congressional hearings that the FDA was actually referring people to the AIDS Hotline to get rid of them. Senator Orrin Hatch who was paid by Monsanto after they bought Searle in 1985 did all he could to prevent congressional hearings and even when he couldn't stop them any longer did a hatch job so that a bill written by Senator Metzenbaum for the National Institutes for Health to do independent studies on the problems being seen in the population never got out of committee. They had to prevent independent studies because they would have no control over them. And we have documented the flawed industry research.

In 1996 when Dr. John Olney made world news over the aspartame/brain tumor issue, it was Dr. Ralph Walton who accompanied him on 60 Minutes with peer reviewed research. He showed that 92% of independent research not controlled or financed by the manufacturer, peer reviewed, showed the problems with aspartame. And if you removed one pro-industry review and 6 studies the FDA had something to do with, it was actually 100%.

Since aspartame was approved there have been organizations warning all consumers off this neurotoxin. Today Mission Possible operations exist in 50 states and 22 countries of the world. It's a hands around the world humanitarian effort to alert the public of the deadly effects of this toxin. Nobody is paid and there is no motive except to save the human race.

There is an Aspartame Toxicity Center and even Aspartame Detoxification Centers to detoxify those who have consumed aspartame. The Trocho Study has shown without a shadow of a doubt that the formaldehyde converted from the wood alcohol accumulates in the cells and damages DNA. When you damage DNA you can destroy the human race. As Dr. James Bowen's papers on web show, aspartame also damages the mitochondria of the cell. Medical reports by Doctors H. J. Roberts and neurosurgeon Russell Blaylock discuss the damage to the cardiac conduction system which can result in sudden death. A new medical text Aspartame Disease: An Ignored Epidemic by H. J. Roberts, M.D., www.aspartameispoison.com or www.sunsentpress.com has 1038 pages of symptoms and diseases triggered by this neurotoxin including a chapter on drug interactions. To think that we have a deadly chemical poison, a neurotoxic drug, a chemical hypersensitization product marketed in food and drug in 100 countries of the world is a crime against humanity. The chapter on drug interactions shows that aspartame interacts with just about every drug used to treat the problems it triggers.

In the meantime, Monsanto in its flawed research has tried to show that aspartame does not trigger the problems being reported such as seizures. For instance, take their Rowen Study in 1995. 16 of the 18 subjects were taking anti-seizure medication. The study consisted of only a single dose of aspartame ingestion, one capsule!!!! Also capsule administration of aspartame slows the absorption of methanol and may reduce its toxicity somewhat similar to the way ingestion of food with methanol may slightly reduce its toxicity (Posner 1975). Capsule administration of aspartame also eliminates the quick absorption of the excitotoxin, aspartic acid (Stegink 1987). When aspartic acid is absorbed quickly, it can be excitotoxic (Blaylock 1994, Olney 1980) especially in conjunction with formaldehyde derived from methanol.

This is sort of tantamount to giving someone a sip of Diet Coke and saying "see, no seizure". This is on Medline as if it was some big deal and now Monsanto can say they have proven aspartame doesn't trigger seizures. In reality all it proves is this study can only apply to people who ingest a single dose of encapsulated aspartame while taking anti-seizure medication. Not only is this study worthless, but key information was not put in the abstract, namely, the fact that the subjects were on anti-seizure medication and that the aspartame was given in capsules.

Yet, when you have 20 years of reactions over and over again from victims using aspartame, recorded in clinical observation by eminent physicians the manufacturer calls the drug reactions - anecdotes.

The modus operandi of NutraSweet has always been to lie and deny and call names. I report these findings and you call me fear mongering. When I lectured for the World Environmental Conference and an email made world news, you heard such words as toxic terrorists! www.dorway.com/nomarkle.html tells the whole story.

Physicians reports and books on the dangers of aspartame are rebutted as they are attacked because they have the courage to alert the public of the true facts. These physicians are men of integrity, heroes of the world, who refuse to sell out to industry, and care more about the health of consumers than checks from industry. It is well known in a court of law that for every true scientist or physician who will give the real facts, industry can come up with a physician or scientist to defend them and say just the opposite.

Industry funds the professional organizations and push their propaganda. You mention the MS Foundation and Dr. David Squillacote's notice. This again had to do with when I lectured for the World Environmental Conference, and if this doctor had anything to say he believed in, he would have answered my letters. But he couldn't rebut the facts so he ignored them. It took 6 years from the time I first lectured for the WEC for anyone to ever contact me. My answers to this woman which included many medical reports is now on www.dorway.com/nomarkle.html for the world to read the truth.

If you call my exposing the records as scare mongering and a disservice, what should we call Ajinomoto and all aspartame manufacturers for poisoning the world, and what kind of service to the world do you call pushing propaganda instead of facts? James Bowen, M.D. wrote the FDA many years ago (on web) and said that aspartame is mass poisoning of the American public and more than 70+ countries of the world (now 100). He said: "...the only responsible action would be to immediately take aspartame off the market, fully disclose its toxicities, offer full compensation to the injured, public and criminally prosecute anyone who participated in the fraudulent placement of aspartame on the marketplace. That includes those who work so diligently to keep it on the market as well." Dr. Bowen is a victim himself suffering with Lou Gehrig's symptoms just like many of the servicemen who served in the Persian Gulf and drank the diet drinks cooking in the 120 degree Arabian sun. A new study has shown Desert Storm Syndrome to be Lou Gehrig's. Aspartame destroys the central nervous system and mimics MS as well as causing Lou Gehrig's symptoms. And a very serious issue is the fact that it is a chemical hypersensitization agent and interacts with vaccines and other toxins and additives. Many on the support groups even react to GM foods which consumers never asked for, Frankenfoods!

Obviously, the issue of the approval of aspartame for market has violated every principle of responsible science and responsible government. First of all, in this country an additive must be inert or non-reactive and here we are with a neurotoxic drug that interacts with just about every drug used to treat the problems it causes. Aspartame interacts with Premarin, Dilantin and like anti-seizure medication, insulin, Dilaudid, L-dopa, antidepressants, Coumadin and cardiac medication for starters. Now at least we have a medical text for physicians and consumers to untie the hands of doctors who were kept from getting the real data that would allow them to diagnose accurately.

And your little PR campaign to try and prevent the press from writing articles won't help you. I give more credit to the press who have excellent investigative reporters and have the ability to distinguish fact from fiction.

I look forward to the day when we get this toxin off the planet and no longer have to worry about babies (as well as adults) suffering seizures, people dropping dead, going blind, getting brain tumors, and suffering from more than the 92 documented symptoms on the FDA list and the many diseases as documented in the new medical text.

Aspartame has destroyed families. As Dr. Bowen said in *Aspartame Murders Infants*, "At every point in the fertility process aspartame destroys, beginning with the gleam in Mom and Pop's eyes. It ruins female sexual response and induces male sexual dysfunction. Beyond this aspartame disrupts fetal development by aborting it or inducing defects. And if a live child is born aspartame may have heinously damaged the DNA of the baby, cursing future generations." You didn't even have the decency to put a warning for pregnant women. And you push this toxin on diabetics when you know it can precipitate diabetes, keeps blood sugar out of control, interacts with insulin, destroys the optic nerve and can even cause diabetics to go into convulsions. You market a drug that has wood alcohol or methanol in it which is classified as a narcotic and converts to formaldehyde and formic acid even in the retina of the eye and blinds.

And I'm sure you know about the studies done in South America by Searle and never published where humans developed brain tumors and had grand mal seizures. Some even died. These studies showed aspartame destroys the central nervous system and the brain and even hardens the synovial fluids which accounts for the agonizing joint pain aspartame victims suffer.

Today 100,000 web sites are warning consumers off aspartame and there is no way for you to win. I leave you with a challenge. If you really want the people to have the facts, then put the government records on your web site (now on www.dorway.com), the secret trade information, the protest of the National Soft Drink Association, part of the Congressional Record, the Bressler Report (FDA audit), the entire investigation by the Center for Disease Control, all 146 pages, the summation of the Board of Inquiry telling the FDA not to approve aspartame, FDA toxicologist, Dr. Adrian Gross' letters to Senator Metzenbaum outlining what was found on studies, testimony before Congress by various physicians including Dr. Louis Elsas, the FDA report of 92 symptoms, the pivotal 52 week oral toxicity study showing aspartame to be a seizure triggering drug, Dr. Ralph Walton's peer reviewed research, etc. And stay tuned because we are adding even more government records including the entire congressional record. But if you're afraid of the facts and you don't want the public to know the truth, you won't. In that case, we'll just send this letter around the world.

I know one day they will pin metals on the physicians who have had the courage to alert the public, write the books that have exposed the dangers of aspartame and written the reports you have tried to attack. The approval of aspartame will go down in history as one of the greatest scandals in this country, the mass poisoning of the US and 100 countries of the world. You can count on it.

Mrs. Betty Martini

Betty Martini, Founder, Mission Possible International, 9270 River Club Parkway, Duluth, Georgia 30097, www.dorway.com

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Answering Monsanto's Denial Of The Aspartame/Brain Tumor Issue

By Betty Martini
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8-5-99

An Aug 3 news release said research is to be carried out on whether there are possible links between aspartame and brain cancer. This is to be headed by neurochemist Dr. Peter Nunn of Kings College in London.

Monsanto (NutraSweet) says: "It is physiologically impossible for aspartame to cause brain tumors because it never enters the bloodstream and thus cannot travel to essential organs, including the brain."

Aspartame is a molecule composed of three components, aspartic acid, methanol and phenylalanine. H. J. Roberts, M.D., says in Aspartame (NutraSweet) Is It Safe?

Page 30: "After ingestion there is a rapid breakdown and absorption of aspartame within the upper gastrointestinal tract. This results in a prompt rise of the two amino acids in the bloodstream."

Page 32: "Influence of Method of Administration" Both phenylalanine and aspartame concentrations in the blood plasma are

significantly higher when aspartame is given as a solution rather than in capsule form."

Aspartame, Physiology and Biochemistry, Marcel Dekker, Inc., New York, L.D. Stegink and L. J. Filer, Jr., 1984 (Pro industry, Significantly Corporate Sponsored!!) Searle was original manufacturer, bought by Monsanto in 1985

Page 161: TISSUE DISTRIBUTION OF ORALLY ADMINISTERED ISOTOPICALLY LABELED ASPARTAME IN THE RAT Yoshimasa Matsuzawa and Yuichi O'Hara, Life Science Laboratory, Central Research Laboratories, Ajinomoto Company, Inc. Yokohama, Japan

Page 162: RESULTS: Phenylalanine Moiety: "The pattern of distribution of (U-14CPhe) aspartame following its oral administration was very similar to that of (U-14C) phenylalanine after 0.5, 2.6 and 24 hr and 7 days. Thirty minutes after administration of these compounds, very high levels of radioactivity were observed in the lumen of the stomach and upper small bowel. Significant uptake of radioactivity was observed in the pancreas, gastrointestinal mucosa, hair follicles, salivary gland and liver. Radioactivity was observed in the kidney, adrenal gland, bone marrow, spleen and eye. Some radiolabel was localized to the BRAIN, SPINAL CORD, (emphasis added) heart, thymus, lung and testes.

In real world demographic studies that could be dated from July, 1981 when aspartame became commercially available, Dr. Roberts in DOES ASPARTAME CAUSE HUMAN BRAIN CANCER?, Journal of Advancement in Medicine, Volume 4, Number 4, Winter 1991, emphasized the extraordinary rise of primary brain lymphoma in persons who were not immunosuppressed within one or two years after the availability of aspartame products. -- and for which no other reasonable cause could be identified. Primary brain lymphoma had been a rare brain tumor prior to that time; subsequently there was a striking rise of other more common primary brain tumors within several years after the availability of aspartame in soft drinks and other products, beginning July, 1983. These data on brain cancer statistics were regarded by the American Cancer Society statisticians as significant, and for which no other cause was apparent. Dr. Roberts report was a milestone publication, presented 15 years after the previous demonstration of high incidence of brain tumors in rats given aspartame. Indeed, these experimental studies were the reason

that FDA scientists, consultants for the GAO, and a Public Board of Inquiry had urged the FDA Commissioner NOT TO APPROVE aspartame for human use. Unfortunately, a new FDA Commissioner ignored these warnings. In subsequent letters and books by Dr. Roberts, including a communication published in *Lancet*, Vol. 349, Feb 1, 1997, Roberts reemphasized the matter, and urged the FDA to declare aspartame products an imminent public health threat for their potential carcinogenic, neurologic, psychiatric, metabolic and fetotoxic potential based on a clinical database now exceeding 1300 aspartame reactors.

As further refutation of assertions by the manufacturer, and the FDA that there are no evidences for severe neurotoxicity, Dr. Roberts and others have listed and reviewed many reports to the contrary -- with emphasis on corporate - neutral studies involving "real world" products subjected to heat and storage. Even corporate - sponsored studies affirmed the matter. For example, one of 15 pivotal studies submitted to the FDA for approval of aspartame was a "52 Week Oral Toxicity Infant Monkey Study (SC-18862). This study orally dosed aspartame to seven infant Rhesus monkeys in work conducted at the University of Wisconsin Medical Center at Madison. Reported in 1972. The study reported "All animals in the medium and high dosage groups exhibited seizure activity. Seizures were observed for the first time following 218 days of treatment. The seizures were of the grand mal type.. One monkey, m38 of the high dose group, died after 300 days of treatment. The cause of death was not determined .." The study correlates brain seizures with high amounts of phenylalanine ingested by the monkeys. The study determined: "following the end of the experiment, medium and high dose monkeys were kept under observation for three months. No further convulsions were detected during this period." In other words, once the aspartame was withdrawn from the monkey's diets, the brain seizures ceased. Monsanto spokesperson Dr. Robert Moser has said that aspartame does not enter the blood stream. The data revealed by this "pivotal" study submitted to FDA renders false Moser's assertion that Aspartame does not enter the blood stream. Elevated levels of phenylalanine in the blood of monkeys fed medium and high levels of Aspartame prove that the compound is absorbed into the blood stream. The brain seizures followed. How could FDA claim a "pivotal " study in which all of the medium and high dose monkeys suffer brain seizures, confirm Aspartame's safety for humans?

Neurosurgeon Russell Blaylock, M.D. in *Excitotoxins: The Taste*

That Kills explains that for every molecule of aspartame metabolized, a molecule of methanol was released into the blood stream. An EPA assessment of methanol states that methanol "is considered a cumulative poison due to the low rate of excretion once it is absorbed" The absorbed methanol is then slowly converted to formaldehyde by alcohol dehydrogenase in the liver (DHHS 1993a, Liesivuori 1991). The formaldehyde is then converted to formic acid by aldehyde dehydrogenase in the liver, by formaldehyde dehydrogenase in the blood or through the tetrahydrofolic acid dependent, one-carbon pool (Liesivuori 1991). Methanol thus breaks down into formaldehyde and formic acid in the body. Journal of the Diabetic Assoc. of India, A Health Alert, Emerging Facts About Aspartame, Vol. No. 35, No. 4: 1995, J. Barua, A. Bal

During Congressional Hearings on aspartame there was voluntary submission of Trade Secret Information, Document 31. This had to do with Food and Drug Sweetener Strategy on getting aspartame approved and says in the last paragraph: "With the spoon-for-spoon, we have no way of estimating maximum likely abuse and hence need to utilize data based on almost complete conversion to DKP. If we include this use in the original FAP, we stand a good chance of ending up with nothing in the short run and nothing in the long run whereas the other approach would give us something in the short run and quite likely as much as we would ever get in the long run." ..

DKP is diketopiperazine and has been implicated in the occurrence of brain tumors. Dr. John Olney, noticed that DKP, when nitrosated in the gut, produced a compound which was similar to N-nitrosoourea, a powerful brain tumor causing chemical.

What is so serious about this situation is that Searle knew before they marketed aspartame that the phenylalanine would break down to DKP, and they didn't think they could get it approved if the FDA found out. Indeed, rats developed brain tumors in original studies. An FDA toxicologist who tried to stop the approval of aspartame, the late Dr. Adrian Gross, told Congress that because aspartame was capable of producing brain tumors and brain cancer, FDA should not have been able to set an allowable daily intake of the substance at any level. He said at least one of Searle's studies "has established beyond any reasonable doubt that aspartame is capable of inducing brain tumors in experimental animals and that this predisposition of it is extremely of high significance..In view of these indications that the cancer causing potential of aspartame is a matter that had been established way beyond any reasonable doubt, one can ask: What is

the reason for the apparent refusal by the FDA to invoke for this food additive the so-called Delaney Amendment to the Food, Drug and Cosmetic Act?" The Delaney Amendment makes it illegal to allow any residues of cancer causing chemicals in foods. The concluding testimony of Dr. Gross will never be forgotten. He asked: "Given the cancer causing potential of aspartame, how would the FDA justify its position that it views a certain amount of aspartame as constituting an allowable daily intake or 'safe' level of it? Is that position in effect not equivalent to setting a 'tolerance' for this food additive and thus a violation of that law? And IF THE FDA ITSELF ELECTS TO VIOLATE THE LAW, WHO IS LEFT TO PROTECT THE HEALTH OF THE PUBLIC?" (Emphasis added).
Congressional Record SID835:131 (August 1, 1985)

In Nov 1996 John W. Olney, M.D, reported that brain tumor rates had risen for 17 years with a sudden 10% increase three years after aspartame was introduced. Olney linked aspartame's mutagenicity to the function of aspartate as an excitotoxic neurotransmitter. Dr. Olney appeared on 60 Minutes and with him Dr. Ralph Walton who declared that only NutraSweet funded studies showed safety and that 83 of 90 independent studies show it harmful. This year world famous toxicologist, George Schwartz, M.D., in writing to Monsanto said: "By ignoring the scientific studies which disagree with your position, you are doing a great disservice to consumers. Further, you may have created base for litigation against your company by denying the existing science." (letter on www.dorway.com)

Dr. H. J. Roberts has now declared Aspartame Disease to be a world epidemic and is in the process of publishing a 700 page medical text on the world plague.

Suggested documents to review:

FDA audit, Bressler Report CDC Investigation Protest of National Soft Drink Association

Letters from Dr. Adrian Gross to Senator Metzenbaum

Affidavit from N. Vera, translator, that studies were done in South America on humans that showed aspartame triggered brain tumors and seizures, and were never published by Searle.

These documents on www.dorway.com

Betty Martini, Founder

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Mission Possible Intl is a worldwide volunteer force alerting consumers aspartame is a neurotoxin. Two support groups have been set up on the Internet for the victims of Aspartame Disease.

The important thing is in intact human beings who are exposed to this on a sustained level, not just with just a couple of doses or so , its cumulative. (Said by H. J. Roberts, M.D.)

1. Take the 60-day No Aspartame Test and send us your case history.

Mission Possible International
9270 River Club Parkway
Duluth, GA 30097 USA
770-242-2599

2. Tell your doctor and all of your friends!

3. Return Asparcidal food to the store.
(anything with Monsanto's
NutraSweet/Equal/Spoonful/Benevia/NatraTaste)

VISIT <http://www.dorway.com> Get links to over 200 sites on aspartame

VISIT <http://www.holisticmed.com/aspartame/> FAQs & Cases

VISIT <http://www.notmilk.com> Exposing Bovine Growth Hormone

VISIT <http://www.icanect.net/sunpress/> Books on aspartame by Dr. Roberts

Disability and Death are not acceptable costs of business!

RALPH G. WALTON, M.D.

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CASE REPORT

Seizure and mania after high intake of aspartame

The fairly widespread use of the artificial sweetener aspartame (*N*-L- α -aspartyl-L-phenylalanine 1-methyl ester), marketed under brand names such as Canderel, Equal, NutraSweet, and Tri-Sweet, has engendered considerable controversy, including suggestions of significant neurochemical changes.¹ Data presented by Wurtman¹ indicate that aspartame alone can almost double rat brain phenylalanine levels, while aspartame-carbohydrate combinations can raise brain tyrosine levels and suppress the physiologic increase in tryptophan that follows a carbohydrate-rich meal.² Such neurochemical changes could certainly be postulated to have potential behavioral impact, particularly in predisposed individuals. The following case is presented as a possible instance of such impact.

Case report

A 54-year-old married woman with no known medical difficulties other than a 20-year history of a unipolar affective disorder, initially treated for several years with psychoanalytic psychotherapy, continued to experience recurrent major depressive episodes until she was started 11 years ago on imipramine, 150 mg at bedtime. A dramatic response to this tricyclic had occurred. However, whenever the medication had been discontinued or tapered below 150 mg/d, she experienced a breakthrough of depressive symptomatology within several weeks. A decision was thus ultimately made for maintenance on imipramine at the 150 mg/d dosage at bedtime.

The patient had been taking this agent at this level for five

years, with semiannual psychiatric visits for renewal of her prescription and brief assessment of mental status, when she suddenly experienced a grand mal seizure, followed by a profound behavioral change. Immediately after the seizure she was hospitalized for a neurologic evaluation, including CT scan. The evaluation did not elucidate the etiology of her seizure. During the hospitalization a psychiatric consultation was obtained because of euphoria, thought by the patient's internist to be quite out of character. At the time of the consultation she displayed psychomotor acceleration, flight of ideas, and grandiosity. The imipramine was discontinued and the possibility of using lithium carbonate raised, but the patient insisted on going home and was discharged on no medication.

At home she continued to display manic symptomatology, including insomnia, flight of ideas, irritability, and psychomotor acceleration. After three weeks the family insisted on psychiatric hospitalization. On admission, a diagnosis of mania was made and the patient was started on lithium carbonate, 300 mg qid. Two days after admission it was learned that it had been her custom to consume large amounts of iced tea (both she and her family reported that during the summer months her daily intake of it approached one gallon). In years past she had sweetened the tea with sugar. However, during the several weeks prior to the seizure and onset of mania, because of concern about her weight, she had used an iced tea preparation sweetened with aspartame.

As it was thought that the behavioral disturbance could be secondary to massive ingestion of aspartame, the lithium carbonate was discontinued, and within four days all evidence of manic activity had subsided. The patient was discharged six days after admission and appeared to be at her baseline level of functioning. Two months after discharge

Dr. Walton is chief of psychiatry at Jamestown General Hospital. Reprint requests to him at 102 Forest Ave., Jamestown, NY 14701.

Case report

(on no medications) she reported recurrence of insomnia, depressive affect, and irritability, and requested that her imipramine be reinstated. This was done, again at a dose of 150 mg at bedtime. Over the ensuing 13 months she has functioned well, with no evidence of either depression or manic episodes. She continues to ingest large amounts of iced tea, sweetened with sugar rather than aspartame.

Discussion

This patient's clinical course suggests that high intake of aspartame may have triggered a seizure and subsequent manic episode. Although sustained treatment with imipramine could of course provoke mania in a bipolar patient, this does not appear likely in this case. There was no history of manic episodes, no known family history of bipolar illness, and no difficulty provoked by the same dose of imipramine five years prior to and one year subsequent to the use of aspartame. The high level of caffeine absorbed could also conceivably have played a role, but again there was at least a six-year history of consumption at essentially the same level without difficulty. Clinicians should bear in mind the possible impact of aspartame on catecholamine and indolamine metabolism, and inquire about use of this artificial sweetener when assessing patients with affective disorder. □

REFERENCES

1. Wurtman RJ: Neurochemical changes following high-dose aspartame with dietary carbohydrates. *N Engl J Med* 309:429-430, 1983.
2. Stegink LD, Filer LJ Jr, Baker GL, et al. Effect of aspartame loading upon plasma and erythrocyte amino acid levels in phenylketonuric heterozygotes and normal adult subjects. *J Nutr* 109:708-717, 1979.
3. Fernstrom JD, Wurtman RJ: Brain serotonin content: Increase following ingestion of carbohydrate diet. *Science* 174:1023-1025, 1971.
4. Fernstrom JD, Wurtman RJ, Hammerstrom-Wiklund B, et al: Diurnal variations in plasma concentrations of tryptophan, tyrosine, and other neutral amino acids: Effect of dietary protein intake. *Am J Clin Nutr* 32:1912-1922, 1979.

**"NUTRASWEET"—HEALTH AND SAFETY
CONCERNS**

**HEARING
BEFORE THE
COMMITTEE ON
LABOR AND HUMAN RESOURCES
UNITED STATES SENATE**

ONE HUNDREDTH CONGRESS

FIRST SESSION

ON

**EXAMINING THE HEALTH AND SAFETY CONCERNS OF NUTRASWEET
(ASPARTAME)**

NOVEMBER 3, 1987



2647 1-3 1983



DIVISION OF
MEDICAL GENETICS

EMORY UNIVERSITY SCHOOL OF MEDICINE
DEPARTMENT OF PEDIATRICS
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Statement for the Labor and Human Resources Committee, U.S.
Senate

I have considerable concern for the increased dissemination and consumption of the sweetener, aspartame (l-methyl N-L- α -aspartyl-L-phenylalanine) in our world food supply. This artificial dipeptide is hydrolyzed by the intestinal tract to produce L-phenylalanine which in excess is a known neurotoxin. Normal humans do not metabolize phenylalanine as efficiently as do lower species such as rodents and thus most of the previous studies in Aspartame effects on rats are irrelevant to the question, "does phenylalanine excess occur with Aspartame ingestion?" and if so "will it adversely affect human brain function?"

Preliminary studies in my laboratory provide tentative positive answers to both questions. Many studies of both acute and chronic ingestion of 34 mg Aspartame/kg/day have demonstrated a two to five fold increase in semi-fasting blood phenylalanine concentrations (from approximately 50 to 250 μ M) without concomitant increases in tyrosine or other aminoacids. The degree of increase by normal humans depends on several variables including the efficiency of gut transport, liver utilization, and growth rates. It was thought by many scientists and clinicians that this degree of blood phenylalanine increase would not affect brain function. However, currently available information indicates that this is not true.

- 1) In the developing fetus such a rise in maternal blood phenylalanine could be magnified four to six fold by the concentrative efforts of the placenta and fetal blood brain barrier. Thus a maternal phenylalanine of 150 μ M could reach 900 μ M in the developing fetal brain cell and this concentration kills such cells in tissue culture. The effect of such an increased fetal brain concentrations *in vivo* would probably be much more subtle and expressed as mental retardation, microcephaly, or potential certain birth defects.
- 2) In the rapidly growing post-natal brain (children of 0-12 months) irreversible brain damage could occur by the same mechanism.

THE ROBERT W. WOODRUFF HEALTH SCIENCES CENTER

- 3) In the adult we have found that changes in blood phenylalanine in these concentration ranges are associated with slowing of the electroencephalogram, and prolongation of cognitive function tests. Fortunately, these effects on the mature brain are reversible but provide clear evidence for a negative effect on sensitive parameters of brain function.

In view of these new (and confirmation of old) research findings I suggest the following:

- 1) Immediate ^{quantitative} labeling of all aspartame-containing foods, so the consumer will know how much phenylalanine he/she is ingesting.
- 2) Declare an immediate moratorium on addition of aspartame to more foods and remove it from all low-protein beverages, foods, and children's medications.
- 3) Provide funds not controlled by industry to:
 - a) Allow active surveillance for potential side-effects of aspartame on newborns whose mothers dieted with Nutrasweet^R (Aspartame)-containing foods.
 - b) Allow active evaluation of other users whose complaints cannot be adequately studied at present.
 - c) Clarify the dose relationship and mechanisms by which L-phenylalanine affects human brain function.

Respectfully submitted

Louis J. Elsas, II, M.D.
Director, Division of Medical
Genetics
Professor of Pediatrics

Enclose: 3 reprints
Curriculum vitae

And it is important, Dr. Wurtman, before we leave you, that diabetics—I think we all agree that diabetics need sugar substitutes, and that we are not saying that sugar substitutes are not important for diabetics. I do not want anybody in range of my voice in connection with this hearing to think that we think that sugar substitutes are not critically important for people who are diabetics. I am sure you would agree.

Dr. WURTMAN. Oh, I absolutely agree, sir. I think that that is one of the groups for whom the substitutes are most important. I think we need some good clinical tests to establish the efficacy, but I am sure it will be there.

Senator METZENBAUM. Thank you very much.

Dr. Elsas?

Dr. ELSAS. Thank you, Senator Metzénbaum, particularly for inviting me to this hearing.

I feel like a babe in the woods. I have no previous contact with this type of hearing. But that is probably appropriate because I am a pediatrician, a Professor of Pediatrics at Emory, and have spent 25 years in the biomedical sciences, trying to prevent mental retardation and birth defects caused by excess phenylalanine. And therein lies my basic concern, that aspartame is in fact a well-known neurotoxin and teratogen which, in some as yet undefined dose, will both reversibly in the adult and irreversibly in the developing child or fetal brain, produce adverse effects. Aspartame is increasing in our world food supply without, I feel, appropriate prior investigation of its adverse effects on human brain function or appropriate surveillance at the present time.

Let me clarify these unanswered questions. One of those is "does phenylalanine excess occur with aspartame ingestion?" If so, "will it adversely affect human brain function?"

Now, those two basic questions, I was pleased to see, are being addressed about three years after a formal proposal was given to ILSI, through experiments defined this morning by Dr. Young. But they have not as yet been answered, and they therefore create considerable concern on how our population is being affected by aspartame.

Over the past two years, on my own and without funds from Federal sources, I have asked some questions about what kinds of brain function tests we can use and what dose or increase in blood phenylalanine affects those brain function tests.

Ingesting 34 milligrams of aspartame per kilogram per day chronically, which is well below the now 50 milligram per kilogram dose that is approved by the FDA, there is a two- to five-fold increase in blood phenylalanine. There is not a concomitant increase in other blood amino acids, so that we have disturbed the balance of our body's amino acid concentration in favor of a specific increase in phenylalanine.

Now let me give you a couple or three situations that are rather worrisome.

First of all, in the developing fetus—a situation not considered previously—the mother is supplying that fetus with nutrients. And if she were dieting, let's say, and increasing her blood phenylalanine uniquely by taking Crystal Lite or Kool Aid, or any of the various diet foods now, to maintain her weight, and increased her

blood phenylalanine from its normal 50 to 150 μ moles by chronic ingestion at 34 milligrams of aspartame per kilo per day—which everyone agrees could be reached—the placenta will concentrate her blood phenylalanine two-fold. So the fetal blood circulation to her baby in utero, is now 300 μ mole per liter of phenylalanine. The fetal brain then, as Dr. Pardridge will tell you, will increase further that concentration into the brain cells of that baby two- to four-fold. Those are neurotoxic levels in tissue culture and in many other circumstances.

This situation has not been studied in man. We have no research efforts in place to actively survey a cohort group, to find out whether chronic aspartame ingestion is adversely affecting our newborn population, either by producing microencephaly, mental retardation, or other birth defects that are associated with rises in blood phenylalanine. So that is one very worrisome area.

Number two. In children—

Senator METZENBAUM. Give us the first one in one sentence.

Dr. ELSAS. The first one. Their could be adverse effects of phenylalanine ingested by the pregnant mother-to-be on her growing fetus.

Senator METZENBAUM. Are deleterious?

Dr. ELSAS. Potentially deleterious—there is no answer. I have got to hurry now; I see my yellow light is on.

I will just skip over the next area, which is the concern that in the rapidly growing brain of the child from zero to six months, of age, when the velocity of brain growth is at its maximum; myelin sheaths are forming and the synapses are coming together. If the imbalance of increased blood phenylalanine were magnified in the brain cells, it could very easily disturb and produce irreversible damage to those insulations and synaptic formations in the brain of the developing child.

Finally, the third area is in the older child and adult. This is the area that I have specifically addressed, "what is the dose of phenylalanine charge at which cognition, neurotransmitter production—and brain electrical activity will be altered?" I hope these parameters will be part of the FAA study—particularly the mean power frequency of the EEG which is a very sensitive parameter. We have found changes in the EEG with physiologic changes in blood phenylalanine—that is, 10 to 50 micromolar changes specifically can slow that particular parameter.

So we have developed some more sensitive parameters of brain function which could now be addressed in more appropriate studies on effects of aspartame on the human brain.

I have some suggestions, but—

Senator METZENBAUM. Go ahead.

Dr. ELSAS. I think there should be immediate quantitative labeling of all aspartame-containing foods so that the consumer will have some idea of how much phenylalanine he or she is ingesting. I think there should be an immediate moratorium on the addition of aspartame to more foods and particularly remove it from low-protein beverages, where it is being ingested as a specific amino acid and from foods and medications to which children are exposed. And I am particularly angry at the type of advertising that we

* have seen here today that is promoting the sale of a neurotoxin in the childhood age group.

And finally, I think funds must be made available, not controlled by industry, for further research, using these newer technologies and approaches to parameters of human brain function. We should evaluate in a cohort-control study the effects of aspartame on the population of newborns. We currently have no active surveillance at all—and, I notice, no complaints, because nobody knows they are supposed to complain. I also think there should be active research funded in some way outside of industry to determine the dose relationships of phenylalanine effects on brain function.

[The prepared statement of Dr. Elsas follows:]

STATEMENT BY DR. LOUIS J. ELSAS, II, M.D.
DIRECTOR, DIVISION OF MEDICAL GENETICS
PROFESSOR OF PEDIATRICS

COMMITTEE OF LABOR AND HUMAN RESOURCES

"NUTRASWEET: HEALTH AND SAFETY CONCERNS"

NOVEMBER 3, 1987

Senator METZENBAUM. Dr. Elsas, since Senator Hatch saw fit to go into the funding question, I will ask you, are your studies funded by industry?

Dr. ELSAS. No, sir. I had a research grant three years ago, for three years, from the March of Dimes, to study the effects of phenylalanine on human brain function. When the political issue got to aspartame, the society decided not to refund that. So all of the funding that is going on now—and the reason it is so slow has been through my own division's efforts, personal funds, and university-based funds.

Senator METZENBAUM. What do you think of our present system for funding scientific research?

Dr. ELSAS. I think the NIH is superb. I think there is a lot of concern about how industry and the FDA interact, where industry is made responsible for developing the data to support its own contentions. There is not a broad enough scientific base, such as an RFA, as we call it at NIH—research funds available—requesting input from the whole scientific community, stating that funds are available to investigate a certain area. In that way, you would get in an unbiased approach—what the questions are which we need to ask? That is the problem here today. The questions about phenylalanine effects on human brain function have not been asked. So we have spent millions of dollars through our current system on mostly irrelevant experiments without approaching those particular questions.

Senator METZENBAUM. What about the advertising campaign that NutraSweet puts on, and are you concerned about that?

Dr. ELSAS. Yes, sir.

Senator METZENBAUM. In what way?

Dr. ELSAS. I am mostly concerned that it gives the false impression that NutraSweet is good for you, that it is nature's best, and that it might even be good for children to take. A lot of the ads recently have shown children with the little ying and yang NutraSweet thing on it, making it sound like you should go with your mommy to the grocery store and look for that, and be sure that you buy that because it is real sweet and good.

Senator METZENBAUM. Can you tell the Committee about your own experiences with the International Life Sciences Institute?

Dr. ELSAS. Yes, sir. It was not good.

Senator METZENBAUM. Who is that group, can you tell us?

Dr. ELSAS. Well, Dr. Dews is right here; he can probably give you more personal information about it, because I have never gotten any feedback from them. But I was asked after issuing concerns both privately and then publicly on "Nightline" to give them a specific protocol for how I would approach these concerns. I did this. I wrote it up completely in a research grant format; submitted it through ILSI for their review, and basically, got a few phone calls from Dr. Dews over a prolonged period of time, stating that they had problems, but without ever a written peer review of criticism.

So I basically never got funded; that is the bottom line. And the ideas are now reappearing three years later in other places funded by industry.

Senator METZENBAUM. ILSI is pretty much the coordinating group for funding in the food and beverage industry, including pops, carbonated drinks, NutraSweet itself; is that correct?

Dr. ELSAS. As far as I know, that is correct, sir. I am not an expert on ILSI; I have repressed that experience.

Senator METZENBAUM. It is my understanding that Dr. Partridge has to catch a plane, so I am going to pass on to him. But I appreciate your testimony, Dr. Elsas, and I am only sorry Senator Hatch was not here to hear you comment on the fact that—at least, the inference; it is not a fact—that if the information or the research is not going to be supportive of their position, that sometimes one does not get supported by organizations such as ILSI, NutraSweet and others.

Do you think that general conclusion of mine might be inappropriate, or appropriate?

Dr. ELSAS. Sir, I think that is very cogent and appropriate.

Senator METZENBAUM. Thank you very much.

Would you agree with that, Dr. Wurtman?

Dr. WURTMAN. Yes, sir.

Senator METZENBAUM. Thank you.

Dr. Partridge, we are happy to hear from you, sir.

Dr. PARTRIDGE. Thank you, Senator, and thank you for having me.

I am a Professor of Medicine at the University of California, a practicing endocrinologist, and I have been doing neuroscience research on the blood-brain barrier transport of phenylalanine and other substances since 1970.

I believe in the discussion this morning, there are three key scientific food policy questions that have really not been properly illuminated.

The first question is the dosage problem. We are led to believe by the FDA this morning that the typical consumer will have 2 to 4 milligrams per kilogram of aspartame per day; that the 99th percentile intake is 34 milligrams per kilograms per day; and that the advisable daily intake or ADI is 50 milligrams per kilogram per day.

Now, the layperson sitting in the audience is really is in no position to analyze these esoteric numbers. But if we put it in a different context and recognize that 50 milligrams per kilogram per day is equal to 5 servings of NutraSweet per 50-pound body weight, we can see that children, owing to their reduced body weight, are at great risk for overconsumption of NutraSweet.

All one has to do in this room is look up at that chart and ask yourself if a 50-pound or 60-pound 7 year-old is going to consume 5 or 6 servings of that per day. If they are, then they have consumed 50 milligrams per kilogram per day, or the advisable daily intake.

Now, an 11-year study in the literature has already shown this, that the average 7-to-12-year-old, when made freely available to products like that, consumes 5 servings per 50-pound body weight per day, and up to 77 milligrams per kilogram per day.

Senator METZENBAUM. That is the average?

Dr. PARTRIDGE. The average in children is the ADI—5 servings per 50-pound body weight. Ask yourself: Would an average child have 5 servings? I think the answer is yes.

Another study by Porikos in obese subjects showed that the average intake was 20 milligrams per kilogram per day, or 2 servings per 50-pound body weight, and that obese adults consume up to 36 milligrams per kilogram per day, even in the face of that high body weight.

Now, if you accept the premise of the first question, that some individuals and in fact many children consume near the advisable daily intake of 50 milligrams per kilogram per day, then you must ask yourself what level of increase in blood phenylalanine will be concomitant with that ingestion of NutraSweet. And the answer is that your blood phenylalanine will rise three- to four-fold. That is not 10 percent or 20 percent. That is 300 to 400 percent. And this study has been done by Drs. Stegink and Filer, which was funded by the industry.

If you now accept that many individuals, particularly children, consume 50 milligrams per kilogram per day, or 5 servings per 50-pound body weight per day, and that they enjoy a four-fold increase in their blood phenylalanine, the third question that must now be addressed is, are there any untoward effects on the human brain that are associated with a four-fold increase in phenylalanine, bearing in mind that this molecule is a known neurotoxin?

And three studies come to mind. One study shows that when blood phenylalanine in pregnant mothers is increased five-fold, there is a 10-point drop in the I.Q. of the baby born of that mother.

Senator METZENBAUM. A 10-point drop in what?

Dr. PARDRIDGE. In the baby born of that mother; a 10-point drop in I.Q. of the baby born of that mother.

Senator METZENBAUM. Of I.Q. All right.

Dr. PARDRIDGE. A second study shows that if you measure choice reaction time, a test of higher cognitive function in humans, that when their blood phenylalanine is increased six-fold, there is a 10 percent shift in your ability to make a key decision before a video screen.

And a more recent study by Dr. Elsas has shown that there are quantitative changes in the human electroencephalogram when the blood phenylalanine is raised three-fold—something that clearly will happen in children who consume near 5 servings per 50-pound body weight.

So if I may summarize, phenylalanine is a known neurotoxin, and the food industry added nearly 8,000 tons of aspartame to the food supply in 1986, which amounts to approximately 8 million pounds of phenylalanine added to our food supply in a single year.

The consumption of aspartame has increased exponentially since its introduction in 1981. The 1986 consumption of aspartame in the United States was equal to nearly 22 percent of the 1986 consumption of refined sugar when one allows for a 200-fold increase in sweetener potency of aspartame relative to sugar.

With the enormous selective infusion of phenylalanine into the food supply, the key questions before the United States Congress and other scientific and medical organizations are whether selective increases in the blood phenylalanine level on the order of 200 micromolar or four-fold above normal, are to be expected with liberal intake of aspartame, and whether blood phenylalanine in-

creases of this magnitude have untoward effects on the human brain.

Thank you.

[The prepared statement of Dr. Pardridge follows:]

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Male Sexual Dysfunction Triggered By Aspartame (NutraSweet)

By James Bowen, MD 719 332-0033

(For Immediate Press Release- Permission to Publish)

From Betty Martini <Mission-Possible-USA@Altavista.net>

2-23-00

<http://www.dorwav.com>

Aspartame damages the hypothalamus. The hypothalamus produces gonadotropin-releasing hormone (GRH). The GRH goes down the stalk between the hypothalamus and pituitary and causes the pituitary then to produce gonadotropins. The ganglia goes to the testicles and causes them to produce testosterone. When you're causing hypothalamic destruction with neuroexcitotoxins like NutraSweet you're suppressing the formation of male hormone without which there is no sexual drive or pleasure for either. In original studies aspartame triggered atrophied testes and testicular tumors. It is by this route.

Aspartame destroys the myelin sheaths and when that happens the nerves and sheaths try to regenerate but now the signals can be crossed. So the pleasure receptor of the penis sends the signals but it arrives at the brain at a different receptor and not recognized as pleasure. Also, the ganglia collections of nerve sheaths and cells that are kind of little mini brains that lie inside the thorax and abdomen in front of the spinal cord are important in both sexual arousal, penile tumescence (erection) and in producing orgasm. The methyl alcohol type of poisoning from NutraSweet is the foremost known cause of

degeneration of the sheaths and the ganglia. Also methyl alcohol type poisoning is the foremost known cause of antimyelin antibodies, so that thereafter the immune system can carry out similar destructions in the absence of aspartame. Now the excitatory area of the cerebral cortex which allows men to be excited, interested and pleased by sex atrophies when the testosterone is suppressed. Moreover, you have an independent neurotoxin generated by the isolated phenylalanine. Anytime you have a neurotoxin making the brain sick sexual pleasure is obliterated because the brain is the most important sexual organ. You have classic alcohol poisoning and alcoholism and alcohol poisoning is notoriously famous for wiping out the male animal.

Serotonin and dopamine levels are suppressed. With your serotonin, dopamine and other neurotransmitters in the brain obliterated life becomes one long, dark, hopeless, sleepless, pleasureless night. Turns the goodness of sex into a wistful memory instead of a reality.

Pepsi isn't so peppy after all.

James Bowen, M.D. 1720 North Watts, Portland, Oregon
97217

Betty Martini,
Mission Possible International
<http://www.dorway.com>

Sexual Dysfunction is listed on the FDA report of 92 symptoms triggered by aspartame from 4 types of seizures to coma and death. Send an empty email to help@dorway.com for a map of the 600 pages on aspartame on www.dorway.com

STATEMENT TO THE FDA ON FOOD LABELING

James D. Bowen, MD

My statement for the public record regarding food labeling and the aspartame issue is serious if not somewhat facetious at times. The reason for this is because I have found little evidence of honesty, integrity or stability on the part of Food & Drug Administration officials regarding the aspartame issue, since its approval in 1981.

This attitude is largely shared by the general public. I come in contact with approximately two new people each week who are now being or who have in the past been poisoned by aspartame. All of them share the same reactions that it is not worth writing to the FDA or NutraSweet, because you and your agency have run amuck and are no longer a valid public benefactor.

The recent revelations about the problems surrounding generic drug approvals are compelling evidence of what happens when an agency considers itself above the law in dealing with these matters. In my opinion, this has resulted in the mass poisoning of the American public as well as seventy-plus countries in the rest of the world. Watching FDA officials walk through the "revolving door" and be further rewarded by being promoted to other positions of high public responsibility is clear evidence of a government out of control.

For this reason, I am opposed to labeling aspartame content of foods and drinks. To do so would imply that the government is taking some sort of responsible action...when the only responsible action would be to immediately take aspartame off the market, fully disclose its toxicities, offer full compensation to the injured, public and criminally prosecute anyone who participated in the fraudulent placement of aspartame on the marketplace. That includes those who work so diligently to keep in on the market as well. Further, to label the purported aspartame content of a product would cover a number of toxic flaws in the product and its allowable daily intake (ADI) as follows: 1. That the amount stated on the label was accurate and factual rather than theoretical. Aspartame breaks down relatively quickly in solution. Given the well established modus operandi of the manufacturer, there is no concern given the ultimate consumer. And cover-ups seem to be part of the routine of doing business. The public should be well-advised that the amounts really used in liquid products are relatively greater than those stated to accomplish a relative compensation for the loss of product sweetness occurring during storage in solution. 2. That the ADI presently allowed is 50% greater than that expected to cause a reversal of the phenylalanine/tyrosine ratios in the human brain. This has profoundly bad implications for the human being, including dopamine and serotonin synthesis inhibition, causing depression, appetite changes, mental incapacities, increased susceptibility to seizures and a host of neuro-hormonal problems. 3. Every known metabolite of aspartame is of marked or questionable toxicity and patently unsafe for human use. Methyl alcohol is metabolized to nascent formaldehyde in the eye, nervous system and other metabolically active organs. It immediately attacks and denatures the tissue structure proteins in which it is metabolized to nascent formaldehyde. This stimulates specific organ and subcellular autoimmunity which seems to be a preponderant source of the bad experiences reported by NutraSweet victims. Aspartic Acid is a neuroexcitotoxin present in damaging amounts, in its own right, at the ADI for aspartame. Simple logic tells one that it will vastly increase the metabolism of methyl alcohol to formaldehyde in the desinosomes of the periventricular cells of the central nervous system, thus focusing the nascent formaldehyde attack there. This corresponds well with the symptomologies often experienced, such as: Lou Gehrig's Disease (ALS), bulbar palsies, neurohormonal disorders, etc. Also visual disturbances, heart palpitations, infertility and fetal loss may be traced to aspartame ingestion. The diketopiperazine issue remains totally unresolved and dangerous. The amino acids that are released by hydrolysis, form eimers and isomers that are either not sufficiently studied, or which are known substrates in undesirable pathological states such as Alzheimer's disease. 4. There is the issue of the approval of aspartame for market, which has violated every principle of responsible science and responsible government. Everyone responsible for this hearing should at least completely review the approval process and the comments of the participants and observers who have so excellently elucidated all the malfeasance for the public record, such as Dr. Adrian Gross and many, many others (all on the public record).

In light of the above 4 points, I highly recommend that you deny in every way possible any subterfuge of respectability that the aspartame people have enshrouded themselves and their product with in hopes of quickly denying its access to the worldwide marketplace. I write this, not believing that it will do the slightest bit of good in the sense of affecting the labeling issue per se, but that instead, it might reach some honest, concerned, conscientious individuals in the process.

James D. Bowen, M.D.

MIWON Formula For Aspartame

<http://www.ktnet.co.kr/EDI/Catalog/Food/intro-miwon>

Aspartic Acid, Phenylalanine & Methanol (wood alcohol)

- Other dry mixes
Desserts, yogurt, pudding, pie filling, Salad dressings, pickles, jams, sour cream or cream cheese flavoring
- Forzen desserts and dairy products
- Confections and spreads Cums, candies, bars, caramel corn, chocolae fudge & chocolate coating
- Pharmaceuticals
- Vitamins

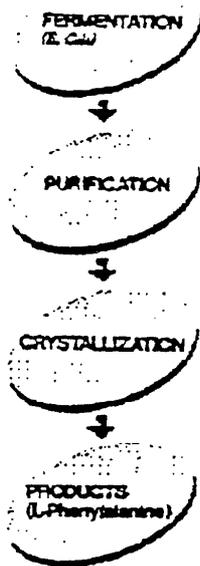
L-PHENYLALANINE " MIWON "

Miwon is regarded as a world leader in fermentation technology by manufacturing a range of unique products such as Glutamate, Lysine, Nucleotide, L-phenylalanine and other food additives. The company's commitment for last 35 years to significantly improve the technology and create many product development opportunities is ratified by the high level of client recognition of brand "MIWON" all over the world. Miwon successfully completed a sophisticated process to produce L-phenylalanine by fermentation with specific strain in commercial basis and became a major supplier in worldwide.

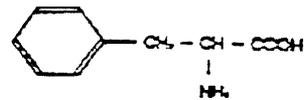
We strongly feel a confidence that Miwon L-phenylalanine as a raw material of Aspartame, food additive and pharmaceuticals could give our clients many benefits of its high quality and relatively low price.

■ Manufacturing process

● Final product, when dried, contains not less than 38.5% of L-phenylalanine.



■ Structure



C₉H₉NO₂ = (M.W 165.18)

Note the genetic engineering process

Description

White odorless, crystals or crystalline powder with slightly bitter taste.

Identification

ASPARTAME MURDERS INFANTS!

VIOLATES FEDERAL DOMESTIC GENOCIDE LAW

By James Bowen, MD

See the end of this paper

TOXIC MECHANISMS:

ABORTIFACIENT	Abortion causation
TEROTOGEN	Birth defect production
ADJUVANT	Forms antigenic tissue, triggering immunologic attack, fetal wastage
CHELATION	Chelates metals, promoting heavy metal poisoning

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SOME ASPARTAME TOXIC AGENTS:

Methyl alcohol	Phenylalanine [PHE]	Aspartic Acid
Diketopiperazine	Formaldehyde	Formic acid

Aspartame, APM, is sold as NutraSweet and Equal and is in thousands of foods and diet drinks. At every point in the fertility process APM destroys, beginning with the gleam in Mom and Pop's eyes: it ruins female sexual response and induces male sexual dysfunction. Beyond this, aspartame disrupts fetal development by aborting it or inducing defects. And if a live child is born aspartame may have heinously damaged the DNA of the baby, cursing future generations.

APM's abortifacient properties are inherent in its structure. As the 3-cornered molecule is metabolized it releases methyl alcohol, which converts to formaldehyde and formic acid plus phenylalanine and aspartic acid, both neurotoxins. The methyl alcohol breaks into formaldehyde, then formic acid. APM methyl alcohol/formaldehyde poisoning, engenders a host of cumulative degenerative diseases and functional abnormalities. The amino acids phenylalanine and aspartic acid are neurotoxic as isolates.

Formaldehyde is recognized as a potent adjuvant which causes foreign proteins to be recognized as antigens by the immune system, triggering immune responses to destroy them. Because of its adjuvancy formaldehyde is included in many vaccines. A challenge the mother's body must overcome to carry a fetus is keeping the maternal immune system from identifying the varied fetal tissues as foreign proteins and destroying them. APM denatures fetal tissues creating an antigenicity stimulus enticing destruction by the maternal immune system. This termination of pregnancy can be so rapid that the mother may not notice a delayed period or she may miscarry almost immediately.

The ability of methyl alcohol/formaldehyde to create antigenicity, especially as combined in APM molecules is so great as to cause severe autoimmune reactions to the tissues deformed by formaldehyde polymerization, adduct formation. The immune system turns against the victim's tissues: **Lupus**.

Beyond the danger of attack from the maternal immune system, APM directly damages the fetus. A good reference point is fetal alcohol syndrome: lifelong deformity, disability and loss of mental acuity in infants who survive maternal alcohol abuse. Even moderate use of beverage alcohol by the mother abuses the fetus and its future. Methyl alcohol is fifty times as potent an intoxicant as ethyl alcohol [beverage alcohol]. Formaldehyde is 5,000 times more potent. Assembled in the carefully crafted APM molecule these neurotoxins are about 20,000 times more potent than beverage alcohol.

Because of APM's extreme toxicity even minute doses are destructive, damaging fetal nervous systems and related structures. Eyes and hearing come to mind. All tissues are similarly damaged as beyond its functional neurological intoxicating effects, methyl alcohol/formaldehyde is the strongest organic base in the living organism and is a polymerizing agent, turning tissue into plastic. From such poisoning there is no escape, it is obligatory metabolism by alcoholdehydrogenase of methyl alcohol into nascent formaldehyde, occurring 75% in the cytosol [cytoplasm] and 25% in the mitochondria.

A SHORT LESSON on PROTEIN FORMATION: Proteins are usually four long chains [polypeptides] of the 20 amino acids we get from food. Amino acids are structures of 10 to 27 atoms. [hydrogen, oxygen, carbon, nitrogen, one has an atom of sulfur] These 20 amino acids the are letters of the biochemical alphabet which spell out proteins, some of which contain thousands of amino acids. To support rapid growth the fetus requires lots of amino acids which the placenta supplies in 400% concentration. Amino acids in fetal veins are four times that in the mother's blood. Natural foods are complex mixes of amino acids, no food is merely one or two isolated amino acids, as is APM.

APM is 50% phenylalanine [PHE] which is a nutrient when accompanied by other amino acids, however isolated PHE is toxic, especially for the fetus or infant. Dr. Louis Elsas, Professor of Pediatrics [Genetics] at Emory University, testified to Congress:

"I have spent 25 years in biomedical sciences trying to prevent birth defects caused by excess phenylalanine. And therein lies my basic concern, that aspartame is in fact a well known neurotoxin and teratogen which, in some as yet undefined dose, will both reversibly in the adult and irreversibly in the developing child or fetal brain, produce adverse effects."

Senate Hearing 11/3/87 Labor & Human Resources Committee

The 400% placenta-supplied concentration of isolated phenylalanine from APM causes mental retardation! The PHE in a plate of beans is absorbed in about 20 hours in competition with the other amino acids. The PHE in a Diet Coke is absorbed in a few minutes in competition with nothing. This is highly significant because amino acid biochemistry at enzyme sites is competitive and PHE out-competes all the others, which means isolated PHE from APM, in the fetal brain with no competition, destroys it!

I have a cerebral palsied grandchild because my daughter-in-law refused to listen and drank NutraSweet pop during her pregnancy. A nurse who headed a visiting nurses association in Nebraska has two cerebral palsied grandchildren from NutraSweet. Their mother said "Oh Mom, its that safe natural NutraSweet". Only when she delivered her second palsied child did she admit her life was devastated from trusting the FDA, the media, and the APM advertising by "ethical" food, beverage and drug industries.

Another nurse, a close personal friend in Walla Walla, Washington, had a grandchild so cerebrally palsied by aspartame it will never lift its head from a pillow but merely stare blankly into space for its whole life. Their church eschews using large amounts of sugar, so the father came home and announced "No more sugar in this household! We're going to use that safe natural NutraSweet from now on."

Heel-stick blood sampling is routine on newborns to screen for Phenylketonuria to identify infants with PKU so to protect them from the severe brain damage they can sustain from even a single meal of foods high in phenylalanine. Think of the damage to PKU infants by maternal APM consumption. Consider the shroud of tragedy that overcame the lives of these hopeful parents, then multiply their number by hundreds, by thousands, and **find a better word than MURDER!**

APM is 40% aspartic acid. This amino acid, when isolated, is excitotoxic, it excites neurons or brain cells, to death. Like formaldehyde, APM is a chromosomal damaging agent. The neurological dangers to the developing fetus are obvious. The chromosomal damage in the mother may be inherited by the fetus and since a female fetus contains at birth all the ova she'll ever have, future generations are forever endangered by inherited chromosomal damage as well as that accumulated in her own developing fetal ovaries from the aspartame her mother consumes during pregnancy.

So-called "health supplements" made of isolated phenylalanine, aspartic acid, glutamic acid [glutamates as in MSG] and other dicarboxylic amino acid neuroexcitotoxins such as picinolates are marketed either as acts of blind ignorance or deliberate malice. They do the exact opposite of what they're sold for, i.e. isolated phenylalanine can cause nerve transmitter disruption, brain malnutrition and neurotoxicity leading to impaired mental functioning, depression, headaches, and other reactions.

BRAIN TUMORS: As it breaks down APM creates diketopiperazine and with the intact APM molecule you have the two greatest brain tumor carcinogens discovered by science thus far responsible for the massive brain tumor epidemic we now witness. The methylated aspartyl radicals such as the N-methylID aspartyl radical, et al, are recognized as causative of about every known neuro-degenerative disease. To independently research these issues look up "The Proceedings of the First International Symposium on Phenylalanine Metabolism" by Dr Richard Wurtman, head of Neuroendochronology at MIT. He has since for his own reasons become a defender of APM, but the record created by the world's best minds on phenylalanine pathologies are in that document. Read Dr. Hyman Roberts' excellent books documenting APM causation of schizophrenia by its action in the mid brain and cerebral cortex. Websites: www.dorway.com www.holisticmed.com/aspartame www.aspartamekills.com

CHELATION: [Chelate, from the Latin word for Claw, a chemical which seizes and holds other chemicals, often metals] Aspartame was kept off the market by the once intact FDA. A compelling reason the FDA rejected APM is its potent chelating activity, which rapidly picks up toxic metals and carries into the body even metals the body would normally refuse to absorb through digestion. The extreme lead poisoning danger to a child's developing brain and organs is well known. Many metals NutraSweet carries into us are as damaging as equal concentrations of lead. The strongest evidence is what APM does to people. Consider this 3/23/00 report from B. Lynn. FDA will call this deplorable tragedy an "anecdote."

"My [then] 5 year old daughter was getting migrane headaches and vomiting. My sister-in-law, an RN, told me to get her off the diet soda. I have only seen two such headaches in the last thee and a half years, no vomiting. My mother, an avid drinker of Diet Coke suffered a stroke at 53. My aunt at 57 suffered a stroke. My nephew at four months was Dx with Infantile Spasms. My friend, after months of tests and pain was Dx with Fibromyalgia, drinks 5-6 Diet sodas a day.

In 1995 I suffered a miscarriage. 3 months later I conceived my son. He was born with VACTERL Association. He had every anomaly in the association:

- V Vertebra, he had a tethered spinal cord
- A Anal Artesia [no anal opening]
- C Cardiac, open heart surgery at 5 months
- TE Trachea Esophageal Artesia. Esophagus attached to his Trachea
- R Renal/Radial defects. He has a hypo plastic thumb and a horseshoe kidney
- L Limb defects One arm shorter, skeletal anomalies still being discovered

They could never explain why my perfect pregnancy produced such a child. I sent this to some friends that belong to support group for children with anorectal malformations. The response will be emotional to say the least. We've all searched for an answer to what caused these horrible defects in our children."

A better word than murder? *GENOCIDE!*

The Federal Law against Genocide: Criminal Code, Title 18 Chapter 50A, Sec 1091-3

This Law has no statute of limitations: Whoever, whether in time of peace or time of war, with specific intent to destroy, in whole or in substantial part, a national, ethnic, racial or religious group as such--

- (1) Kills members of that group
- (2) Causes serious bodily injury to members of that group
- (3) Causes the permanent impairment of the mental faculties of members of the group through drugs, torture or similar techniques
- (4) Subjects the group to conditions of life that are intended to cause the physical destruction of the group in whole or in part
- (5) Imposes measures intended to prevent births within the groups ...

Shall be punished as provided in subsection B

[B says if death results: Death or life imprisonment & a fine of not more than \$1,000,000]

All five rules have been smashed by the aspartame/NutraSweet industry. We, the population of the United States are the GROUP. The sellers of APM poisoned foods and drinks **knew in advance** the havoc it would wreck on our nation's health. **That knowledge establishes intention.** Test SC18862, submitted for APM approval involved feeding aspartame to 7 infant monkeys. One died; 5 had grand mal seizures, an 86% casualty rate, nevertheless FDA approved the poison so is equally culpable with the manufacturers. 75% of all complaints on food additives are on APM which FDA tallied into a list of 10,000 complaints of 92 symptoms, including death, but **you can't get the list without a Congressman!**

Note #3, mental impairment: APM depletes serotonin from which victims suffer manic depression, hallucinations, paranoia, rage, suicidal tendencies, anxiety and panic. Surgeon General Satcher said 22% of the population now suffer mental problems. APM is involved! I've shown how rule #5 is fulfilled by destruction of our unborn and living children. This law makes all producers and marketers of aspartame criminals. Will the justice department protect us, or are they all waiting for jobs in the APM industry like Sam Skinner and Wm Conlon, who were appointed to prosecute them and switched sides?

WHY is COKE FIRING 6,000?

BY BETTY MARTINI, FOUNDER, MISSION POSSIBLE INTERNATIONAL

The photo of a crumpled can of Diet Coke told the story in Coke's hometown newspaper, The Atlanta Journal. Fitting, poetic and just, but tragic, for the company once rated "The Most Admired Business in the World". Today Coke wouldn't even make the list. Sales are down, profits collapsing, and 6,000 employees soon will be gone. To make room for 6,000 defense attorneys? The disaster is stupendously larger than 6,000 jobs; it affects hundreds of millions of unwarned, innocent, afflicted consumers across the broad face of planet earth.

This crisis can't be solved by belt tightening, greater efficiency, more advertising, etc. It's so bad Coke can't say the word; to pronounce it will bring instant cataclysm. **That word is aspartame**, and their only recourse is denial, denial, denial, though every ad and commercial builds higher the scaffold upon which Coke shall surely hang. Reality is in that twisted Diet Coke can. **It's poison.** It's killing the unborn, raining tumors and seizures on the population, destroying children, incapacitating workers, mimicking MS, erasing memory and blinding. Inexorably Diet Coke visits a plague of 92 symptoms listed by our FDA on a secret report they'll never show that names diet soda as the top cause of aspartame disease. And yes, Death was one of the 92.

Diet Coke is poison! And it's addictive; some victims drink several liters a day and keep it on their nightstands. If Coke changes the formula to remove aspartame the world will heal and the surge of hatred and vengeance by the disabled and bereaved shall certainly destroy Coca Cola.

The poison in Diet Coke is aspartame. As a member of the National Soft Drink Association Coke opposed FDA approval of aspartame for beverages. Their objections, running to several pages published in the Congressional Record of 5/7/85, said aspartame is uniquely and inherently unstable and breaks down in the can. It decomposes into formaldehyde, methyl alcohol, formic acid, diketopiperazine and other toxins. In a test on 7 monkeys 5 had grand mal seizures and one died, a casualty rate of 86%.

Coke knew; and knowing, broke their good faith contract with customers, a breach shown by their English plot to program vending machines to kite the price with the temperature. Dissatisfied with selling flavored sugar water plus phosphoric acid, they switched to pushing an addictive formula called "Diet." Addiction multiplies consumption, so Diet Coke soared off the sales charts, spreading obesity. We're fatter because aspartame suppresses serotonin and makes us crave carbohydrates.

So why is aspartame/NutraSweet/Equal/Diet Coke/etc on the market and in thousands of foods? Can you say CORRUPTION? An FDA Commissioner and an acting Commissioner changed sides to work in the NutraSweet industry, plus 6 underlings and 2 federal attorneys assigned to prosecute NutraSweet for submitting fraudulent tests to get it approved. "It's like a script for Abbott & Costello" wrote honest EPA scientist Adrian Gross in a ten page report to Senator Metzenbaum in October 1987. It works like this: "Approve our poison, and when you stop being a bureaucrat we'll make you a plutocrat! After its licensed we'll pay off the American Dieticians, the American Diabetics Assn, the AMA and anyone we need who'll take a buck."

The jig's up! Worldwide consumer action has exposed aspartame and millions have kicked the habit. Coke's profits are down, Monsanto broke NutraSweet in three and sold it for a fraction of what it would have brought a few years ago. In 1999 they sold NSC Technologies, maker of the phenylalanine in NutraSweet, to Great Lakes Chemical for \$125 million who is now suing Monsanto for \$71 million for overstating profits. Monsanto just sold out to the Swiss firm Pharmacia-Upjohn [P-U for short]. Their reported plans are to ditch the Monsanto name as the stench is unendurable. Will CEO Bob Shapiro soon be history like Doug Ivester of Coke who resigned last fall?

Will the last one out please turn out the lights!

Websites: www.dorway.com www.holisticmed.com/aspartame www.asparatemekills.com
Support groups: Aspartame Survivors International Aspartame Support Group
Aspartame Addiction: Townsend Letter for Doctors, January 2,000 cover article, 6 pages.

As Frank Sinatra sang in HIGH HOPES: *Oops, there goes a billion kilowatt dam!*

Aspartame (NutraSweet®) Addiction

by H.J. Roberts, MD, FACP, FCCP

Staff, St. Mary's Hospital and Good Samaritan Hospital, West Palm Beach, Florida;

Director, Palm Beach Institute for Medical Research

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Summary

The habitual consumption of "diet" products containing the chemical aspartame not only risks aspartame disease but also clinical addiction. Thirty-three (5.6%) of 540 aspartame reactors in the author's recent series found it difficult or impossible to discontinue them because of severe withdrawal effects. They or their reporting relatives (especially parents of afflicted children) *specifically* used the terms "addict" and "addiction." Others who used comparable terms were excluded even though they experienced similar withdrawal symptoms.

The FDA and members of Congress have been repeatedly urged by me and thousands of outraged aspartame reactors to declare aspartame products an "imminent public health hazard," and remove them from the market. The mounting evidence for their causation or aggravation of headache, seizures, depression, many neurologic disorders (most notably multiple sclerosis), visual difficulty, allergies, diabetic complications, and a host of other conditions - coupled with the potential for addiction - can be ignored no longer.

Over half the adult population currently consumes products containing aspartame (NutraSweet®, Equal®). A multibillion-dollar industry aggressively promotes thousands of items containing this chemical sweetener that consumers use in prodigious amounts to avoid sugar or lose weight...even though the latter intent often proves a delusion.

I have described many serious side effects and medical/public health hazards attributable to aspartame products.¹⁻⁴ The neurologic, psychological, eye, endocrine, metabolic and pediatric ravages in my data base of over 1,200 aspartame reactors, comprised of both patients and correspondents, are impressive. Additionally, it is my increasing conviction that aspartame products can cause, aggravate or accelerate migraine,⁵ seizures,⁶ multiple

sclerosis,⁷ diabetes and its complications,⁷ Alzheimer's disease,^{8,9} and even brain tumors.¹⁰ The clinical and scientific basis for these assertions have been detailed previously.

Unfortunately, another tragic problem has been neglected: addiction to aspartame products. Persons consuming large amounts not only may suffer aspartame disease, but also have difficulty stopping them because of violent and prolonged withdrawal reactions...the hallmark of addiction. Recovered alcoholic patients repeatedly stated that they felt worse after avoiding aspartame than alcohol, and asserted that they had traded one addiction for another. My experience, coupled with more than 10,000 consumers who *volunteered* their complaints to the Food and Drug Administration (FDA) and manufacturers, reflects the magnitude of this widespread unrecognized affliction.

In view of the controversial nature and implications of this subject, clarification of my status at the outset is relevant. I practiced many years as a primary care internist and medical consultant prior to encountering aspartame disease. I continue to remain corporate neutral - that is, no grants, monies or other inducements were received from industry, government or other institutions.

Data

This report focuses on 33 persons (5.6%) among the most recent 540 aspartame reactors in my series. The terms "addict" or "addiction" were *specifically* used either by patients or reporting relatives and friends - notwithstanding the absence of these words in my 9-page Aspartame Reaction Questionnaire Survey.³ Persons using other terms implying addiction (e.g., "severe craving") were excluded notwithstanding the suffering of withdrawal symptoms.

Subjects

There were 22 females and 11 males. Most were between 25 and 50 at the time of consultation or correspondence. Four children - ages 2-1/2, 3, 6, and 9-1/2 - were included (see Discussion).

The amounts of aspartame products consumed daily ranged up to six liters or 12 cans of sodas, 20 or more tabletop packets, and considerable gum. A number of persons gave the history of ingesting considerable iced tea mixes containing aspartame, especially in hot weather, prior to the onset of clinical aspartame disease.

The manifestations of aspartame disease and the pathos of such addiction appear in the case summaries. The withdrawal symptoms (e.g., severe irritability, tension, depression, tremors, nausea, sweating) usually abated promptly on resuming aspartame, along with an intense craving for these products. One woman noted: "This was as bad as when I quit smoking 13 years ago." Examples of other pertinent clinical aspects are briefly cited:

- As with other addictions, denial and distortion were encountered. The mother of two young children stated: "I didn't want to believe aspartame was the cause of my problems. Even though anything with it made me crave carbohydrates, I dismissed this as my imagination."

- Several patients experienced severe withdrawal symptoms when they traveled abroad and were unable to purchase aspartame sodas. On the possibility these features represented caffeine withdrawal, they tried drinking more caffeine...but to no avail.

- Some developed severe reactions when they also drank alcohol. One stated: "My memory would just go completely."

Representative Histories

A. The anguished friend of an aspartame addict stated: "She could hardly walk. She could hardly see. She was already going to a neurologist because they thought she had multiple sclerosis. But she told me not to talk about it even though her physician already told her that aspartame was the problem, especially after he started researching its role in brain tumors - because two persons in her family died from brain tumors! When told aspartame would kill her, she said: 'I'm addicted to it and can't live without it. If they try take it off the market, I'll get it on the black market!'"

B. The wife of an addicted aspartame reactor wrote: "I've told my husband over and over again, as have several physicians, that his problems would probably go away if he got off aspartame. But he says he is addicted and can't." Provoked by her continued purchase of aspartame sodas, the daughter-in-law asked whether she would hand him a gun if he said he wanted to commit suicide. She responded: "Please don't say anything else. It's hard enough to watch him lose his memory, fall, and hardly be able to walk. I just want to make him happy."

C. A mother stated: "My children are no longer allowed to drink diet sodas or anything else with aspartame in it. Unfortunately, I am addicted to it. I will try and wean myself - but boy, oh boy, it's not going to be easy!"

D. A previous alcoholic patient expressed concern that he had traded alcoholism for aspartame addiction. He observed in a letter: "There are many just like me. You will rarely see a recovered alcoholic without a drink in hand, day or night, whether it be coffee or soda...usually *diet*. We can hardly keep sweeteners on hand at our meetings. Many of us suffer from tremendous mood bouts. If aspartame has contributed to the difficulties I have had with depression and mood swings, I want to know!"

E. The wife of a man consuming up to six liters of diet cola daily concluded: "He is truly addicted and unable to help himself.... When not drinking it, he is like a new person, or at least the person I once knew. But when he drinks it after abstaining for a week (as a result of incredible determination), I see depression, verbal aggression, a sense of hopelessness, inability to sleep, poor concentration, trouble with eyesight, chest problems, and weight gain."

F. A female correspondent with aspartame-related panic attacks and palpitations wrote: "I heard about this problem and will be taking the abstinence test. It will be hard because I am addicted to diet cola. Something has to be done! It seems to me that capitalism is getting in the way of our lives."

G. A woman with an "addiction to diet cola" refused to admit the "ridiculous amounts I have been using, even to my husband. I have the symptom of always being thirsty from aspartame. What do I do?"

H. A woman with aspartame disease was misdiagnosed as having multiple sclerosis. She stated: "I am convinced that aspartame was at the root of my

problem. It is hard to convey just how much of this stuff I was using. I used at least one large box of aspartame a week...for myself! After my husband heard on a radio broadcast that it was bad, he told me not to use it, and refused to buy it for me any longer. I then literally bought it weekly, hid it in the kitchen, and used it when he was out of the room. And people still don't believe it is addictive?"

I. An addicted young man with longstanding symptoms he ascribed to aspartame sodas wrote: "I drank a lot of pop with aspartame when I was a kid in the 1980s, and felt bad. After reading a page on the net about insomnia, being lightheaded, having ringing in the ears, and feeling unreal 'like I was on something,' I stopped. But it's hard to make yourself stop. It took about two months before I felt better. I think most people who drink diet pop get addicted to it...like me. At first you don't seem to like the taste; then you crave it."

J. A 28-year-old woman previously drank as much as two liters of an aspartame cola daily. She stated: "I was 'addicted' to it, and suffered terrible muscle spasms, vertigo, dizziness, nausea, depression, slurred speech, etc. I stumbled across an article about the dangers of aspartame, and was absolutely horrified. Within seven days after stopping, most of these symptoms disappeared. I have had no recurrences to date."

K. A hospital pharmacist with considerable knowledge about addictive substances and drug abuse wrote: "I have been a chronic user of diet drinks for years, and always joked that I was 'addicted' to aspartame. Recently, I decided to stop them, but I can't do it no matter how hard I try. When I'm not drinking these drinks, the people I work with and my family have all commented that I act as if I'm going through heroin withdrawal. I also experience many problems while drinking them, the most profound of which is joint pain."¹¹

L. The mother of an aspartame addict gave a poignant followup of her daughter's case, which I described previously, when her addiction recurred. She had been incapacitated with aspartame disease as a 23-year-old student. In her own words, "My epileptic-type seizures, and drastic personality and intellectual changes were so severe as to end my marriage, nearly ruin my academic standing, and caused me to lose my job." After stopping her excessive consumption of aspartame sodas, she evidenced clinical normalization, and

then bought a beautiful home. The mother described her subsequent relapse. "About eight months ago, unknown to me, she began drinking considerable diet soda. I learned a few days ago that she started drinking alcohol, plans to leave her fiance, and bought a motorcycle - exactly as she had done 12 years previously when drinking diet soda. Her aspartame addiction makes her totally irrational. She crusaded against aspartame for 12 years, and is now drinking it. I don't know where to go for help, especially because most doctors I know think aspartame is just wonderful!"

M. A woman wrote: "I am probably one of the many 'aspartame addicts' you have come in contact with. I have had a terrible diet cola habit of drinking at least a 12-pack/day for many years. I would love to change because I believe my particular ailments could be related to aspartame. Where do I go from here? Please help!"

N. The brother of a "recovered aspartame addict" related the details of his sibling's case to a neighbor who was beginning to drink excessive amounts of diet sodas. He stated: "I am hoping that he doesn't face severe withdrawal the way my brother did. After 5 or 6 bad bouts of withdrawal, he was finally able to kick the habit."

O. An aspartame reactor invited her neighbors to a block party aimed at urging them to avoid aspartame which would not be on the premises. A "very addicted" woman with severe dermatitis and fatigue had tried to do so previously at the urging of her daughter, but resumed diet cola in two weeks. She went to the block party with a can hidden under her jacket...but was promptly spotted. She confessed: "I'm sorry, I just can't break the addiction. I can't get off of it!"

P. A 36-year-old computer programmer experienced many symptoms attributable to aspartame disease after he began using "a line of products containing aspartame." He would ingest as much as three or four quarts of an instant iced tea in several flavors on weekend afternoons during the summer. Nearly one month of abstinence was required before his symptoms abated.

Q. A 47-year-old female sought consultation with the author for increasingly severe problems over the

Nutrasweet®

▶ previous 1-1/2 years, during which time she consumed large amounts of aspartame. She began the day by drinking three cups of coffee to each of which an aspartame tabletop sweetener was added. She then ingested 10-12 glasses or cups of aspartame-sweetened beverages, and ate considerable amounts of aspartame puddings.

This patient gave a history of alcoholism and excessive amphetamine use decades earlier. (Amphetamines had been taken for extreme fatigue and weight reduction.) She joined Alcoholics Anonymous 20 years previously. She was now happily married, and had taken only a single social drink in five years.

Her main concern was increasing confusion and memory loss over the past year – especially because she prided herself on a “photographic memory.” During this time, she also suffered severe headaches (“never a problem before”), hearing difficulty (“as if my ears were covered”), “lightheadedness with staggering,” vertigo on lying down (“the room was actually spinning”), attacks of severe nervousness and agitation, intense hunger, a craving for sugar and sweets, intense muscle cramps, pains in the legs and thighs, aching and stiffness of various joints, marked intolerance to cold, and elevation of her blood pressure (noted for the first time). Dryness of the eyes became so bothersome that she required one bottle of artificial tears a week.

Another distressing symptom was severe depression. The patient considered committing suicide on several occasions. She had the good fortune of belonging to a circle of caring friends who thwarted such action.

The family history was also pertinent. Both parents had been alcoholics. Her mother was “a potential diabetic,” and her nephew a juvenile diabetic.

After learning of the possible cause or aggravation of similar problems in other persons from aspartame, she promptly stopped all such products. She emphasized, however, that *the ensuing withdrawal symptoms were far worse than those experienced after discontinuing alcohol or amphetamines.* On a regimen of an appropriate diet, supportive measures and continued aspartame avoidance, her symptoms improved. She no longer needed the artificial tears. An entire subsequent visit was devoted to discussing her lifelong

“fear of fat” that had initiated the use of aspartame products.

Discussion

Addiction to aspartame products is as real as abuse of tobacco, alcohol and drugs. The foregoing experience of a single alerted physician attests to this clinical phenomenon. In effect, the US population has been the innocent victim of regulatory shortcomings related to the initial and continued approval of aspartame products.

To my knowledge, this is the first report that addresses aspartame addiction. I have challenged colleagues to cite comparable instances of gross denial in contemporary medicine concerning widely used drugs or chemicals classified “Generally Recognized As Safe” (GRAS). (Aspartame was developed initially as a drug to treat peptic ulcer.) Moreover, I have repeatedly asserted that aspartame should not have been approved for human use in view of the high incidence of brain and other tumors found in animal studies, and the absence of long-term trials in humans using “real world” products exposed to prolonged storage and heat.

The plight of aspartame addicts has been compounded by (a) footdragging of the Food and Drug Administration (FDA) despite its own data base,^{12,13} (b) the brainwashing of health professionals (especially doctors and dietitians) from constant reiteration by pro-industry advocates that aspartame disease does not exist, and (c) the refusal of some addictionologists even to consider this issue. The thousands of complaints *volunteered* to the FDA, along with my independent data on over 1,200 aspartame reactors, indicate the gravity of such disinformation.

Exclusion of Related Terminology

This report clearly underestimates the prevalence of aspartame addiction. I purposely excluded aspartame reactors who continued to consume large amounts despite debilitating symptoms because they used expressions other than “addict” and “addiction.” Some examples:

- Many aspartame reactors described their “unnatural craving” for aspartame products. It was not limited to diet sodas – e.g., a woman with a severe “craving” for aspartame chewing gum, especially after meals. In fact, the habitual chewing of such gum poses a unique threat (see below).

- “Recovered alcoholics,” and former smokers and substance abusers tended to use considerable amounts of

aspartame products. One chain smoker asserted that he became a “chain drinker” of diet sodas in this switch of addictions.

- An aspartame reactor referred to herself as “a 10-year-plus aspartame junkie.” Another stated she had been “a diet colaholic for 12 years.”

- Three women indicated that each was “hooked” on diet sodas for over a decade.

This correspondence from a 29-year-old woman with severe aspartame disease, who was referred by her physician to confirm the diagnosis, bridges the terminology of “addiction” and “craving.”

“As I do not use any sugar, I have used aspartame and saccharin. The disturbing phenomenon is that I now have intense and abnormal cravings for aspartame, and find myself using more and more of it...like an addictive cycle. Without it, food seems flat. I have tried eliminating it altogether, and find that this actually intensifies the cravings even a week later! I would like to know if you have ever heard of anything like this before, or have advice as to dealing with it. Besides the aspartame cravings, I have also continued to have inexplicable bouts of itchy skin, hives, and quite a bit of swelling in the face and legs. The legs are often numb, and I am extremely fatigued most of the time.”

The enormous consumption of aspartame products by these individuals also could be considered as part of their addiction:

- A 54-year-old woman was phoned by her daughter who had just learned about aspartame disease. “When I called her with the information, she had already used 15 aspartame packets. Mother told me this was usual for her since the product came on the market.”

- One “huge consumer of aspartame” conjectured that such sodas are ideal for addiction because “they first quench thirst, and then *cause* thirst.” His side effects of dry mouth and dry eyes are experienced by many aspartame reactors,^{2,4,14} even in the absence of marked sweating or hot weather.

The Female Preponderance

Female aspartame reactors consistently outnumbered men in prior analyses of both my data^{2,3} and that of the FDA.^{12,13} Some of the metabolic and endocrine factors that may contribute to this gender vulnerability have been discussed.^{2,3,8}

More women are trying to avoid aspartame during pregnancy on the

advice of peers, chiefly out of concern for fetal harm.^{1,3} Obstetricians increasingly concur, albeit partly to avoid medicolegal situations predicated on the absence of informed consent. Unfortunately, some pregnant women in this series resumed aspartame products, notwithstanding their great misgivings, after experiencing severe withdrawal symptoms during attempted abstinence.

A 27-year-old woman with an "addiction" to aspartame products, especially a popular lemonade, suffered headache, irritability and dizziness. Attempting to become pregnant, she stated: "It will be the hardest to let go."

Children

The apparent addiction of four children was disconcerting. Their case histories warrant summary:

- A 9-1/2-year old boy exhibited "extreme hyperactivity." Every time he opened the refrigerator and found only regular cola sodas, he would exclaim: "I can't believe they didn't get even one diet cola!"

- A 2-1/2-year-old girl had been weaned off baby fruit juices and begun on aspartame drinks to prevent sugar-induced dental problems. She developed an extensive rash that subsided after stopping aspartame. Her mother wrote: "For the first five days, she was like someone in withdrawal – aggressive and craving the substance."

- A 6-year-old girl was diagnosed by a pediatric neurologist as having attention deficit disorder and a "mild encephalopathy of unknown origin." Her mother drank an aspartame beverage during the pregnancy because of marked morning sickness and a severe yeast infection. She wrote: "Little did I realize what I was doing to myself, let alone my fetus who also developed the yeast infection. By the time she was three years old, we were both using sugar-free products including yogurt, popsicles, gum, soda pop, candy, ice cream, pies, puddings and hot chocolate. (She also sneaked them in.) I developed a brain tumor (oligodendroglioma), and underwent surgery and radiation. Fortunately, my mom came across two articles on aspartame a year ago, after which we quit these products."

- A 3-year-old girl repeatedly developed a rash and behavior problems after taking aspartame products. Her mother stated: "For at least five days after stopping them, she craved the former drink, and was extremely hyperactive and aggressive."

Comments on Addiction

The continued heavy consumption of aspartame in these reactors qualifies as "substance abuse" relative to causing, aggravating or prolonging their physical, mental and behavioral disorders. As with other forms of chemical dependency, aspartame abusers are likely to deny or distort symptoms. The assertion that the addiction solely represents caffeinism is erroneous.

Health professionals and other groups recognize the numerous psychologic, sociologic, economic, medical and environmental complexities of substance abuse and addictive behavior. Unlike the well-known addiction to alcohol, tobacco and drugs, aspartame products continue to be marketed aggressively to uninformed consumers by a multibillion dollar industry. Most regard this "supplement" as safe because of its approval by the FDA. They include pregnant women, the fetus, young children, and patients with many diseases who are highly vulnerable to the ravages of this potent neurotoxin. Anthropologists could equate the matter with "our intoxicated destiny."¹⁵

In his classic description of "addictive eating and drinking," Randolph¹⁶ also emphasized that small quantities of a specific excitant can perpetuate an addiction response owing to the extreme degrees of specific sensitivity commonly involved. He included various sugars, alcoholic beverages and monosodium glutamate (MSG).

Consumer Pleas For Help

As noted in the case summaries, aspartame addicts have pleaded for help because of their suffering. Some additional examples:

- A 39-year-old mother wrote: "How in the world do you get off aspartame? I've wanted to get off of the stuff for years."

- A 40-year-old receptionist had consumed 4-6 cans of a caffeine-free diet cola plus two large diet colas with caffeine *daily* since their introduction. Every time she tried to stop, she experienced "terrible" withdrawal anxiety with associated exhaustion, dizziness, palpitations, and presumed hypoglycemia attacks. She summarized her dilemma: "I just can't seem to get off the treadmill!"

The outrage of these aspartame victims has been intense.^{3,4} Indeed, it generated several groups of consumer activists.

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- A 28-year-old mother concisely expressed her anger: "In a sentence, I could say that aspartame effectively ruined my physical and emotional health for the better part of ten years."

- A 28-year-old Australian woman "addicted" to diet cola wrote: "It is an absolute crime that this substance has been offered to an unsuspecting and ill-informed public. It must be stopped!"

- A male aspartame reactor reflected: "I guess it is going to take a bloody epidemic of blindness, diabetes and multiple sclerosis to get this poison off the market."

- A 43-year-old woman with multiple aspartame reactions – notably joint pain, loss of hair, severe fatigue, aggravated hypoglycemia, allergies, and mouth lesions – expressed extreme concern about "this unnerving 'addiction' to aspartame."

Each of the three components of aspartame – phenylalanine (50%), aspartic acid (40%), and the methyl ester (10%) that promptly becomes free methyl alcohol (methanol) after ingestion – and their multiple breakdown products following exposure to heat or during storage, are potentially neurotoxic and addictive.¹⁴ (They also have been invoked relative to the allergenicity and carcinogenicity of aspartame and its metabolites.) Some of the mechanisms may involve dopamine, cerebral cholecystokinin (CCK), serotonin, endorphins, other important neurotransmitters, insulin, and the unique permeability of the blood-brain barrier to phenylalanine.

The transformation of phenylalanine to dopamine and dopamine metabolites assumes relevance in addictive states. Addictive drugs flood synapses with dopamine, which carries a "pleasure message" from one nerve cell to another in the "reward pathway"...thereby creating a "high." For instance, cocaine blocks the reuptake of dopamine, thereby acting as an indirect dopamine agonist. Such repeated rushes can result in desensitization of the brain to dopamine.

- During et al.¹⁷ demonstrated that changes in brain phenylalanine may selectively affect production of the dopamine molecule that becomes preferentially released into synapses.

- Myers and Melchior¹⁸ found that a dopamine-dopaldehyde condensation product (tetrahydropapaveroline) caused rats to drink increasingly large amounts

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of alcohol solutions which they normally reject.

- Researchers have advanced the concepts that increased dopamine influences the addiction effects of cocaine; and that dopamine-receptor agonists themselves might be addictive in cocaine users.¹⁹

The habitual chewing of aspartame gum poses a unique threat, as evidenced by the dramatic development of generalized symptoms in some aspartame reactors. Its flavor and sweetness can last 30 minutes, compared to about five minutes for sugar-sweetened gum. The chemical may be absorbed through the mucosa of the mouth (as used therapeutically with nitroglycerin), and via simple diffusion from the oropharynx directly into the brain. The latter phenomenon has been demonstrated with small molecules such as glucose, sodium chloride and ethyl alcohol.²⁰

The Methanol Issue

The chronic intake of free methanol in significant amounts is highly germane to aspartame disease and addiction, particularly for alcoholics. Six years before FDA approval of aspartame, Dr. Herbert S. Posner²¹ of the National Institute of Environmental Health Sciences wrote a review titled, "Biohazards of Methanol in Proposed New Uses." He stressed the failure to recognize the "delayed and irreversible effects on the nervous system" of methanol...at widely varying levels of exposure and at rather low levels." Furthermore, he suggested "...when a safer compound is available, methanol should not be utilized."

The daily intake of methyl alcohol from natural sources averages less than 10 mg.²² Aspartame beverages contain 55 mg methanol per liter, and nearly double as much in some carbonated orange sodas. Persons ingesting five liters a day can therefore consume over 400 mg methanol. These facts are pertinent:

- Methyl alcohol is probably the first component of aspartame released within the small intestine, and rapidly absorbed. Blood and methanol concentrations correlate with aspartame intake. "Abuse doses" (100 mg/kg or more) ingested by normal subjects significantly elevate blood methanol concentrations, remaining detectable for eight or more hours.²³

- Humans are more vulnerable to the toxic effects of methanol than animals because several enzymes required for its metabolism have been lost during evolution.

- The toxicity of methanol is enhanced by its slow rate of oxidation – only one-seventh that of ethyl alcohol – occurring chiefly in the liver and kidneys. Even though the half-life in human volunteers ingesting small amounts (1-5 ml) is about three hours, complete oxidation to carbon dioxide usually requires several days.

- The body attempts to detoxify methyl alcohol by oxidizing it to formaldehyde (a deadly neurotoxin and Class A carcinogen), and then to formate or formic acid within minutes. Formate and formaldehyde each may contribute to toxicity and nervous system/immune dysfunction through various mechanisms. One is the conjugation of formaldehyde with human serum albumin (F-HSA) to form a new antigenic determinant. Patients with multiple health complaints who had been exposed chronically to formaldehyde develop anti F-HSA antibodies and elevated T_H cells (antigen memory cells), consistent with sustained antigenic stimulation of the immune system.²⁴

- Concerning the methyl alcohol component of aspartame, Hugh C. Cannon, Associate Commissioner for Legislative Affairs of the FDA, wrote in a letter dated September 8, 1986: "The Agency has recently become aware, however, of clinical data that indicate that the toxic effects of methanol are due to formate accumulation and not to formaldehyde or methanol itself. Formate is the oxidation product of formaldehyde which is itself formed from the metabolism of methanol."

The vision manifestations experienced by one-fourth of aspartame reactors¹⁻⁴ are probably at least partly due to methanol and its breakdown products. It is of interest that several persons had severe visual deterioration diagnosed as toxic amblyopia (including transient blindness diagnosed as optic neuritis) on different occasions following the excessive intake of either aspartame or alcohol.

Responsibility of the Health Professions

The medical profession must pursue this concern in conjunction with consumer advocates, elected officials and regulatory agencies. Such a commitment also extends to challenging the safety of proposed sweeteners being developed by

food technologists, some up to 10,000 times sweeter than sucrose. My objection to the petition for approval of Neotame²⁵ provides a case in point.

Health professionals must protest the unbridled consumption of "diet" sodas and other aspartame products by *children*. The potential consequences include interference with brain development, abnormal behavior, cognitive problems, depression, seizures, headache, allergic disorders (asthma: severe eruptions), gastrointestinal complaints, anorexia with marked weight loss, and cross-sensitization to other chemicals such as monosodium glutamate.²⁶ The use of aspartame-sweetened foods and beverages by young children, especially those with a morbid obsession about weight gain and obesity, incurs another risk: a life-long preference for sugars and sweets.

- A number of concerned teacher-correspondents attributed the increased frequency of attention deficit disorders and decline in school grades to the consumption of aspartame products. In my opinion, several-prior industry-sponsored studies that concluded neither sugar (sucrose) nor aspartame affect children's behavior and cognitive performance²⁷ are misleading because of the nature of their protocols.

- Neuropsychiatric reactions to aspartame candy and gum in children occurred within a unique social context: their consumption of Halloween gifts from thoughtful neighbors concerned about giving them conventional candy. The most frequent were headache, vomiting and tremors.

- Most physicians do not realize the aspartame content of many over-the-counter and prescription *drugs* and *vitamin products* intended for use by young children. They include tasty suspensions, and chewable tablets of antibiotics or analgesics.

All pregnant women and nursing mothers should avoid aspartame products.²⁸ In addition to risking addiction, the reasons include:

- Exposure of the fetus to considerable phenylalanine, aspartic acid, and free methyl alcohol.

- Maternal malnutrition associated with nausea, vomiting, diarrhea and reduced caloric intake.

- The transmission of aspartame and its components via the mother's milk.

- Increasing the "allergic load"...thereby risking future hypersensitivity diseases.

The FDA and elected officials have been warned repeatedly about the

tentially disastrous effects of partame consumption by pregnant men and young children – but to little ail. Indeed, the FDA disregards its own ta.^{12,13} Alfred North Whitehead aptly sserted: “Where attainable knowledge old have changed the issue, ignorance s the guilt of vice.”

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References

Roberts HJ. The Aspartame Problem. Statement for Committee on Labor and Human Resources, U.S. Senate Hearing on “NutraSweet”-Health and Safety Concerns, November 3, 1987. 83-178, U.S. Government Printing Office, Washington, DC, 1988:466-467.
 Roberts HJ. Reactions attributed to aspartame-containing products: 551 cases. *J Appl Nutr* 1988; 40:85-94.
 Roberts HJ. *Aspartame (NutraSweet®): Is It Safe?* Philadelphia, The Charles Press, 1989.
 Roberts HJ. *Sweet’ner Dearest: Bittersweet Vignettes About Aspartame (NutraSweet®)*, West Palm Beach, Sunshine Sentinel Press, 1992.
 Roberts HJ. Aspartame and headache. *Neurology* 1995; 45:1631-1633.
 Roberts HJ. Aspartame (NutraSweet®)-associated epilepsy. *Clin Res* 1988; 36:349A.

7. Roberts HJ. Complications associated with aspartame (NutraSweet®) in diabetics. *Clin Res* 1988;3:489A.
 8. Roberts HJ. *Defense Against Alzheimer’s Disease: A Rational Blueprint for Prevention*. West Palm Beach, Sunshine Sentinel Press, 1995.
 9. Roberts HJ. Preclinical Alzheimer’s disease (Letter) *Neurology* 1997; 48:549-550.
 10. Roberts HJ. Does aspartame cause human brain cancer? *J Adv M* 1991;4 (Winter):231-241.
 11. Roberts HJ. Joint pain associated with aspartame use. *Townsend Letter for Doctors* 1991; May:375-376.
 12. Tollefson L, Barnard RJ, Glinsmann WH. Monitoring of adverse reactions to aspartame reported to the U.S. Food and Drug Administration. In *Proceedings of the First International Meeting on Dietary Phenylalanine and Brain Function*, ed by RJ Wurtman and E. Ritter-Walker, Washington, D.C., May 8-10, 1987, 347-372.
 13. Department of Health & Human Services: Summary of adverse reactions attributed to aspartame. April 20, 1995.
 14. Roberts HJ. Aspartame-associated dry mouth (xerostomia). *Townsend Letter for Doctors* 1993; February:201-202.
 15. Rudgley R. *The Alchemy of Culture: Intoxicants in Society*. London, British Museum Press, 1998.
 16. Randolph, TG. The descriptive features of food addiction: addictive eating and drinking. *Quart J Studies Alcohol* 1956; 17:198-224.
 17. During NJ, Acworth IN, Wurtman RJ. An in vivo study of dopamine release in striatum: The effects of phenylalanine. In *Proceedings of the First International Meeting on Dietary Phenylalanine and Brain Function*, ed by RJ Wurtman and E Ritter-Walker, Washington, D.C., May 8-10, 1987.
 18. Myers RD, Melchior CL. Alcohol drinking: Abnormal intake caused by tetrahydropapaveroline in brain. *Science* 1977; 196:554-555.

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19. Koob G. Cited by *The Lancet* 1998; 352:1290.
 20. Maller O, Kare MR, Welt M, Bohrman H. Movement of glucose and sodium chloride from the oropharyngeal cavity to the brain. *Nature* 1967; 213:713.
 21. Posner HS. Biohazards of methanol in proposed new uses. *J Toxic Envir Health* 1975;
 22. Monte WC. Aspartame: Methyl alcohol and the public health. *J Appl Nutr* 1984; 36:42-54.
 23. Stegink ID, Filer LJ Jr. *Aspartame: Physiology and Biochemistry*. New York, Marcel Dekker, Inc. 1984.
 24. Thrasher JF, Broughton A, Micevich P. Antibodies and immune profiles of individuals occupationally exposed to formaldehyde. Six case reports. *Am J Indust* 1988; 14:479-488.
 25. Roberts HJ. Submission to FDA regarding Docket No. 981F-0052 (Food Additive Petition for Neotame), March 3, 1988.
 26. Roberts HJ. Testimony: Analysis of Adverse Reactions to Monosodium Glutamate. Federation of American Societies for Experimental Biology, Bethesda, April 8, 1993.
 27. Wolraich ML, Lindgren SD, Stumbo PJ, et al. Effects of diets high in sucrose or aspartame on the behavior and cognitive performance of children. *N Engl J Med* 1994; 330:301-307.
 28. Roberts HJ. Aspartame effects during pregnancy and childhood. (Letter) *Latitudes* 1997; 3 (Number 1). 3.

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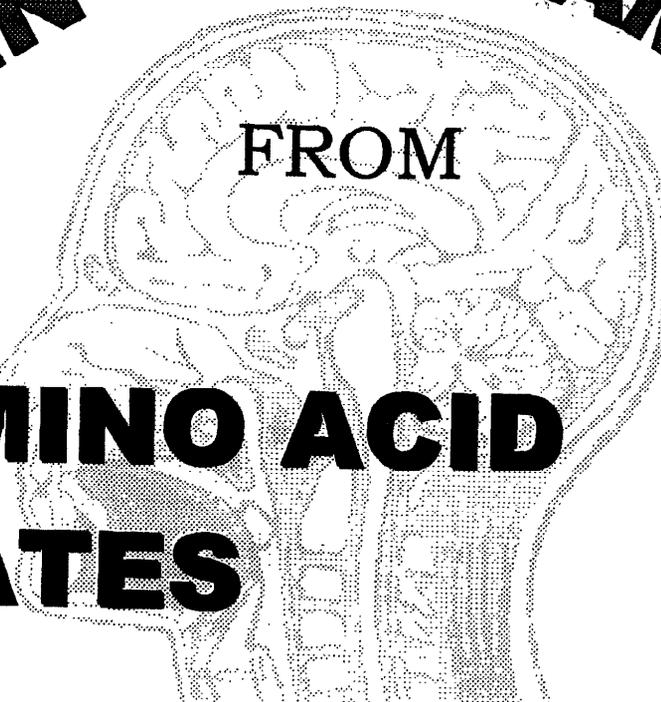


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FROM
AMINO ACID
ISOLATES

A Primary Concern From
ASPARTAME-BASED PRODUCTS
and
ARTIFICIAL SWEETENING AGENTS

NutraSweet ~ Equal ~ "Sugar Free" ~ Neotame

May 6, 2002

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James D. Bowen, M.D.,
specializing in the Applied

Arthur M. Evangelista,
former FDA Investigator

Forward

This article is an accumulation of long-standing intensive research into the brain chemistry-altering effects of a toxic artificial sweetener consumed daily by hundreds of millions of unsuspecting individuals.

We acknowledge the countless and unnecessary suffering, illness, and deaths, associated with the marketing of a trio of neurotoxic ingredients known as **ASPARTAME [L- aspartyl - L - phenylalanine methyl ester]**, also called: NutraSweet, Equal, "Sugar Free", and Neotame, et al. ...a food additive in over 8, 000 + food products worldwide.

The three toxic ingredients of Aspartame are **methanol** (wood alcohol), and **phenylalanine** and **aspartic acid**; both the latter are amino acid isolates.

Additionally, we hold accountable the U.S. Food and Drug Administration; G.D.Searle, the original maker of aspartame; Monsanto; and the numerous corrupted politicians, government officials, physicians, and health care organizations that have literally sold themselves for greed of wealth and power. This was done knowingly, at the expense of the health of millions of infants, children, and adults who needlessly suffer the debilitating effects of this known neurotoxin.

This article is for the education of the public at large, the physicians and health specialists who have the integrity and intellect to understand the implications of aspartame's ingredients and the biochemical and pathological effects upon brain nerve cells and tissues, resulting in serious neuro-endocrine disorders and other symptomologies.

We hope that all people will cease consumption of this deadly product and become self-educated in order to protect their own health against an array of marketed food and environmental toxins. It is our hopes that all people will live healthier and more fruitful lives, and maintain the freedom and wisdom for choosing what they put in their mouths and feed their children.

PROTEIN AND AMINO ACIDS

Protein is nature's building blocks of life. Protein is used for muscle, tissue, blood, hormones, enzymes, including the body's organs, skin, and also for healing processes.

Proteins are large, complex organic compounds made up of many groups of amino acids linked together. There have been twenty-two (22) amino acids identified as necessary for normal human growth and development.

The body can make fourteen (14) of these amino acids, and these are called non-essential amino acids. The other eight (8) amino acids must be received through outside sources, as in the foods we eat. These amino acids are called essential amino acids.

Proteins are broken down during the process of digestion. These proteins are broken down over time into their component amino acids or into very small groups. The amino acids are then used by the body for maintaining health.

Amino acids also play a key role in neurotransmission, solute concentration and balance (especially in areas of the brain), cellular calcium pump (gate) effectors, production and expenditure of ATP (the cell's energy stores), and are involved in overall body nerve cell conduction systems.

The amino acids released into the blood stream are competitive. This means that the various types of amino acids compete for attachment sites on enzymes and cell structures. It is this competition which restricts any one type of amino acid from becoming too dominant and causing an imbalance in the normal ratio of the different circulating or cellular amino acids.

The enzymes, which are located throughout the body, including the brain and nerve cells, are responsible for ensuring that the amino acids gets to their proper end destination to be utilized by the body tissues.

Many key factors, including food additive excitotoxins and environmental poisons, play a role in nervous system degeneration. Collected evidence and accumulated non-industry funded research leaves no doubt that the powerful excitotoxin

aspartame and its breakdown products have a central or predominant role in creating or exacerbating neurodegenerative or neurocarcinogenic diseases.

AMINO ACID ISOLATES

The focus of our report, is an overview of excitotoxic effects upon brain chemistry due to Aspartame's amino acid isolates.

Amino acid **isolates** have been artificially separated from the rest of the protein chain, and are added to foods during the manufacturing process. Thus, they are by themselves (isolated), as single or dipeptides. This is very different than the 80-300 amino acid chains that form natural proteins from dietary sources.

Some examples of genetically modified (rDNA) or manufactured amino acid isolates are glutamic acid or glutamate (i.e. monosodium glutamate or MSG), aspartic acid or aspartate, and phenylalanine, among others.

The isolates differ from dietary (with food) amino acids because dietary amino acids are derived and absorbed from the gut, which depends upon the body's digestive action to break down the long amino chains (proteins) and then to absorb them. This means, that through the body's regulation of metabolism, the proteins are broken down slowly, and always in the nutritious mix of other amino acids in the proper enzyme-regulated proportion for use by the body.

Following digestion of normal proteins, the broken amino acid chains are slowly released into the body. Since they are in competition with one another for the enzyme sites, as earlier discussed, the body ensures that no one amino acid dominates the others. Although, it has been noted that phenylalanine is the strongest competitor for many of these enzyme sites.

Moreover, the effect of a dosed amino acid isolate cannot be used in synthesis of proteins in the same manner as dietary amino acids, because the body requires the "variety of the mix" to prepare and manufacture proteins.

The excitotoxic effects of glutamic acid isolates are well studied and widely known. Some beneficial uses of amino acid isolates, such as L-lysine for use against oral herpes virus (S₁) are also well known.

It is important to recognize the difference between natural, dietary amino acids, and pharmaceutically produced (including rDNA) amino acid isolates.

It is also important to recognize that the isolates of Aspartame are incorporated into a compound containing free methanol, a dangerous carcinogen and mutagen which readily breaks down onto formaldehyde and formates inside the human body.

The hazards of ignoring the pharmacological nature of amino acid isolates are best illustrated by the Phenylalanine isolate that is 50% by weight of Aspartame. A can of soda pop yields about as much Phenylalanine as a large helping of beans.

NOTE: One (1) 12oz. can of diet soda contains 200mg of aspartame.

Phenylalanine = 100 mg....50%

Aspartic Acid = 80 mg....40%

Methanol = 20 mg....10%

It should also be noted that the pharmaceutical isolates of amino acids in aspartame are produced from genetically modified bacteria (E.coli).

ABOUT PHENYLALANINE:

The dietary Phenylalanine from the beans would only be harmful to the person with **PKU** (phenylketonuria), a condition caused by one of several enzyme deficiencies. This creates increased plasma levels of Phenylalanine (overload) leading to the formation of destructive neurotoxic effects.

In healthy individuals, the fact that dietary Phenylalanine is in competition with the other amino acids and is absorbed slowly over twenty hours from the digestive tract, makes it helpful rather than harmful for them.

In contrast, the Phenylalanine (isolate) from the can of aspartame-laced soda pop is absorbed in about five minutes. This goes to the portal vein in the liver, with virtually no other competitive amino acids. Amino acid release from the liver is through an enzyme-linked channel. Without any competition, this Phenylalanine is released into the blood stream as an overwhelming bolus, or flood.

Even when ingested with foods, aspartame substantially increases the plasma phenylalanine (and aspartic acid) levels, due to their pharmaceutical make-up as isolates, and due to phenylalanine's strong competitive affinity for the enzyme mediators and transmitter catalysts.

Synergistic damage also results from the absorption-metabolism sequence of methanol → formaldehyde → formic acid. Methanol and formaldehyde are carcinogenic and mutagenic, and alter mitochondrial DNA as well as nucleic DNA through the formed adducts of these metabolic poisons. This may be a strong initiator of disease states because the damaged DNA may not allow the cell to function properly or maintain homeostasis.

EXCITOTOXIC AMINO ACIDS' PATHWAY TO THE BRAIN

Background: THE BRAIN

The brain, on an anatomical level, is an integrated network of nerve cells, support cells (astrocytes, oligodendrocytes, et al), and is the controller for nerve-endocrine coordinating functions and its feedback network.

The brain controls the body's endocrine system through nerve transmission, which centers on the functionality of the hypothalamus and pituitary gland. This includes the nerve-endocrine coordination of the pancreas and secretions of the adrenals, thyroid, and gonads. This, in turn, acts upon the brain and pituitary and on the tissues throughout the body. This tightly controlled system produces a wide range of effects for proper functioning of the human organism.

Some hormone effects are for development of the organism, from conception through birth. Some are long lasting. Many are a permanent aspect for life. Hormones can be initiated during maturity. Some hormones act later in adult life and can signify changes in brain function, or are associated with disease states or aging.

Nerve-endocrine functions can also act upon aspects of human behavior. This integrated system signals you when you are hungry, or upset. The health of this system affects learning, cognitive reasoning, controls your temperature, allows you to smell fresh-baked chocolate chip cookies, stimulates growth, oversees your heart rate, and is necessary for all the life functions enjoyed and needed by the individual. The **Brain**, in effect, is the "*Chief Operating Officer*" of your physical body.

There are two avenues to furnish nutrients, oxygen, and other *selective* chemicals to the brain. These are via the Blood Brain Barrier (**BBB**) and/or the Cerebral Spinal Fluid (**CSF**).

The **Blood Brain Barrier**, is similar in some ways to the blood vascular network in the other parts of the body. The Blood Brain Barrier resembles normal capillaries, with a few exceptions.

The body's capillaries, outside of the brain, are more permeable (porous) to fluids, ions, and other molecular structures because there are very minute spaces between the cells making up the capillary walls.

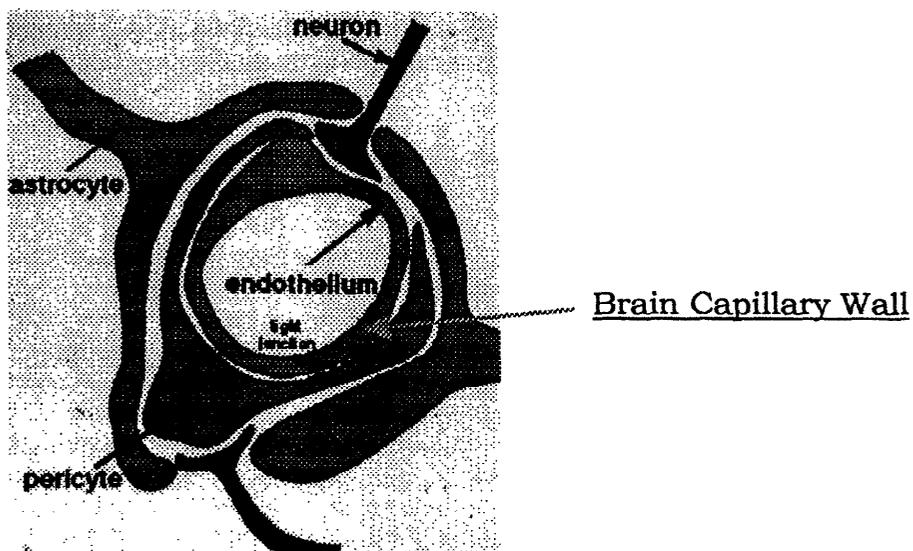
The brain's capillary system (blood brain barrier), on the other hand, are composed of tightly packed cells or "junctions" which reduce their permeability and eliminates the bulk flow of solutes through them.

Because of the tight junctions between the blood brain barrier's capillary cells, there are two specialized ways that nutrients and other molecules can gain access to brain cell components and neurons. These pathways are: 1) lipid mediation or 2) catalyzed (active carrier) transport.

The lipid transport system is confined to the transfer of small molecules to the brain tissue, and *generally* are proportional to their lipid solubility.

The catalyzed transport system includes both receptor and carrier mediating processes in order to provide the brain with nutrients (glucose, amino acids, and nucleosides, etc.)

Diag. # 1. The Blood Brain Barrier - capillary structure and adjacent nerve cell structures.



Another function of the blood brain barrier is to isolate the brain from toxic products and certain chemicals that could disrupt the delicate balance of ions, nutrients, and neurotransmitter substances that are used by the brain's nerve cells.

When Aspartame is ingested and enters the blood stream, the three toxins of aspartame are "launched" throughout the body very rapidly.

Following consumption of aspartame-laced products, the phenylalanine flood overpowers the enzyme systems of the brain, setting off an induced PKU effect.

This induced PKU affect occurs by grossly overwhelming those enzymes required to reduce the circulating phenylalanine for use in other metabolic reactions.

This "overdose" of the competitive **phenylalanine** isolate (and aspartic acid) incapacitates the enzyme actions which controls several types of neurotransmitters (and their precursor amino acids) reducing dopamine and serotonin production.

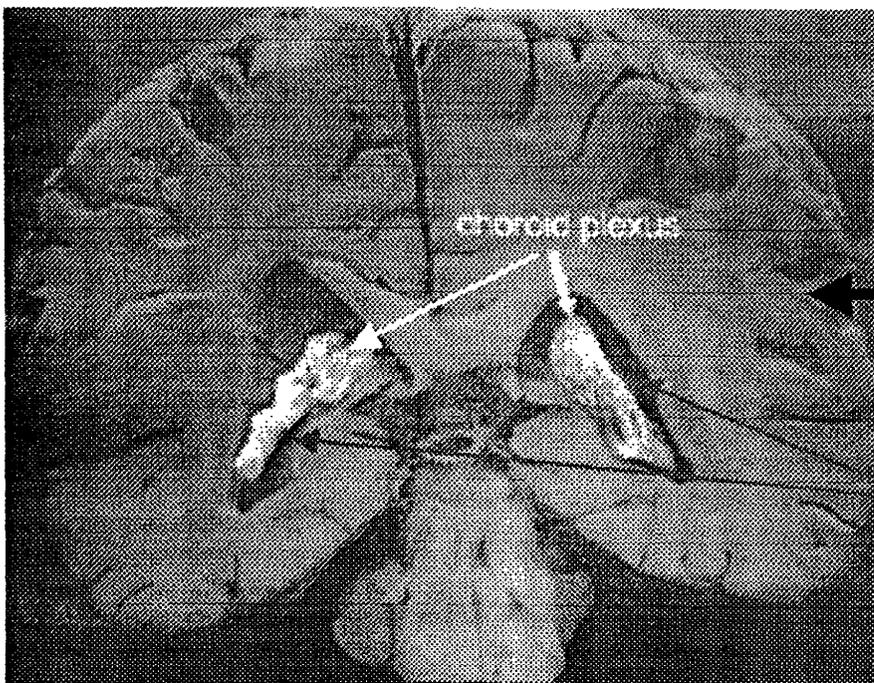
The excitotoxin's effects creates secondary components which are also destructive in nature to the sensitive, surrounding neural tissues, including a breakdown by-product of phenylalanine called, **diketopiperazine** (DKP) which instigates tumor generation, especially that of the aggressive glioblastoma.

Further neuron insult is added due to the destruction and mutation of nucleic and mitochondrial DNA from the known carcinogenic properties of the methanol → formaldehyde → formic acid components.

The other avenue of delivering nutrients and other necessary molecules to the brain's cell structures is by way of the **Cerebral Spinal Fluid** (CSF).

There is a structure called the 'Choroid Plexus" which is a specialized arterio-venous capillary bed located within the lateral ventricles of the cerebral hemispheres that secretes the cerebral spinal fluid. (See Diag. # 2 and # 3)

The cerebral spinal fluid is a clear, colorless liquid that circulates around the brain and spinal cord and baths the tissue with needed nutrients and other constituent molecules.



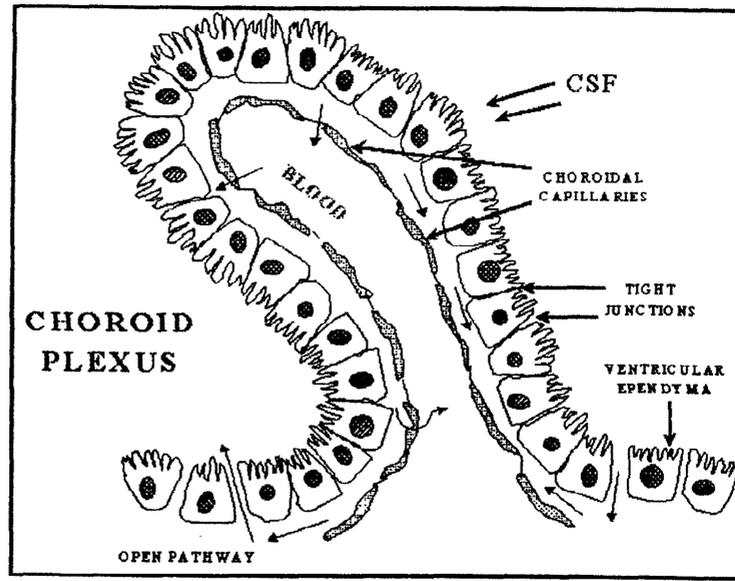
Diag. # 2

Cerebral Hemisphere

Lateral ventricles

Diag. # 3

CLOSE-UP OF
CHOROID PLEXUS



The brain is seen to contain four cavities within it. The cerebrum holds two large Lateral Ventricles that connect at the midline. From here, the CSF follows the InterVentricular Foramina into the Third Ventricle.

Here, at the Third Ventricle, another Choroid Plexus adds additional CSF. The CSF then passes through the Aqueduct of Sylvius, continuing into the Fourth Ventricle, located between the cerebellum and brainstem. Here, still another Choroid Plexus at the roof of the Fourth Ventricle contributes additional CSF fluid.

After leaving the Fourth Ventricle, the CSF essentially flows backward and downward around the midbrain, exiting the ventricular network below the cerebellum.

Some of the CSF passes downward into the Spinal SubArachnoid Space (circulating around the spinal cord), and a portion rises upward, through the Tentorial Notch, spreading over the hemispheres of the brain.

Re-absorption of CSF is predominantly assumed through the lymph and blood capillary network of the subarachnoid space covering the cerebral hemispheres and spinal canal.

VENTRICLE NETWORK

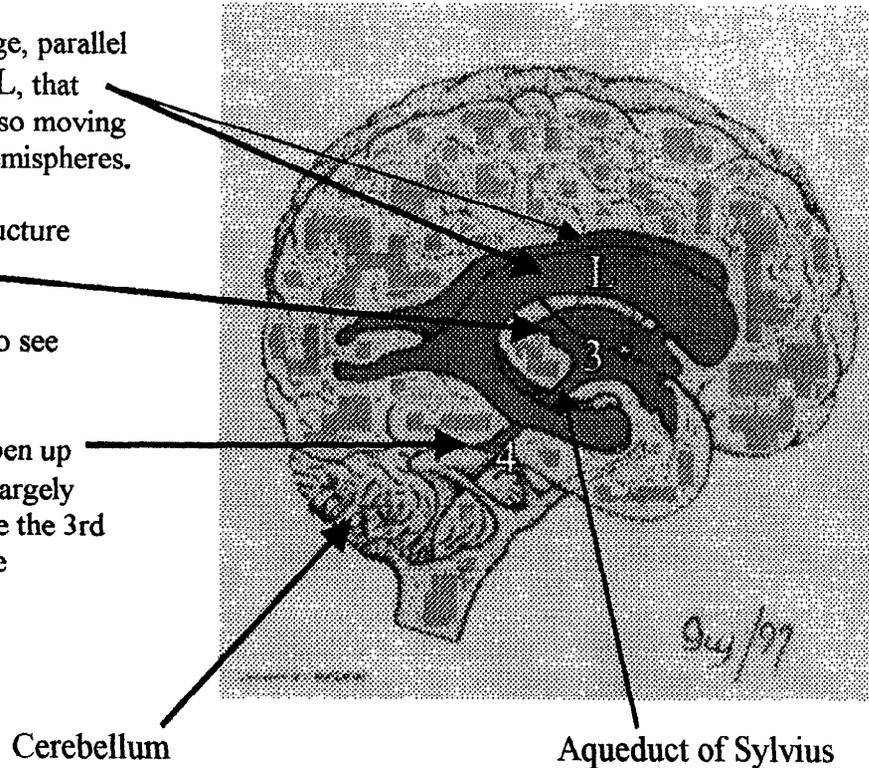
Diag. # 4

The lateral ventricles are the large, parallel structures denoted by the letter L, that wrap around like ram's horns, also moving laterally into the two cerebral hemispheres.

The 3rd ventricle is a medial structure indicated by the number 3.

The fourth ventricle is difficult to see in this diagram.

You can just see it starting to open up where the number 4 is, but it is largely obscured by the cerebellum. Like the 3rd ventricle, it lies along the midline of the brain.



The nutrients supplied by the CSF are delivered by diffusion into those structures adjacent to the CSF. This leads to some specialized circumstances.

First, as the CSF diffuses nutrients (or toxins) to these adjacent structures, there becomes less and less concentrations of these molecules remaining within the CSF, as it continues along its track.

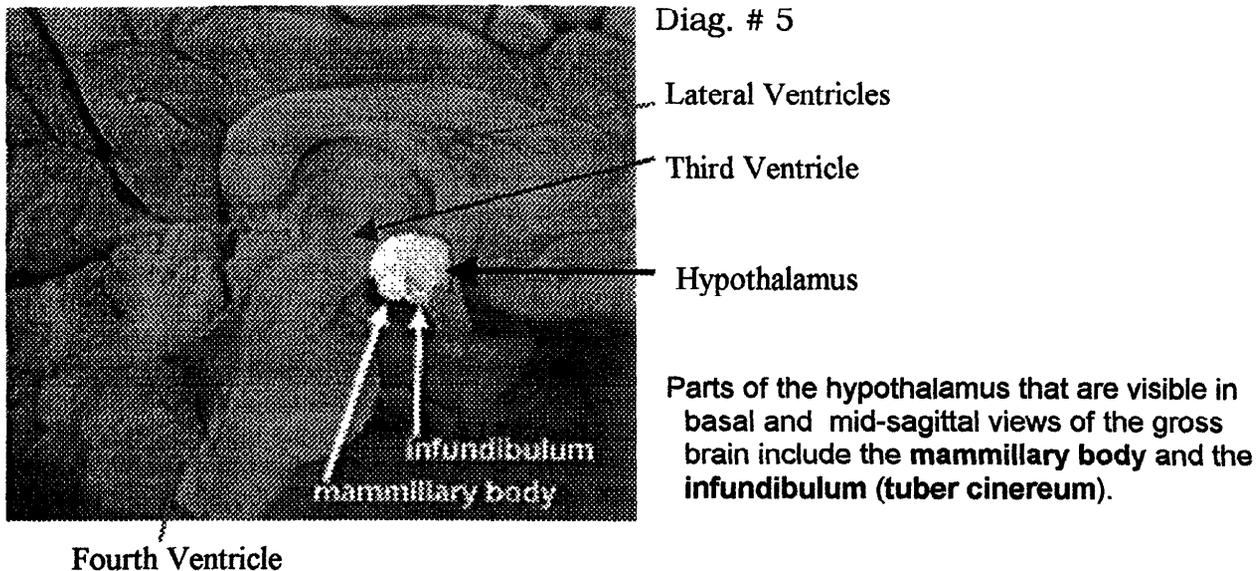
If toxins are present within the CSF, those structures first contacted are far more severely attacked by these toxins (or excitotoxins), than those bathed in CSF farther away from the ventricular system and choroid plexus.

Second, diffusion of chemicals is greatly increased by increased hydrostatic pressures or flow rates.

Third, narrowing of the Aqueduct of Sylvius from repeated insults of neurotoxic chemicals contained within the CSF, can cause inflammation of this duct, resulting in obstruction and the onset of adult hydrocephalus.

It is in the CSF, where the phenylalanine and dicarboxylic aspartic acid (an excitotoxin) diffuses, setting off a chain reaction of repeated excitatory stimuli of surrounding nerve cells and neuronal structures adjacent to the flow route of the CSF. This eventually leads to nerve cell necrosis (cell death) in these areas.

The hypothalamus sits adjacent on either side of the Third Ventricle, where there is a high diffusion rate from the CSF, leading to sustained and potentially extreme damage to this neuro-endocrine structure, one of the most vital neural systems in the body.



A (simplistic) sequence of events would be the following:

The transport of excitotoxins across the blood brain barrier and within the CSF causes several reactions to occur. **1]** The excitotoxins stimulate the nerves to fire excessively. **2]** The normal enzyme actions required to offset the induced, repeated firing of these neurons is negated by the phenylalanine and aspartic acid.

Furthermore, **3]** the energy system for the required enzyme reactions becomes compromised. The **4]** depleted intracellular ATP stores, **5]** the presence of formaldehyde, **6]** altered intracellular Ca^+ uptake, **7]** damage to cellular mitochondria, **8]** destruction of the cellular wall, and **9]** the subsequent release of free radicals, potentiates **10]** oxidative stress and neurodegeneration.

These toxic by-products initiate secondary damage, which increases capillary permeability, continue to destroy the surrounding nerve and glial cells, impedes enzyme reactions, and **11]** promotes DNA structural defects.

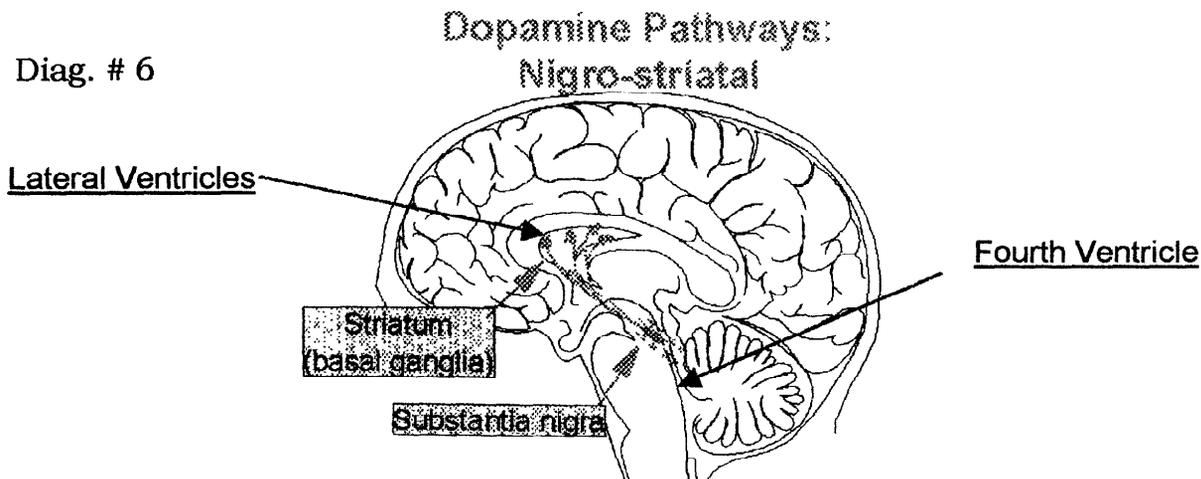
Cellular death occurs over the next 1 to 12 hours. This does not include the long-term or cumulative effects of formaldehyde adducts and other metabolites. The dead cells leave behind lesions, or holes, as Dr. Olney discovered with tests he conducted.

Evidence indicates that the following disease states can be clinically identified by their corresponding anatomic, nerve fiber, or nerve bundle damage:

- a) Aqueduct of Sylvius = Hydrocephalus
- b) White matter bundles = Multiple Sclerosis (MS)
- c) Pyramids/Basal Ganglia = Parkinson's Disease
- d) Lateral corticospinal tracts of spinal cord
and bulbar nuclei = Amyotrophic lateral sclerosis (Lou Gehrig's)
- e) Destruction of hypothalamic regions = Neuro-endocrine disorders, obesity,
psychogenic disorders (behavior, anger)
malfunction of autonomic nervous
system, immune suppression, et al.
(See Diag. # 5, previous page)

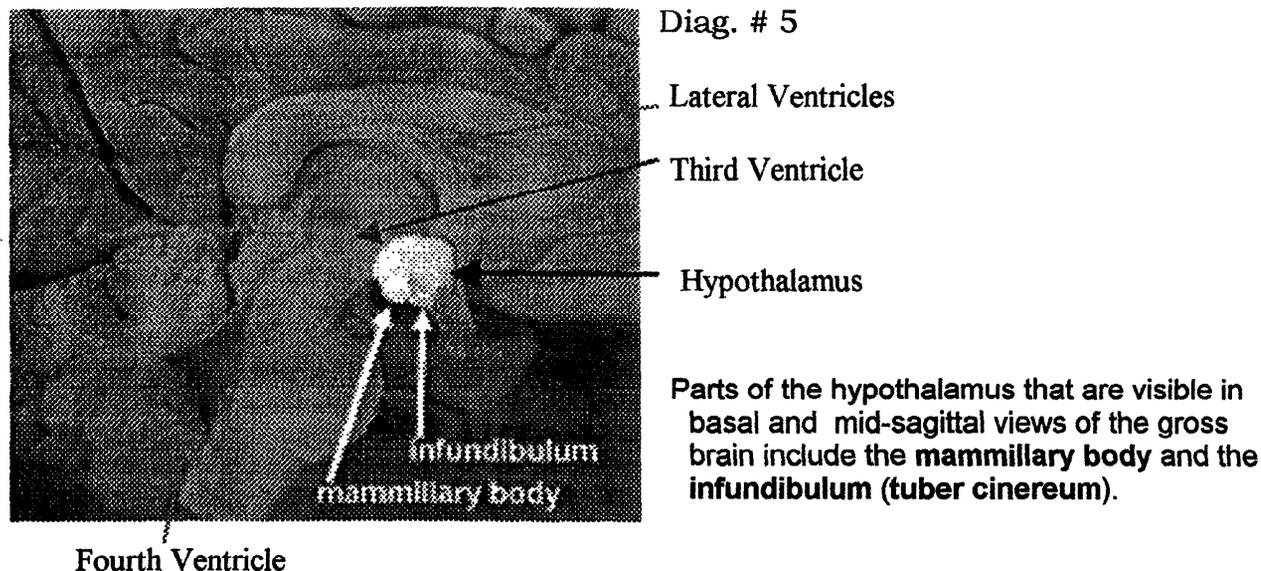
Above the Fourth Ventricle, lay the pyramids, and slightly forward are the basal ganglia. With powerful insults from excitotoxic stimulation, we develop clinical manifestations of **Parkinson's disease** (See Diag. # 6). This is further complicated by the depletion of the neurotransmitter, dopamine, resulting from the obliteration of enzyme sites by the flood of these excitotoxins.

Parkinson's Disease, itself, is a complex chronic brain disorder resulting primarily from progressive death of a specific group of nerve cells in a layer of a region of the substantia nigra (basal ganglia) in the midbrain.



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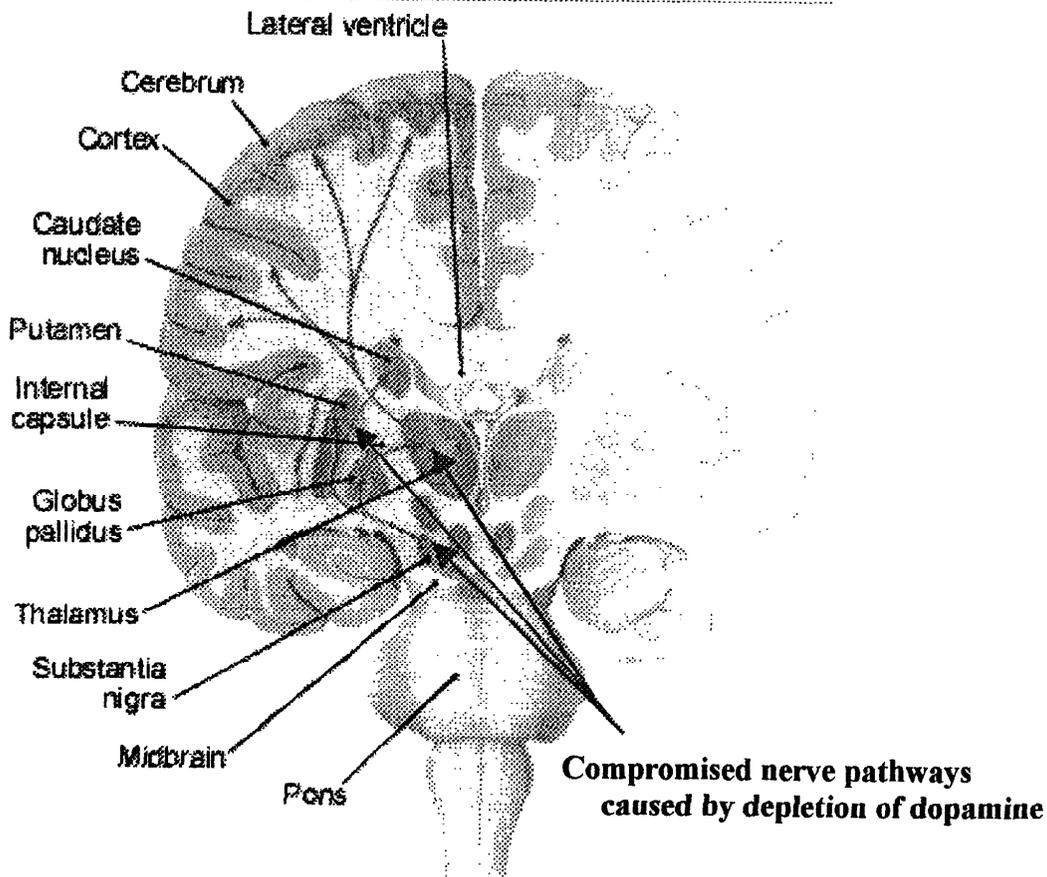
These nerve cells produce a chemical neurotransmitter called dopamine (which is inhibited by the phenylalanine/aspartic acid isolates of aspartame). The dopamine enables communication with receptors on neurons in a region of the brain called the striatum. Additional dopamine pathways run from the midbrain to the limbic area and to the cerebral cortex.

The **striatum** includes three structures: globus pallidus, putamen and caudate nucleus. (See Diag. 7 , below)

The striatum is a part of the brain involved with regulating the intensity of coordinated muscle activity such as movement, balance and walking. Insufficient levels of dopamine from the neurons of the substantia nigra synapsing on neurons in the striatum is believed to be responsible for the primary symptoms of Parkinson's .

View of Brain structures affected by Parkinson's (and surrounding structures)

Diag. # 7



As with Parkinsonian, **Amyotrophic Lateral Sclerosis** (ALS), commonly called Lou Gehrig's Disease, clearly represents a connection between nerve damage and the presence of excitotoxic amino acids.

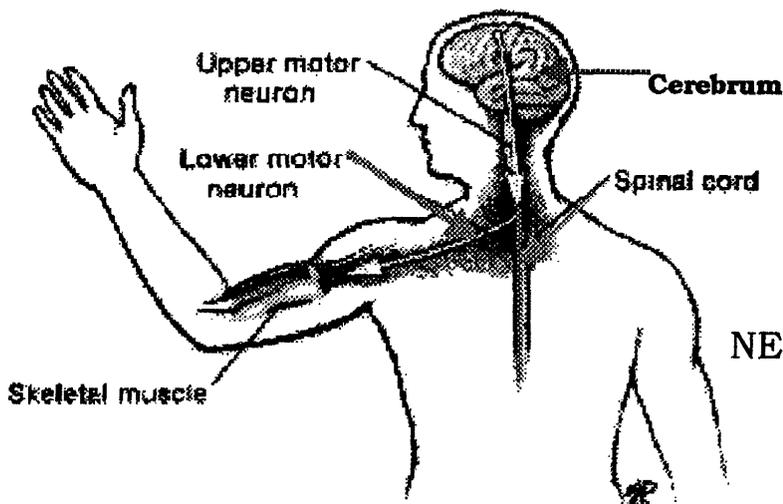
Amyotrophic lateral sclerosis, or ALS, is a progressive, degenerative disease resulting from damage or destruction of motor neurons within the brain and spinal cord. Nerve cell destruction impairs or prevents muscle movement that corresponds to the affected neurons.

The various types of ALS include "*bulbar*", which affects the cranial nerves, creating complications with speech and swallowing, et al. When the damaged neurons extend from the spinal cord to muscle fibers, this is often termed *motor neuron disease*.

Effects of the excitatory amino acid, glutamate, have been observed in the brain and spinal cord. There is an increase of this excitotoxin within the CSF. Additionally, the damaged areas of the cerebral cortex and spinal cord fail to "uptake" this neurotransmitter substance, leaving higher amounts in the extracellular space, causing notable cellular damage due to its excitatory properties.

NOTE: Aspartate (aspartic acid) is similar to glutamate and reacts with many of the same enzyme structures.

Also noted, are pathologies related to cellular calcium (Ca^+) channels, which are altered by the presence of glutamate or aspartate. Calcium changes may cause further deterioration by triggering of secondary antibody effects reacting to this damage. Cellular damage will cause the release of oxidizing agents, resulting in high, free radical exposure that even further damages the nerve cells. Mitochondrial damage is compounded from this surge in free radical generation.



Diag. # 8

NEURONS AFFECTED BY
AMYOTROPHIC
LATERAL
SCLEROSIS

Multiple Sclerosis (MS) is a disease that affects the myelin (myelin sheath), which is the insulation or coating of some of the nerves of the brain, spinal cord, and of the periphery. Damage has also been identified that affects a part of the nerve fibers, called the axons. Oligodendrocyte damage and cell loss also occurs.

Nerve cell damage takes place within the "white matter" of the brain, where the neurons have myelin sheaths, giving this part of the brain its color.

Demyelination of the central nervous system (white matter) are hallmarks of this disease. This is normally (but not always) accompanied by optic neuritis, asymmetrical muscle weakness, and fatigue.

Evidence seems to point to an immunological disorder, as a response to an inflammatory process in the brain (and/or spinal cord).

Although many scientists have not identified a definitive cause of Multiple Sclerosis, many hypothesize that MS may be of an immunological origin. These authors' investigative research into known scientific endeavors, biochemical facts, and available data, leads to the following deduction. Hopefully, this will prompt further investigation into the etiology of MS by non-industry funded researchers.

IF MS is an "immunological" response, then the following need be considered:

- 1) A reduction in glutathione synthesis will impair antioxidant defenses.
- 2) Glutathione is virtually eradicated (not available) following the ingestion of aspartame and its resulting metabolic reactions.
- 3) T-Cells (immune response cells) are dependant upon intracellular glutathione,
- 4) Functionality of the T-cells is impaired during this period.
- 5) Deamination results from methanol toxicity → formaldehyde → formic acid and can be highly mutagenic for nucleotides, DNA, RNA transcription processes.
- 6) Pharmaceutically manufactured isolates (alone or in concert with additional excitotoxic food additives/environmental toxins) creates an excitotoxic response to include:
 - increased cell damage from oxidation,
 - mitochondrial damage (incl. a reduction in available ATP),
 - imbalance of inter/extracellular amino acids and their precursors,
 - increased intracellular Ca⁺ or disruption of gated processes,
 - release of damaging free radicals,
 - excessive nitric oxide (NO) production,
 - displacement/release of free iron within the brain,
 - mutagenic effects from formaldehyde or generalized cellular DNA mutations,
 - subsequent inflammatory response as a result of this cellular damage

(continued on following page)

- 7) Evidence reveals that Methanol has long been the agent most well know to cause auto-immune antibodies to "attack" the pancreas and myelin sheaths of neurons.
- 8) The structures damaged in MS are the white fibers of the CNS. These structures are in intimate contact with the cerebral spinal fluid immediately after the fluid is formed by the Choroid Plexus. Therefore, the white matter receives massive doses of dicarboxylic amino acid neuro-excitotoxins which are delivered to the brain from the CSF.

It is proposed that, regarding MS diagnosis' (and possibly other potential auto-immune diseases of the central nervous system), this sequence of damage from aspartame would elicit an inflammatory reaction. This leads to a generalized (and possibly defective) immune response against the neurons that have sustained damage, alteration, or exhibit other "non-familiar" DNA changes.

In some cases, the immune system itself may have been damaged by the formaldehyde's mutagenic effects or affected by brain chemistry/enzyme changes, creating a flawed system. This could cause the body to attack and catabolize its own nerve (or other) cells. Destroyed neurons will eventually be absorbed, leaving lesions or holes where they once had been.

Abstinence from aspartame appears to relieve the clinical presentation of excitotoxic-induced MS.

This immune process defect may (in part) also explain the rise in cross-chemical sensitivity syndrome.

.....

Furthermore, during maternal aspartame consumption, development of the fetal nervous system is damaged or impaired via excitotoxic-saturated placental blood flow that can cause or contribute to cerebral palsy and pervasive developmental disorders, such as discussed here.

This is due to an incompetent blood brain barrier and neuronal (brain) damage produced by excitotoxins circulating the fetal brain areas. This is especially true for those areas adjacent to the brain's ventricular system. There is no doubt that destruction or damage of the hypothalamus and corresponding neuro-endocrine organs, leads to potential developmental complications (physical and mental).

(continued on next page)

Additionally, fetal alcohol syndrome can be mimicked through the methanol components of aspartame, and is a direct result from the maternal ingestion of aspartame.

Other disorders of fetal neurotoxin exposure will show up after birth, in the form of patho-physiologically induced learning and behavior disorders, attention deficit disorders, and the potential of DNA structural mutagenesis from formaldehyde concentrations, adducts, and the accompanying excitotoxic damage.

.....

Of Special Note:

During the production of aspartame, **none** of the animal studies conducted, expressed the true neurotoxic nature of this poison in humans. That means that the studies were flawed from day one. A successful pharmaceutical firm, and seasoned intelligence or research personnel, do not overlook this type of testing application by accident.

It is evidenced that, even with the relatively lower doses used during initial testing, these test animals still became sick or died as a result of ingesting aspartame.

Prior to development of aspartame, it was a well known fact that phenylalanine interfered with human brain chemistry and had once been considered as a chemical warfare agent due to its neurotoxic capabilities.

Physiologically, human beings are approximately **60 times** more sensitive to phenylalanine toxicity than any of the animals tested.

Furthermore, humans are **10-20** times more sensitive to methanol poisoning both as a subchronic and chronic toxin/carcinogen. On the contrary, the animals studied are more sensitive to the more common ethanol found in alcoholic beverages due to differences in enzyme concentrations of the species.

Humans are also about **8-10** times more sensitive to the affects of aspartic acid and glutamates, than the test animals used.

NOTE:

A new sweetener known as Neotame has chemical properties of known toxicity to man.

Neotame appears to be a chemically altered "aspartame", possessing similar proportionate neurotoxic qualities.

I suspect the new name was formed to *superficially* distance this product from aspartame, due to the symptoms generated and because of the publicity this poison has received. Additionally, we should note that our public health agencies, as well as our regulatory policies, are in severe need of reorganization, to put it mildly...

All evidence substantiates that aspartame is a powerful neurotoxin.
Further investigation is absolutely warranted.

REFERENCES

"AMINO ACID BIOSYNTHESIS". (4/26/02): Medical Biochemistry (Scott)

Ayling, J.E., S.W Bailey, I. Rebrin; "Activity of the Bifunctional Protein 4a-Hydroxy-tetrahydropterin Dehydratase/DCoH during Human Fetal Development: Correlation with Dihydropteridine Reductase Activity and Tetrahydrobiopterin Levels". 1995: Biochem. Biophys. Res. Comm. 217, p 958-965

P.H. Arn, J.E., Ayling, M. Blaskovics, N. Blau, P. Ferreira, L. Keirat, F. Neuheiser, I. Rebrin, B. Thöny; "Hyperphenylalaninemia with High Levels of 7-Biopterin is associated with Mutations in the PCBD Gene Encoding the Bifunctional Protein Pterin-4a-Carbinolamine Dehydratase and Transcriptional Coactivator (DCoH)". American Journal of Human Genetics 1998: 62, 1302-1311.

Ayling, Dr. June E., Professor, Ph.D. Biochemistry; "Molecular and Cellular Pharmacology". University of California, Berkeley Postdoctoral, Cell Chemistry, Max-Planck Institute, Munich, Germany

Ayling J.E., S.W. Bailey, I. Rebrin, B. Thöny; "Stereospecificity and Catalytic Function of Histidine Residues in 4a-Hydroxy-tetrahydropterin Dehydratase/DCoH. and Biochemistry". 1998: 37, 11246-11254.

Berlin CM, HL. Levy, WB. Hanley; "Delayed increase in blood phenylalanine concentration in phenylketonuric children initially classified as mild hyperphenylalaninemia". Screening 1995: 4: 35-39.

Blaber, Dr. Michael; "Optical activity & stereochemistry of amino acids". Fall 2001: BCH 4053 Biochemistry I *Lecture 7*

Blaylock, Dr. Russell L.; "Excitotoxins: The Taste That Kills". 1994

Blaylock, Dr. Russell L; "Food Additive Excitotoxins and Degenerative Brain Disorders". Medical Sentinel. Nov/Dec 1999: Vol.4: 6

Blaylock, Dr. Russell L; "Aspartame, MSG, and other Excitotoxins and the Hypothalamus". www.dorway.com

Bowen MD, James D; "Amino Acid Isolates: Note Info on Aspartame and Parkinson's" April 2002: (Letter to: Oprah; Michael J. Fox and Parkinson's) www.dorway.com

Bressler, Jerome. FDA Investigator; "Establishment Inspection Report-The Bressler Report" 1977: U.S. Food and Drug Administration, EIR: G.D. Searle, Searle Laboratories. Summary of Findings (FDA). August 1977.

Brown, Scott; "Free Radicals Appear to Fuel Lou Gehrig's Disease ." At an international conference at George Washington University Medical Center it was noted amyotrophic lateral sclerosis (ALS) is probably caused by free radicals. Family Practice News, 12230 Wilkins Ave., Rockville, MD 20852, U.S.A.

Camu, W.; M. Billiard; M. Baldy-Moulinier; "Fasting plasma and CSF amino acid levels in amyotrophic lateral sclerosis: A subtype analysis." Service de Neurologie B, Hopital Gui-de-Chauliac, 2 Avenue Bertin-Sans, 34059 Montpellier Cedex France Acta Neurol. Scand. (Denmark), 1993, 88/1 (51-55)

Chiueh, CC; R.M. Wu; K.P. Mohanakumar; L.M. Sternberger; G. Krishna; T. Obata; D.L. Murphy; "In vivo generation of hydroxyl radicals and MPTP-induced dopaminergic toxicity in the basal ganglia." Unit on Neurotoxicology and Neuroprotection, National Institute of Mental Health, National Institutes of Health, Bethesda, Maryland 20892. Ann N Y Acad Sci (United States) Nov 17, 1994, 738 p25-36

Eisen, A; H. Stewart; M. Schulzer; D. Cameron; "Anti- glutamate therapy in amyotrophic lateral sclerosis: a trial using lamotrigine." Neuromuscular Diseases Unit, Vancouver General Hospital, British Columbia, Canada. Can J Neurol Sci 1993 Nov;20(4):297-301

Gordon, Gregory; "NutraSweet." WASHINGTON (UPI), UPI Investigative Report 1987

Gredal, O.; S.E. Moller; "Effects of branched-chain amino acids on plasma amino acids in amyotrophic lateral sclerosis." Department of Biochemistry, Res. Institute Biological Psychiatry, St Hans Hospital, DK-4000 Roskilde Denmark Amino Acids (Austria), 1996, 11/1 (37-42)

King, Michael W. Ph.D /IU School of Medicine. "Neurotransmitter Receptors". mking@medicine.indstate.edu

Lennon, VA; T.J. Kryzer; G.E. Griesmann; P.E. O'Suilleabhain; et al.; "Calcium-channel antibodies in the Lambert-Eaton syndrome and other paraneoplastic syndromes." *N Engl J Med.* 1995; 332:1467-1474.

Maher, Timothy J., Judith M.B Pinto; "Administration of Aspartame Potentiates Pentylenetetrazole- and Fluorothyl-Induced Seizures in Mice". 1988: Neuropharmacology, Vol. 27, No. 1, page 51-55..

Maher, Timothy J., Judith M.B. Pinto; "Aspartame and the Rat Brain Monoaminergic System". 1988: Toxicology Letters, 1986: Volume 44, page 331-339.

Metzenbaum, Howard M. United States Senator; "Letter from Senator Howard Metzenbaum on United States Senate Stationary (Committee on the Budget)". dated February 3, 1986: to Orrin Hatch , Utah ,who was the Chairman of the Labor and Human Resources Committee. Metzenbaum was a member of this committee, along with Ted Kennedy Strom Thurmond, Lowell Weicker, Christopher Dodd, Dan Quale, et al. U.S. Congress 1986. (www.dorway.com)

- Millstone MD, Erik; "Increasing Brain Tumor Rates: Is There a Link to Aspartame". 1996: Science Policy Research Unit, Mantell Building, University of Sussex Brighton, England.
- Muller, T., S.B. Peterson, U.Sonnevold, G. Unsgard; "Effects of aspartame on Ca⁺ influx and LDH leakage from nerve cells in culture". NEUROPHARMACOLOGY AND NEUROTOXICOLOGY Rapid Communications of Oxford Ltd 1995: Volume 6 (PP318-320) MR-Centre, SINTEF UNIMED, N-7034 Trondheim; University of Trondheim, Dept. of Neurosurgery, University Hospital N-7006 Trondheim; Norwegian Institute of Technology, Dept. of Biotechnology, N-7034 Trondheim, Norway
- Muller, WE; F.J. Romero; S. Perovic; G. Pergande; P. Pialoglou; "Protection of flupirtine on beta-amyloid-induced apoptosis in neuronal cells in vitro: prevention of amyloid-induced glutathione depletion." Institut für Physiologische Chemie, Abteilung Angewandte Molekularbiologie, Universität, Mainz, Germany. J Neurochem (United States) Jun 1997, 68 (6) p2371-7
- Mundy W.R.; T.M. Freudenrich; "Aluminum potentiates glutamate-induced calcium accumulation and iron-induced oxygen free radical formation in primary neuronal cultures." Kodavanti P.R.S. W.R. Mundy, Neurotoxicology Division, Natl. Hlth./Envtl. Effects Res. Lab., US Environmental Protection Agency, Research Triangle Park, NC 27711 United States Molecular and Chemical Neuropathology (United States), 1997, 32/1-3 (41-57)
- Natarajan, M. and M. Wilkinson; "Recovery of hypothalamic NMDA-induced c-fos expression following neonatal glutamate (MSG) lesions". Brain Res Dev Brain Res; Department of Obstetrics and Gynecology, IWK-Grace Health Centre, Halifax, NS, Canada. Aug 18, 1997: 102(1):97-104
- Nijmegen, G.L.; "Amino Acid Information Centre for Molecular and Biomolecular Informatics" University of Nijmegen, Toernooiveld 1, P.O. Box 9010, 6500,
- Olney, Dr. John W.; et al.; "Brain Damage in Mice From Voluntary Ingestion of Glutamate and Aspartate," Neurobehavioral Toxicology and Teratology, 1980: Volume 2, page 125-129.
- Olney, Dr. John W.; "Biochemical Basis of Functional Neuroteratology: Permanent Effects of Chemicals on the Developing Brain". Edited by Boer, G.J., et al., Elsevier, New York, c1988.
- Olney, Dr. John W.; "Excitotoxic Food Additives: Functional Teratological Aspects". In Progress in Brain Research, 1988. Volume 73
- Olney, Dr. John W.; "RESEARCHERS CALL FOR FURTHER STUDIES AFTER IDENTIFYING A POSSIBLE LINK BETWEEN ASPARTAME AND BRAIN TUMORS" Washington University School of Medicine, St. Louis
- Roberts, Dr. H.J.; "Reactions Attributed to Aspartame-Containing Products": 551 Cases," Journal of Applied Nutrition, 1988. Volume 40, page 85-94.
- Rowen, A. James; Bennett A. Shaywitz; et al.; "Species Differences in Methanol Poisoning," CRC Critical Reviews In Toxicology, October 1982, page 275-286. 1995.

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From: "Russell Blaylock, M.D." <dodd@netdoor.com>
Subject: Hypothalamus
Cc: dodd@netdoor.com

2653 08 JUL -3 10 24

Aspartame, MSG and other Excitotoxins and the Hypothalamus

The hypothalamus is a small area of the brain, no larger than the fingernail, that despite its small size, is responsible for controlling some of the most vital neural systems in the body. The wiring of the hypothalamus is some of the most complex in the nervous system, with connections not only to the pituitary, but also to the limbic system (emotional control system), hippocampus, striatum and brain stem. Through these connections it regulates emotions, autonomic control (parasympathetic and sympathetic), hunger and satiety, immunity, memory input, and anger control. Disruptions in this vital piece of brain can result in anything from minor behavioral problems or endocrine malfunctions to major disruptions in sexual functions, obesity, immune suppression and endocrine gland failure.

Newer findings indicate that the hypothalamus is involved in several endocrine syndromes, neurological diseases and even psychiatric disorders. As early as 1976, it was shown that aspartame feeding in mice could produce lesions in the hypothalamus of newborns. It should be realized that these are lesions (injuries) that can be seen through an ordinary light microscope. While the lesions produced by aspartame doses equiavlent to MSG will produce smaller lesions, they are significant none the less. Defenders of the safety of aspartame and MSG often report studies that have shown no damage to the hypothalamus when seen under the light microscope. Several studies have shown that the neurons can be injured without such visible physical damage being present. The effects may be physiological and biochemical without physical changes in the neuron.

Within the hypothalamus there are a number of collections of neurons called nuclei. The arcuate nucleus is consistently the most sensitive of these nuclei to MSG and aspartame toxicity. We know that this nucleus regulates growth hormone secretion, by way of the pituitary. But, what is less well appreciated is the fact that this nucleus has intimate connections to the other nuclei, such as the supraoptic nucleus and paraventricular nucleus. Indeed, when animals are given doses of MSG or aspartame, these nuclei are injured as well. Several studies have shown shrinkage of the pituitary, thyroid, adrenals and gonads in animals exposed to high concentrations of these excitotoxins. In addition, a

consistent finding is gross obesity in animals exposed to these excitotoxins early in life. Some have raised the question concerning the connection between a high intake of food borne excitotoxins and the dramatic rise in childhood obesity over the past two decades.

In animals made obese by damaging hypothalamic nuclei, one frequently sees accompanying violent outburst. We also know that directly injecting micromolar quantities of MSG into certain hypothalamic nuclei can precipitate an explosion of violence in experimental animals. The hypothalamus is one of the areas of the brain not protected by the blood-brain barrier. This is of special concern during childhood, since exposure to high intakes of excitotoxins, such as aspartame, can alter the development of the hypothalamus, leading to sexual maldevelopment and endocrine problems that will appear later in life. For example, we know that infant animals exposed to excitotoxins will have fewer offspring and the offspring will be smaller than normal.

When the hypothalamus is exposed to excitotoxins early in life, the neural connections are often misdirected. Something I have called, mis-wiring of the brain. What this means is that a mis-wired hypothalamus will not react normally to the internal and external environmental cues that normally control our endocrine system. This could lead to infertility, hypothyroidism, adrenal hypoactivity, growth retardation and even emotional or intellectual problems later in life. All of these have been reported in studies using excitotoxin models.

Many other problems have been traced to excitotoxin damage to the hypothalamus. For example, it is known that exposure of infants to high dose excitotoxins can result in immune system impairment throughout life. This would translate into more infections, cancer, and autoimmune diseases.

Recently, Trocho and co-workers discovered that the methanol in aspartame appears to attach to the DNA of cells after it is metabolized to formaldehyde, and is not only very difficult to remove, but results in numerous DNA deletion injuries. This could increase cancer risk as well as risk of other degenerative diseases, such as lupus, diabetes and Alzheimer's disease.

It is now known that glutamate (and therefore aspartate) is the major neurotransmitter in the hypothalamus and therefore excess concentrations may affect all of the various nuclei in the hypothalamus. This means that virtually every function of the hypothalamus is vulnerable to excitotoxin damage, both subtle and acutely dramatic, depending on the dose. In normal everyday life we are exposed to numerous excitotoxins added to foods and drinks, in the form of MSG, cysteine and aspartame. Several studies have shown that these toxic doses are synergistic, that is, they are more than just the sum effect of each

excitotoxin. Therefore, a meal of MSG laden soup, a diet cola and foods with hydrolyzed vegetable protein and natural flavoring, could easily damage the hypothalamus, as well as other portions of the nervous system. During pregnancy, the deleterious effects could be even more devastating, since it will affect the development of the brain itself.

Another possibility, is the effect of excitotoxins on the sympathetic nervous system-controlling centers in the hypothalamus. Over stimulation could result in cardiac electrical abnormalities leading to sudden death. This has been demonstrated by hypothalamic stimulation experiments. There have been clinical reports of cardiac related emergency room visits following a meal high in excitotoxin additives. Sudden deaths following such meals have also been reported. Since most hospitals rarely consider this in their differential diagnosis, we have no accurate data as to the number of ER visits and deaths related to this event. I suspect the numbers would be quite high.

In conclusion, there is compelling evidence to indicate that food additive excitotoxins, such as aspartame, pose a serious danger to our well being, especially so in the case of children and the elderly. It has been demonstrated that excitotoxins in the diet can dramatically elevate free radical generation for prolonged periods of time and that once induced, it triggers a viscous cycle that ends in neuron death. Most authorities now agree that elevated free radical generation is associated with virtually all degenerative diseases as well as most injuries and toxins. It makes little sense to expose the general public to a product that we know increases free radical generation so dramatically and is associated with laboratory proven injuries to the nervous system.

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WHAT'S BLINDING THE WORLD?

By: H. J. Roberts, M.D. 654 01 31-3 10 24

The following is a report just completed by H. J. Roberts, M.D. on the damaging effects of aspartame on the eye. The corporate mascot for the NutraSweet Company is blind Mr. Magoo: amazingly appropriate in view of the following:

Mr. Roberts "EYE PROBLEMS"
PROFESSIONAL OPINION OF H. J.
ROBERTS, M.D., F.A.C.P., F.C.C.P., CON-
CERNING THE USE OF PRODUCTS
CONTAINING ASPARTAME
(NUTRASWEET®) BY PERSONS WITH
EYE PROBLEMS

It is my opinion that individuals who consume products containing aspartame, including drugs and supplements, should avoid them when no specific cause can be found for the eye problems:

- * Decreased vision -- including blindness in one or both eyes
- * Blurring, "bright-flashes", tunnel vision, "black spots"
- * Double vision
- * Pain in one or both eyes
- * Decreased tears
- * Difficulty wearing contact lens
- * Unexplained retinal detachment and bleeding

The same precaution is reasonable for persons in whom these complaints are due to other disorders because they could be aggravated by aspartame, even in minimal amounts.

* Surgery of immature cataracts should be deferred in patients who consume aspartame until after abstaining from it for 1-2 months to determine if spontaneous improvement of vision occurs.

* Impaired vision of diabetic patients should not be assumed to be due to diabetic retinopathy without such a "no aspartame test" trial.

* A similar trial is warranted in persons diagnosed as having "macular degeneration".

* The diagnosis of "early multiple sclerosis" - based on concomitant eye and neurologic features - should be deferred pending a "no aspartame test".

There is no bias or malice intended against any company, distributor, researcher or professional who may hold contrary views.

THE ROLE OF ASPARTAME

Each of the components of aspartame - phenylalanine (50%); aspartic acid (40%); the methyl ester, which promptly becomes methyl alcohol or methanol (10%) - and their multiple breakdown products after exposure to heat or during prolonged storage is potentially toxic to the retina and optic nerves. These organs are highly vulnerable to metabolic disturbances and neurotoxins because of their unique metabolic requirements. Methanol causes swelling of the optic nerve and degeneration of ganglion cells in the retina.

What's Blinding The World?

Particular attention is directed in this regard to (1) the formaldehyde and formate (formic acid) that result from the breakdown of methyl alcohol, a severe metabolic poison, and (2) the D-aspartic acid stereoisomer.

AN OVERVIEW

In my publications and in testimony to Congress and FDA advisory group, I have expressed the belief that the current wholesale ingestion of aspartame products by over half the adult population constitutes a probable "imminent public health hazard." My concern is bolstered by (1) evidence that these products may play a causative or aggravating role in many other medical disorders (including headaches, dizziness, confusion, memory loss, impaired hearing, ringing in the ears, convulsions, and probably brain tumors), (2) the flawed nature of most "scientific" studies being used to prove the alleged safety of these products, and (3) reports of serious reactions volunteered to the FDA by over 7,300 irate consumers.

In the present context, these statistics are pertinent.

* In my earlier report on 551 aspartame reactors (the data base is now 833), decreased vision was a major problem in 140 (25.4%), severe pain in 51 (8.3%), and "dry eyes" or trouble wearing contact lens in 48 (8.3%). Sixteen patients have lost vision in one or both eyes.

* The FDA (as of August 1995) had re-

ceived complaints about a change in vision from 384 consumers, and "eye irritation" from 30.

These complications tend to be magnified in persons with diabetes, hypertension, unrecognized hypothyroidism (underactive thyroid), hypoglycemia (low blood sugar reactions). Reaction to MSG, treatment with aspirin and other drugs that can irritate the optic and auditory nerves, persons who smoke or drink alcohol, and problems associated with aging. They become compounded by the threat of falls and driving accidents.

"DRY EYES" FROM USE OF ASPARTAME (NUTRASWEET)

Associated Insights Concerning the Sjogren Syndrome

The Townsend Letter for Doctors, Jan. 1994, by H. J. Roberts, M.D., FCCP, FACA.

Abstract

"Dry eyes" and associated difficulty in wearing contact lenses were prominent complaints offered by 56 (8.3%) of 551 aspartame reactors. Xerostomia (dry mouth) was a frequent concomitant. The symptoms promptly improved after they stopped aspartame-containing products, and predictably recurred on aspartame rechallenge. The concomitant joint pains, severe confusion, memory loss and depression also have clinical significance, with special reference to the Sjogren syndrome.

What's Blinding The World?

The cause and management of "dry eyes" challenge ophthalmologists and primary care physicians. This symptom was unexpectedly and repeatedly encountered among patients manifesting other reactions to products containing aspartame, a sweetener currently being consumed by 54% of adults in the United States. This complaint was encountered in both the routine questioning of apparent aspartame reactors and a computerized, 9-page survey of such individuals. Many also volunteered difficulty in wearing contact lenses due to decreased tears, dry mouth (xerostomia), joint pains, confusion and memory loss - all specifically attributed to the use of aspartame products.

Results

Dry eyes, ocular irritation from contact lens, or both, occurred in 46 (8.3%) aspartame reactors. In addition to the sensation of local discomfort and "sand" in the eyes, the eyelids of such patients tend to become swollen and infected, at times with loss of eyelashes.

The causative or contributory role of aspartame was indicated by these clear-cut clinical correlates: (1) prompt and gratifying improvement of ocular and other symptoms following the cessation of aspartame, generally within several days; and (2) their recurrence shortly after resuming such products. This sequence predictably recurred after rechallenge with aspartame, known or inadvertent.

These observations have been duplicated by more than a score of patients complaining of dry eyes in subsequent aspartame reactors. There were related problems. For example, a physician who consumed considerable diet sodas developed a type of corneal dystrophy generally associated with the chronic use of certain drugs (e.g., indomethacin).

*****Dr. James Bowen*****

In a statement to the FDA by Dr. James Bowen he said: "Every known metabolite of aspartame is of marked or questionable toxicity and patently unsafe for human use". Methyl alcohol is metabolized to nascent formaldehyde in the eye, nervous system and other metabolically active organs. It immediately attacks and denatures the tissue structure proteins in which it is metabolized to nascent formaldehyde. This stimulates specific organ and subcellular autoimmunity which seems to be a preponderant source of the bad experiences reported by NutraSweet victims. Aspartic acid is a neuroexcitotoxin present in damaging amounts in its own right, at the ADI for aspartame.

Simple logic tells one that it will vastly increase the metabolism of methyl alcohol to formaldehyde in the desinosomes of the periventricular cells of the central nervous system, thus focusing the nascent formaldehyde attack there. This corresponds well with the symptomatology often experienced, such as Lou Gehrig's

What's Blinding The World?

Disease (ALS), bulbar palsies, neurohormonal disorders, etc. Also visual disturbances, heart palpitations, infertility and fetal loss may be traced to aspartame ingestion. The diketopiperazine issue remains totally unresolved and dangerous. The amino acids that are released by hydrolysis, from eimers and isomers that are either not sufficiently studied, or which are known substrates in undesirable pathological states such as Alzheimer's disease."...

***** Merck Index *****

Merck Index: Tenth Edition: 5816:

Methanol: Methyl alcohol..wood alcohol...

"Poisoning may occur from ingestion, inhalation or percutaneous absorption.

Acute Effects: Headache, fatigue, nausea, visual impairment or complete blindness (may be permanently), acidosis, convulsions..respiratory failure, death. Death from ingestion of less than 30 ml. has been reported..."

That's very interesting since this is what we see with aspartame, and I for one don't want methanol in my food and drink or body. Yes, it is a solvent, and that's what it should be used for not added for food.

The Merck goes on: "Industrial solvent: Raw material for making formaldehyde and methyl esters of organic and inorganic acids ..

This is what happens in your body. Methanol converts to formaldehyde and

formic acid (ant sting poison) and causes metabolic acidosis.

In the book *FUNDAMENTALS OF CHEMISTRY* BY Jean Bogert, eighth edition, on page 286 it says: "Methyl Alcohol or "wood alcohol" taken internally is a dangerous poison. It paralyzes the optic nerve and as little as 10 cc may cause blindness. Its use as a solvent in industries causes a hazard for workmen unless forced ventilation is installed, since continual breathing of the vapors, may result in blindness. A similar hazard exists when it is used as an antifreeze agent in automobile radiators, since it is vaporized by engine heat and the toxic vapor may be swept back into the car. Methyl (wood) alcohol is sometimes present in improperly prepared distilled liquors and is added to ethyl alcohol to render it unfit for beverage purposes. ("denatured alcohol")."

The problems coming from this in aspartame are very serious, especially so much vision loss and blindness. Even the Government says they are going to redo the currency in 1996 because people are having problems reading it and they think its coming from diabetes. Well aspartame triggers diabetes (Dr. Russell Blaylock, neurosurgeon says that in his book *EXCITOTOXINS; THE TASTE THAT KILLS*) and it triggers blindness. People begin to slur their words when they get a good deal of aspartame and lose their equilibrium. We

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FOCUS

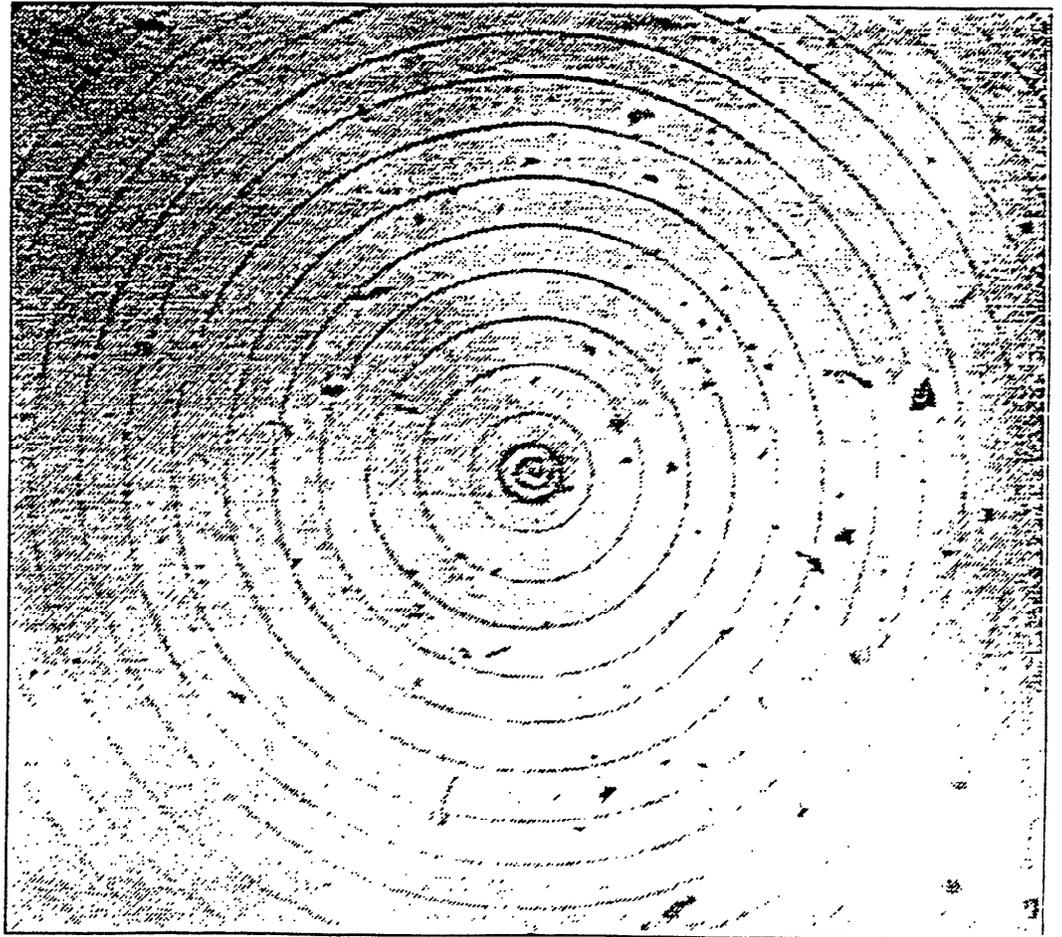
is a information forum produced for individuals seeking information and alternative resources for the treatment of retinal degenerative disorders.

SUBMIT
COMMENTS
AND ARTICLES TO
FOCUS
Box 128
Lakeville, MI
48366

F O C U S

AN ALTERNATE INFORMATION FORUM FOR
RETINAL DEGENERATIVE DISORDERS

PRESS RELEASE - NEW RP STUDY



This is how I would picture my concept of what my vision is according to my doctor.

Caption by: Scott Nelson
Artist: Unknown

What's Blinding The World?

have so many case histories where they are diagnosed as multiple sclerosis when in reality its a methanol toxicity which mimics MS. If you will read my post in nutrition newsgroup under Coca Cola/Health-Attitude you'll see a case history of exactly that. We see these cases over and over again.

There is so much blindness from aspartame that in October, 1986 the Community Nutrition Institute in Washington, D.C. filed a petition with the FDA to have it banned because of its link to blindness. (CHICAGO SUN TIMES, Friday, October 17, 1986 titled: CONSUMER GROUP LINKS NUTRASWEET TO BLINDNESS) The methanol converts to formaldehyde in the retina.

This is especially serious in diabetics because sometimes physicians think it's just diabetic retinopathy when their patients are going blind. There are so many diabetics going blind because of aspartame and its just criminal. As a man told me just this last Saturday: "My mother was doing so well as a diabetic. She had been using saccharin but decided to switch to NutraSweet. She went completely blind." I hear that so much its like a broken record. And this is just one of the reasons we are trying so desperately to get this poison off the market.

In the article in the Chicago Sun Times they quote Dr. H. J. Roberts who said: "Of 360 patients he has diagnosed as having

aspartame-related problems, Roberts said, about one-fourth had decreased vision or blindness, nearly half had severe headaches and substantial numbers had epileptic seizures, confusion or memory loss, extreme depression and marked personality change." Keep in mind this was in 1986 when was in about 600 products - now the patent has expired and its in 5000 products and climbing!

Dr. Austin goes on about CHRONIC OR PROLONGED EXPOSURE IN HUMANS: "Many of the signs and symptoms of intoxication due to methanol ingestion are not specific to methyl (wood) alcohol. For example, headache, ear buzzing, dizziness, nausea and unsteady gait (intoxicated or drunk type of walking), gastrointestinal disturbances, weakness, vertigo, chills, memory lapses, numbness and shooting pains in the lower extremities, hands and forearms, behavioral disturbances and neuritis. The most distinctive signs and symptoms of this type of poisoning in humans are the various visual disturbances such as: misty vision, progressive contraction of the visual fields (tunnel vision) mist before the eyes, blurring of vision and indistinct vision."

An indepth report is on line on the FOCUS website at
<http://www.focusnewsletter.org/aspartam.htm>

Visit the website on aspartame at <http://www.dorway.com/>

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(Send a copy to a friend)

Text Only

Major Aspartame Crimes - Corporate & Government

From Betty Martini <Mission-Possible-USA@altavista.net>

Open Letter to Janet Reno, Justice Department

4-4-00

Dear Mrs. Reno:

I'm writing to advise you of serious corporate and bureaucratic crimes. Title 18, Section 1001, Criminal Code declares: Whoever, in any matter within the jurisdiction of the executive, legislative or judicial branch of the Government of the United States, knowingly and willfully -

- * (1) falsifies, conceals, or covers up by any trick, scheme, or device a material fact;
- * (2) makes any materially false, fictitious, or fraudulent statement or representation;
- * (3) or makes or uses any false writing or document knowing the same to contain any materially false, fictitious, or fraudulent statement or entry, shall be fined under this title or imprisoned ...

FDA wanted Searle indicted for fraud, but U.S. Prosecutors Skinner and Conlon switched sides and the statute of limitations expired. Finally, Dr. Arthur Hull Hayes, FDA Commissioner, overruled the Board of Inquiry and approved aspartame and hired with NutraSweet's PR. He has refused to speak to the press ever since.

Section 402 of the FDC Act 21 provides a food is adulterated if it contains, in whole or in part "...a decomposed substance or if it is otherwise unfit for food". The National Soft Drink Association in their protest against aspartame approval in 1983 recorded this, as found in the Congressional Record of May 7, 1985, Page S 5509, Senate.

NSDA knew aspartame decomposes in soft drinks. They objected: "Searle has not demonstrated to a reasonable certainty that aspartame and its degradation products are safe for use in soft drinks. ... Aspartame is inherently markedly and uniquely unstable in aqueous media. In a liquid, such as a soft drink

aspartame will degrade as a function of temperature and pH." S5507

Inferior test methods were used by Searle as NSDA explained: "High pressure liquid chromatography is a far superior analytical method relative to thin layer chromatography and numerous HPLC methods exist for the detection and quantification of amino acids. Searle's choice of TLC over HPLC adversely affected the quality and type of analytical data generated on aspartame and its decomposition products in soft drinks." S5507 " an important decomposition product of APM, aspartic acid cannot be detected at all using TLC." S 5508

"The inability to account for as much as thirty-nine percent of aspartame's decomposition products is significant." "The marked and rapid decomposition of aspartame in soft drinks under temperatures known to prevail is apparent from data in the present record and discussed above in these objections." S 5509 (So APM could not be legally added to carbonated beverages under Section 402 because it decomposes and NSDA admitted that happens.)

CRIME BY NSDA MEMBERS: COKE, PEPSI ET AL The FDA broke the law by approving aspartame for carbonated beverages. NSDA has full knowledge they are violating this law by adding aspartame to soft drinks. After protesting it was illegal they flipped and lobbied for NutraSweet.

Senior FDA toxicologist, Dr. Adrian Gross, tried to prevent approval and testified in Congress aspartame violated the then existing Delaney amendment forbidding any carcinogen in food products and named brain tumors. he said; "And if the FDA itself elects to violate the law, who is left to protect the public?" Congressional Record SID85:131 (8/1/85)

A study by Trocho, Pardo, et al demonstrated significant amounts of formaldehyde accumulate in the tissues. Formaldehyde binds strongly to proteins and nucleic acids, forming adducts extremely difficult to eliminate through normal metabolic pathways. Formaldehyde accumulated in high concentrations in the liver and in substantial concentrations in the kidney, adipose tissue, brain and retina. Aspartame is do-it-yourself embalming! (Formaldehyde derived from dietary aspartame binds to tissue components in vivo. Life Sciences 63: 337-349, 1998.)

CRIME BY CDC In 1984 they investigated consumer aspartame complaints including aggression, disorientation, hyperactivity, liver impairment, panic attacks, seizures, suicidal tendencies, severe mood swings, memory loss, numbness, cardiac arrest, loss of depth perception and DEATH. Then Fred Trowbridge wrote a criminal executive summary contradicting the data and directly violating Title 18, Section 1001. His summary claimed these findings were mild. Mild cardiac arrest; Mild Death! Now CDC responds to citizen

inquiries with only this fraudulent summary.

CRIME BY FDA The FDA distributes to the public and physicians the International Food Information Council brochure (<http://www.dorway.com/offasprrt.html> (or .txt) which contains false and misleading information. It tells consumers aspartame was proven safe when it triggers brain, pancreatic, mammary, uterine, ovarian and testicular tumors, atrophied testes and grand mal seizures. See Dr. Gross' letters on web. See FDA's own audit, the Bressler Report.

The FDA's own list of 10,000 consumer complaints list 92 symptoms triggered by aspartame including 4 types of seizures, coma and death. Aspartame is 50% phenylalanine which invades the brain, lowers the seizure threshold and depletes serotonin. Lowered serotonin can trigger manic depression, suicidal tendencies, rage, panic attacks, anxiety, mood swings, etc. Surgeon General Satcher says 22% of the population suffer from mental problems. American toddlers are taking Prozac and Ritalin.

CRIME BY MONSANTO Monsanto (bought Searle in 1985) recently sold NutraSweet. Monsanto propaganda and funding of trade organizations to spread misleading information violated Title 18. Doctors are unable to diagnose patients because they don't know aspartame is addictive, interacts with other drugs and changes brain chemistry triggering deadly symptoms and fatal diseases. Aspartame hardens the synovial fluids producing agonizing joint pain. Patients are misdiagnosed as having fibromyalgia (a diagnostic wastebucket).

CRIME BY ASSOCIATIONS The FDA and the organizations like the American Diabetes Association, the American Dietetics Association, Juvenile Diabetes Foundation, AMA, MS and Lupus foundations who are funded by NutraSweet and spread their misinformation are in criminal violation of Title 18.

Dr. H. J. Roberts paper on aspartame addiction shows Monsanto and the FDA have made drug addicts of 100 million consumers in this country alone. Methanol is classified as a narcotic in Louis R. J. Sax's Dangerous Properties of Industrial Materials, Eighth Edition, New York, Van Nostrand Reinhold (1992) pp. 2251-2252. And aspartame which also triggers birth defects is even in children's products like Pedialyte and medication.

James Bowen, M.D., (<http://www.dorway.com/drbowen.txt>) declared to FDA: "This has resulted in the mass poisoning of the American public as well as seventy-plus countries in the rest of the world.the only responsible action would be to immediately take aspartame off the market, fully disclose its toxicities, offer full compensation to the injured, public and criminally

prosecute anyone who participated in the fraudulent placement of aspartame on the marketplace."

1. Aspartame was added illegally to carbonated beverages. 2. Since it breaks down in beverages blanket approval granted in 1996 should be repealed. 3. Since aspartame approval broke the criminal code, a major investigation should be initiated. Even the Dr. Michael Friedman of the FDA, whom we sent case histories too was hired by Monsanto in June. Perhaps they should simply call FDA, Monsanto's Washington Branch office. 4. An injunction should be immediately issued to suspend the sale of the NutraSweet Company to prevent transfer of liability.

Mrs. Reno, is there a crime more gigantic than genocide? If you allow Monsanto, the FDA, CDC, Coke, Pepsi and organizations to operate outside the law and intentionally mislead the public why not open the prisons to allow ordinary criminals freedom?

I am asking this open letter be spread the world over and published, and copies be sent to every Attorney General in the United States. Also, I'm asking for those knowledgeable of the many studies I've been told were never published on aspartame that caused disability and death to come forward. These informants should write me at 5950 H State Bridge Road, PMB 215, Duluth, Georgia 30097, and case histories should iii be sent to this address.

Betty Martini, Mission Possible International 770 242-2599
<http://www.dorway.com> (reports mentioned in post are on web - for map send empty email to help@dorway.com)

law says an additive by law must be inert - FDA approved a drug as an additive - another crime!

Aspartame Murders Infants -
Violates Federal Genocide Law
By James Bowen, MD 5-6-00

ASPARTAME TOXIC MECHANISMS -

ABORTIFACIENT
Abortion causation

TEROTOGEN
Birth defect production

ADJUVANT
Forms antigenic tissue, triggering immunologic attack, fetal wastage

CHELATION
Chelates metals, promotes heavy metal poisoning

SOME ASPARTAME TOXIC AGENTS -

Methyl alcohol
Phenylalanine [PHE]
Aspartic Acid
Diketopiperazine
Formaldehyde
Formic acid

Aspartame, APM, is sold as NutraSweet and Equal and is in thousands of foods and diet drinks. At every point in the fertility process APM destroys, beginning with the gleam in Mom and Pop,s eyes: it ruins female sexual response and induces male sexual dysfunction. Beyond this, aspartame disrupts fetal development by aborting it or inducing defects. And if a live child is born aspartame may have heinously damaged the DNA of the baby, cursing future generations.

APM,s abortifacient properties are inherent in its structure. As the 3-cornered molecule is metabo- lized it releases methyl alcohol, plus phenylalanine and aspartic acid, both neurotoxins. The methyl alcohol breaks down into formaldehyde, then formic acid. APM methyl alcohol/formaldehyde poisoning, engenders a host of cumulative degenerative diseases and functional abnormalities. Isolated phenyalanine and aspartic acid are neurotoxic.

Formaldehyde is recognized as a potent adjuvant which causes foreign proteins to be recognized as antigens by the immune system, triggering immune responses to destroy them. Because of its adjuvancy formaldehyde is included in many vaccines. A challenge the mother,s body must overcome to carry a fetus is keeping the maternal immune system from identifying the varied fetal tissues as foreign proteins and destroying them. APM denatures fetal tissues creating an antigenicity stimulus enticing destruction by the maternal immune system. This termination of pregnancy can be so rapid that the mother may not notice a delayed period or she may miscarry almost immediately.

The ability of methyl alcohol/formaldehyde to create antigenicity, especially as combined in APM molecules is so great as to cause severe autoimmune reactions to the tissues deformed by formaldehyde polymerization, adduct formation. The immune system turns against the victim,s tissues: Lupus.

Beyond the danger of attack from the maternal immune system, APM directly damages the fetus. A good reference point is fetal alcohol syndrome: lifelong deformity, disability and loss of mental acuity in infants who survive maternal alcohol abuse. Even moderate use of beverage alcohol by the mother abuses the fetus and its future. Methyl alcohol is fifty times as potent an intoxicant as ethyl alcohol [beverage alcohol]. Formaldehyde is 5,000 times more potent. Assembled in the carefully crafted APM molecule these neurotoxins are about 20,000 times more potent than beverage alcohol.

Because of APM,s extreme toxicity even minute doses are destructive, damaging fetal nervous systems and related structures. Eyes and hearing come to mind. All tissues are similarly damaged as beyond its functional neurological intoxicating effects, methyl alcohol/formaldehyde is the strongest organic base in the living organism and is a polymerizing

agent, turning tissue into plastic. From such poisoning there is no escape, it is obligatory metabolism by alcoholdehydrogenase of methyl alcohol into nascent formaldehyde, occurring 75% in the cytosol [cytoplasm] and 25% in the mitochondria.

A SHORT LESSON on PROTEIN FORMATION: Proteins are usually four long chains [polypeptides] of the 20 amino acids we get from food. Amino acids are structures of 10 to 27 atoms. [hydrogen, oxygen, carbon, nitrogen, one has an atom of sulfur] These 20 amino acids the are letters of the biochemical alphabet which spell out proteins, some of which contain thousands of amino acids. To support rapid growth the fetus requires lots of amino acids which the placenta supplies in 400% concentration. Amino acids in fetal veins are four times that in the mother,s blood. Natural foods are complex mixes of amino acids, no food is merely one or two isolated amino acids, as is APM.

APM is 50% phenylalanine [PHE] which is a nutrient when accompanied by other amino acids, however isolated PHE is toxic, especially for the fetus or infant. Dr. Louis Elsas, Professor of Pediatrics [Genetics] at Emory University, testified to Congress: "I have spent 25 years in biomedical sciences trying to prevent birth defects caused by excess phenylalanine. And therein lies my basic concern, that aspartame is in fact a well known neurotoxin and teratogen which, in some as yet undefined dose, will both reversibly in the adult and irreversibly in the developing child or fetal brain, produce adverse effects. Senate Hearing 11/3/87 Labor & Human Resources Committee

The 400% placenta-supplied concentration of isolated phenylalanine from APM causes mental retardation! The PHE in a plate of beans is absorbed in about 20 hours in competition with the other amino acids. The PHE in a Diet Coke is absorbed in a few minutes in competition with nothing. This is highly significant because amino acid biochemistry at enzyme sites is competitive and PHE out-competes all the others, which means isolated PHE from APM, in the fetal brain with no competition, destroys it!

I have a cerebral palsied grandchild because my daughter-in-law refused to listen and drank NutraSweet pop during her pregnancy. A nurse who headed a visiting nurses association in Nebraska has two cerebral palsied grandchildren from NutraSweet. Their mother said "Oh Mom, its that safe natural NutraSweet. Only when she delivered her second palsied child did she admit her life was devastated from trusting the FDA, the media, and the APM advertising by "ethical food, beverage and drug industries.

Another nurse, a close personal friend in Walla Walla, Washington, had a grandchild so cerebrally palsied by aspartame it will never lift its head from a pillow but merely stare blankly into space for its whole life. Their church eschews using large amounts of sugar, so the father came home and announced "No more sugar in this household! We,re going to use that safe natural NutraSweet from now on.

Heel-stick blood sampling is routine on newborns to screen for Phenylketonuria to identify infants with PKU so to protect them from the severe brain damage they can sustain from even a single meal of foods high in phenylalanine. Think of the damage to PKU infants by maternal APM consumption. Consider the shroud of tragedy that overcame the lives of these hopeful parents, then multiply their number by hundreds, by

thousands, and find a better word than MURDER!

APM is 40% aspartic acid. This amino acid, when isolated, is excitotoxic, it excites neurons or brain cells, to death. Like formaldehyde, APM is a chromosomal damaging agent. The neurological dangers to the developing fetus are obvious. The chromosomal damage in the mother may be inherited by the fetus and since a female fetus contains at birth all the ova she'll ever have, future generations are forever endangered by inherited chromosomal damage as well the damage to her developing ovaries from the aspartame her mother consumes during pregnancy.

So-called "health supplements made of isolated phenylalanine, aspartic acid, glutamic acid [glutamates as in MSG] and other dicarboxylic amino acid neuroexcitotoxins such as picinolates are marketed either as acts of blind ignorance or deliberate malice. They do the exact opposite of what they're sold for, i.e. isolated phenylalanine can cause nerve transmitter disruption, brain malnutrition and neurotoxicity leading to impaired mental functioning, depression, headaches, and other reactions.

BRAIN TUMORS: As it breaks down APM creates diketopiperazine and with the intact APM molecule you have the two greatest brain tumor carcinogens discovered by science thus far responsible for the massive brain tumor epidemic we now witness. The methylated aspartyl radicals such as the N-methylD aspartyl radical, et al, are recognized as causative of about every known neuro-degenerative disease. To independently research these issues look up "The Proceedings of the First International Symposium on Phenylalanine Metabolism by Dr Richard Wurtman, head of Neuroendochronology at MIT. He has since for his own reasons become a defender of APM, but the record created by the world's best minds on phenylalanine pathologies are in that document. Read Dr. Hyman Roberts, excellent books documenting APM causation of schizophrenia by its action in the mid brain and cerebral cortex. Websites: www.dorway.com www.holisticmed.com/aspartame www.aspartamekills.com

CHELATION: [Chelate, from the Latin word for Claw, a chemical which seizes and holds other chemicals, often metals] Aspartame was kept off the market by the once intact FDA. A compelling reason the FDA rejected APM is its potent chelating activity, which rapidly picks up toxic metals and carries into the body even metals the body would normally refuse to absorb through digestion. The extreme lead poisoning danger to a child's developing brain and organs is well known. Many metals NutraSweet carries into us are as damaging as equal concentrations of lead. The strongest evidence is what APM does to people. Consider this 3/23/00 report from B. Lynn. FDA will call this deplorable tragedy an "anecdote.

"My [then] 5 year old daughter was getting migraine headaches and vomiting. My sister-in-law, an RN, told me to get her off the diet soda. I have only seen two such headaches in the last three and a half years, no vomiting. My mother, an avid drinker of Diet Coke suffered a stroke at 53. My aunt at 57 suffered a stroke. My nephew at four months was Dx with Infantile Spasms. My friend, after months of tests and pain was Dx with Fibromyalgia, drinks 5-6 Diet sodas a day.

In 1995 I suffered a miscarriage. 3 months later I conceived my son. He was born with VACTERL Association. He had every anomaly in the

association:

V Vertebra, he had a tethered spinal cord

A Anal Artesia [no anal opening]

C Cardiac, open heart surgery at 5 months

TE Trachea Esophageal Artesia. Esophagus attached to his Trachea

R Renal/Radial defects. He has a hypo plastic thumb and a horseshoe kidney

L Limb defects One arm shorter, skeletal anomalies still being discovered

They could never explain why my perfect pregnancy produced such a child. I sent this to some friends that belong to support group for children with anorectal malformations. The response will be emotional to say the least. We've all searched for an answer to what caused these horrible defects in our children. A better word than murder? GENOCIDE! There,s a Federal Law against Genocide: Criminal Code, Title 18 Chapter 50A, Sec 1091-3 It has no statute of limitations, & provides: Whoever , whether in time of peace or time of war, with specific intent to destroy, in whole or in substantial part, a national, ethnic, racial or religious group as such--

- (1) Kills members of that group
 - (2) Causes serious bodily injury to members of that group
 - (3) Causes the permanent impairment of the mental faculties of members of the group through drugs, torture or similar techniques
 - (4) Subjects the group to conditions of life that are intended to cause the physical destruction of the group in whole or in part
 - (5) Imposes measures intended to prevent births within the groups
- Shall be punished as provided in subsection B
[B says if death results: Death or life imprisonment & a fine of not more than \$1,000,000]

All five rules have been smashed by the aspartame/NutraSweet industry. We, the population of the United States are the Group. The sellers of APM poisoned foods and drinks knew in advance the havoc it would wreck on our nation,s health. That knowledge establishes intention. Test SC18862, submitted for APM approval involved feeding aspartame to 7 infant monkeys. One died; 5 had grand mal seizures, an 86% casualty rate, nevertheless FDA approved the poison so is equally culpable with the manufacturers. 75% of all complaints on food additives are on APM which FDA tallied into a list of 10,000 consumer complaints of 92 symptoms, including death, but you can't get the list without a Congressman.

Note #3, mental impairment: APM depletes serotonin from which victims suffer manic depression, hallucinations, paranoia, rage, suicidal tendencies, anxiety and panic. Surgeon General Satcher said 22% of the population now suffer mental problems. APM is involved! I,ve shown how rule #5 is fulfilled by destruction of our unborn and living children. This law makes all producers and marketers of aspartame criminals. What will the justice department and the courts do to protect us?

Contact Betty Martini, Mission Possible International 770 242-2599
www.dorway.com

See new article in the June, 2000, Ecologist.

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Brain Damage in Mice From Voluntary Ingestion of Glutamate and Aspartate¹

JOHN W. OLNEY, JOAN LABRUYERE AND TAI SIJA DE GUBAREFF

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Received 27 June 1980

OLNEY, J. W., J. LABRUYERE AND T. DE GUBAREFF. *Brain damage in mice from voluntary ingestion of glutamate and aspartate*. NEUROBEHAV. TOXICOL. 2(2) 125-129, 1980.—Previous studies have shown that the putative excitatory neurotransmitters and neurotoxins, glutamate (Glu) and aspartate (Asp), destroy neurons in the brains of various animal species when administered orally by feeding tube. It has been argued, however, that Glu and Asp are safe for human use as food additives since tube feeding is not a natural means of oral intake and efforts to demonstrate the brain damage in animals from voluntary ingestion of Glu or Asp have yielded negative results thus far. Here we demonstrate that weanling mice will voluntarily ingest large enough volumes of aqueous solutions containing Glu or Asp (or both) to sustain conspicuous hypothalamic damage. Certain deficiencies in the design of prior voluntary intake studies may explain the failure of others to demonstrate brain damage from voluntary ingestion of these excitatory neurotoxins.

Brain damage Voluntary ingestion Glutamate Aspartate Excitatory neurotoxins
Excitotoxic food additives

WHEN administered subcutaneously or orally (by feeding tube), glutamate (Glu) induces acute necrosis of neurons in select regions of brain that lack blood brain barriers [2, 7, 10]. Susceptibility has been demonstrated in many species, including mice, rats, rabbits, chicks, guinea pigs, hamsters and rhesus monkeys (reviewed in [14]) and in both infant and adult animals, although the latter are susceptible only at substantially higher doses [10,13]. Glu and its close structural analogue, aspartate (Asp), are both abundantly present in brain and are suspected of being the neurotransmitters released at the majority of excitatory synapses in the mammalian central nervous system [5]. It seems likely that a neuroexcitatory mechanism underlies the neurotoxicity of Glu since a series of structural analogues, including Asp, which excite central neurons when iontophoresed onto their surfaces, also mimic Glu neurotoxicity when administered systemically [17]. Moreover, these compounds have parallel orders of potency for their neuroexcitatory and neurotoxic activities and compounds which do not possess excitatory activity do not mimic Glu neurotoxicity [4, 17, 20]. The term "excitotoxin" has been suggested as an appropriate referent for this group of neuroactive compounds [14].

Glu, in the form of its monosodium salt (MSG), is perhaps the most widely and heavily used food additive in the world. The use of Glu in baby foods was voluntarily discontinued in 1970 when it was revealed that the oral Glu load required to induce neuronal necrosis in immature animal brain (500 mg/kg body weight) and that being fed a human infant in one 4-1/2 oz. jar of baby food (130 mg/kg body wt) did not differ in range of magnitude [8,16]. Removal of Glu from baby food was more apparent than real, however, since hydrolyzed vegetable protein (HVP) which contains high concentrations

of free Glu (and Asp), was introduced into baby foods at the same time Glu was withdrawn. About 6 years later, this practice was also discontinued after its safety was questioned by a committee formed to evaluate the safety of GRAS (generally regarded as safe) food additives [21]. Despite extensive evidence for Glu neurotoxicity in numerous animal species, FDA continues to list Glu as GRAS under the assumption that its use as a food additive poses no human health hazard. Indeed, officials of the FDA Bureau of Foods recently argued [1] in favor of approving Aspartame, a dipeptide sweetener which has Glu-type neurotoxicity because of its Asp content [13], for use in foods consumed heavily by children, despite the fact that a child's diet also contains large amounts of added Glu and that excitotoxins such as Glu and Asp add to one another's neurotoxicity when ingested in combination [8, 12, 16].

A major argument advanced in support of the unregulated use of Glu in foods [1,25] is the fact that Glu-induced brain damage has never been demonstrated in animals ingesting Glu voluntarily, i.e., the evidence for oral toxicity of Glu has come, in all instances, from studies in which Glu was introduced by stomach tube. Implicit in this argument is the assumption that tube feeding introduces abnormal conditions (unidentified) which are never reproduced by voluntary intake of Glu, even in massive loads. Since human consumption of Glu, it is argued, does not involve such conditions, but rather is limited to voluntary intake which has not been shown in animal studies to cause brain damage. Glu must be a safe food additive. Here we challenge the basic premise of this argument by showing that voluntary ingestion of Glu (or Glu plus Asp) by weanling mice does result in readily detectable brain damage.

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METHOD

The animals used in these experiments were 21 day old mice (Ha/ICR A.R. Schmidt, Madison, WI) that were removed from their mothers on the morning of postnatal Day 20. Each pup was housed in a separate cage and allowed to drink water ad lib from an ordinary dispensing bottle on Day 20. Purina mouse chow was continuously available for ad lib solid food intake. Fluids were withheld on the night of postnatal Day 20 and various solutions were offered instead of water (or in some cases together with water) on the next morning. One group of animals (Group 1) was offered a 10% aqueous solution of Glu, and another (Group 2) a 10% excitotoxin cocktail, containing for every 100 ml of water, 5 g of Glu, 4.5 g of Asp and 1 g of Aspartame (a dipeptide of phenylalanine and aspartic acid which contributes roughly 0.5 g of the latter to the cocktail). Group 3 was offered a 5% aqueous solution of Glu and Group 4 a 5% excitotoxin cocktail (2.5% Glu + 2.5% Asp), whereas Group 5 was allowed to choose between a 10% aqueous solution of Glu and deionized water. These solutions were all dispensed from a standard stainless steel spout of the type used on mouse drinking bottles but the bottle itself was replaced by a syringe barrel calibrated in 0.1 ml divisions so that the amount of liquid imbibed by a given animal in a given period of time could be accurately measured. All animals were sacrificed by perfusion fixation (1.5% glutaraldehyde, 1.0% paraformaldehyde, 0.1 M cacodylate) about 4 hours after their initial imbibition of fluids and their brains were processed for histopathological examination by methods described elsewhere [11]. The monosodium glutamate (Glu) and monosodium aspartate (Asp) were obtained from Sigma, St. Louis and the Aspartame was generously provided by G.D. Searle Company, Skokie, IL.

RESULTS

Mice that were offered a 10% glutamate solution (Group 1) or 10% excitotoxin cocktail (Group 2) routinely sniffed the drinking spout a few times then commenced drinking either immediately or within a few minutes. Characteristically, they voluntarily drank from 0.2–0.35 ml of either solution over a period of 15–30 min, during which time they also gnawed on solid chow. Most animals then retired to the corner of the cage and dozed for 30–90 min. They usually did not ingest additional liquids during the 4 hr observation period. All animals in these two groups (10 of 10 animals) sustained conspicuous hypothalamic damage (Figs. 1b and c).

Mice offered a 5% Glu solution (Group 3) approached the drinking spout in a similar manner and drank the same amount initially, but these animals continued to drink periodically for about an hour and, after resting for 30–60 min., returned for more drinking. For purposes of evaluating liability to brain damage, the amount of Glu drunk within one hour after the first drink was considered the relevant measurement—this varied from 0.25 to 0.55 ml. These mice also characteristically sustained brain damage, although the average lesion size was not as large as for Groups 1 and 2, even for animals ingesting the same total load of excitotoxin (presumably because intake of the excitotoxin load was distributed over a longer time period so that the resulting plasma levels of Glu were less extreme). Two of 9 animals in this group totally rejected the Glu solution for the 4 hr period during which it was offered and these animals did not sustain brain damage (Fig. 1a). To explore the basis for their

rejection of the Glu solution, we substituted water at 4 hr and they drank avidly (0.5–0.8 ml in 30 minutes). This and observations below suggest that a certain percentage of weanling mice may have an aversion (taste?) to this type of liquid offering. All other animals (7 of 9) in Group 3 had unequivocal evidence of acute neuronal necrosis in the arcuate region of the hypothalamus (Fig. 1d).

Mice in Group 4, which were presented with a 5% excitotoxin cocktail (2.5% Glu+2.5% Asp), were quite receptive to this mixture. Again, 2 of 9 animals were absolute teetotalers, but the remaining 7 ingested 0.35–0.7 ml within the first half hour and all 7 sustained brain damage comparable in severity to that found in Groups 1 and 2 that ingested 10% solutions (Fig. 1e).

Animals that were allowed to choose between a 10% Glu solution or deionized water (Group 5) showed a general preference for water. All animals (10 of 10) drank at least 0.5 ml of water in the first 1/2 hr. Two animals ingested none of the Glu solution, 4 ingested less than 0.1 ml and 4 ingested 0.2–0.3 ml within the first hour. Four of nine animals (the 4 that ingested 0.2–0.3 ml of Glu solution) sustained brain damage (Fig. 1f), but lesions were characteristically less severe than those in Groups 1, 2 and 4 (the Glu load was ingested over an hour rather than 1/2 hr interval). Animals in Group 5 that drank the most Glu solution, also concurrently drank the largest amount of water.

DISCUSSION

The individual body weights of mouse pups used in these experiments varied from a low of 5.9 g to a high of 9.8 g and the volumes of liquids ingested varied as did the rate at which the liquids were drunk. Taking each variable into account and calculating the mg of excitotoxin ingested/unit of body wt./unit of time, the amount of brain damage found in each animal was what would have been predicted from Glu tube feeding studies. In other words, our findings reveal no fundamental difference between voluntary intake and tube feeding of Glu, provided the intake load and time over which the load is incorporated are comparable. The time factor, although important, is a flexible parameter since drinking a given load of Glu over a 15–30 min interval was not detectably different in neurotoxic consequences from tube feeding the same dose all at once: the voluntary drinking paradigm was measurably less toxic, however, when the intake load was distributed over an hour. Our findings are not surprising, since the total intake load and the time over which it is incorporated determine the magnitude of rise in plasma Glu levels which, in turn, is the major determinant of risk for brain damage.

A major problem in evaluating the safety of Glu for human consumption is the fact that in immature animals it induces a silent lesion, i.e., while the acute neuron-necrotizing process is occurring the animal does not manifest overt signs of distress; whether the Glu solution is introduced by tube feeding or by voluntary ingestion, as was the case in this study, the animals merely become somnolent after Glu intake and central neurons undergo acute degeneration while the animal is dozing. If the human infant or young child ingested a large load of Glu in a single feeding, and sustained brain damage but showed no response other than post prandial somnolence, his behavior would be judged 100% normal and the neurotoxic event would go unrecognized. We cannot take comfort, therefore, in the fact that humans have been exposed to Glu for many years without apparent harm. If the

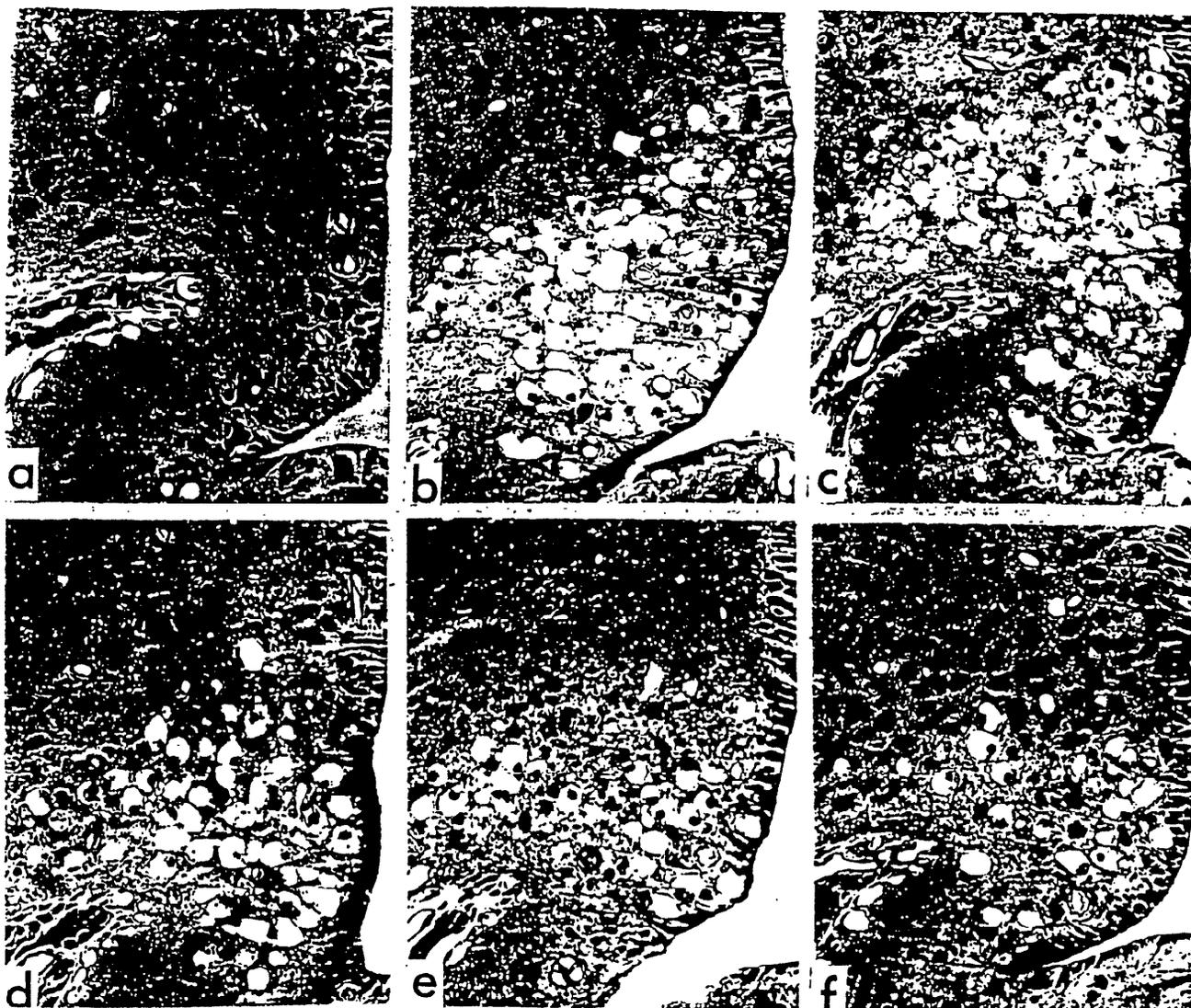


FIG. 1.a-f. These light microscopic scenes are all from the arcuate hypothalamic nucleus (AH) of 21 day old mice approximately 4 hr following voluntary ingestion of various liquid preparation. (a) A Group 3 animal that failed to imbibe any of the excitotoxin solution offered. The AH region appears normal. (b) Voluntary ingestion of 0.35 ml of a 10% Glu solution (Group 1). Numerous AH neurons are acutely necrotic (bull's-eye profiles). (c) Voluntary ingestion of 0.3 ml of a 10% excitotoxin cocktail (Group 2). (d) Voluntary ingestion of 0.55 ml of a 5% Glu solution (Group 3). (e) Voluntary ingestion of 0.5 ml of a 5% Glu-Asp cocktail (Group 4). (f) Voluntary ingestion of 0.3 ml of a 10% aqueous Glu solution when water was concurrently available. (all $\times 220$).

harm did occur, we would not detect it except perhaps years later in the form of obesity or neuroendocrine disturbances such as are known to occur in rodents following Glu treatment in infancy [9, 10, 18, 19].

Are there species differences between man and animals that warrant the assumption that Glu is safe for human consumption despite its obvious neurotoxicity for many animal species? No, the bulk of relevant evidence suggests the opposite. It is known that adult humans develop marked plasma Glu elevations from modest oral loads of Glu and when the response of adult mouse, monkey and man to a given oral load of Glu (150 mg/kg) was recently compared [23], man had a mean 20-fold elevation, mouse a mean 4-fold elevation and monkeys no mean elevation in plasma Glu.

Moreover, individual variability in plasma response to Glu loading was much more extreme in humans than in mice or monkeys [6,23]. Although comparable loading experiments have not been performed on immature humans, it is known that in both mice and monkeys, a given Glu load induces substantially higher plasma Glu levels in infants than in adults [23]. Thus, one might expect that if young humans were to ingest large loads of Glu, it might—at least in some individuals—induce extremely high plasma Glu levels; the evidence, in sum, suggests that humans, especially immature humans, are potentially at high risk of incurring harm from the ingestion of Glu.

Does current or proposed usage of Glu or Asp entail high intake levels for children? Yes—for example, common

commercial soups contain up to 1300 mg added Glu/6 oz. bowl [3] and certain commercially available dry-base instant-mix beverages contain >300 mg of added Asp [15] and, if Asm is approved as proposed, it will soon be the sweetener for such beverages, which will increase the Asp content to about 400 mg/6 oz. glass. Moreover, children may eat Asm tablets like candy from the table so that a combined intake of Glu-Asp in the range of 2000 mg in one setting (mostly in rapidly absorbable liquid form) for a young child is quite conceivable. Assuming the child weighs 10-12 kg, his intake would be in the range of 200 mg/kg and his plasma Glu-Asp levels might be substantially higher than those required to induce silent brain damage in immature animals [15].

While the fact that we used concentrated excitotoxin solutions in these experiments might seem objectionable, we maintain the opposite—that without this feature, the research design is inappropriate. Since the magnitude of plasma Glu elevations induced by a given oral load of Glu in the mouse is only 1/5 that in man (4-fold vs 20-fold increase) [23], the mouse is an inappropriate model for testing human safety unless one gives the mouse a 5× larger oral load to compensate for the mouse's resistance to the development of high plasma Glu elevations. Since a human child might acutely ingest an oral load of excitotoxins in the range of 200 mg/kg (see above), the smallest appropriate test dose for the mouse would be 200 mg/kg × 5 = 1000 mg/kg. It should also be borne in mind that preparations served in restaurants, such as Won Ton soup, sometimes contain up to 1 teaspoonful of Glu (5000 mg) per bowl, which would expose a small child to 500 mg/kg, so that the animal testing paradigm should certainly include intake doses in the range of 500 mg/kg × 5 = 2500 mg/kg. Adding to this the fact that the human response to oral Glu loading is characterized by much greater individual variability than is seen in either mouse or monkey, an adjustment factor is warranted to accommodate human individual variation. By using concentrated solutions of Glu, which resulted in our animals voluntarily ingesting from 1000-3500 mg/kg, we have merely adjusted the animal testing paradigm to make it more relevant to human food safety.

Is it objectionable that we withheld fluids overnight before offering the excitotoxin solutions? No, this also is an appropriate adjustment in the feeding paradigm. Humans concentrate a large percentage of their total daily food or fluid intake into a few brief gorging sessions, whereas rodents eat and drink in tiny increments spaced more evenly over their diurnal and nocturnal waking hours. Moreover, young children who run and play vigorously are particularly prone to ingest large volumes of beverages (e.g., Aspartame-sweetened Kool-Aid) and might sometimes follow this with Glu-laden soups or foods and more Aspartame for dessert. It is also reasonable to assume that certain acute illnesses might be associated with abnormally rapid gastrointestinal absorption or impaired liver metabolism of Glu or Asp so that a child nurtured on soups and soft drinks during such an illness (the usual home remedy) may develop very high excitotoxin plasma levels. Rendering a mouse moderately thirsty by withholding fluid intake overnight, and thereby

assuring that he will ingest a larger volume of excitotoxin solution in a brief period, merely adjusts the animal testing paradigm to compensate for real differences in feeding pattern between normal immature animals and either normal or sick immature humans.

The belief that voluntary intake of Glu does not result in brain damage stems from various ad lib feeding studies, including experiments by Takasaki *et al.* [24] in which a 5% Glu solution was offered to weanling or adult mice that were not previously deprived of fluids. In this study, however, when blood Glu levels were measured periodically over a 24-hour period, several weanling animals were found to have blood Glu levels exceeding 200 μ mole/dl. Stegink *et al.* [22] have measured plasma Glu levels following various oral loads of Glu and have calculated that a brain damaging dose of Glu for the 10 day old mouse correlates with blood Glu levels in the range of 60-100 μ mole/dl. While the toxic threshold shifts gradually upward between 10 and 21 days [13,15], it is not likely that the shift is great enough to protect against blood levels exceeding 200 μ mole/dl. Takasaki *et al.* [24] sacrificed animals periodically for brain examination and no lesions were detected; however, they did not clarify whether the specific brains of animals whose plasma Glu levels exceeded 200 μ mole/dl were examined or whether any brains were examined at precise post-ingestion intervals that might be considered optimal for demonstration of brain damage. We suspect, therefore, that voluntary ingestion of a 5% solution of Glu by weanling mice can result in brain damage, even if the animals are not fluid deprived in advance, and we do not believe that the Takasaki *et al.* study [24] adequately rules out this possibility.

It is an important principle of food toxicology that animal studies performed to test the safety of food additives should employ the oral route of administration. It is also very important that the oral intake regimen be adjusted to offset differences between man and the animal species employed so that test results will be maximally applicable to the evaluation of human risk. When we demonstrated that 10, 21, 45 and 60 day old mice sustained brain damage from certain oral loads of Glu administered by feeding tube [13,16], we thought we were using the most appropriate possible testing paradigm for evaluation of this type of risk, especially in that tube feeding, compared with voluntary feeding regimens, provides for more accurate and precise control over dose. The insistence by some [1,25] that tube feeding is an inappropriate paradigm for evaluating the safety of excitotoxic food additives, led us to conduct the voluntary intake studies reported herein. Our study incorporates improvements in experimental design which compensate for deficiencies in the ordinary rodent ad lib feeding paradigm and, thereby, enhance the relevance of the experiments to human food safety. Employing this maximally relevant approach, we found that weanling mice will voluntarily ingest solutions of Glu or other excitotoxins so rapidly and in such large amounts that they, in effect, voluntarily replicate the tube feeding intake conditions and, thereby, inflict upon themselves a degree of brain damage commensurate with that induced by tube feeding.

REFERENCES

1. Aspartame Public Board of Inquiry held at the Food and Drug Administration, January 30-February 2, 1980. *Science* 207: 356, 1980
2. Burde, R. M., B. Schainker and J. Kaves. Monosodium glutamate: Necrosis of hypothalamic neurons in infant rats and mice following either oral or subcutaneous administration. *J. Neuropath. exp. Neurol.* 31: 131, 1972; *Nature* 233: 58-60, 1971

3. Consumer Reports, Dried Soup Mixes (this is soup?), 615-619, November, 1978.
4. Coyle, J. T., K. Biziere and R. Schwarcz. Neurotoxicity of excitatory amino acid in the neural retina. In: *Kainic Acid As A Tool In Neurobiology*, edited by E. G. McGeer, J. W. Olney and P. L. McGeer. New York: Raven Press, 1978.
5. Curtis, D. R. and G. A. R. Johnston. Amino acid transmitters in the mammalian central nervous system. *Rev. Physiol.* 69: 97-188, 1974.
6. Himwich, W. A., I. M. Peterson and I. P. Graves. Ingested glutamate and plasma levels of glutamic acid. *J. appl. Physiol.* 7: 196-201, 1954.
7. Holzwarth-McBride, M. A., E. M. Hurst and K. M. Knigge. Monosodium glutamate induced lesions of the arcuate nucleus. I. Endocrine deficiency and ultrastructure of the median eminence. *Anat. Rec.* 186: 185-196, 1976.
8. National Research Council, *Safety and Suitability of MSG and Other Substances in Baby Foods*. (Report of Subcommittee) National Academy of Sciences, Washington, D.C., 1970.
9. Nemeroff, C. B., L. D. Grant, G. Bisette, G. N. Ervin, L. E. Harrell and A. J. Prange, Jr. Growth, endocrinological and behavioral deficits after monosodium L-glutamate in the neonatal rat: Possible involvement of arcuate dopamine neuron damage. *Psychoneuroendocrinology* 2: 179-196, 1977.
10. Olney, J. W. Brain lesions, obesity and other disturbances in mice treated with monosodium glutamate. *Science* 164: 719-721, 1969.
11. Olney, J. W. Glutamate-induced neuronal necrosis in the infant mouse hypothalamus. An electron microscopic study. *J. Neuropath. exp. Neurol.* 30: 75-90, 1971.
12. Olney, J. W. Occult mechanisms of brain dysfunction. In: *Drugs and the Developing Brain*, edited by A. Vernadakis and N. Weiner. New York: Plenum Press, 1974.
13. Olney, J. W. Brain damage and oral intake of certain amino acids. In: *Transport Phenomena in the Nervous System: Physiological and Pathological Aspects (Advances in Experimental Medicine and Biology, Vol. 69)*, edited by G. Levi, L. Battistin and A. Lajtha. New York: Plenum Press, 1976, pp. 497-506.
14. Olney, J. W. Neurotoxicity of excitatory amino acids. In: *Kainic Acid As A Tool In Neurobiology*, edited by E. G. McGeer, J. W. Olney and P. L. McGeer. New York: Raven Press, 1978.
15. Olney, J. W. Excitatory neurotoxins as food additives: An evaluation of risk. *Neurotoxicology*, in press, 1980.
16. Olney, J. W. and O. L. Ho. Brain damage in infant mice following oral intake of glutamate, aspartate or cysteine. *Nature* 227: 609-610, 1970.
17. Olney, J. W., O. L. Ho and V. Rhee. Cytotoxic effects of acidic and sulphur containing amino acids on the infant mouse central nervous system. *Expl Brain Res.* 14: 61-76, 1971.
18. Pizzi, W. J., J. E. Barnhart and D. J. Fanslow. Monosodium glutamate administration to the newborn reduces reproductive ability in female and male mice. *Science* 196: 452-454, 1977.
19. Redding, T. W., A. V. Schally, A. Anmura and I. Wakabayashi. Effect of monosodium glutamate on some endocrine functions. *Neuroendocrinology* 8: 245-255, 1971.
20. Schwarcz, R., D. Scholz and J. T. Coyle. Structure-activity relations for the neurotoxicity of kainic acid derivatives and glutamate analogues. *Neuropharmacology* 17: 145-151, 1978.
21. Select Committee on GRAS Substances: Health Aspects of Certain Glutamates as Food Ingredients. Report prepared for the Food and Drug Administration. Federated American Societies for Experimental Biology, Washington, D.C., 1978.
22. Stegink, L. D., J. A. Shepherd, M. D. Brummel and L. M. Murray. Toxicity of protein hydrolysate solutions: Correlation of glutamate dose and neuronal necrosis to plasma amino acid levels in young mice. *Toxicology* 2: 285-299, 1974.
23. Stegink, L. D., W. A. Reynolds, L. J. Filer, Jr., G. L. Baker, T. T. Daabees and R. M. Pitkin. Comparative metabolism of glutamate in the mouse, monkey and man. In: *Glutamate Acid: Advances in Biochemistry and Physiology*, edited by L. J. Filer Jr., S. Garattini, M. R. Kare, W. A. Reynolds and R. J. Wurtman. New York: Raven Press, 1979, pp. 85-102.
24. Takasaki, Y., Y. Matsuzawa, S. Iwata, Y. O'hara, S. Yonetani and M. Ichimura. Toxicological studies of monosodium L-glutamate in rodents: Relationship between routes of administration and neurotoxicity. In: *Glutamic Acid: Advances in Biochemistry and Physiology*, edited by L. J. Filer, Jr., S. Garattini, M. R. Kare, W. A. Reynolds and R. J. Wurtman. New York: Raven Press, 1979, pp. 255-276.
25. Wurtman, R. J. Summary. In: *Glutamate Acid: Advances in Biochemistry and Physiology*, edited by L. J. Filer, Jr., S. Garattini, M. R. Kare, W. A. Reynolds and R. J. Wurtman. New York: Raven Press, 1979, pp. 389-393.