

Alarm over Aspartame

The Inappropriate and Unsubstantiated Alarm Over Aspartame

David Squillacote, MD
Senior Medical Advisor, Multiple Sclerosis Foundation
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In the 1960's, before the advent of satellite communications, gold workers in the interior of South America knew the closing price of gold on the London market within an hour of the closing. The final leg of the communication was over jungle drums. Before the Internet, information moved through the Multiple Sclerosis (MS) community in a similarly informal, but high fidelity, fashion. Now, within minutes of a breaking story or rumor, the first question appears on the Multiple Sclerosis Foundation (MSF) Internet forum. Such is the case with the recent alarm over aspartame (NutraSweet and similar dietary sweetening agents).

In a recent article by Nancy Markle, allegedly based on talks at the "World Environmental Conference", wild and inaccurate information about aspartame is being spread. I have no problem with information dissemination, even when it is wrong, but Ms. Markle has crossed the line. The MSF has asked me to look into the allegations raised and report on them.

1. There is no connection between the MSF and Ms. Markle. The MSF has no knowledge of Ms. Markle's professional credentials (none are cited), and a MEDLINE search shows no contributions to the world medical literature by her.
2. The MSF has/had no connection with the "World Environmental Conference".
3. Neither the MSF nor myself have any connection with Monsanto (producer of NutraSweet). We do not support any of the inflammatory allegations about NutraSweet made at this conference, but neither do we in any way formally endorse or condemn the product.

I ran a number of MEDLINE searches on aspartame.

1. There are 377 citations in the world medical literature (all languages) from 1966-1998.
2. There is no information whatsoever about deleterious effects of aspartame on MS, systemic lupus erythematosus (SLE or lupus), or fibromyalgia.
3. There is no evidence that aspartame in any way causes, provokes, mimics or worsens MS.
4. There is no evidence of any "aspartame disease".
5. Repeated studies in peer reviewed journals show no adverse effects of aspartame on seizures (rats, children, adults), weight gain, body temperature, cognitive/behavioral/neuropsychiatric/neurophysiologic function, brain/intestinal/liver hormones or enzymes, brain tumors, cancer, birth defects (rats and humans), Parkinson's disease, allergic responses, blood pressure, carbohydrate and lipid metabolism, etc.
6. It has not been shown to be dangerous to diabetics in any way.
7. One small study (which has not been repeated) did find some worsening of depression when depressed patients took large doses of aspartame.
8. Several small reports have appeared showing that there may be a subset of migraine patients who worsen with aspartame. Other studies show no connection in patients who have claimed to have aspartame-related headaches.

Ms. Markle's claims regarding the metabolism of aspartame are wildly inaccurate. Her understanding of pharmacology and metabolism is largely incorrect.

1. Aspartame does cause the production of small amounts of methanol, but no more than normal consumption of fruits and vegetables.
2. There are about 200 mg of aspartame in 12 ounces of most diet drinks. Even with greater than 2000 mg of aspartame, there is no change in the levels of methanol in normal adults. Normal volunteers have taken 600 mg/hour of aspartame for 8 hours without significant increases in serum methanol. Normal men have taken 10,000 mg of aspartame without any side effects.
3. Infants who have received equivalently enormous doses of aspartame show no increase in serum methanol levels.
4. Methanol itself is not the problem in "methanol poisoning". It is the generation of formic acid when the methanol is very high that causes the dangerous acidosis and the blindness. Normal volunteers have taken 14,000 mg of aspartame. Even though their methanol levels rose, the formic acid did not. The methanol levels returned to normal within 8 hours.
5. When aspartame-containing beverages are left at high storage temperatures, the aspartame can degrade and form small amounts of methanol.
6. Diketopiperazine (DKP) is another breakdown product of aspartame. It has not been shown to be carcinogenic (causes cancers).
7. There is no connection between "Desert Storm Syndrome" and aspartame.

Ms. Markle cites the work of Dr. H.J. Roberts. I do not know if she is citing Dr. Roberts with or without his knowledge. Dr. Roberts is apparently an Australian physician who has 77 citations in MEDLINE. He is a prodigious letter writer and most of his citations are letters to the editors. He has published a number of case reviews in second and third tier journals, and in addition has produced a few articles on clotting problems and diabetic complications. He has produced no original research that I can find on aspartame.

In summary, this series of allegations by MS. Markle are almost totally without foundation. They are rabidly inaccurate and scandalously misinformative. I have found no basis for alarm about aspartame, but would recommend (based on one study) those patients who are being treated for depression let their physicians know that they are using aspartame. Patients who have a documented, evaluated adverse reaction to aspartame should avoid its use. There is no connection between the Multiple Sclerosis Foundation and Ms. Markle or her writings.