

December 31, 2008

Willy Street Co-op  
1221 Williamson St  
Madison, WI 53703

Dear Willy Street Reader:

I was disturbed and dismayed by the editorial decision to promote more toxicology studies with live animals by printing a press release from the Center for Science in the Public Interest. [Newsbites: "Longer tests on lab animals urged for potential carcinogens." January 2009, Volume 36, No. 1.]

Maybe the editor didn't actually read the paper that the press release was based on or maybe the editor didn't think critically about the claims being made, but in any case, by printing the release, the Willy Street Reader promoted one side only of an ongoing controversy. Setting aside the matter of the increased suffering that would result from following the authors' recommendation, the basic scientific claims are suspect.

The paper [The limits of two-year bioassay exposure regimens for identifying chemical carcinogens. Huff J, Jacobson MF, Davis DL. Environ Health Perspect. 2008.] is available on line at <http://www.ehponline.org/members/2008/10716/10716.html>.

The lead author, James Huff, is an animal cancer expert at the NIH; his career is based on inducing and studying cancer in animals, primarily rats and mutant mice. It could be argued that he has a vested interest in the position taken in the paper. But consider the scientific arguments on their own merits:

The authors base their recommendation for longer toxicology exposure on three specific instances of what they believe are erroneous predictions of human carcinogenicity based on two-year exposures in rodents. The three cases are aspartame, cadmium, and toluene. In order to keep this as short and possible, I will address only the aspartame issue.

A key study they cite in the case of aspartame is "First experimental demonstration of the multipotential carcinogenic effects of aspartame administered in the feed to Sprague-Dawley rats. Soffritti, M; Belpoggi, F; Degli Esposti, D; Lambertini, L; Tibaldi, E; Rigano, A. Environ Health Perspect. 2006.

Soffritti et al began feeding aspartame to 8-week-old Sprague-Dawley rats, and continued doing so until their natural deaths. They then looked at various tissues in the rats and discovered a variety of tumor types and pre-cancerous cellular changes. But this needs to be put in perspective. The adage *Sola dosis facit venenum*, the dose determines the poison, should be kept in mind.

The FDA has set the ADI (Average Daily Intake, the intake level that if maintained each day throughout a person's lifetime is considered safe) for aspartame at 50 mg/kg of body weight/day. 1 mg/kg is equivalent to 1 ppm part(s) per million). Soffritti et al divided the rats into seven groups and fed each group a different amount of aspartame. These amounts were: 100,000, 50,000, 10,000, 2,000,

400, 80, or 0 ppm. Notice that the lowest non-zero dosage was almost double the human ADI as set by the FDA.

Put in other more down to earth terms, these seven groups of rats were fed the equivalent of 250,000 cans of aspartame-sweetened beverage, 125,000 cans, 25,000 cans, 800 cans, 160 cans, 32 1/2 cans, or no cans every day.

Soffritti et al note that the results of aspartame carcinogenicity studies by other researchers using Wistar rats rather than Sprague-Dawley rats found no incidence of aspartame-related cancer. And this point is the key problem with all toxicology comparisons between species and strains of animals. Is the human response to aspartame more like that of Wistar rats or Sprague-Dawley rats or B6C3F1 mutant mice or dogs?

The idea of applying chemical exposure data from one species to another is increasingly controversial. Evolutionary biology accurately predicts that species – organisms differentiated at the molecular level – will respond differently to different chemicals.

In the article "Do Animal Experiments Predict Human Responses?" [Skeptic: The Magazine, Volume 13, No. 3, Fall 2007] authors Shanks, Greek, Nobis, and Swingle-Greek remind readers of a 1983 study that found that over 1,600 chemicals cause cancer in rodents but only 15 of the 1,600 have been shown to cause cancer in humans. [Salsburg, D. 1983. "The Lifetime Feeding Study in Mice and Rats: An Examination of Its Validity as a Bioassay for Human Carcinogens." *Fundamental Applications of Toxicology*, Jan-Feb; 3 (1), 63-67.]

"The limits of two-year bioassay exposure regimens for identifying chemical carcinogens" co-author Devra Davis of Pittsburgh's Center for Environmental Oncology says in the press release hyping the paper and reprinted in Newsbites that: "Waiting for proof of human harm before acting to prevent risk is unethical and treats people like animals in an uncontrolled experiment." But following this logic, if Tylenol (Acetaminophen) had been tested in cats, it would not have been allowed on the market because it is toxic to cats. If chocolate had been tested on dogs, well, I hope you get the point.

Let me conclude this overly long missive with one final observation and concern. I don't know why, but the co-op seems to have a general anti-animal bias. I wonder how well it would do if it simply decided to forgo any vegan product? Promoting animal testing seems to be at odds with the decision to carry non-animal tested products and vegan foods and is likely offensive to many members. It appears to me that at least one person of authority in the co-op's hierarchy has a decided anti-animal bias that has resulted in an unbalanced promotion of a single side of a highly controversial matter. I hope you will make an equally strong effort to point out the controversy that surrounds the application of results of toxicology studies in animals to humans.

Sincerely,

Rick Bogle