A Bitter/Sweet Anniversary: 35 Years Ago This Month, Cyclamate Was Banned

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On October 18, 1969, Health, Education, and Welfare Secretary Robert Finch informed the nation that the sweetener cyclamate -- which was used in everything from soft drinks and candy to canned fruits and salad dressings -- posed a risk of cancer and would be banned. On this, the thirty-fifth anniversary of the announced purging of cyclamate from our food supply, it is useful to reflect on how "junk science" and hyperbole about risk led to this decision.

Cyclamate had been used for nearly twenty years and had been deemed by the FDA to be GRAS (generally recognized as safe) and thus exempt from regulation under the Food, Drug, and Cosmetic Act.

It was serendipity that led to the discovery of the sweetener. In 1937, Michael Sveda, while doing laboratory research, brushed some loose tobacco shreds from his lips and inadvertently tasted one of the chemicals. "It was sweet enough to arouse my curiosity," he later said. That taste prompted him to do more research and seek a patent. Cyclamate was introduced in the 1950s, primarily as a drug to help the obese lower caloric intake, but was soon reclassified as a food additive. Between 1963 and 1970, national consumption of cyclamate soared from 5 million to 21 million pounds annually.

In the late 1960s, FDA experiments showed that a byproduct of cyclamate caused chromosome damage in male rats. And in mid-1969, a study found that some white Swiss mice developed tumors when cyclamate was implanted in their bladders. In both cases, however, the FDA said the route of administration was inappropriate for drawing any conclusions regarding human risk.

All was well until October 1969, when FDA scientist Jacqueline Verrett appeared on the NBC *Nightly News* with a few cyclamate-injected, malformed chicks. (She did not mention that injections of salt, water, or even air would probably have had the same effect.) A few days later the manufacturer of cyclamates, Abbott Laboratories, released a study showing that eight out of 240 rats fed a mixture of saccharin and cyclamate -- at levels equivalent to humans ingesting 350 cans of diet soda per day -- developed bladder tumors. Finch announced the ban shortly thereafter.

Many scientists immediately criticized Finch's decision. The pathologist who examined the tumors, Stephen Sternberg from Memorial Sloan-Kettering Cancer Center in New York (a long-time ACSH Director), pointed out that there were two chemicals involved (saccharin and cyclamate were used in combination). Why was cyclamate singled out? An editorial in the international medical journal *Lancet* noted that "never have so many pathologists been summoned to opine on so few lesions from so humble a species as the laboratory rat." The journal *Nature* warned that "it would be all too easy for public apprehension to be raised to the pitch where a fever of vegetarian faddism drives
everything but mothers' milk from the market" and added in another editorial that the evidence against cyclamate was "about as solid as candy floss."

In subsequent years, dozens of other studies reported no cancer risk in rats, mice, dogs, hamsters, or monkeys. By the mid-1980s, professional health organizations from around the world agreed with the National Academy of Sciences that "the totality of evidence from studies in animals does not indicate that cyclamate (or its metabolite) is carcinogenic." More than fifty countries, including Canada, have now approved or reapproved the use of the sweetener. Abbott Laboratories, submitting evidence that cyclamate was the most studied component of the human diet, asked the FDA in 1974 to reconsider its decision, but its appeal was denied. With new sweeteners coming on the market, the interest in getting cyclamates reapproved waned.

The loss of cyclamate did not cause much of an uproar both because of the tenor of time (growing anti-chemical sentiment) and because most consumers quickly adjusted by switching to saccharin. When, eight years later, more junk science motivated the FDA to ban saccharin, it was a different story. Consumers were outraged -- and Congress intervened to overturn the ban. Since that time, Congress has been shown to have made the right decision about saccharin. It's likely that a similar decision about cyclamate also would have been borne out by continued usage.

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