

Artificial Sweetener & Possible Risk of Cancer

Saccharin

1. Saccharin is the oldest artificial sweetener; it was discovered in 1879. It is about 300 times as sweet as sucrose.
2. Throughout 1960s, various studies suggested that Saccharin might be an animal carcinogen.
3. Concern peaked in 1977, after publication of a study indicating an increased rate of bladder cancer in rats fed large doses of Saccharin.
4. In 1977, Canada banned Saccharin while US FDA also proposed a ban. Eventually, US Congress required all Saccharin-containing foods to display a warning label indicating that Saccharin may be a carcinogen.
5. Subsequent studies showed mixed results: some showed a correlation between Saccharin consumption & increased frequency of cancer (especially bladder cancer) & others found no such correlation.
6. The influential 1977 study mentioned above was later criticized for the very high dosages of Saccharin that were given to test subject rats; dosage were commonly hundreds of times higher than “normal” human consumption.
7. No study has ever shown a clear causal relationship between Saccharin consumption and health risks in humans at normal doses, though some studies have shown a correlation between consumption & cancer incidence.
8. In 1991, after 14 years, US FDA formally withdrew its 1977 proposal to

ban the use of Saccharin; and in 2000, the US Congress repealed the law requiring Saccharin products to carry health warning labels.

Cyclamate

1. Cyclamate was discovered in 1937 and is 30-50 times sweeter than sugar.
2. It is often used synergistically with other artificial sweeteners, especially Saccharin; the mixture of 10 parts Cyclamate to 1 part Saccharin (10:1 mixture) is common.
3. In 1969, a study found the common 10:1 mixture increased bladder cancer in rats.
4. In the same year, US FDA banned its sale and UK followed suit the next year.
5. In subsequent years, dozens of other studies reported no cancer risk in rats, mice, dogs, hamsters & monkeys.
6. By mid-1980s, professional health organizations from around the world agreed with the National Academy of Sciences that “ the totality of evidence from animal studies does not indicate Cyclamate or its metabolite is carcinogenic”.
7. More than 50 countries, including Canada, have now approved or reapproved the use of Cyclamate.
8. Petition is currently filed with FDA for the reapproval of Cyclamate. At present, Cyclamate remains banned from food products in USA. But the FDA's concerns about Cyclamate are not cancer related.

Aspartame

1. Aspartame is commonly used in diet soft drinks and is found in Zero Coke. In the European Union, it is known as E 951.
2. It was approved by the FDA in 1981 after numerous tests showed that it did not cause cancer or other adverse effects in laboratory animals.
3. However, questions regarding its safety were renewed by a 1996 report suggesting that an increase in the number of people with brain tumours between 1975 & 1992 might be associated with the introduction & use of Aspartame in USA.
4. Subsequent analysis of US National Cancer Institute (NCI) data do not establish a clear link between consumption of Aspartame and the development of brain tumours.
5. Recently, a laboratory experiment found more lymphomas and leukaemia in rats fed very high doses of Aspartame (equivalent to drinking 8 to 2,083 cans of diet soda daily).
6. Subsequently, the NCI examined human data of over half a million people and found that the increasing consumption of Aspartame-containing beverages was not associated with development of lymphoma or leukaemia.
7. Upon ingestion, Aspartame breaks down into several residual chemicals including phenylalanine. This additional source of phenylalanine is a health hazard to those individuals born with phenylketonuria, a rare inherited disease that prevents the essential amino acid phenylalanine from being properly metabolized.
8. In USA, Aspartame-containing foods must state “ Phenylketonurics: Contains Phenylalanine” on their product labels as a warning.

Conclusion

1. Artificial sweeteners such as Saccharin, Cyclamate and Aspartame have been thought to be possible causes of cancer.
2. This is because some animal studies have shown that very high doses of Saccharin, in particular, increase the incidence of bladder cancer in rats.
3. In common with many chemical additives, some sweeteners can be shown to be carcinogenic in experimental settings in massive amounts, far greater than humans could consume in foods and drinks.
4. The evidence from epidemiological studies does NOT suggest that artificial sweeteners have a detectable effect on the risk of any cancer.

(World Cancer Research Fund, American Institute for Cancer Research 2007 report page 143.)

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14 Feb 2008

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