

Aspartame and the Internet

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Sir - Patients at our diabetes clinic have raised concerns about information on the internet about a link between the artificial sweetener aspartame and various diseases. Our research revealed over 6000 web sites that mention aspartame, with many hundreds alleging aspartame to be the cause of multiple sclerosis, lupus erythematosus, Gulf War Syndrome, chronic fatigue syndrome, brain tumours, and diabetes mellitus, among many others. Virtually all of the information offered is anecdotal, from anonymous sources and is scientifically implausible.

Aspartame, a dipeptide composed of phenylalanine and aspartic acid linked by a methyl ester bond, is not absorbed, and is completely hydrolysed in the intestine to yield the two constituent amino acids and free methanol. Opponents of aspartame suggest that the phenylalanine and methanol so released are dangerous. In particular, they assert that methanol can be converted to formaldehyde and then to formic acid, and thus cause metabolic acidosis and neurotoxicity.

Although a 330 ml can of aspartame-sweetened soft drink will yield about 20 mg methanol, an equivalent volume of fruit juice produces 40 mg methanol, and an alcoholic beverage about 60-100 mg. The yield of phenylalanine is about 100 mg for a can of diet soft drink, compared with 300 mg for an egg, 500 mg for a glass of milk, and 900 mg for a large hamburger (1). Thus, the amount of phenylalanine or methanol ingested from consumption of aspartame is trivial, compared with other dietary sources. Clinical studies have shown no evidence of toxic effects and no increase in plasma concentrations of methanol, formic acid, or phenylalanine with daily consumption of 50 mg/kg aspartame (equivalent to 17 cans of diet soft drink daily for a 70 kg adult) (1, 2).

The anti aspartame campaign purports to offer an explanation for illnesses that are prominent in the public eye. By targeting a manufactured chemical agent, and combining this with pseudo-science and selective reporting, the campaign makes complex issues deceptively simple. Sensational web site names (eg, aspartamekills.com) grab the browser's attention and this misinformation is also widely disseminated via chat groups and chain e-mail.

People consult the internet about medical issues for various reasons and many users regard online sources as being authoritative and valid. The medical profession has a role in teaching our patients to be discriminating consumers of the information offered there.

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References

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