

Book review

The Clinical Evaluation of a Food Additive: Assessment of Aspartame

Edited by C Tschanz, HH Butchko, WW Stargel and FN Kotsonis CRC Press, Boca Raton and New York, 1996 ISBN 0-8493-4973-7

The contemporary development of an acceptable food additive requires a level of evaluation increasingly like that of pharmacotherapeutic substances. The advent of the class of intensive sweeteners as food additives, for which the dipeptide aspartame has been a prototype, exemplified such a need and opportunity. Animal studies alone will not do, and a variety of randomised double-blind controlled studies to look at tissue kinetic, metabolic, physiological and toxicological issues need consideration. This scholarly book on the topic will become a reference point in the field. A remarkable number of investigations have been carried out, with special reference to known and putative metabolites and their possible effects. Particular attention has been directed towards the study of any adverse central nervous system (CNS) effects and to sensitivity or allergic manifestations - none, as it turns out, with any findings of concern. This is an invaluable data base as new questions and challenges to any additive will emerge from time to time; the recent publication by Olney¹ in relation to the epidemiology of brain tumour and aspartame is a case in point, effectively refuted by a number of basic and applied scientists and epidemiologists. But it does raise the need for improved postmarketing surveillance and epidemiology as the food supply now rapidly changes, and with much interest in functional foods.

A further instructive aspect of the aspartame story is that, because of its particular nature-identical chemistry, a protein fragment, other new additives with this kind of history are likely to be a similarly safe proposition. This is not to say that significant biological activity may not obtain, as indeed is the case with this

dipeptide itself on taste reception, and, as we increasingly know, with the biological effects of other peptides generated in the gut on digestion. We do, however, have a well-established framework for their consideration.

Safety is one thing, and efficacy, should there be a health claim, another. There are more interesting studies yet to be conducted with intensive sweeteners, with obesity research a lead example, to follow up on the promising study of Blackburn et al with aspartame^{2,3}.

This book will have an enduring life in the reference libraries of food and health scientists alike.

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References

1. Olney JW, Farber NB, Spitznagel E and Robins LN. Increasing brain tumor rates: Is there a link to Aspartame? *Journal of Neuropathology and Experimental Neurology* 1996; 55(11): 1115-1123.
2. Blackburn GL, Kanders BS and Lavin PT. Dietary intervention to reduce body weight in obese individuals: the usefulness of aspartame. *Asia Pacific Journal of Clinical Nutrition* 1995; 4(3): 327.
3. Blackburn GL, Kanders BS, Lavin PT, Keller SD, Whatley J. The effect of aspartame as part of a multidisciplinary weight-control program on short- and long-term control of body weight. *American Journal of Clinical Nutrition* 1997; 65(2):409-418.

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