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Book Review

Human Carcinogen Exposure: Biomonitoring and Risk Assessment

Edited by R.C. Garner, P.B. Farmer, G.T. Steel and A.S. Wright.

Oxford, IRL Press at Oxford University Press, 1991. ISBN 0 19 963185 9. £55.00.

THIS BOOK contains the proceedings of a Workshop on Biomonitoring and Carcinogen Risk Assessment held in Cambridge in July, 1989. This book differs from many such proceedings in a number of ways, notably by the high quality of many of the individual articles and the focussed conclusions which are presented in the form of Working Party reports.

To appreciate better the value of the book, it is necessary to be aware of the background of the Workshop: this is clearly outlined in the preface. Basically, an *ad hoc* organising committee was formed to plan the Workshop which was composed of two representatives of academia and two from industry. A number of leaders in the field were invited to give state-of-the-art lectures including their vision of the future. These lectures formed an introduction for five, multidisciplinary Working Groups who met and presented a report and recommendations: these five reports are also published in the book. There was also the opportunity for participants to give poster presentations of their most recent research findings in this area.

Each reader, depending on his or her background, will find more in some chapters than in others. I found the first chapter ('Emerging strategies for the determination of human carcinogens: detection, identification, exposure monitoring and risk evaluation' by A.S. Wright) to be of considerable interest—the viewpoint of a laboratory scientist on an area of overlap with my area of interest (epidemiology). I did not agree with every conclusion reached by the author but I did admire how the arguments had been presented and built up. I now have an increased understanding of what my colleagues from the laboratory think about determining carcinogens.

This chapter is followed by a series of more technical chapters which review the uses and roles of a variety of methods of carcinogen assessment. These are also useful to the general reader, as well as to the specialist, as many authors have attempted to present their material in such a way that it can be understood by more than the small group of experts who work in their specialist area. The only strictly epidemiological chapter ('Biomonitoring: an epidemiologic perspective') is the shortest chapter in Part 1 of the book. In five brief pages, Jack Cuzick presents an excellent vision of the role of measuring DNA adducts in epidemiological studies. It would be worthwhile to have an expanded version of this chapter published for a wider audience.

The second part of this book presents the reports of the Working Groups. These vary in length and in detail but are all

clearly presented. Group 4 considered whether cancer studies in animals are of use in predicting human carcinogenesis: 'It was agreed that while known human carcinogens are generally carcinogens for one or other animal species, animal carcinogens are not necessarily human carcinogens. The consequence of this assertion is that we cannot be certain of the predictive value of animal tests, but that it is obviously prudent to assume that a positive result in animals is predictive of the outcome in humans'.

The Working Group thus emphasises that all information available about the exposure under discussion should be taken into account when assessing its carcinogenicity (structure/activity profile, data from adduct studies, etc.), but that animal carcinogenicity studies should not stand alone.

This Group began their report by accepting that much of the earlier animal carcinogenicity was such that they would not be accepted today, yet the results still influenced much of the current discussion of the topic. This, from an external viewpoint, seems to be unacceptable, requiring some action being taken to remedy the situation.

The third part of the book is a series of chapters based on the poster presentations.

This book contains an index and has an erratum list inserted: the quality of the type and presentation is high. The delay between the Workshop taking place (July, 1989) and publication of these Proceedings (October, 1991) is not calamitous. Parts 1 and 2 remain valid, since the authors had a remit to speculate on what the future directions of their topics would be. Part 3, however, is more susceptible to the effects of the 2-year time lag.

In summary, I enjoyed reading this book and found that, overall, the contents of the book make it a valuable reference source on an important topic. The price appears competitive in view of the fact that many of the chapters will be relevant for several years to come. I hope that epidemiologists will not be put off even opening this book when they read the 'cover-notes' on the back page. These two paragraphs contain factual inaccuracies (one third of all deaths in the western world are not due to cancer) and the whole tone of the first paragraph displays a clear lack of knowledge of epidemiology and epidemiological studies. Perhaps this highlights a major gap in molecular epidemiology—a lack of real insight into epidemiology and its methodology by some laboratory workers who have recently 'discovered' this expanding field.

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