Clearly the routinely performed crude person-time analyses are incapable of providing enough insight to unravel the part played by each factor separately in the aetiological process.

A better understanding of the carcinogenic process can lead to a refinement of the propositions used to justify the construction of analytical models that may be applied to the data. Among latency, other issues to be considered are: diminution of risk after termination of exposure, bioaccumulation of dose, existence of threshold levels due to dose dependent metabolism breakdown of DNA repair mechanisms, and the possible existence of a limited pool of susceptible subjects.

If we knew with certainty that only a small percentage of a cohort (say < 1%) was susceptible to the carcinogenic potency of a certain chemical this notion would have a major impact on the model to be applied to the data.¹

Another issue that should be kept in mind in the analysis of dose response relations and not mentioned in our article is the often encountered steep decrease in exposure concentrations over time. Occupational exposure to vinyl chloride, for instance, has been estimated to have decreased over time from 1000 ppm between 1945 and 1955 to 300 and 400 ppm from 1966 to 1972 and even to concentrations smaller than 5 ppm after 1973.² Evidently handling dose defined as duration of employment in the case of occupational exposure to vinyl chloride may be a gross oversimplification and may lead to an unrealistic analysis of the dose response relation.

It will be a long time before epidemiologists can formulate and test models encompassing all these issues.

References


Book reviews


In these proceedings of the 9th international meeting on N-nitroso compounds held in Baden, Austria, in September 1986 there are well over 100 separate contributions, divided into nine major groups: molecular and biochemical mechanisms, metabolism, reaction with macromolecules, methods for detection, biological effects, endogenous formation, laboratory studies on formation, measurement of exposure, tobacco and betel-quid carcinogenesis, and clinical and epidemiological studies. For someone not directly involved experimentally, the papers may appear formidable in their diversity and detail and the difficult problem of providing a link or thread to enable the outsider to understand the underlying importance of the various contributions has been approached by means of a five page overview.

Nitrosamines are often formed by reactions of amines and inorganic nitrite. Much interest in this reaction has been because of nitrites in food and tobacco. N-nitrosodiethanolamine can be formed by this type of reaction and has been found in metal working fluids. N-nitrosopiperazine can apparently be formed in vivo from piperazine. From papers presented at the symposium, occupational exposure to these nitrosamines does occur and is detectable using urinary monitoring. Nitrosamines are also used as an important tool for understanding cancer mechanisms, thus there is plenty of interest to the industrial toxicologist.

The book will be read by those who participated in the symposium or have a specific interest. One of the annoying features of the text, however, was the absence of proper citation of the references. Consequently, tracing back interesting work is impossible without a detailed knowledge of relevant reports and much of the usefulness of the work to the more general reader is lost. Because of this and the inevitable "bittyness" of the articles I do not think that the more general reader will find this book useful.

PAUL ILLING


The original edition of this book was published in 1982. It was based on the contributions to a conference. The present edition has been updated and expanded. There are 38 contributions and the individual contributions are usually short and inevitably there are repetitions. It provides, however, a comprehensive review of the occupational dermatoses. As the articles are still based on the lecture format, most contain lengthy tabulations, patch test batteries, the ingredients of acrylic cement, wood products chemical list, to mention only a few.

One of the longest chapters is on the problems associated with the production and processing of