BOOK REVIEWS

Cancer surveys – Advances & prospects in clinical epidemiological and laboratory oncology—Vol. 2, No. 3 Precancer. J.J. DECROSSE, U.K., Oxford University Press, 171 pp. 1983.

“Precancer” is a difficult subject to discuss and an issue of *Cancer Surveys*, devoted to this topic, is welcome. The approach is selective, with an editorial overview followed by contributions dealing with the cervix uteri, breast, oral cavity, lungs, stomach, large bowel and bladder. A final section discusses some experimental approaches. Emphasis is placed on the diversity of methods which can be used to describe precancerous lesions in terms other than those of conventional morphology. They include cytogenetics, quantitation of cellular DNA using flow cytometry, immunoperoxidase and other methods for displaying viral and tissue antigens, and (more speculatively) some of the techniques of modern molecular biology such as *in situ* nucleic acid hybridization. A lot of interesting material is presented in the individual sections such as the growing evidence of an association between human papillomavirus (HPV) infection and condyloma acuminatum in the uterine cervix, current views on the aetiology of gastric cancer and on the adenoma → carcinoma sequence in the large intestine, and changes in local mucosal expression of ABH and T antigens in bladder cancer. Useful resumé are given of familiar problems such as the nature of oral leukoplakia, the histogenesis of lung cancer and the biological significance of the diverse elements that constitute mammary “fibrocystic disease”.

Certain criticisms may be made. Descriptions of morphological changes could in several instances have been replaced by photomicrographs without distorting the deliberately broad balance of presentation. Specific topics which are not discussed in detail include precancer in the oesophagus, endometrium, skin and liver – the last of which (in particular) provides opportunities to consider some reasonably plausible analogies between precancer in man and some reasonably plausible analogies between precancer in man and experimental animals. The genetics of precancerous conditions are inadequately considered. A discussion of the problems posed by precancer to the epidemiologist would have been useful.

Cancer surveys are already established as a valuable series of reviews; this new number on precancer generally maintains the high quality which we have come to expect.

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Current topics in microbiology and immunology – Retroviruses 1. M. COOPER, P.H. HOFSCHEIDER, H. KOPROWSKI, F. MELCHERS, R. ROTT, H.G. SCHWEIGER, P.K. VOGT & R. ZINKERNAGEL, USA, Springer Press, 146 pp, 1983, \$41.40. ISBN 3 540 12167 6.

This volume contains chapters which deal with avian endogenous viruses sarcoma viruses and acute leukaemia viruses; there is a section on retrovirus replication and integration, whilst the murine system is represented by discussions of leukaemia viruses and Abelson virus. The first impression is one of surprise that there is no chapter on Rous sarcoma virus; however this “prototype model” is referred to so often as a comparison with the other viruses that the reader soon becomes familiar with several of the properties of RSV.

In general, the chapters are well written and not so long as to become tedious. There are several discussions of cellular oncogenes which are informative and of great current interest. The biggest disappointment is the chapter on murine leukaemia viruses. This contains an enormous amount of information but fails to satisfactorily draw the facts together into unifying or summary statements.

One problem which occurs throughout the book is the appearance of undefined jargon which could cause problems for the uninitiated reader.

In spite of this reservation, I enjoyed reading this book. It should prove extremely useful to many readers who are interested in a relatively recent overview of retroviruses and their oncogenes.

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Molecular aspects of anti-cancer drug action – Topics in molecular and structural biology 3. S. NEIDLE & M.J. WARING, UK, Macmillan Press, x + 404 pp, 1983, £45.00. ISBN 0 333 31556 1.

The very large volume of literature associated with cancer related topics is largely concerned with the clinical, biological or biochemical aspects of the disease. To the synthetic chemist who originates the drug and begins the chain of discovery events leading to the successful application of a drug, there is little published information to guide his creative or innovative ideas to synthesise new classes of potentially useful drugs.

The present volume is a useful compendium of chapters by a score of scientists, mainly chemists and molecular biologists who have been intimately concerned with the design and mechanism of action of agents currently under evaluation. The systematic development of the antitumour acridines by the late Bruce Cain and his co-workers is well reviewed by W. Denny of the same New Zealand Group. The intercalation of daunomycin and adriamycin with special reference to the molecular geometry considerations are studied by S. Neidle and M.R. Sanderson. New anthracyclines are reviewed by J.R. Brown and the relationship of cytotoxicity to DNA membrane interaction is discussed by H.S. Schwartz. The naturally-occurring quinoxaline antibiotics, many of fungal origin, show remarkably strong and specific affinities for DNA. M.J. Waring and K.R. Fox review this field and draw particular attention to the importance of disulphide bond positioning between the peptide linkages in the molecule and the subsequent bifunctional intercalation effected by these substances. The molecular aspects of bleomycin, the platinum antitumour drugs, and

alkylating agents are reviewed by experts in these fields.

DNA is repeatedly considered as the most important target site for interaction of many types of agents – and the chemistry of the damage produced by different agents is very well reviewed by J.W. Lown. DNA crosslinking is clearly a specifically important lesion and a useful review of the biological aspects of this lesion is given by K.W. Kohn.

The final chapter by B. Roth, E. Bliss and C.R. Beddall on inhibitors of dihydrofolate reductase seems out of place in this issue. It would have more appropriately fitted into a separate work perhaps on gene amplification mechanisms. It should be regarded as a “surprise” desert at the end of an excellent meal. Organic chemists will find much of interest in this volume of an important series.

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Other Books Received

Adrenal and Endocrine Tumours in Children. Cancer Treatment and Research Series. Eds: G.B. Humphrey, G.B. Grindey, L.P. Dehner, R.T. Acton and T.J. Pysher. Martinus Nijhoff Publishers – 1983. £53.25. (xvi + 377) pages. ISBN 0 89838 590 3.

Childhood Cancer – Impact on the Family. The Downstate Series of Research in Psychiatry and Psychology – Vol. 5. Eds: A.E. Christ and K. Flomenhaft. Plenum Press – USA (1984). \$45.00. (xiii + 302) pages. ISBN 0 306 41495 3.

Industrial Hazards of Plastics and Synthetic Elastomers – Progress in Clinical and Biological Research – Vol. 141. Eds: J. Jarvisalo, P. Pfaffli and H. Vainio. Alan R. Liss, Inc – New York (1984). £52.00. (xiv + 441) pages. ISBN 0 8451 0141 2.

Environmental Aspects of Cancer – The Role of Macro and Micro Components of Foods. Eds: E.L. Wynder, G.A. Leveille, J.H. Weisburger and G.E. Livingston. Food and Nutrition Press, Inc – USA (1983). Price not given. 295 pages. ISBN 0 917678 17 6.

PCB Poisoning in Japan and Taiwan – Progress in Clinical and Biological Research – Vol. 137. Eds: M. Kuratsune and R.E. Shapiro. Alan R. Liss, Inc – New York (1984). £23.00 155 pages. ISBN 0 8451 0137 4.

Platinum Coordination Complexes in Cancer Chemotherapy. Developments in Oncology. Eds: M.P. Hacker, E.B. Douple and I.H. Krakoff. Martinus Nijhoff – Netherlands (1984). £33.00. (xiv + 384) pages. ISBN 0 89838 619 5.

Hormones and Cancer – Progress in Clinical and Biological Research – Vol 142. Eds: E. Gurpide, R. Calandra, C. Levy and R.J. Soto. Alan R. Liss, Inc – New York (1984). £37.00. 342 pages. ISBN 0 8451 0142 0.

Therapeutics in Terminal Cancer. By Robert Twycross and Sylvia Lack. Pitman Publishing Limited – 1984 – UK. £7.95. 00 pages. ISBN not known.

Cancer of the Prostate – Oncologic Multi-disciplinary Decisions in Oncology – Vol. 18. By M.A. Bagshaw. Pergamon Press – 1984. Price not given. 225 pages. ISBN 0 08 027471 4.

Cancer Control in Children – Report on a Study. Euro Reports and Studies – 75. WHO/1983. By O. Hrodek. Sw. Fr. 5. 37 pages. ISBN 92890 1241 2.

Ultrasonic Examination of the Breast. Eds: J. Jellins and T. Kobayashi. John Wiley & Sons – 1983. £15. 397 pages. ISBN 0 471 90324 8.