Book Reviews

Molecular Genetics of Pediatric Solid Tumours

Edited by G.P. Tonini, R. Sansone & C.J. Thiele, Philadelphia: Harwood, 1992, 382pp. £25.00

This is a timely book. Ten years ago, molecular biology was purely a research tool holding out the faint hope of improving our understanding of malignancy. Now it is part of the day to day management of patients with cancer and promises to have an increasing role in the future. Characteristic chromosome translocations can be useful in diagnosis e.g.; t(11;22) translocation in Ewings sarcoma, and can be identified by high definition cytogenetics or fluorescent *in situ* hybridisation (FISH). Cytogenetic changes or amplification of oncogenes have prognostic value and much work is at present directed to molecular therapeutics; for example the use of antisense oligonucleotides to block 'over active' oncogenes. Many other books have been published on molecular genetics. Most explain the concepts of oncogenes and tumour suppressors and introduce the general reader to basic molecular technology such as Southern blotting and the polymerase chain reaction. This book differs from the above in that it concentrates on paediatric solid tumours and aims to introduce the reader to a broader spectrum of molecular technology.

It consists of 16 chapters and is divided into two sections, the first introducing recent perspectives in molecular genetics and the second focusing on the application of these principles to specific pathologies. The distinction is not, however, rigid and some of the best chapters interweave both elements. The susceptibility to cancer is discussed in an early chapter which gives a brief overview of the syndromes associated with increased risks of malignancy. Chapters on chromosomal abnormalities and fragile sites follows. Oncogenes, tumour suppressors and their role in the cell cycle are all dealt with in some depth and there are particularly good chapters on oncoproteins and gene amplification. All standard stuff, but where else would one read about transgenic mice, flow cytometry and murine modelling of neuroblastoma? In the section on specific pathologies the authors have, quite rightly, concentrated on those paediatric malignancies where molecular genetics have made an impact rather than listing unsubstantiated findings of dubious significance for a wide range of childhood tumours. This does, however, limit the number of different malignancies that can be discussed and results in a fair degree of repetition (there are five chapters on different aspects of neuroblastoma for example). There are excellent chapters on retinoblastoma, rhabdomyosarcoma, the Wilms' tumour candidate gene and brain tumours.

However, what the book has in breadth it sometimes lacks in consistency. The standard of knowledge expected of the reader varies significantly from chapter to chapter with some presenting hugely detailed molecular findings rendering them indigestible for the non-specialist. Similarly, although most of the technique based chapters concentrate on concepts, some give excess detail including step by step experimental methodology. The truly international authorship ensures a stimulating diversity of approach but does make the style of writing very variable and sometimes difficult to follow.

These criticisms aside I enjoyed the book and felt it fulfilled the role it set itself. The book is dedicated to Dr Raffaele Sansone, one of the three editors, who died tragically before it was published. I think he would have been proud of the finished result.

A.J. Michalski

Breast Cancer Treatment. A Comprehensive Guide to Management

B. Fowble, R.L. Goodman, J.H. Glick & E.F. Rosato, St. Louis, Missouri: Mosby-Year Book Inc., 1991, 647 pp.

This excellent book is devoted entirely to the treatment of established breast cancer; it is not concerned with epidemiology, prevention, screening or benign breast disease. Despite the parochial authorship (31 of the 34 authors are from Philadelphia) the coverage of the subject is comprehensive and the book deserves a wide readership.

The locoregional treatment of early invasive breast cancer including breast conserving surgery is covered exhaustively and the extensive literature is critically reviewed in a detailed painstaking way. Witness the confusing data on the relevance of locoregional treatment to survival. Often no clear answers are provided, but this will be familiar to those working in this controversial field of oncology. This does not in any way detract from the excellence of the book as this approach is far preferable to the repetition of potentially misleading dogma. The role of mammography in evaluating patients before treatment is dealt with in a lucid and authoritative fashion, well-illustrated by good quality photographs, a feature also of the chapter on the evaluation of patients treated by breast-conserving treatment and radiotherapy. Prognostic factors, both pathological and new markers, and adjuvant systemic therapy receive good up-to-date accounts. British readers will generally find the recommendations for treatment to be in tune with practice here, meta-analyses having done much in recent years to achieve a trans-Atlantic convergence of views. Good chapters deal with reconstructive surgery, *in situ* disease, locally advanced breast cancer, metastatic disease and its complications, and psychological aspects. There are useful sections on special circumstances such as Paget's disease, breast cancer in pregnancy and in men and bilateral disease. Breast cancer is a major source of malpractice claims in the USA where it has become the most expensive disease for professional insurers and so the editors have given the last word to three lawyers in a chapter on medico-legal aspects. On searching the book for significant omissions, none were found.

There is really very little with which to take exception and to highlight any such minor points here would give them inappropriately prominence in what is intended to be an extremely favourable review. A particular merit of the book is its value as a reference work to facilitate access to the vast literature on the treatment of breast cancer. In this context, the quality of tables summarising salient points in key references is excellent. This admirable text is highly recommended to all involved in treating breast cancer.

R.D. Rubens

Mutant Oncogenes. Targets for Therapy

Edited by N. Lemoine & A. Epenetos, London: Chapman & Hall Medical, 1992 209 pp. £55.00.

This book is edited by Nicholas Lemoine and Agememnon Epenetos and is a collection of papers presented at a meeting in London in September 1991. The book is divided into three parts. I: Growth factors and their receptors as targets for therapy, II: Intracellular oncogene products as targets for therapy, and III: Tumour-suppressor genes and immortalis-

ing genes. The quality of the different papers varies, and although some of them are only descriptions of findings of different genetic alterations in small series with no emphasis on the title 'Targets for Therapy', the overall impression of the book is good. Many of the papers point to the dawning potential of oncogenes and their products as targets for specific therapy, and this is exciting reading.

In the first section the epidermal growth-factor receptor homologue *c-erbB-2* is the subject of most papers. The first paper gives a very good overview of the involvement of this receptor in human malignant diseases, and its role in the biology of human cancer. Production of humanised monoclonal antibodies directed against the extra cellular domain of *c-erbB-2*, their antiproliferative effects on cultured tumour cell lines and on tumour xenografts seem very promising for the use of this agent in treatment of cancers involving overexpression of this receptor. Clinical trials have started on both breast and ovarian cancer patients. Other strategies where antibodies to *c-erbB-2* are coupled to a variety of toxins, drugs or isotopes are also considered in the following papers. They also show the importance of the epitope the antibody recognise in order to be effective in growth inhibition. Monoclonal antibodies against the EGF receptor also seem to be clinically useful both for radio-imaging and for therapeutic applications. These antibodies seem to act as antagonists of EGF, and such antibodies are now also used in clinical trials. The last paper in this section deals with the growing family of fibroblast growth factors (FGFs) and their receptors as possible targets for therapy. More recent experiments, unfortunately not included in the book, indicate that both FGFs and pleiotrophins are likely to be important in tumour angiogenesis. Antibodies to FGF have been coupled to toxins and have shown potential anti-cancer activity toward human breast cancers growing in nude mice.

Section two deals with intracellular oncogene products as targets for therapy, and particularly the *ras* oncoproteins. This section is in my opinion the most exciting and best written part of the book. The first paper in this section gives an excellent overview of the mechanisms whereby intracellular antigens reach and can be seen by the host's immune system, and sets the framework on which therapeutic strategies can be devised. It contains illustrating figures explaining MHC class I and class II pathways, preparing the reader for the following papers. The overview of the *ras* oncogenes and their clinical potentials in the next chapter gives an excellent description of the *ras* signal transduction pathway, and *ras* activation in tumorigenesis, diagnosis and prognosis. Potential strategies for reverting *ras* transformation are outlined. This is further explored in chapter 14 where antisense oligonucleotide and ribozyme technology against *ras* are described; and in chapter 15 where prospects for anti-*ras* chemotherapy are covered, showing that the *ras*-processing enzymes involved in farnesylation and prenylation are possible targets for therapy. The frequent occurrence of *ras* mutations in a range of human malignancies has made the identification of pharmacological agents that block the function of the oncogenic *ras* an important and exciting possibility in therapy. Mutant *ras* oncogenes may also be targets for immunotherapy as discussed in chapter 12 and 13. Other oncoproteins such as the nuclear proteins *myc* and *jun* have to be much more understood both at the structural and functional level before they can be used as targets for therapy, but when this information becomes available they will surely expand opportunities for pharmaceutical intervention in growth control.

The third section deals with tumour suppressor genes and immortalising genes. This is the newest scenario of genes found to be involved in tumorigenesis. However, none of the papers points to any possibility of using these as targets for therapy. The function of some of these proteins (both the normal and mutated counterpart) is today fairly well known, and should have been included to give the reader a possibility to associate where in the pathways a possible therapy could be directed. As a review of tumour suppressor genes and their involvement in human cancers these papers are too

limited to give the reader an updated knowledge.

Altogether the book is exciting reading and leaves the reader with an optimism that there are great new potentials in using gene therapy for treatment of cancer.

A.-L. Børresen

Handbook of Psychooncology

Edited by J.C. Holland & J.H. Rowland, Oxford: OUP, 1992, 785 pp. £37.50.

Psycho-oncology is a new and rapidly expanding field in both research and clinical practice. This comprehensive text book is a welcome contribution, since much of the relevant literature has been scattered in Oncological and Psychological Journals over recent years, making it difficult to assimilate the extensive, available, published material.

The Handbook is wide ranging, drawing on cultural, psychological and medical aspects of cancer that contribute to adjustment, as well as special problems posed, for example, by cancer in children or in the elderly. It gives detailed and practical information on important specific areas, including principle treatment modalities, cancer sites, significant adverse effects, psychiatric disorder and sexual dysfunction and covers a wide range of therapeutic interventions. In addition, problems for families and staff are reviewed and chapters on ethics and bereavement find their place. A notable exclusion is a detailed appraisal of training in communication and counselling skills for health care professionals working in Oncology, and somewhat brief coverage is given to important topics such as stress and cancer, and quality of life research.

The authors unashamedly draw on American research and clinical practice for this book, but this creates some imbalance in representing research in the field. Equally, not all aspects of clinical management in psycho-oncology are relevant to British Oncology Services, where there are very few liaison psychiatrists and where the psychotropic drugs suggested may not be available. Fortunately, other briefer texts for the British market fill these gaps (such as 'Counselling and Communication in Health Care' edited by H. Davis and L. Fallowfield and 'Cancer Patient Care: Psychological Treatments' edited by M. Watson).

A strength of this Handbook is the integration of research data to support guidelines in clinical management, although the layout results in some splitting of information through a range of different chapters. Good cross-referencing reduces the frustration of this, but for topics such as depression, major chapters covering all aspects might have been more convenient.

This Handbook will undoubtedly become a standard reference text for this field and the paperback edition represents good value for the Library of any Hospital where oncology services are provided. It will appeal to all the disciplines involved in cancer care because of its wide coverage, but is a readable text that has something to offer to the expert as well as the novice.

P. Hopwood

Metastasis: Basic Research and its Clinical Applications

Edited by H. Rabes, P.E. Peters & K. Munk, Basel: Karger, 1992, 394 pp. £34.40.

This book reports the proceedings of a Symposium held in 1991 under the auspices of a German Foundation. The Scheel-Stiftung, according to the preface, is a private Foundation which supports cancer research and holds periodic meetings on different aspects of cancer research. The objective of the organisers was to bring together theoretical, experimental and clinical research related to metastasis. In its aims this Symposium resembles many others that have gone before it. This book suffers, like so many publications of conference