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Plastic and Reconstructive Breast Surgery

G. Lemperle and J. Nievergelt, authors. Berlin, Springer, 1991. 182 pp. ISBN 3-540-52868-7. DM 298. "It was the best of times, it was the worst of times." (*A Tale of Two Cities*, Charles Dickens)

I WAS so pleased to be sent this magnificently illustrated book to review. At last, I hoped, there was a source which might be useful not only to surgeons dealing with breast cancer but also for their patients who could be shown the results of plastic expertise, together with occasional complications. However, my excitement underwent major swings on the Richter scale.

In fairness, the book is aimed at plastic rather than cancer surgeons, but it has been reviewed by one of the latter. The book comprises eight sections of which four relate to breast cancer. There was an inverse relationship between my agreement with chapter content and my knowledge thereof. Thus the section on hypoplasia, hyperplasia and developmental abnormalities were soundly written and admirably illustrated, showing both good and bad results.

However, I became very depressed reading the cancer-related sections. To learn that the authors' standard operation for stage I/II breast cancer is a Patey mastectomy and that a Halsted procedure was reserved for stage III cancer filled me with foreboding. This worsened when I read that subcutaneous mastectomy would reduce the risk of recurrence but was mainly indicated for grade III fibrocystic disease (whatever that is).

If the oncological solecisms can be overlooked this book does provide a well-illustrated review of what plastic surgeons can achieve for patients with breast problems, albeit under circumstances controlled largely by technical expertise rather than a cohesive treatment philosophy.

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CIBA Foundation Symposium No: 157 Clinical Applications of TGF-Beta

G.R. Brock and J. Marsh, eds. Chichester, John Wiley, 1991. 264 pp. ISBN 0471 92811 9. £39.50.

THIS BOOK is the report of a Ciba symposium which has been extremely well-produced within a year of the meeting. There is a very good introduction and each of the 14 multiauthor chapters has a precise summary and a well-edited discussion which is referenced. This book provides an ideal opportunity for clinicians as well as basic scientists from other fields to get to grips with this fast growing topic.

What is transforming growth factor beta (TGF-β)? As Michael Sporn and Anita Roberts explain in the introduction, this molecule is a prototype multifunctional signalling molecule which is part of the body's cascade that controls cell differentiation and proliferation with special emphasis on formations, remodelling and destruction of extracellular matrix. Like a letter of the alphabet in a language, TGF-β's action is only understandable in the particular cellular context where it is acting as one member of a set of signals.

While in future there may be other more important molecules that influence these key functions, already there is considerable evidence from two situations (i.e. the use of retinoic acid in promyelocytic leukaemia and its use in the treatment of recurrent squamous carcinoma) that understanding of the influence of TGF-β on induction of differentiation will be crucial for anyone working in the field of cancer treatment.

Although like other growth factors, TGF-β has been found to exist in multiple isoforms with 64–82% homology to each other, only three, β1,2,3, are expressed in mammalian tissues. The brain illustrates the complexity of the relationship between them in that TGF-β1 is found expressed in meninges and choroid plexus and is induced in fetal fibroblasts by tamoxifen, while β2 and β3 are co-expressed in glial cells and axons and induced in primary cell cultures of keratinocytes by retinoic acid.

Like many other growth factor receptors, there are at least two receptor proteins present on virtually all cells tested though relationship of the two proteins is not quite worked out. The most convincing evidence of the importance of these receptors was the demonstration that retinoblastoma phaechromocytoma, neuroblastoma and oat cell lung carcinoma lack TGF-β receptors while other tumour types show normal expression. When the TGF-β receptor was present it was possible to demonstrate that TGF-β would induce adhesion molecules and inhibition of retinoblastoma protein phosphorylation and suppression of c-*myc* expression leading to suppression of growth.

Although there was little evidence presented to suggest that TGF-β itself would play a direct role as an anticancer drug, there was an interesting discussion of its possible role as a chemoprotector of bone marrow for patients receiving chemotherapy because of its ability to suppress mitosis in bone marrow stem cells and synergise with other bone marrow grow factors to augment terminal differentiation.

To an oncologist who has long felt that cancer research has much to contribute to the basic science of fields of medicine other than cancer, this book has been an absolute revelation. With chapters on the potential of research on TGF-β on cardiac muscle damage after cardiac infarct, pulmonary damage from pulmonary fibrosis, renal damage from mesangial glomerular nephritis, liver damage in cirrhosis, as a regulator of psoriatic plaques and encouraging wound and bone fracture healing as well as suppressing osteoporosis, it is clear that knowledge of the field of TGF-β and its targeting by molecular pharmacology will be of critical importance to future generations of doctors and basic scientists. To those who are not already aware, this book provides a concise introduction and is thoroughly recommended.

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