

## Neuropathology and Genetics of Dementia

(Volume 487 of *Advances in Experimental Medicine and Biology*), edited by Markus Tolnay

and Alphonse Probst, Kluwer Academic Publishers, 2001, Price US\$90.00, 270 pages, ISBN 0-306-46558-2

This is a book largely written from a scientist's view on basic research for clinicians. Each chapter gives a good, broad introduction of a particular research field, including its history and current key issues.

I have been working on Alzheimer's disease for a few years and still find myself interested in the chapter by Samuel Gandy and Suzana Petanceska (*Regulation of Alzheimer  $\beta$ -amyloid Precursor Trafficking and Metabolism*; p. 85) for their description of the development of the field. However, the discussions in the book are of a depth that might be more suitable for neuropathologists and clinicians as a general introduction. The discussions about tau,  $\alpha$ -synuclein and ubiquitin, for example, are rather general and brief, considering the dynamic fields that have been moving fast in recent years.

However, it has been increasingly difficult lately to capture the breadth of neuroscience research in a conference proceedings book, such as this. The nice, unique feature of this book is the description of specific pathological phenomena that underlie many of the discussions of various dementia. For example, readers can find common features, such as aggregated and misfolded proteins, hidden in the pathogenesis of various dementia disorders as discussed in some of the chapters. This might be a good way to present a disease to a scientist who has usually been so focused in his or her research that he or she is losing the big picture of their subject. Therefore, this book could also be beneficial for scientists studying dementia mechanisms.

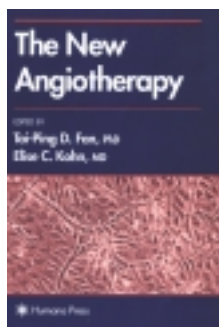
The discussion of genetics and especially the single nucleotide polymorphisms (SNP) in certain genes associated with dementia was impressive. With the fast development of functional genomics, a growing body of evidence for the genetic background of dementia is being uncovered. This will not only provide entry points and insights into the mechanisms underlying dementia, but will also shed some light on the era of pharmacogenomics that is fast approaching clinicians. The limit of the book is that the topics are not well balanced, which could be a result

of the format of the *Swiss Society for Neuropathology XVIII International Winter Meeting on Neuropathology and Genetics of Dementia* (23–26 March 2000, St Moritz, Switzerland).

For example, there are two major chapters that discuss in great detail the hormonal regulation of Alzheimer's pathogenesis, which are important topics but definitely not the main picture of the field. Amyloid precursor protein (APP) processing, as well as  $\beta$ -secretase (BACE) and  $\gamma$ -secretase mechanisms, for example, remain the major focus of the field. These topics are rich in pathological and genetic studies for the most common dementia, but were under-represented in this book, which focuses on the neuropathology and genetics of dementia. Such an imbalance could leave a one-sided view of the research field in a clinician's mind. Another minor disappointment is the lack of some hot key words in the index, such as 'misfolding', 'aggregation' and 'single nucleotide polymorphism', which are indeed discussed in various chapters. These terms each represent a specific field and could have added some nice connection lines across some of the chapters.

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## The New Angiotherapy

Edited by Tai-Ping D. Fan and Elise C. Kohn, Humana Press, 2001, Price US\$150.00, 609 pages, ISBN 0-89603-464-X

The crucial role of blood vessels in supplying cells with oxygen and

nutrients has long been recognized and the concept that deliberate inhibition of new blood vessel formation can be used to treat diseases was first proposed by Folkman and Danekamp in the early 1970s. However, it has only been in the past decade that dramatic advances in our understanding of the basic mechanisms of blood vessel formation has made feasible the systematic testing of the hypothesis that controlling blood vessel growth represents a key target for

disease management in the clinic. For example, results of the first clinical trial to stimulate angiogenesis for the treatment of ischemic heart disease were only first reported in 1998. Nevertheless, the fundamental attractiveness of this concept and its potential application in the treatment of a wide variety of diseases has led to a plethora of research and development activities by both academic and industrial groups. Although exciting, the many new

observations, discoveries and claims in the field have generated a bewildering amount of information that is sometimes inconsistent and confusing, even to well-informed scientists. The controversies regarding the role of  $\alpha_v\beta_3$  integrin in angiogenesis and the effectiveness of angiostatic endostatin are just two recent examples.

The book, edited by Tai-Ping Fan and Elise Kohn, is a nice compendium of expositions on various aspects of 'angiotherapy,' a term coined to describe this field, and is reasonably successful in its attempt to establish certain themes from all the information. It is organized logically into six sections, containing; general concepts, angiogenesis in specific health and diseases, separate sections on the stimulation and inhibition of angiogenesis, and novel targets. It concludes with a section on angiotherapy in the clinic. Most of the chapters are excellent reviews but there is considerable overlap in the description of growth factors and cytokines that modulate different physiological or

pathological events and, in a few cases, chapters don't quite fit the theme. Two chapters that describe targeting of the tumor vasculature were so similar that I thought I had misplaced my bookmark. By contrast, Chapter 14 provided an excellent and readable review of mechanical forces on angiogenesis in the muscle and placed subsequent therapeutic angiogenesis chapters in proper perspective. Likewise, the chapters devoted to clinical angiotherapy were also quite complementary. An additional underlying theme, scattered throughout the book, is the crucial role of extracellular matrix components in modulating angiogenesis. In this context, an overview by the editors would have been helpful to enable the reader to detect more easily common themes and to see certain overlaps as enlightening, rather than tedious or confusing.

Any book that attempts to review a rapidly moving field such as this one can only provide a snapshot and some of the information will soon be out of date. For

example, there is minimal mention of a particularly hot topic; antiangiogenesis therapy for the treatment of ocular diseases, and there is complete neglect of the role of G-protein-coupled receptors in neovascularization. Nevertheless, this book contains a useful series of reviews by some of the foremost thought leaders in the field. Although much of the same information can probably be found in various journals, the advantage is the convenience of having it all in one place and this book will prove a handy reference on the bookshelf. As a guide book, it will not lead you to the latest sushi bar or hot disco but will provide impeccable guidance to all the well-established places; just the thing for a long weekend visit when you want to only hit the highlights.

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