

RESTOR 00207

Book Review

A.J. Hunter and M. Clark (Eds.), *Neurodegeneration*, Academic Press, San Diego, 1992, 255 pp., ISBN 0-12-361940-8, Dollar price = \$89.95.

Neurodegenerative disorders consist of a group of extremely devastating illnesses which despite their great socio-economic importance, have yet to receive appropriate treatment. Development of new strategies to inhibit or retard neuronal degeneration remains the key issue of research in this area. This compact book is a compilation of selected papers of 23 contributors to the Smith Kline Beecham Research Symposium, held under the auspices of Smith Kline Beecham Pharmaceuticals in Cambridge UK, August 1991, and focuses on summarizing available knowledge and evoking new ideas in this field.

The 11 well-balanced chapters give an overview of current knowledge as to the pathophysiology of the most significant neurodegenerative disorders of the Central Nervous System, Alzheimer's and Parkinson's diseases, Huntington's chorea, Down's syndrome and multiple sclerosis. The chapters are arranged to highlight the fundamental mechanisms which are responsible for both the development of the neurodegenerative diseases or which have potential as new therapeutic opportunities. Each chapter has a large source of references for those who want to attain further knowledge of the field.

The reader can find purely neurochemical analyses of the role of oxidative stress, lipid peroxidation, calcium ions, neurotransmitters, adhesion molecules and neurotrophic factors as well as their mRNAs. One can also find explanations of molecular-biological events concerning the role of mitochondrial functions in the development of the disorders. The role of non-neuronal cellular elements of the CNS, such as glial and endothelial cells,

(i) in the mechanisms of maintenance or opening of the blood-brain barrier, (ii) in mediating neuronal survival or (iii) in guiding growing axons, is also reviewed. The last chapter of the book discusses the possible role of neuronal and glial grafts capable of continuously delivering neurotrophic factors and ways in which they may ameliorate certain neurological disorders.

The illustrations throughout the book are limited to graphic schemes and/or graphic presentation of the data. However, the chapter on astroglial influence in regulation of septo-hippocampal neurons (Patel et al.) includes some informative color plates showing double-labeled sections with astrocytes and cholinergic cells. Two black and white scanning electron micrographs of co-cultured oligodendrocytes and microglial cells (Compston) add extra information to the content of the text.

The book is furnished with an appendix containing 31 abstracts of posters grouped into 4 headings such as "Neurotrophic Factors", "Intracellular Mechanisms", "In vitro and in vivo Models" and "Treatment". A subject index and a list of contributors makes it easy to locate the desired subject or to find addresses of contributors for further correspondence.

Despite the many authors, the book reads well and should stimulate further research. It will be of particular help to the majority of clinicians, researchers and students working in the field.

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