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**Nervous Control of the Eye.** Edited by Geoffrey Burnstock and Adam M. Sillito

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hardback. £82  
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Department of Ophthalmology, Institute of Clinical Science,  
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A select group of international authors have contributed to *Nervous Control of the Eye*; it collates our current knowledge and concepts pertaining to autonomic neural control of the eye, related pharmacology and associated pathologies. Specific topics include the Edinger-Westphal nucleus, control of accommodation, corneal and uveal innervation, retinal and corneal transplantation and tear function. The opening chapter offers an in depth explanation of peripheral iridal and ciliary body innervation, summarising the anatomical distribution and physiological function of bioactive molecules localised to the aminergic and peptidergic nervous systems. The physiological and pharmacological basis of autonomic control of the iris sphincter and dilator muscles is discussed with the current concepts for their dual, reciprocal autonomic regulation. Ciliary epithelial physiology is assessed taking into account recent observations of autonomic neural control over aqueous production.

Chapter two reviews nervous control of the cornea, revealing the elaborate neuronal architecture emanating from the corneoscleral limbal junction that terminates in the corneal epithelium. The complex neurochemical composition of the corneal nerves are summarised and the role of cholinergic innervation is assessed with respect to epithelial cell growth and proliferation, ion transport and a sensory transduction. The impact of innervation on the developing cornea, neuronal disruption and resultant diseases are examined and the role of trophins on the stability of the corneal epithelium is assessed.

Chapters three and four review the Edinger-Westphal nucleus and the control of accommodation. The characteristics of human behaviour accommodation and sensory guidance accommodation are assessed relative to anatomical and neurophysiological functionality, with consideration given to the impact of electrical microstimulation and lesion studies over pupilloconstriction, ocular accommodation and choroidal blood flow.

Chapter five continues with a thorough evaluation of information concerning the intrinsic innervation of retinal vessels and describes the intricate distribution of substance P and NADPH diaphorase. The mechanisms that control retinal blood flow are evaluated with recent data suggestive of intrinsic retinal vessel innervation as a potential model of autoregulation. Consideration is also given to the significance of intrinsic retinal vascular innervation on vascular tone relative to the performance of the blood retinal barrier. Chapter six concentrates on the potential of ocular purinergic signalling, focusing on the ongoing studies that have identified receptor-binding sites. The potential of nucleosides and nucleotides as pharmacological agents in ocular pathology is assessed.

Chapter seven reviews the potential of retinal transplantation and assesses the mechanisms that can be employed to demonstrate its efficacy. Interventions discussed include implantation of embryonic retinal cells into the brain, the introduction of cells into animal models of retinal degeneration and assessment of optic nerve replacement. Retinal grafts, their latent integrity and rejection are assessed and the pertinence of employing the normal papillary light reflex in characterising transplant responsiveness is reviewed.

The eighth chapter offers a synopsis of corneal transplantation, spanning scientific investigation and clinical supervision. It considers the effectiveness of grafting versus solid organ transplantation and comprehensively considers the immunopathological impact and treatment of graft rejection with a synopsis of the future development of immunosuppressive therapy. The final chapter evaluates the mechanisms that maintain the integrity of the ocular surface, demonstrating the unique

function of the tear film, which provides the corneal epithelium with a constant physiologically compatible environment. The anatomy and neurophysiology of tear film generation are reviewed with consequent pathologies.

To conclude the editors and contributing authors have generated an excellent text, assembling a comprehensive guide of this complex and developing area. Throughout the chapters are supplemented with excellent graphical, pictorial and diagrammatic information. Consequently, this book is a comprehensive resource for scientists and clinicians with interests in the current knowledge of ocular innervation and the developing modalities that will influence our treatment of related pathologies.

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### Susan Shankie, *Hypertension in Focus*

London: Pharmaceutical Press 2001, 168 pages  
paperback. £24.95  
ISBN 0-85369-456-7

*Reviewed by Dr P A Meredith, Senior Lecturer in  
Department of Medicine & Therapeutics, The University of  
Glasgow, Glasgow, Scotland.*

In reading this book I was reminded of the truth of the old aphorism that one should not judge a book by its cover. The back cover appropriately acknowledges the importance of hypertension as a risk factor for cardiovascular mortality and morbidity but then adds the non sequitur that this indicates that the pharmacist has an important role to play in the management of hypertension. Fortunately in the main text the author qualifies this blanket statement and, in part, identifies the important areas where the pharmacist may support the effective treatment of the hypertensive patient. However, if there is a criticism of this book it is in this very area where the content is a little deficient. The pivotal final chapter entitled "Pharmaceutical assessment of the hypertensive patient" is rather bald and misses the opportunity to identify the potential roles of the pharmacist in an imaginative and innovative manner. This relatively minor criticism should not detract from what is a useful, informative and well written book. It provides a clear and concise reference text of hypertension and its management.

The initial chapters provide an appropriate summary

of the disease itself and the management of the hypertensive patient. The potential value of lifestyle management is discussed but perhaps there is insufficient focus on the ability to sustain these lifestyle changes in the long term. However, the difficulties of this are, in part, indirectly acknowledged by the considerable attention focused upon the necessity and application of pharmacological treatment of hypertension. Each of the major classes of antihypertensive agents are covered in a logical and structured manner. The potential advantage and disadvantage of the various drugs are discussed with respect to compelling indications and, more importantly, contra-indications and adverse effects profile. The mechanisms of action of the drugs are presented along with the differences between the various agents within a class. Each chapter also provides a useful section on potential and clinically relevant drug interactions. A summary of the pharmacokinetic characteristics of the various antihypertensive drugs is also included in these chapters. Whilst this pharmacokinetic data is largely accurate, it does seem that an opportunity has been missed with regard to how the pharmacokinetic characteristics translate into the pharmacodynamic profiles of the various drugs. For example the chapter on calcium antagonists identifies the plethora of modified release formulations which are available for a number of drugs. The evidence suggests that these formulations may potentially differ with regard to their antihypertensive efficacy. It would therefore have been useful to have some comment on the pharmacokinetic characteristics of these different agents, how this translates into relative duration of action and thereby the equivalence or otherwise between the formulations.

The book also provides information on recent trials and future developments. In both instances the topics could have warranted greater attention. For example, in the modern era of the Internet it is quite likely that the pharmacist will be asked about the implications of the early stopping of the doxazosin limb of the ALLHAT study and the safety implications of other recent trials. However, it should be conceded that in this rapidly evolving area, it is difficult for any text to remain up to date for any length of time.

Despite my comments I consider that this is a good, well referenced book which provides useful and worthwhile summarising information on the background and management of hypertension. On that basis I am happy to commend it to all healthcare professionals involved in the management of hypertensive patients and in particular to all pharmacists whether they be practising in a hospital or community environment.