Clinical neurophysiology of the vestibular system, 3rd edition

Edited by R.W. Baloh and V. Honrubia (Pp 408, US$98.50). Published by Oxford University Press, New York, 2001. ISBN 0-19-513982-8.

The first edition of *Clinical neurophysiology of the vestibular system*, published in 1979, had a significance beyond its content: it affirmed that neurology had a stake in the vestibular system. Here was a neurologist (Baloh) writing with an otolaryngologist (Honrubia) about semicircular canals, endolymph, audiograms, and above all the vestibulo-ocular reflex—the "VOR". The VOR is no ordinary reflex; one can measure accurately both its input and its output and come up with a transfer function for gain—a new concept then for neurology. We have learnt a lot more about measurement of vestibular function and about disorders of the vestibular system since 1979. The 2nd edition, published in 1990, and now the third edition, incorporate these advances.

And what a terrific book it still is: based on concepts, packed with facts, lucidly written, and rigorously referenced. Its structure is logical and its language is clear, so that it is not only easy to search and browse but a pleasure to read from cover to cover. And it is comprehensive—no vestibular stone is left unturned.

There are four main parts, dealing in turn with: the structure and function of the vestibular system (four chapters); the clinical and laboratory evaluation of the dizzy patient (four chapters); specific diseases affecting the vestibular system (10 chapters); and the treatment of vertigo and vestibular loss (two, yes only two, chapters—but then that's neurology for you).

It's impossible to single out any one chapter, they are all outstanding. For example, I particularly liked the new material in chapter one on the phylogeny of the vestibular system. Now one would have to admit that familiarity with the otocyst of the sea anemone is not a lot of use in the consulting room, but this section is so clearly written and matter so interestingly explained that one happily dispenses with such utilitarian demands.

The great strength of the book and what has made it such a classic, is that although it is based on physiology, full comprehension of physiology is not a prerequisite for retrieving useful information from the disease based chapters. Although the structure is there, one can put this aside and simply delve. The chapters on the three most common vestibular diseases, benign positional vertigo, migraine, and Meniere's diseases, are absolute gems. Each could be published as a self-contained review in its own right.

The book is an elegant conceptual and factual account of the vestibular system, its disorders and diseases, rather than a self-help or how I do it manual. Some readers might miss not having, a "frequently asked clinical questions" section, or at least a "frequently encountered clinical pitfalls" section, but then no one can have it all. Anyone who sees dizzy patients needs one dizzy book on the desk. This is the one I have on mine.

G M Halmagyi

Role of proteases in the pathophysiology of neurodegenerative diseases

Edited by Abel Lajtha and Maren L Banik (Pp 302, £59.50). Published by Kluwer Academic/Plenum Publishers, New York, 2001. ISBN 0-306-46579-5

This volume would be an extremely useful addition to the bookshelf of anybody with an active interest in the biochemical and pathological processes that underlie some of the more common neurological diseases. In the past the role of proteolysis in these disorders has been largely neglected because it was assumed that it represented a general non-specific metabolic process. In terms of attracting research interest the field also suffered from the confusion in the literature concerning the naming of these enzymes and the fact that the same enzyme might have many different names. However, as the editors point out in their preface, this is no longer the case and they have managed to bring together an impressive array of current research on the involvement of proteases in a wide variety of disorders. From what individually might have been regarded as rather disparate studies, one can now start to see common themes not least of which is the potential therapeutic value of targeting specific proteases and the development of specific inhibitors.

If, like me, you don't have specialist knowledge of this area I would recommend going straight to the last chapter on the mammalian proteinase genes. Here you will find a clearly laid out summary of the classification and characteristics of the four main groups of proteases (serine, cysteine, aspartic, and metalloproteinases). I also found the chapter on the ubiquitin/proteasome system and the normal physiological breakdown of proteins particularly informative. Having read these two chapters you then have a wide choice of disorders and proteases to choose from. Perhaps the most widely discussed is Alzheimer's disease, undoubtedly because of the huge advances that have been made in the understanding of the biochemical processes underlying this disease over the past 15 years. Papain-like cysteine proteases (cathepsins), caspases, calpains, and a novel metalloendopeptidase (EC 3.4.24.15) all appear to have some role in the pathology of Alzheimer's disease and may, therefore, be potential targets for drug development. There is also a group of Alzheimer's disease specific proteases that affect the processing of the amyloid precursor protein (α, β, and, γ secretase) and presenilin (presenilinase). Both of these proteins are central to the development of pathology and so these enzymes in particular are key targets for current drug company research.

Apart from the interest in Alzheimer's disease, there are other chapters covering the role of matrix metalloproteinases and calpain in the demyelination of multiple sclerosis and the key role of calpain in the pathology of traumatic brain and spinal cord injury. Further chapters describe the loss of calcium homeostasis and the subsequent pathological activation of calpain, resulting in the breakdown of key structural proteins in some neuromuscular disorders. In summary, this book has something for everyone in an area of research that holds huge promise for the future in terms of developing useful therapies for treating neurodegenerative disorders.

S Gentleman

CORRECTIONS

The following abstract was not printed with the article by E L J Hoogervorst, M J Eikelenboom, B M J Uitdehaag, and C H Polman (One year changes in disability in multiple sclerosis: neurological examination compared with patient self report) in the April issue of *JNNP* (*JNNP* 2003;**74**:439–42).

Objective: To characterise the relation between one year changes in neurologist rating of neurological exam abnormalities as measured by the EDSS and changes in patient perceived disability as measured by the GNDS in patients with MS.

Methods: 250 patients with MS were recruited at an outpatient clinic. Disability at baseline and one year follow up was assessed using the EDSS and GNDS. Correlations between change in EDSS, GNDS-sum score, functional systems, and GNDS subcategories were studied as well as the significance of changes in EDSS associated with changes in perceived disability.

Results: The correlation between one year changes in EDSS *v* GNDS was substantially lower (0.19) than cross-sectional correlations between EDSS and GNDS, either at baseline (0.62) or at follow up (0.77). Notably, changes in functional system scores that are based on neurological examination are poorly or not at all correlated with changes in disability as perceived by the patient. Analysing the impact of a significant worsening in EDSS score we found that this was associated with significant worsening, insignificant change, and significant improvement in the patients' perceived disability in 45%, 39%, and 15% of patients, respectively.

Conclusion: Patients' perception of change in disability differs not only quantitatively but also qualitatively from that of an examining physician. There are true differences in change as perceived by the patient and measured by the physician and changes in many dimensions of disability are relevant to the patient and have no measurable impact on the EDSS.

The authors of the short report entitled Paraneoplastic ophthalmoplegia and subacute motor axonal neuropathy associated with anti-GQ1b antibodies in a patient with malignant melanoma, published in the April issue 2003 of JNNP (2003;**74**:507–9), were listed in the incorrect order. The author order should read as follows: L Kloos, C W Ang, W Kruit, G Stoter, and P Sillevis.