
How fortunate is the American Society for Pediatric Neurosurgery to see an edited record of its annual meeting produced so quickly and in such an attractive form. This fourth volume is up to the standard of its predecessors and covers a wide range of topics which are either peculiar to the paediatric age group (such as neural tube defects, tethered spinal cord, even foetal neurosurgery) or conditions which have particular importance in childhood such as craniofacial dysraphism, medulloblastoma and, of course, hydrocephalus. Many of the 26 chapters report the extensive experience of the authors and would be of great value to the general neurosurgeons in the UK who, from time to time, deal with these childhood conditions. Other chapters reflect the active research in the USA and Canada where it is realised how much remains to be discovered. Examples of these are studies on animal models of intraventricular haemorrhage, approaches to foetal neurosurgery, and in vitro studies of human medulloblastoma.

Beautifully produced, with adequate references and provided with an editorial comment at the end of each chapter, this volume of the series (which I think would better have been titled “Progress in Pediatric Neurosurgery”) is commended, but there has to be the usual complaint about the high price of such a book.

KENNETH TILL


Written for medical and paramedical personnel who use evoked potentials for clinical diagnosis and evaluation, the author aims in this book to provide a starting point from which the reader can build. He writes “Interested readers can confuse themselves to any desired degree by reading the literature which is amply referenced, if not discussed”. The contents fall into three sections, visual, brainstem, auditory and somatosensory evoked potentials. Each section has chapters on methodology which together with an introductory chapter also on methodology make up one third or so of the book. Much of this is repetitive and there are better accounts of the technology of evoked potentials elsewhere. Twelve per cent of the pages are references, fully and accurately set out in each section. It is rare to see a reference dated before 1970; this is partly a reflection of the recent development of clinical evoked potentials and partly, may one suspect, that computerised literature searches do not go back earlier.

The meat of the book is in the accounts of the clinical findings. To include all published work the writer has adopted the pattern stringing together authors, date, diagnosis, findings, authors, date... etc. This is an effective way of imparting information but does not generate understanding. What we need to know is under what circumstances will evoked potential findings influence a clinical diagnosis or management. This information will only emerge in the fullness of time and this book only touches on it and sometimes shies away from it as, for example, with the paediatric applications of brainstem auditory potentials. Many of the reports included can only be regarded as preliminary and awaiting confirmation and elaboration. In some parts the evoked potential findings are related to clinical and other neurophysiological findings; this useful approach is evident in the section on somatosensory evoked potentials and in the consideration of multiple sclerosis. This gives the evoked potentials a clinical perspective which is most valuable. There are many good figures which are adequately captioned so that they can be instructive without the accompanying text. Low amplitude potentials are illustrated by superimposing two plots, an admirable practice which increases the confidence of the reader.

The section on somatosensory evoked potentials is written in part by Con Yiamikas of Sydney, Australia and maintains a high standard with its thoughtful reviews. It is of interest that the authors adopt an idiosyncratic view of the origin of the N13 potential recorded from the neck. They attribute it to the cervico-medullary junction. Gasser and Graham’s observations (1933) and many following them may be old but they should not be overlooked. In this and in other sections the importance of unilateral stimulation is stressed as the “normal” side may well swamp an abnormal response from the “bad” side if simultaneous bilateral stimulation is used.

Brain death is considered but the concept of brainstem death is not mentioned. The findings in coma are many but there is no clear statement of whether evoked potentials are any better as prognostic indicators and clinical findings.
The book has been excellently edited by an academic in Chinese history. The style is consistent, references have been thoroughly cross-checked and there are no typographical errors. The same lady obviously did not compile the index which is inadequate. Renal failure for instance is not indexed although there are several paragraphs on the topic; the only pointer under myelopathy is to visual evoked potentials, diabetes gives no lead into visual work or retinopathy. This is a pity because the text is designed for readers who wish to look up quickly different topics. The text is well laid out for such a use but one needs a good index as well.

This book would be a useful addition to the evoked potential literature. It has brevity, and would provide a starting point from which readers may set out to “confuse themselves”.

E SEDGWICK


Each of the 13 chapters in this book is by a distinguished author in his or her own field. The book is tentatively introduced as a do-it-yourself manual for computer orientated electromyographers. The initial chapter deals with power spectrum analysis of EMG signals and the final contribution is a most interesting description of the advances in the myoelectric control of multifunctional prostheses. There are separate contributions on the analysis of interference pattern, motor unit firing, motor neuropathy, data processing in ergonomics and investigation of mechanical waves in tendons. The bulk of the book, however, is devoted to computer recognition and automatic analysis of single motor unit potentials evoked by minimal or moderate voluntary effort and recorded from either conventional concentric or modified needle electrodes. The chapter by Guiheneuc et al. gives a comprehensive overview of the problems, pitfalls and possible solutions in computer programming for recognition and automatic detection of these signals. Most chapters correctly emphasise the importance of the definition of the parameters of the motor unit potential both absolute, and relative to the gain and noise levels of the recording system to the programming of computer recognition of potentials. The “decision threshold” of the observer and the setting of the “measurement levels” of the computer both determined by the operator before any analysis takes place, can have a very profound effect on the usefulness, accuracy and reproducibility of the results. Many of the computer protocols therefore are a compromise between the ideal and the practical. One cannot help but be overawed by the impressive data handling capabilities of the methods described. The ability to process hundreds, indeed thousands of potentials, display the results in histograms, graphs and two dimensional contour maps allows visual identification of trends deviating from the normal. Many of the methods, however, continue to be based on the “foundation” definitions in neurology as to what constitutes a normal unit, a myopathic unit or a reinnervating unit. While a degree of controversy continues as to the motor unit potential parametric manifestations in these disorders, computer analyses techniques based thereon will be as reliable as the basic tenets. Perhaps for that reason some of the methods described, while in use for a number of years, have not found wide application. Others, including the single fibre EMG technique of Stalberg have received international acclaim and general adoption, a consequence of the innovative concepts underlying the technique and its relative ease of application in the clinical setting. The chapter by Stalberg and Antoni is particularly comprehensive and comprehensible with a description of the original single fibre EMG technique and recently introduced modifications of scanning and macro EMG. The application of these methods to clinical problems is convincingly presented.

The computer analysis of motor unit potentials is confined to those evoked by voluntary effort and omits any reference to computerised studies of evoked motor unit potentials which can study a proportion of the high threshold “voluntary motor units”. The inclusion of those methods would have provided a complementary and useful addition to this treatise.

A volume of this type bringing together the specialised knowledge and experience of many respected authorities is long overdue. It marks a number of different paths that may be followed in computer application to EMG. Some of these are well trodden, others destined to end in cul-de-sacs but some have already reached the broad highway and are in use in well equipped clinical laboratories.

This is an important work for the growing band of enthusiasts for computerised electromyography to whom it can be recommended. It is essential reading for anyone contemplating the introduction of computerised techniques in the EMG laboratory.

JP BALLANTYNE


In a recent review in this journal I criticised the wave of mass publication which floods the reader with several monographs on the same topic each year. Volume 37 of this series was the object of the complaint. It is no surprise to see volume 40 in the same week that the previous review appeared.

Another conference? Yes. Sponsored? Yes. Another easily acquired set of manuscripts by distinguished international experts placed at the hand of the editors and publisher? You guessed.

If the contributions are of uneven quality, the literary style sacrificed at the altar of expedience and the editing and index less than satisfactory, one has to concede that this is a valuable compilation. Its value lies in the vast amount of very recent research, clinical and experimental which is carried out, and presented in one volume, complete with the latest references. As such, it will be an invaluable if ephemeral statement of “Parkinson’s disease 1983” to which all interested in the field will need access. At this price however, its attraction to the private buyer will be meagre indeed.

JMS PEARCE
Evoked Potentials in Clinical Medicine

E Sedgwick

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