

Book Reviews

PET AND NMR. Series: Neurology and Neurobiology, Volume 21. Edited by Leontino Battistin and Franz Gerstenbrand. Published by Alan R. Liss, Inc., New York, 518 pages. \$119Cdn approx.

This volume is an attempt to show how PET and NMR can be complimentary in the study of brain structure and function. Experiments in NMR imaging (MRI) and *in-vitro* spectroscopy are cited to emphasize that we are on the threshold of NMR use in the study of brain chemistry. Many technical papers are presented which detail methods of attempting to do just that. *In-vitro* tissue studies are used as a model of how to later do *in vivo* spectroscopic investigation. There are clinical as well as bench studies, each with the goal of learning how to measure chemistry in the brain. There is even a theoretical chapter suggesting how to image physiological events.

The section on positron emission tomography is written by an authoritative group from Europe, Britain and the US. A broad selection of topics is covered including measurements of cerebral blood flow, oxygen metabolism, glucose metabolism and receptor kinetics in various disease states. The tracer kinetic methodology to assess receptor binding is discussed in an excellent chapter by Gjedde, Wong and Wagner. Horwitz et al discuss correlational methodology in the analysis of PET data, a subject which has become somewhat controversial. In addition, the contribution of single photon emission enhanced tomography (SPECT) to functional brain imaging is discussed.

This book provides a review of some PET techniques along with NMR spectroscopy and imaging in a single volume. However, more complete current reviews of PET are available, such as the book edited by Phelps, Mazziotta and Schelbert and for MRI in the book edited by Brant-Zawadzki and Norman.

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STROKE, A CLINICAL APPROACH. By Louis R. Caplan and Robert W. Stein. Published by Butterworths, 1986. 343 pages. \$45.50.

In the preface the authors state: "Our goal has been to interpret and organize the newer advances into practical terms referable to the daily care of stroke patients. The book is intended as a manual for the general practitioner, internist or surgeon confronted with stroke patients and for the medical student and house officer in training." It can be said unhesitatingly that the authors have admirably succeeded in fulfilling these goals.

Within the burgeoning neurologic literature, there is still a place for thoughtful, clinically-oriented publications such as this one. We find here a distillation of the authors' extensive experience detailing a personal but always rationally justified approach to the manifold problems posed by patients with cerebrovascular disease. One welcomes the opportunity to probe the thought processes of experts concerning the management decisions in stroke patients which many of us face on a daily basis. Numerous controversial issues in stroke management (eg. when to initiate anticoagulation in the patient with stroke

arising from a cardiac embolus or management of asymptomatic carotid stenosis) are given a balanced treatment with ample reference to data from the literature and the Harvard and Michael Reese Stroke Registries.

A noticeable flaw in the book is the quality of the CT scans and angiograms. Instead of the originals artistic reproductions are used which are generally poorly done and appear like overexposed radiographs. Occasional points are overcategoric. Many readers may find themselves spending an inordinate amount of time at the bedside if they strictly follow the authors' admonition: "Do not leave the bedside before you feel confident in your localization". The choice of section and chapter divisions is logical and well planned with the exception of the chapter on treatment which would be better placed in the 3rd section ("Prevention, Complications and Rehabilitation") than in the first on "General Principles". Also the second section would be more aptly titled "Specific Varieties of Stroke" than "Stroke Syndromes".

These are minor detractors from what is otherwise a very readable and attractive book. Although intended mainly for non-neurologists, this volume will undoubtedly prove useful for neurologists as well who wish to review basic concepts and recent advances in cerebrovascular disease. Within its short length this text provides a remarkable amount of practical information. If read throughout it will not fail to reward the reader with a rich collection of clinical pearls.

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THE NEURO-IMMUNE-ENDOCRINE CONNECTION. Edited by Carl W. Cotman, Roberta E. Brinton, Albert Galaburda, Bruce McEwen and Diana M. Schneider. Published by Raven Press. 166 pages. \$60Cdn approx.

This volume of eight chapters is based upon the proceedings of a meeting devoted to neuroimmunology held in April of 1985. The editors have attempted to integrate information from three different areas for those who are familiar with perhaps only one of the disciplines of interest.

The first half of the monograph introduces concepts of immune function, nervous system function and innervation of the immune system, and culminates in a review of the common organs of cellular communication in the immune and nervous systems.

The next three chapters explore systems interaction: (a) chemical messengers of the immune system and a possible role for the factors on nervous system function; (b) the effects of neurotransmitters and hormones on the immune system; and (c) the similarities between the phagocytic cell types of the immune and nervous systems—macrophages and astrocytes respectively.

The last chapter deals with the neural immune interaction from a neuro-psychological perspective by suggesting a close relationship between abnormalities of the immune system and behavioural deficits that develop in childhood.

The format of this monograph is clearly not an attempt to merely publish the often disjointed proceedings of a meeting.

The editors have put much thought and effort into preparing a review that would permit the greatest insight into the significance of interactions of these three systems.

The first seven chapters are developed with an underlying theme that soluble mediators of response subserve many of the functions within and between the three systems of interest, and that production of and receptors for these factors are shared by cellular elements of these systems. These soluble mediators can be subclassified conveniently by their sites of action and tissue concentration as ionic (micromol/mg), second messenger (nanomol/mg), and genomic (picomol/mg). The authors have developed these chapters in a logical fashion, culminating in chapters 6 and 7, "Influences of Hormones and Neuroactive Substances on Immune Function", and "Plasticity of Brain after Injury", both of which are particularly informative.

The final chapter, in some respects, detracts from the overall quality of the monograph. The authors have concentrated on conditions where a "neuro-endocrine-immune connection" is tenuous at best. The reader uninitiated to this area would have been better served by a clear and concise review of those clinical entities where the connection is well established. For example, instead of a discussion on the postviral fatigue syndrome, myasthenia gravis and the neural influence on joint inflammation might have been covered. The neuroendocrine relationships that subserve the migraine syndrome and the premenstrual syndrome deserve at least as much discussion as the neuro-anatomical and electroencephalographic findings in dyslexia.

For attempting to foster the interdisciplinary communication that remains an important factor in advances in understanding of basic biological processes, the editors are to be commended. While attempting to reach an uninitiated audience, however, they have undershot their mark and have compounded this problem by relying more on clinical obscurities than on established conditions that would put the "neuro-immune-endocrine connection" in its proper perspective.

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MYELOYDYSPLASIAS AND EXTROPHIES: SIGNIFICANCE, PREVENTION, AND TREATMENT. Edited by David B. Shurtleff. Published by Grune & Stratton, Incorporated, 1986. 591 pages. \$86.50Cdn.

This interesting volume describes the experience of the Seattle myelomeningocele team in dealing with children with complex congenital abnormalities, including the extrophies and myelodysplasia. The clinical experience has been drawn from a computerized data file that has evolved over a period of 28 years. The material has been compiled by 8 authors and 14 researchers, with criticism and suggestions provided by 9 reviewers. The authors include physicians, surgeons, psychologists, educators, nurses and several therapists.

The first section titled "History and Philosophy" includes a good discussion of the decision making process for the treatment or nontreatment of congenitally malformed individuals. Readers outside of the United States will be interested to know of American laws establishing the legal right for treatment for malformed infants and children.

Section II "Initial Medical Treatment" includes discussion of embryology and embryopathology, etiology, and some examples of the Seattle experience with management of cases diagnosed in utero. In considering management options, the authors completely ignore the maternal risk of cesarean section. The risk of infection of a myelomeningocele during vaginal delivery, and in the immediate hours following birth, seemed to be exaggerated from my experience.

The third section on "Management of the Neurogenic Bowel and Bladder" includes a great deal of information which will be of help to family physicians, pediatricians, nurses, and parents of children with myelodysplasia. The emphasis of the Seattle group in teaching children self-care skills at the earliest age possible is of great interest. This theme is continued into the fourth section, "Establishing Lifelong Health Patterns". This section includes chapters on dietary management, decubitus formation, and mobility.

Section V: "Developmental Expectations and Therapeutic/Educational Approaches" includes a discussion of intelligence, fine motor skills, and approaches to facilitate independent self-care.

The final two sections, "Psychosocial Adjustment" and "Long-term Management" include discussions of the impact of a congenitally malformed child on the family, as well as the problem of social isolation for the impaired adolescent. The increased survival of children with myelodysplasia has resulted in an adult population, with rather unique health care needs.

There is a great deal of information in this book, and I highly recommend it for physicians who deal with children with these congenital abnormalities. Selected parts of it should be of interest to obstetricians as well. It should be present in all myelomeningocele clinics, as it nicely documents the team approach to this problem, and provides results which other teams can use for comparison purposes.

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HANDBOOK OF NEUROTOLOGICAL DIAGNOSIS. Edited by J.W. House and A.F. O'Connor. Published by Marcel Dekker, New York, 1987. 432 pages. \$106Cdn approx.

Neurotology concerns the disorders of the inner ear and its cerebral connections. The diagnosis of these disorders is as difficult as their symptoms are common. This handbook contains 12 chapters on the various procedures that may help in evaluating the patient presenting with such symptoms. The book would have been easier to read if there were introductory chapters on the anatomy and physiology of the ear. The actual contributions vary in their quality.

Several of the chapters are excellent. Lo and Solti-Bohman provide a comprehensive and well organized review of computer tomography illustrated by an excellent series of photographs. Adour has written a clear outline of how to evaluate the patient with facial nerve problems. This chapter contains some really well drawn figures of the anatomy of the facial nerve. Luxon and Raglan review the neurological examination of the neurological patient and provide an extensive list of references.

Unfortunately, some of the chapters in the book are really not worth reading. The introductory chapter on the clinical