Book Reviews

PEDIATRIC NEUROIMAGING. 2000. A. James Barkovich. Published by Lippincott Williams & Wilkins. 850 pages. C$411.52 approx.

This third edition of Pediatric Neuroimaging by James Barkovich is a very extensive and exhaustive book of 850 pages.

The content of the book includes techniques and methods of pediatric neuroimaging, normal development of neonatal and infant brain, skull and spine, toxic and metabolic brain disorders, brain and spine injuries in infancy and childhood, congenital malformations of the brain and skull, phakomatoses, intracranial, orbital and neck tumors of childhood, hydrocephalus, congenital spine anomalies, neoplasms of the spine, infections of the nervous system and anomalies of cerebral vasculature.

In each chapter an exhaustive review of each different pathology is undertaken. For each condition, the etiopathogenesis and the clinical manifestations are described.

The chapters on Toxic and Metabolic Disorders, as well as Chapter 5 on Congenital Malformations of the brain and skull are extremely complete and they certainly represent an excellent reference for routine consultation as well as the confirmation of an exceptional case. Chapter 7 on Tumoral Pathology also contains a very detailed pathological description for each histological type of tumor.

The iconography is outstanding, the pictures are of excellent quality with exhaustive legends. The collection of images is interesting, complete and well chosen in order to emphasize the most important radiological findings.

This book is certainly very complete and I think it represents an excellent tool, not only for the pediatric neuroradiologist but also for the adult neuroradiologist since many diseases, particularly the inherited syndromes, are often encountered in the adult population.

This book is an excellent tool that has a place in the library of the most senior neuroradiologist, but also is a wonderful manual for the in-training neuroradiologist fellow or resident.

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CURRENT NEUROLOGIC DRUGS. 2000. Edited by Lewis P. Rowland. Published by Lippincott, Williams and Wilkins. 378 pages. C$88.20 approx.

The old joke, "Question: What is the shortest textbook in the world? Answer: Neurologic Therapeutics," is no longer quite as funny as it used to be. There are indeed a number of pharmaceuticals used in the treatment of patients with neurological disease and Dr. Rowland and his fourteen contributors have put together a textbook that is designed to provide the essentials of information needed about the major classes of drugs, including the newest ones.

The eleven chapters either relate to drugs used to treat specific diseases: cerebrovascular disease, migraine and other headaches, dementia, Parkinson's disease and other movement disorders; or to classes of drugs: sedative-hypnotics, antiepileptic drugs, neuromuscular drugs, antiemetic and antivertigo drugs, opioid analgesics, general anesthetics and anesthesia-associated drugs, and immunosuppressive drugs. Each chapter begins with a section on the pharmacologic and therapeutic aspects of the particular drugs in question and is followed by a series of references. In general the quality of the references appears to be good although their quality, in an evidence-based fashion, has not been commented upon specifically. There then follows a section in which the characteristics of each of the drugs discussed are given, much in the same way it is in the Canadian Compendium of Pharmaceuticals and Specialties. In the chapter on Therapeutic Agents for Cerebrovascular Disease for instance, 14 of the 23 pages are given over to the compendium type of presentation.

The chapters are succinct. The illustrations and tables are clear. The drugs are dealt with from a North American perspective. There are a few agents discussed that are not available in Canada. Unfortunately, in my opinion, the chapters do not provide a lot of therapeutic direction in the use of these medications. What is difficult to get from most textbooks and most compendia is an idea of the art of therapeutics. What should the starting dose of the drug be? What about a particular patient might make you start with a lower dose or a much lower dose and what should that dose be? How quickly should the dose be increased? Once the patient has reached the required dose, how long should you persist with the dose before considering the drug a failure? If the drug has failed, how should it be discontinued? For the most part, these questions are not addressed in a systematic fashion.

The book is a useful overview of the area of neurological therapeutics; however, since Canadian physicians all receive an annual copy of the Compendium of Pharmaceuticals and Specialties free, I suspect that they would find the compendium aspect of the book redundant and quickly dated. While the other sections provide a good introduction to the pharmacology of the medications discussed, they do not provide busy practitioners with some of the therapeutic nuances for which they might be looking in such a textbook.

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THE CHANGING NERVOUS SYSTEM: NEUROBEHAVIOURAL CONSEQUENCES OF EARLY BRAIN DISORDERS. 1999. Edited by Sarah H. Broman, Jack M. Fletcher. Published by Oxford University Press. 403 pages. C$104.00 approx.

This text provides an overview of current research on brain plasticity and focuses on the biological and environmental factors that influence neurological reorganization following early cerebral insults. The text is based on a conference entitled The Role of Neuroplasticity in Rare Developmental Disorders which was sponsored by the National Institute of Neurological Disorders and Stroke and the National Institutes of Health in 1997. Although this is a multi-authored text, the chapters are comprehensive and the editors have organized the individual contributions in a logical fashion.

Part I consists of three chapters that introduce the mechanisms of brain development, principally neurobiological processes of elimination of synapses and the experiential effects of environment and learning. These chapters summarize observations from laboratory models but maintain a focus on application to human studies. Part II is comprised of three chapters which deal with mechanisms of reorganization of brain circuitry as demonstrated in

several laboratory animal models which have been used to study the development of long-term memory in marine mollusks, the development of the rat motor cortex and the visual system. Part III is the largest section and has seven chapters that describe neurobehavioural changes in a variety of early brain disorders which include congenital malformations, surgically induced lesions for treatment of epilepsy and tumors, focal infarctions and autism. Neurobehavioural data as well as observations from quantitative functional magnetic resonance imaging are discussed. The two chapters in the final section (Part IV), address therapeutic interventions which are based on the theory of plasticity within the central nervous system. Proposals for effective interventions for high risk infants of very-low-birthweight are described and exciting results are reported, which suggest that it may be possible to achieve improvements in performance with appropriate interventional strategies. The final chapter summarizes and integrates our current understanding of biological brain development, learning and neuroplasticity and raises provocative questions for future research.

Although many of the contributors to this text are basic neuroscientists, the text manages to maintain a remarkable balance between experimental observations and clinical applications. In my opinion, this text succeeds in fulfilling its primary objective of bridging the gap between neuroscientists and clinicians and fostering collaborative research between the disciplines. This text provides fascinating reading for clinician-researchers, as well as for pediatric neurologists, pediatricians and therapists who are concerned with the causes and management of disabling developmental disorders in childhood.

Alan Hill
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BRAIN TUMOR IMMUNOTHERAPY. 2000. Edited by Linda M. Liau, Donald P. Becker, Timothy F. Cloughesy, Darell D. Bigner. Published by Humana Press. 373 pages. C$198.45 approx.

Currently, the treatment of malignant gliomas is suboptimal with the vast majority of patients dying of their disease. Novel therapeutics hold promise in combating this deadly disease but they do not have an established role in brain tumor therapy. Interest in immunotherapy in oncology has been increasing in recent years and it is natural for neuro-oncologists to explore this form of novel therapy for their glioma patients. An argument could be made that producing a text dedicated to an unproven therapy for an incurable disease is unwise at this time; however, the field is rapidly developing and warrants scrutiny for its vast potential.

While this text is not of general interest, it can be recommended for clinical neuro-oncologists and neurosurgeons who treat brain tumor patients as well as researchers interested in exploring this field. The editors have put together an excellent group of contributing authors who are on the leading edge of research and trials in immunotherapy for brain tumors.

The initial section of the text offers basic information regarding gliomas including pathology, epidemiology and standard treatment for the disease. While useful for those with little background knowledge in brain tumors, it may be superfluous reading for the intended audience. The brain tumor pathology chapter stands out as an excellent synopsis for any interested reader.

The second section is perhaps the most useful for those interested in learning more about the field. It covers the major issues surrounding the immune interactions within the nervous system and specifically how these interactions present opportunities and roadblocks in immunotherapy for brain tumors. This section quite easily could be recommended for any neurologist, neurosurgeon or neuroscientist interested in updating their knowledge of immune interactions within the central nervous system.

The following sections focus on various methods of immunotherapy for brain tumors including tumor vaccines, monoclonal antibody strategies, immunotoxins, immuno-gene therapy and other forms of immune modulation. The chapters are authored by leading investigators in these fields and offer a comprehensive survey of the various techniques and clinical studies in immunotherapy. Most of the studies involve preclinical cell culture and animal models and a few early phase I/II human trials. This may disappoint those looking for evidence that these therapies will be effective for their patients. In fact none of these immunotherapeutic strategies may prove efficacious for the treatment of brain tumors but there is definitely some fascinating work ongoing that will likely serve as a stepping stone for more advanced therapies.

The text is quite readable but does suffer from some of the problems commonly associated with multi-author books. The writing styles can vary considerably as can the organization of the chapters. There is also a significant degree of redundancy of basic principles within the introduction of each chapter. Probably the most irksome issue is the overuse of abbreviations in the text. Many of these acronyms are nonintuitive requiring the reader to page back to earlier sections of the text for clarification. For the most part, the text is tightly written and coherent even for those with no immunological background.

Overall, this book serves as an excellent introduction to the field of immunotherapy. Only time will tell whether this text will be a forerunner to therapeutic revolution in neuro-oncology or flounder as another failed contender in the fight against malignant brain tumors.

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DIFFERENTIAL DIAGNOSIS IN NEUROLOGY AND NEUROSURGERY A CLINICIAN'S POCKET GUIDE. 2000. By Sotirios A. Tsementzis. Published by Thieme. 336 pages. C$51.45 approx.

The author of this slim pocket guide is a neurosurgeon, who states in his preface that he intends the book to serve as a quick aid to differential diagnosis in the care of patients with neurologic or neurosurgical diseases. The organization is somewhat idiosyncratic, with chapter headings ranging from Epidemiology of Neurologic Diseases, to Neuroradiologic Diagnoses, to symptom complexes such as Movement Disorders and Neuro-Ophthalmology. Each chapter consists of a series of annotated lists, usually a description of a particular clinical sign followed by a differential diagnosis.

In browsing through this book, one finds some useful pearls. There are clear diagrams of spinal cord sections and the clinical findings associated with specific lesions. There are examples of MRIs, which are well-chosen and legibly reproduced. Many common clinical scenarios are discussed, for example, stroke in the young, back pain, headaches and cranial nerve palsies.