

MAGNETIC RESONANCE IMAGING OF THE CENTRAL NERVOUS SYSTEM. Edited by Michael Brant-Zawadzki and David Norman. Published by Raven Press. 416 pages. \$113Cdn approx.

As the editors state in the preface, this book is intended for "the befuddled practitioner" in need of "a distillation in one reference volume of the major practical points of interest" in MR of the central nervous system. This book is indeed an excellent basic text for radiologists and residents requiring a practical approach to yet another technically complicated new modality. The many contributing authors include a number of prominent names in clinical MR research (including Drs. L. Bilaniuk, T. Naidich, W. Kucharczyk, and R. Zimmerman, to name a few) including the editors themselves. Brant-Zawadzki, in particular, is a prolific researcher and author in the field.

The text is divided into two sections. The first portion, entitled "Basic Principles", begins with a refreshingly concise and simplified approach to the bare essentials of MRI principles and instrumentation. This is followed by a somewhat more detailed look at other technical considerations, including the often bewildering topic of MR artifact detection, as well as chapters describing the pathophysiologic reasons for signal intensity of normal and pathologic tissues, and a discussion of signal alterations with blood and CSF flow. Brief discussions of potential and current uses of paramagnetic contrast agents and MR spectroscopy follow.

In the clinical section, the subsequent chapters cover all the major areas of central nervous system imaging, discussing the essentials with plenty of high quality images. The topics covered include: functional neuroanatomy; degenerative brain disorders; congenital, neoplastic, vascular and infectious diseases; and diseases of sella and parasellar region, white matter, spine, nasopharynx and neck. Appropriate emphasis is given to imaging of the spine, with a short preceding chapter on maximizing speed and efficiency of lumbar spine examinations.

The editors recognize that MRI is a particularly rapidly evolving field within our rapidly changing specialty, and that published material can become outdated almost as soon as it hits the presses. This book, then, is a practical purchase for those of us who need a relatively short (and inexpensive) basic reference, at least the principles of which should remain valid for some time.

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MIGRAINE AND EPILEPSY. Edited by Frederick Andermann and Elio Lugaresi. Published by Butterworth's Publishers. 423 pages.

The book *Migraine and Epilepsy* edited by Andermann and Lugaresi developed as a result of a joint meeting of the Centre for Epilepsy Studies at the Neurological Institute in Bologna and the Italian Society for the Study of Headache on the topic of "Migraine and Epilepsy".

Migraine and epilepsy are paroxysmal disorders with distinct clinical features. Hughlings, Jackson and Gowers both

remarked on the coexistence of the two disorders and on occasion the difficulty distinguishing between these two disorders.

The editors of the present volume, like their distinguished predecessors, are careful to avoid obscuration of the fundamental differences between the two disorders while detailing the many similarities and highlighting the demonstrated relationships between migraine and epilepsy.

The clinical features of related migraine-epilepsy syndromes are detailed in the early chapters. These are amply emphasized through presentation of many case histories and discussion of the related features in the two syndromes. The very real difficulties in differentiating some migraine and epilepsy features are also highlighted in some of the case histories.

Benign epilepsies of childhood with occipital paroxysmal activity and the striking association with migraine in some cases is also illustrated with case histories and mechanisms relating the two disorders are discussed. Some of the authors speculate that basilar migraine may be the primary disorder with posterior cerebral distribution ischemic leading to the paroxysmal (epileptic) disorder. Other authors, notably Gastaut, points out the primary nature of the epileptic disorder in many of his collected patients and the association of a migraine syndrome in only about a third of his patients. Other authors including Terzano, Beaumanoir and Andermann, have noted the occurrence of headache preceding epilepsy, in conjunction with epilepsy and epileptic attacks occurring during a migrainous aura. Terzano speculated on the relationship of both migraine and epilepsy to the phenomenon of "spreading depression". They point out that animal experimental work suggests that the excitatory phase in this phenomenon may be associated with increased intracellular firing rates in experimental epileptic foci and negative phenomena, such as visual loss, may correspond to the subsequent inhibitory phase of spreading depression.

Bladin notes the association of benign rolandic epilepsy with migraine and comments on the conjoint lateralization of the migraine syndrome and the epileptiform discharges as well as other related clinical features. Lugaresi and co-authors note the association of episodes of transient global amnesia and confusional episodes as well as epileptiform attacks in association with migraine episodes and speculate on mechanisms relating these phenomena.

An interesting chapter is included on the striking association, in a group of patients, of migraine, epilepsy and multiple strokes on a background of the syndrome of mitochondrial encephalomyopathy. They also speculate on a possible link between the migrainous aspect and the stroke features in terms of smooth muscle involvement of cerebral arteries in these disorders.

There is a section on ictal headache with a number of case presentations illustrating the association of vascular headaches with seizures. All of the authors point out that the majority of cases are associated with focal or partial seizures and in the majority of cases lateralization of the headache and the seizure origin are inconsistent. Lugaresi speculates on the fact that altered consciousness is a frequent feature of seizures associated with vascular headaches and suggests that brain stem mechanisms involving noradrenergic and serotonergic pathways may be responsible for headache phenomenon.