

BOOK REVIEWS

The Psychoses of Epilepsy. M.R. Trimble, Raven Press, New York, 1991, 224 pp.

A woman in early middle-age with long-standing poorly controlled partial epilepsy lapses into complex partial status after an apparently typical secondary generalized seizure. After several days her non-convulsive status is brought under control with a cocktail of anti-epileptic drugs. Although she has no previous psychiatric history, as her conscious level improves she becomes acutely psychotic with paranoid ideation and auditory hallucinosis, a state which persists for weeks.

A young man with idiopathic generalized epilepsy has a series of generalized tonic-clonic seizures over a few days necessitating hospitalization. He then assaults a hospital porter whilst acutely paranoid and experiencing derogatory third person auditory hallucinations.

A third patient, in her late teens, starts to take vigabatrin for refractory temporal lobe epilepsy. She becomes seizure-free for the first time in many years, but over the following weeks gradually develops severe psychotic depression.

Cases such as these, drawn from my own experience, are not unusual; as a result few neurologists can fail to have a clear impression of the close and fascinating relationship between epileptic seizures and psychiatric disturbance. There has been a revolution in understanding of the aetiology of epileptic seizures over the last 10 years. The enormous advances in magnetic resonance imaging now enable the identification of focal abnormalities in the brain in 80% of patients with refractory partial epilepsy. Furthermore, the adoption of the International League Against Epilepsy's syndromic classification has enabled advances in the genetic analysis of many of the inherited epilepsies, some of which, like juvenile myoclonic epilepsy, are very common. However, our understanding of the relationship between psychosis and epilepsy still remains inadequate.

I tackled this monograph hoping for some clear descriptions of the range of psychiatric disturbances associated with epilepsy, perhaps with pertinent case descriptions, prognostic indicators, insight into the underlying mechanisms, and guidance on optimal treatment regimens. I was rather disappointed by the book. With a background of substantial changes in

our understanding of epilepsies, this book, much of which is devoted to a collation of historical material, is unlikely to provide new insight. The first chapter describes literature from Hippocrates through the Middle Ages to the twentieth century, and the last chapter is a digression on the epilepsy of Van Gogh. Dr Trimble is in his element here, but I was occasionally left wondering if he or I had missed the point when interpreting the historical documents. For example, Hippocrates is quoted thus:

when the uterus is near the liver and the hypochondrium and produces suffocation, the woman turns up the white of her eyes, becomes cold, gnashes her teeth, saliva flows into her mouth, and she resembles the persons seized by the Herculean disease

but is this, as Dr Trimble suggests, an illustration of the historically supposed link between hysteria and epilepsy, or rather an astute observation on the dangers of pre-eclampsia?

The remainder of the book is an overview of the common ground of psychiatry and epilepsy. As a collation of historical reports it is no doubt laudably complete. On the other hand, interpretation of the data is consistently marred by the inconstancy in the meaning of technical terms adopted by authors of the psychiatric and neurological literature over the years. After reading the appropriate section in this book I am little wiser as to the effects of temporal lobectomy on interictal psychosis in temporal lobe epilepsy. Later in the book we are told that psychosis is commoner in patients with left sided or bilateral epileptogenic foci according to a meta-analysis of 14 reports, but whether common diagnostic criteria were used in these studies is not explored and ultimately this analysis provides little additional insight into the mechanisms of psychosis in epilepsy. Several times the point is made that 'psychosis' is reportedly commoner in patients with temporal lobe epilepsy, or temporal lobe pathology, rather than those with idiopathic generalized epilepsy. Patients with EEG appearances of generalized spike and wave more usually appear generally confused if their mental state is abnormal. To those familiar with idiopathic generalized epilepsy the twilight state of non-convulsive status is familiar, but surely the ictal phenomenon of typical absence status must be distinguished from psychosis which also occurs in idiopathic generalized

epilepsy? In a true work of scholarship, the relevant literature must be reanalysed using modern ideas, redundant concepts and poor experiments discarded and pertinent, testable hypotheses developed. Dr Trimble did not take this opportunity.

R. Grünewald

Advances in Neurology. Volume 66. Epilepsy and the Functional Anatomy of the Frontal Lobe. Edited by H.H.J. Jasper, S. Riggio and P.S. Goldman-Rakic, Raven Press, New York, 1995, 400 pp., \$132.50

Partial epilepsy, that which originates from a localized focus in the cerebral cortex, is the most commonly identified seizure disorder in adult patients. Four-fifths of patients with partial epilepsy experience seizures which originate in one or other temporal lobe of the brain, but the majority of extra-temporal lobe seizures are of frontal lobe origin.

Frontal lobe epilepsy may present particular problems in clinical management. The clinical features of the associated seizures may be bizarre and are sometimes misdiagnosed as non-epileptic attacks. Impairment of consciousness may be minimal or very brief and attacks may recur many times within a brief period. Seizure-associated motor activity may include odd vocalizations or prominent sexual automatisms. Attempts at localization of seizure focus within the frontal lobe according to the clinical manifestations have met with only limited success, although the pattern of fits emanating from the supplementary motor area is rather better established. Anti-epileptic drugs are often of limited efficacy, and near-toxic drug levels may not prevent repeated episodes of status epilepticus; the resultant disability and disruption to the patient's life may be very severe.

Localization and lateralization of an epileptogenic focus in the frontal lobe present challenging problems. The surface EEG correlates of frontal lobe simple and complex partial seizures may be minimal or absent. Rapid generalization of the discharge pattern secondary bilateral synchrony can produce bursts of generalized spike wave discharges which can mimic idiopathic generalized epilepsy, especially if the epileptogenic focus is near the mid-line. Magnetic resonance imaging, the most sensitive and specific procedure in evaluation of partial epilepsy, is abnormal in less than half of patients with a frontal

lobe focus. PET, SPECT and magnetoencephalography studies have similar sensitivity but specificity of such investigations is less well defined.

Surgery to frontal lobe lesions has traditionally been assumed to have an unfavourable outcome as regards seizure control, despite a pedigree stretching back to Victor Horsley in 1886. André Oliver, however, describes an impressive response rate in his series (34% seizure-free post-operatively and 88% benefitting) and one suspects that comprehensive pre-surgical evaluation and careful patient selection must be important factors in his success.

This volume provides an up-to-date account of the phenomenology and investigation of a challenging clinical problem. Interesting digressions from the subject of epilepsy are provided in chapters such as those on frontal lobe function, development and frontal dementia. In particular, I would single out Jasper's chapter on the rise and fall of prefrontal lobotomy, which should be required reading for all with an interest in neurosurgery. The book is a series of apparently independently commissioned chapters and the resulting whole lacks organization and is frequently repetitive. However, there is much to enlighten the specialist and it represents a valuable resource for neurologists and neurosurgeons involved in the management of epilepsy.

R. Grünewald

Magnetic Resonance in Epilepsy. R.I. Kuzniecky and G.D. Jackson, Raven Press, New York, 1995, 368 pp.

Neurologists, especially those with an interest in epilepsies, have become gradually aware over the last few years that a revolution in our understanding and management of epilepsy has taken place. Central to this change has been the rapid technical advance and increasing availability of magnetic resonance imaging (MRI). MRI can now reveal brain abnormalities in the majority of patients with epileptic seizures of focal onset, and these patients account for most patients with seizures refractory to treatment. The commonest single underlying pathology in patients with partial epilepsy turns out to be a scarring, atrophic process affecting the hippocampal structures in the medial part of the temporal lobe, a condition known as hippocampal sclerosis, Ammon's horn scler-

rosis or mesial temporal sclerosis. Although we know it is established in childhood, the cause of this condition and its relationship to severe febrile convulsions in early childhood remain an enigma.

It is the careful, methodical work of a few, including those who have contributed to this book, which has advanced neuroimaging to the point where it has become the diagnostic standard for surgery in epilepsy. Two or three years ago neuroradiologists were still debating whether hippocampal sclerosis could ever be visualized by MRI. The technical changes which improve the imaging techniques to enable reliable hippocampal visualization are small and subtle, such as can be adopted on virtually any commercial MRI system. Acquisition or reformatting of images on a coronal plane tilted at right angles to the long axis of the hippocampus enable asymmetry to be assessed by eye or hippocampal volume to be measured by planimetry or stereology. For maximal accuracy these features must be combined with the other criteria for diagnosis of hippocampal sclerosis, increased signal on T2-weighted images (which can be quantified by T2 relaxometry), decreased signal on

T1-weighted images and loss of internal hippocampal structure. The technical details are described in this book in a way accessible to the non-specialist, and the anatomical diagrams and correlations with MR images are beautifully presented.

The section on temporal lobe epilepsy alone would make this book compulsory for anyone with a clinical interest in epilepsy surgery or neuroimaging. There is, however, much more here. Sections on the history of epilepsy, magnetic resonance spectroscopy and functional imaging bring the most MR-naive reader painlessly up to date with technological advances in the literature. What I found most exciting in this book was that the authors clearly have a mastery not only of neuroimaging but also of clinical diagnosis and epilepsy management. Not surprisingly some of the text is contentious, as must be expected from a volume at the forefront of rapidly advancing technology. Nonetheless, this book has the hallmarks of a classic text and is most strongly recommended.

R. Grünewald



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