This book is the product of a symposium held in Atlanta in October 2000. The symposium was planned as tribute to the late C. David Marsden and the book is dedicated to his memory. It comprises 43 chapters with contributions from almost 100 authors and represents a comprehensive review of the subject and recent developments.

Myoclonus, defined as sudden, brief, shock-like involuntary movement caused by muscular contraction or inhibition, can arise from any level of the nervous system (cerebral cortex, brainstem, spinal cord and peripherally) and is caused by a wide variety of neurological and systemic disorders. Detailed neurophysiology and advances in molecular biology have led to a better understanding of the pathophysiology of myoclonus in different disorders, but with only one randomised controlled trial in the treatment of myoclonus, there is only limited evidence on which to base treatment. Valproate and clonazepam, which are frequently used in the treatment of myoclonus, have not been systematically studied. Paroxysmal dyskinesias are rare in comparison to myoclonus, but are linked through similarities in pathophysiology and their relationship to epilepsy. Myoclonus and Paroxysmal Dyskinesias brings together these two groups of disorders in a single volume for the first time.

The book begins with a critical appraisal of the contribution of C. David Marsden to the field, in particular his work on the transcortical (long latency) stretch reflex, but also recognises the breadth of his contribution as illustrated by his authorship of more than 70 publications on myoclonus alone.

The bulk of the subsequent text is devoted to myoclonus and related conditions. This has been broadly divided into four sections covering the clinical features, neurophysiology, genetics and pharmacology of myoclonus.

The section on clinical features begins with a useful overview by one of the editors and is followed by a description of the only population based study of myoclonus which found late-onset neurodegenerative disorders and epilepsy to be the most commonly identified causes. Subsequent chapters are devoted to myoclonus in neurodegenerative diseases with an emphasis on the neurophysiological characteristics of the myoclonus in different disorders. Individual chapters on myoclonus in Lewy body disorders, myoclonus in parkinsonian disorders and neurodegenerative causes of myoclonus result in a degree of overlap and repetition, which, given the number of authors and contributions, is perhaps not surprising and is encountered in later sections. Also included in this section is a very comprehensive and extensively referenced review of toxin and drug induced myoclonus, which, even if it is not very readable, serves as a valuable source of reference. The section on clinical features ends with a good, practical and concise chapter on post-anoxic myoclonus.

The second section focuses on neurophysiology. Some of the material on cortical and brainstem myoclonus is covered in the discussion of individual disorders in the previous section, but there are also clear and brief accounts of negative myoclonus and spinal myoclonus. Palatal myoclonus, although now more properly classified as a tremor, is the subject of an interesting chapter, which examines the clinical and pathophysiological differences between essential and symptomatic palatal tremor and explains why ear clicks only occur in the essential form. Other loosely associated disorders, hyperekplexia, restless leg syndrome and periodic limb movements of sleep are also included in this section.

The third section describes the major advances that have occurred in the genetics of the progressive myoclonic epilepsies. Unverricht–Lundborg disease, mitochondrial disease, ceroid lipofuscinosis and lafora body disease are addressed in turn, and the impact of the genetic developments on our understanding of the pathophysiology of these disorders is discussed. Each chapter also contains useful information on clinical presentation and approaches to investigation. The genetics of idiopathic myoclonic epilepsies are examined in detail in a separate chapter and another chapter describes the discovery of the mutation in the ε-sarcoglycan gene in inherited myoclonic dystonia. There is always a risk that the rapid advances occurring in molecular genetics will render a text such as this out of date by the time of publication, but the contributors have tried to guard against this and work published since the original symposium in October 2000 has been included.

The last section on myoclonus is rather diverse and includes chapters which do not conveniently fit into the first three sections. The anatomical and pharmacological basis of myoclonus and the potential of animal models are reviewed. Specific areas addressed are the role of the cerebellum and the roles of serotonin, glycine and GABA transmission. The section ends with an analysis of a proposed Unified Myoclonus Rating Scale (UMRS).

The last 100 pages are devoted to paroxysmal dyskinesias. There is helpful clarification of what seems to be a continuously evolving nomenclature for this group of disorders. The discovery of mutations in ion channel genes and the relationship of these disorders to epilepsy (and myoclonus) is explored. Reviews of paroxysmal non-kinesigenic dyskinesia, paroxysmal kinesigenic dyskinesia,
paroxysmal exertion-induced dyskinesia, paroxysmal hypnic
dyskinesia and episodic ataxia provide useful clinical sum-
maries as well as an analysis of genetic data. On the whole
this section sits well with the rest of the text on myoclonus.

This addition to the Advances in Neurology series succeeds
in tying together in a single volume the disparate group of
disorders that come under the umbrella of myoclonus and
paroxysmal dyskinesias. It will undoubtedly be of most
interest to movement disorder and epilepsy specialists. Much
of the genetics is described in exhaustive detail and is only
likely to be of interest to those with a research interest in the
field. There are areas of overlap and repetition, but this is a
minor criticism of what is a comprehensive and up to date
review.

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