Acta Neuropsychiatrica

BOOK BASH

On the contractile elements of skeletal muscle and its disorders

Disorders of voluntary muscle 8th Edition: Karpati G, Hilton-Jones D, Bushby K, Griggs RC (Eds). Cambridge, New York and Melbourne: Cambridge University Press, 2010. Hardback, 536 pages, US$275.00. ISBN: 9780521876292.

Movement is ultimately dependent on the coordinated contraction and relaxation of different skeletal muscles, and this involves complex control mechanisms that drive α motoneurones to activate the contractile machinery. In 1964, John Walton (now Lord Walton of Detchant) published the definitive text on muscle disease, and this book has remained the world's premier resource, through its different editions. This is the eighth edition, edited by George Karpati and colleagues, with contributions from all over the world, mainly United Kingdom and the United States/Canada, but with three chapters from Perth-based international authorities. The pedigree of this book is maintained by a foreword by Walton, and he notes, as do the editors, the untimely death of the first editor, George Karpati, who fortunately largely saw this book to completion before he died.

This updated edition maintains the tradition, and will be an asset to those interested in muscle disease and a resource to those whose needs can be satisfied by a quick reference. The book consists of 27 chapters, divided into four sections: The first section (three chapters) cover structure and function, myoblasts precursor cells and the formation of muscle and molecular and biochemical basis of dysfunction. Then there are four chapters on investigation of muscle disease and two on general aspects of muscle disease. The largest section, and the one of greatest interest to clinicians is that covering specific diseases, with 18 chapters of varying length covering different muscle diseases.

However, in promoting this book to this journal's readership one needs to ask what is there in it for those interested in the borderland between neurology and psychiatry, and specifically the pathophysiology, neurobiology and treatment of neuropsychiatric disorders. The answer lies in three areas (a) the greater definition of the genetic basis of muscle disease and of neuropsychiatric conditions, with the shared debate about which changes are primary and which are secondary, (b) the tendency for muscle disorders to present with non-specific symptoms that may not be immediately identified as reflecting muscle disease and (c) the greater awareness of the deleterious effects of medication.

The psychological overlay that develops in patients with organic pathology when examination and testing repeatedly fail to reveal the basis for the symptoms can confuse the presentation and distract even astute clinicians from the underlying diagnosis. Lassitude, fatigue and aching muscles may be the major causes of disability but are often attributed to psychogenic causes when they present in an otherwise healthy patient. Here, numerous chapters are relevant to the practising psychiatrist, and the clinical assessment section of Chapter 8 will prove very valuable. Other 'should reads' include Chapter 24 on endocrine and toxic myopathies. Hypo- and hyperthyroidism can have neuropsychiatric presentations, and drug-induced disorders are considered at length in this chapter, which contains valuable Tables listing, e.g. the agents that may cause myalgia and cramps, and the effects of statins. The chapter on myotonic dystrophy should be read because it is the commonest dystrophy and often presents in adulthood, while inflammatory myopathies, mitochondrial muscle diseases and metabolic myopathies (Chapters 22, 19 and 20) can present with non-specific symptoms that could be misleading. Finally, Chapter 21 on channelopathies should be of interest because genetic ion channel disorders are increasingly recognised as causes of diseases in the central and peripheral nervous systems, sometimes with both central and peripheral symptoms (e.g. in the episodic ataxias).

The diagrams, figures and reproductions are of high standard. Facial features are often not obscured, as is necessary when the telling signs lie in the facial appearance (e.g. the butterfly rash in dermatomyositis or the wasting of facial muscles in myotonic dystrophy and facio-scapulohumeral dystrophy). As an aside, however, it is not stated that patient consent was obtained for photographs when the subject could be identified from them, and I presume that the publisher checked this.

A notable feature is that on-line updates will keep this book current. In addition, Chapter 8 references a series of videos, listed at the end of the chapter as 'tentative'. Hopefully this valuable innovation will be available on the web. Will there then be a need for a further edition? Perhaps that lies in whether the book contains omissions.

What are its omissions? I can make three suggestions, but failure to address them does not really limit this volume as a comprehensive reference text. First, muscle contains a host of receptors, and only a fraction of its innervation consists of motor axons innervating skeletal muscle. Leaving aside the afferent innervation of muscle there are also motor

https://doi.org/10.1111/j.1601-5215.2010.00497.x Published online by Cambridge University Press

axons innervating the muscle fibres of the muscle spindle (γ or fusimotor axons), and there are motor axons (β) that innervate both the muscle spindle and the contractile elements, but these get no mention. The majority of the sensory receptors in or associated with muscle are not specific to muscle (e.g. free nerve endings), but two are: the muscle spindle and the Golgi tendon organ. Sadly, there is no reference to either, even though the pathology of the muscle spindle is well described, and the activation of muscle spindles underlies the tendon jerk, one of the few neurological signs that many practitioners routinely test. Secondly, I would have appreciated a chapter devoted to function. Fatigue is a common symptom, ultimately because of a perceived mismatch between the effort required to perform a task and the force actually achieved. Fatigue could be as a result of the failure of the contractile apparatus (i.e. muscular), to defective neuromuscular transmission or to a deficient neural drive to muscle. Whatever the cause, coverage of 'fatigue' would not be out of place in an otherwise excellent text. Finally, the book deals exclusively with skeletal muscle though there are many references to the involvement of cardiac muscle in the chapters on disorders seen to be or to present primarily as skeletal muscle diseases. There is no mention of smooth muscle or its disorders. Perhaps in the next edition the authors may care to have one of the preliminary chapters include data on the similarities and differences in these different types of muscles.

David Burke

Institute of Clinical Neuroscience, Royal Prince Alfred Hospital and the University of Sydney, NSW, Australia

Acta Neuropsychiatrica 2010: 22: 314–315

DOI: 10.1111/j.1601-5215.2010.00497.x