Book Reviews

Dr. Peter Seland (Calgary) has recently been appointed as Book Review Editor for the journal. Correspondence concerning book reviews and related material should be forwarded to Dr. Seland at the Journal office.

MECHANISM AND MANAGEMENT OF HEADACHE, 4th Edition. By James W. Lance. Published by Butterworths, London. 260 pages. $39.95 US.

Although conceived for armchair reading, this book fails to convey progress in headache concepts easily. Elementary instruction is admixed with a précis style that presumes considerable reader knowledge of new developments. The chapter on physical examination touches everything from impotence to cerebellar complications of lung carcinoma in a one-legged man. In contrast, endogenous pain control systems are described in two ultracompact paragraphs. The terms enkephalin, morphine action and beta-endorphin are introduced without explanation.

Lance and his co-workers have made major contributions to a new emphasis on central headache mechanisms. Platelet serotonin changes have been shown in their lab to contribute little to altered external or internal carotid flow (p. 42) but may reflect events in CNS serotonergic transmission (p. 163).

Despite this, central serotonergic pharmacology is buried under details of peripheral phenomena. A receptor classification is provided but not used. Feedback mechanisms are not discussed. Without these, the student may mistakenly think that depression of firing rate of raphe nuclei by migraine drugs implies anti-serotonin activity.

The information on methysergide provides an example of framentation that confuses. An early, isolated comment advised that this drug blocks the pain inhibitory effect of PAG stimulation (p. 37). Despite this the drug has proved the single most useful prophylactic agent in migraine (p. 187). It is listed with the serotonin antagonists (p. 186), yet implied to have a central agonistic effect on raphe nuclei (p. 184).

The most exciting advance in headache research is the demonstration of direct control of cerebral blood flow by brainstem structures. For this, Lance's group received the 1983 Wolff Award from the American Association for the Study of Headache. Unilateral stimulation of the locus ceruleus produces predominantly ipsilateral constriction of the cortical microcirculation. The resulting ischemia is thought to produce migraine. Although triggered by central structures, the essential vector remains vascular. Cortical vessel changes induce the cerebral event.

Given the extensive cortical axonal domain of the locus ceruleus and its potential to influence neuronal activity directly, an alternate explanation is that decreased cerebral blood flow may be secondary to decreased metabolic demand by inactive cortex. This contrary view is mentioned elsewhere in the book (p. 159), but only in passing.

The reader's grasp of these new concepts would benefit from more detail on the anatomy of the locus ceruleus and other brain stem noradrenergic projections, and the special nature of their branching axons and cortical distribution.

The concept of tension headache as a separate disorder is under increasing attack. Lance bysteps the issue: "tension headache is a chronic headache without migrainous features". In the absence of a diagnostic test for migraine, this approach creates tautologic data. For example, "tension headache does not wake the patient at night unless a vascular headache becomes superimposed" (p. 19). Phenomena resembling those of migraine are dismissed: light headedness, abdominal discomfort and decreased concentration are ascribed to an anxiety state. Clinical overlap is minimized, although one-quarter of tension headache patients develop severe pulsating pain, while that of migraine is often steady (and bilateral in one-third).

Items supporting a pathophysiologic continuum are divorced. When Lance discusses decreased platelet serotonin in migraine, he emphasises that this is not a non-specific response to headache, pain or stress, and does not occur in cluster headache, but neglects to mention that the decrease also occurs in tension headache. Similarily, endorphin changes are mentioned in the separate migraine and tension headache chapters, but any connection is avoided.

Although Lance admits considerable doubt has now been cast on its role, muscle contraction receives much attention. Frowners are said to have bifrontal headache and "stiff necks" have occipital pain. Numerous photographs illustrate muscle hyperactivity (which may be confirmed by the startling technique of auscultation over the temporal muscles). Five pages of relaxation instruction follow.

If tension therapy fails, an explanation is at hand: "the man or woman whose spouse is disaffected, debauched or otherwise despicable lives with a constant provocation to headache which may be hard to remove by any amount of psychological counselling". Pretty language, but is it science? Besides, Lance himself does not believe all of it. Early on he tells us headache in the chronic form may be present inexorably no matter how calm the waters (p. 20).

A statement that vascoconstrictors aggravate tension headache is incompatible with a note that patients are never free of pain except for an hour after a favorite caffeine containing analgesic (p. 17). Although amylnitrite inhalation worsens tension headache it is claimed that vasodilators, including alcohol and marijuana, improve it. If true, these drugs would be a favorite remedy. The contrary occurs in my practice, and Lance himself reports that alcoholics rarely suffer from headache: "when they do, suspect a subdural hematoma".

The role of vessels in throbbing headache seems confusing. In hangover, dilated arteries are said to cause the pain (p. 29) whereas in migraine dilation is insufficient to cause the headache and ergotamine may abolish the pain without affecting blood flow. (The correct hangover mechanism is given on p. 76).

Post-traumatic migraine is equated with extracranial headache in the distribution of a traumatized vessel. Ligation of the vessel is suggested, creating problems in understanding why such headaches are accompanied by nausea and relieved by ergotamine (p. 228). Except for a note that factors in the pathophysiology of migraine — including endogenous pain

systems — could be affected by injury, central mechanisms are dismissed. Changes in vascular autoregulation are not mentioned. There is little on the natural history of post-traumatic headache or associated disorders of balance, sleep, memory, concentration and mood. Instead, there is an exotic classification of psychologic reactions to trauma. In this chapter, Wolff's 1946 views on depression, anxiety and muscle contraction continue to hold sway.

Problems are not confined to new material. Basic instruction — "pattern recognition from the history" — is inexplicably separated into an early chapter by that name and a five page section at the end of the book (pp. 234-238). Lumbar puncture headache receives scant attention and the only author quoted is not in the reference list. The phentolamine test is not mentioned in the diagnosis of pheochromocytoma. A detailed paragraph on communicating hydrocephalus fails to mention whether it causes headache. Childhood migraine is not indexed, and its treatment is not discussed except to suggest Bellergal is useful (p. 197).

Lance is the world's most respected headache expert, contributing numerous clinical papers and laboratory discoveries to an accelerating departure from simplistic, naive, and unproven concepts which had reached a scriptural level of unquestioned authority. In view of this, the emphasis on some mid-century teachings in the fourth edition of his headache textbook is surprising. This, combined with the fragmentation and inadequate explanation of new material and the contradictions inherent in presenting both without adequate synthesis, makes it difficult to recommend this edition to general practitioners and students. The specialist will consult other publications for recent advances, but may find a useful nugget in the vast literature collected here.

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COMA — Physiopathology, Diagnosis and Management. Edited by L. P. Ivan and D. A. Bruce Published by Charles C. Thomas, Springfield, Illinois.

This volume evolved from papers presented at the 19th Canadian Congress of Neurological Sciences, held in Ottawa in June, 1980. Intended as an adjunct to the existing literature, this synopsis provides an introduction to the many facets of the diagnosis and treatment of the comatose patient.

Chapters dealing with the clinical, biochemical, physiological and neuroradiological aspects of coma are provided. These are generally well-written but in some areas, tend to be superficial. Throughout many of these chapters, one detects the thread of Plum and Posner's original text, on stupor and coma.

The pathological descriptions by Dr.'s Norman and Lach are well written and illustrated. The discussion of the physiological consequences of head injury is important reading for primary care and specialist physicians. Dr. Ivan's chapter on brain death appropriately emphasizes the physician responsibility to his neurologically destitute patient.

Several chapters deal with or allude to brain resuscitation. Intracranial pressure monitoring is discussed in a standard text book fashion. The usefulness of barbiturates is addressed in trauma, ischemia and Reye's syndrome. The many questions appropriate to these forms of intervention are raised but not answered. An important contribution found in this volume is the discussion of the kinetics of barbiturate therapy in children provided by Dr.'s Bruce and Swedlow.

This volume is an overview of coma assessment and management as of 1980. It provides an introduction to the subject and contains appropriate references. It will prove most valuable to physicians in training, casualty officers and family physicians.

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Books Received

GENERAL PSYCHOPATHOLOGY — Handbook of Psychiatry — Vol. 1. Edited by M. Shepherd and O. L. Zangwill. Published by Cambridge University Press, New York. 307 pages. $49.50 US (HB), $19.95 US (PB).

GROWTH AND TROPHIC FACTORS. Series progress in clinical and biological research. Volume 118. Edited by J. R. Perex-Polo, Jean de Vellis, Bernard Habes. Published by Alan R. Liss, Inc., New York. 456 pages. $45.00 US.

HANDBOOK OF THE SPINAL CORD, Volume 1: Pharmacology. 1983. Edited by Robert A. Davidoff. Published by Marcel Dekker Inc., New York. 560 pages. $69.75 US.

MECHANISM AND MANAGEMENT OF HEADACHE, 4th Edition. By James W. Lance. Published by Butterworths, London. 260 pages. $39.95 US.

MUSCLE PATHOLOGY IN NEUROMUSCULAR DISEASE. By Andras L. Korenyi and Both. Published by Charles C. Thomas, Springfield, Illinois. 486 pages. $74.50 US.

PRATIQUE NEUROLOGIQUE. By Christian Derouesné. Published by Flammarion Medecine-Sciences, Paris. 745 pages.

VASCULAR DISEASE OF THE CENTRAL NERVOUS SYSTEM. 2nd Edition. Edited by R. W. Ross Russell. Published by Churchill Livingston, London. 381 pages. $117 Cdn.