Book Reviews

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This is a splendid little book of 12 chapters dealing with intravenous anesthesia and intravenous anesthetics. With the exception of four chapters written jointly with other authors, the material is written entirely by Dr. Dundee, and reflects his vast experience with intravenous agents gained over the past quarter of a century. Of particular interest to those of us outside of the United Kingdom are the brief, concise, current, and I believe wholly objective discussions of agents not available to use in America, such as Athesin®, Etomidate®, and Propanidid®. With respect to the latter agents, the pertinent literature is nicely summarized with a reasonably current bibliography, allowing interested students to pursue each of the subjects in greater depth than that in which they are presented.

The book is very clinically oriented; however, not to the extent that it can be characterized as "soft." Instead, those studies which would enable one to administer each of these agents in a rational way are quoted. Diagrams are few but appropriate and well presented. The text is clear, well written, not redundant, and appropriately brief. The author implies that this book is not meant as an all-inclusive exposition of pharmacology and physiology, characteristic of each of these agents, but rather is meant more as an update and a survey of current status of each of the agents presented.

I was especially attracted to several of the chapters. First is the chapter on hypersensitivity reactions, wherein a summary of reactions related to many intravenous agents is presented, and each of these reactions analyzed as to probable cause. It is especially noteworthy that a healthy degree of skepticism related to each of these reactions is demonstrated, and what emerges is that hypersensitivity reactions occur but are probably less frequent than actually reported. Second is a chapter on the ideal intravenous anesthetic. Dr. Dundee describes the physical properties, recovery characteristics, respiratory and cardiovascular effects, etc., that would characterize an ideal intravenous anesthetic. It is apparent that the ideal anesthetic is not yet here, and in fact is unlikely to be developed.

The latter chapter is the final chapter in the book, and the only criticism that I have is that it might have been more appropriately placed at the beginning to serve as a reference against which the available agents could be presented.

In summary, I found the book easy and pleasant to read, informative, and current, and I recommend it as an addition to the library of anyone interested in or using intravenous agents.

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The surge of new information concerning endogenous opioid compounds and stimulus-provoked analgesia has created a framework upon which chronic pain mechanisms and therapies, heretofore somewhat mysterious, may be theoretically based. Mechanisms of Pain and Analgesic Compounds, which has captured the state of this renaissance, provides a valuable guide for researchers and interested clinicians.

The book is a series of invited papers in six sections. Sections A and B are clinical overviews and begin with the almost obligatory, still invaluable perspective of John Bonica. He restates the premise that "normal" segmental, supraspinal, and cortical responses to subacute noxious stimuli become deleterious and self-sustaining, and lead to "pain behavior"—a major health and socioeconomic problem. Bonica reviews the evolution of the Melzack and Wall gate-control theory into the stimulus-provoked analgesia model, and reinforces the view that surgical interruption of peripheral or central pain pathways is usually temporary and often counterproductive. Several contributors review human neuroanatomical pathways subserving pain from cutaneous afferents to complex brain integration, with particular attention to the trigeminal system and dorsal horn, a major site of antinociceptive modulation. Cannon and Liebeskind describe the specific descending pathways that mediate antinociceptive modulation, mainly via endorphins and enkephalins inhibitory synapses. The neurosurgical swing from ablative to augmentative procedures is described by Long, who reviews analgesic techniques by transcutaneous, epidural, and brain (peri- aqueductal gray, internal capsule) electrical stimulation. The roles of endorphins, enkephalins, naloxone, and acupuncture in the understanding of these stimulation analgesia modes are summarized by Chapman. Coupling theoretical views to clinical practice, Melzack and Dennis conclude that serial local anesthetic blocks (trigger points, sympathetic ganglia, etc.) can reduce nociceptive reverberative activity, which might otherwise lead to self-sustaining pain behavior. Surgical deafferentation (rhizotomy, neuroectomy) may have contrary effects, according to work by Melzack and Loeser, in that spinal and brain nociceptive neurons surgically deprived of input may have chronic, spontaneous high-frequency electrical bursts. The behavioral approach to chronic pain therapy is presented by Fordyce, who observes that factors unrelated to nociception modify patients' pain behavior. He describes techniques of operant conditioning and biofeedback, which have become widely accepted therapies. That such pragmatic, behavioral techniques may be integrated within this book's context is a major feature of the chronic pain field's evolution.

Section C deals directly with biochemistry, pharmacology, and endocrinology of the endogenous opioids. Kosteritz presents opioid-binding studies and discusses possible differential physiologic effects of various enkephalins and endorphins. Opioid synthesis, release, and metabolism, as well as the roles some other substances have on their activities, are reviewed by Hughes. The anatomic distribution of opioid neurons is surveyed by Watson and Barchas, and Akil presents evidence for distinct differing roles for endorphins and enkephalins in focal human brain-stimulation analgesia. Goldstein reviews physiologic opioid mechanisms and the question of naloxone hyperalgesia. Section D covers peripheral mechanisms of pain and analgesia, including inflammatory mediators, dental pain, and headache. Ferreira concludes that opioids (and drugs such as aspirin) have central as well as peripheral sites of action. Section E looks at molecular, cellular, and synaptic mechanisms of opioid/opiate tolerance and dependency. Collier cites data from neural tissue culture in which chronic opioid inhibition causes increased cyclic AMP levels and sensitivity to naloxone and excitatory neuro-