

Book Reviews

Acid-Base Disorders, H. Valtin and F.J. Gennari. Pp x+195, illustrated. Little, Brown & Co, Boston, Toronto, 1986. £14.95.

This book provides an excellent and concise guide to understanding acid-base disorders. Clearly this is necessary for their rational management. The first three chapters discuss the physiology and biochemistry of acid-base balance. The basic principles and the homeostatic mechanisms regulating acid-base balance are clearly and logically formulated. These chapters are the strongest in the book and make what is often a difficult area comprehensible.

The remaining chapters are devoted to clinical syndromes of acid-base disorders. These provide clear guidelines to the diagnosis and management of these disorders and the illustrative case histories are particularly useful. The chapters in the book are appropriately referenced and the index is accurate.

This book works well as an introduction to acid-base disorders. The authors are American and use partial pressures for blood CO₂ and O₂ concentrations. To the British reader used to kilopascals this appears quaint and induces a certain nostalgia. Likewise the use of both pH and H⁺ concentrations in nanomoles can, I feel, only generate confusion.

The book is well worth reading if you have ever had any anxieties about managing a patient with an acid-base disorder and at £14.95 is very good value.

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Aspects of Hypoxia, edited by Donald Heath. Pp x+254, illustrated. Liverpool University Press, Liverpool, 1986. £28.

This book looks at the effects of acute and chronic hypoxia on the pulmonary vascular system, the carotid body and placenta in pathological and physiological terms. The sixteen chapters have been written by specialists with a strong leaning towards pathology. The book gives a good summary of current thoughts and controversies and will be of interest to respiratory physicians, pathologists and physiologists.

The first chapter describes the electron microscopy of muscular pulmonary arteries and addresses the question of their numbers in states of hypoxia. In the second chapter, pathological changes of pulmonary veins are reviewed. Constriction is considered possible but there is doubt, at least in man, of its physiological significance. Pulmonary vascular changes in patients with chronic obstructive airways disease are important. Studies of changes during long term oxygen therapy are at last being reported. It was thought at one stage that long term oxygen treatment might reduce hypoxic pulmonary vascular changes. Alas, this is not the case. On the contrary there is evidence of continuing changes during therapy,

particularly in the intima of pulmonary arterioles. The physiological effects of long term oxygen therapy are reviewed by Professor Flenley.

The carotid body is considered in detail, hyperplasia in chronic hypoxia, its electron microscopy and histochemical features. Carotid body vasculature is extensively described and comparisons made with the appearances of the carotid body in systemic hypertension. These three chapters offer a good review of present knowledge. Almitrine, hypoxaemia and the carotid body were considered through pathophysiological studies in animals, mostly the rat. Almitrine bismesylate is an interesting chemoreceptor agonist.

Returning to man, consideration of the effect of hypoxia on endocrine organs is reviewed with the interesting finding that the hypothalamic testicular axis is depressed. Pulmonary endocrine cells are described and speculations made as to their function. Many increase numerically in hypoxia, particularly the neuro-epithelial bodies.

There are interesting chapters on the effects of hypoxia on the human placenta. Finally, a review of species effects in the pulmonary circulation at high altitude points to differences between man and animals. There are those who exhibit pulmonary vasoconstriction (like man and cattle) and those who have adapted after living for many millennia at high altitude to avoid pulmonary vasoconstriction (e.g. llama). There may be advantages for the latter. Finally, acute mountain sickness is reviewed with a short thesis on the site of action of hypoxia.

This is a well presented book of interest to the specialist researcher but other physicians and scientists will probably want to read it in the library. References are apposite and extensive.

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The Discovery of Insulin, Michael Bliss. Pp. 304, illustrated. Macmillan Press, Basingstoke, 1987. £25.

On October 31st, 1920, Banting wrote in his notebook, 'ligate pancreatic ducts of dog. Keep dogs alive till acini degenerate leaving Islets. Try to isolate the internal secretions of these to relieve glycosuria'. Thus began the saga that led to the discovery of insulin, a saga characterized by inept experimentation, unsubstantiated conclusions, bitterness, acrimony and personal feuds and above all, by success. This is a marvellous book, carefully researched and offering documented, and detailed information. The fascination of the story lies in the insight it offers into the actual day to day work in process, the problems to be faced and overcome and the interplay between the research workers, the university authorities and the pharmaceutical industry. Banting and Best were two young, inexperienced men, suddenly thrown into public adulation, and to a background of emaciated, dehydrated and dying diabetics reaching out their hands to them for life and