

Measurement of distal airspace size

Airspace size in human lungs obviously depends on the degree to which the lung is inflated and on tissue shrinkage in preparation for histological examination. Dr D Lamb *et al* (October 1993;48:1012-7) minimise the latter by embedding tissue in methacrylate but appear to ignore the former. They inflated the resected lungs used in their study with 10% buffered formalin at a transpulmonary pressure of 25 cm H₂O for a minimum of 24 hours. What technique did they use and how well were the lungs inflated? Satisfactory inflation via the bronchus of surgically resected lobes has been found unsatisfactory in two Vancouver hospitals. In one, expansion had to be achieved by inflation with fixative through the pleura using a large bore needle.¹ In another,² using a technique similar to that of Lamb *et al*, the mean ratio of predicted lobar volume to fixed lobar volume was 3.50. More to the point, the standard deviation of this ratio was 2.03 indicating huge potential errors. How did Lamb *et al* correct for these when measuring airspace size (AWUV)?

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Mediastinal paraganglioma presenting as an intracardiac mass with SVC obstruction

In the article on mediastinal paraganglioma by Dr S K Sharma *et al* (November 1993;48:1181-2) there seems to be insufficient pathological evidence for this being a mediastinal paraganglioma. The illustration, which is of poor quality, shows a picture that is indistinguishable from a carcinoid tumour which can also arise from the anterior mediastinum in the thymic region as we have shown in a recent study.¹ The authors only used neurone specific enolase as their marker of neural crest origin, but this is positive also in carcinoids. Other neuroendocrine markers such as chromogranin are also positive in both tumour types. Neural markers cannot therefore be used to distinguish between these tumours. Neurofilament proteins are more likely to be positive in paragangliomas than in carcinoids. The authors should have done an S-100 immunostain to show S-100 positive sustentacular cells surrounding the nests of tumour cells which are present in paragangliomas, but these have been

reported also in carcinoid tumours. The most useful distinguishing marker is keratin or desmoplakin, since paragangliomas are always negative with these markers while carcinoid tumours are positive.² Electron microscopy does show neurosecretory granules in the cytoplasm of tumour cells in both carcinoids and paraganglioma and therefore, while being useful, will not distinguish the tumours. It is essential to perform a panel of immunocytochemical markers to distinguish paragangliomas from carcinoid tumours since both can be indistinguishable with light and electron microscopy and can occur in similar locations in the lung and mediastinum.

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Emotional aspects of asthma

With reference to the article by Drs G M Garden and J G Ayres (May 1993;48:501-5), we agree that emotional factors may contribute to the severity of asthma.

In 1982 we studied the psychosocial aspects of bronchial asthma in 37 patients. Parameters including birth order, personality traits, time and place of exacerbations, and parental attitudes were found to have a crucial role in determining the course of the patient's symptoms. Fifteen of our patients reported emotional precipitating factors; 12 of the 37 had a premorbid hysterical personality, and seven were depressed.¹

The mechanisms by which emotional factors affect asthma are not understood.² The cholinergic response may be important, and neural mechanisms may affect blood flow to airways, affecting the inflammatory response and smooth muscle reactivity.³ Although psychosocial factors play a significant part in the severity of asthma, their place may be underestimated in practice.

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BOOK NOTICES

Pharmacology of the Respiratory Tract. K Fan Chung and Peter J Barnes. (Pp 856; \$195.00.) New York: Marcel Dekker, 1993. 0 8247 8847 8.

The excellent long running series *Lung Biology in Health and Disease* from the National Institutes of Health in Bethesda has reached volume 67 with this current treatise. Edited by Fan Chung and Peter Barnes, the book contains 23 chapters written by 40 scientists from Europe and North America. The first nine chapters cover basic mechanisms concerned with cell activation and cell signal transduction (for example, receptors and receptor binding, calcium and potassium channels, adhesion molecules and cytokines). Four chapters focus on individual cells (macrophage, eosinophil, neutrophil, and mast cells and basophils) but curiously the epithelial cell is omitted apart from its role in ion and water transport. Most of the remaining chapters cover specific aspects of airway function including the bronchial circulation, ion and water transport, and submucosal and goblet cell secretion. The book is concerned primarily with the basic biology of the respiratory tract and much of it describes normal rather than abnormal function. Although the title mentions clinical research the emphasis is very predominantly on experimental aspects and there is relatively little on the mechanism of action or clinical pharmacology of drugs in current use or those in development. This is not the book to turn to for advice on patient management.

At over 800 pages the book is essentially a reference book. Few, if any, will read it from cover to cover but many will want to read individual chapters or dip into it for specific items. Although I cannot vouch for all the chapters, the book has served me well in this respect over the last few weeks. Most chapters assume some knowledge of the subject and would not be easy reading for the novice. Much of the information is relevant to asthma but most aspects of airway function are discussed and some chapters are more relevant to cystic fibrosis or chronic suppurative lung disease. Some of the subjects covered have been reviewed rather frequently of late, but this book covers a wide range of topics including several that have had less exposure. A little more on the future direction of research would have been welcome.

The chapters are up to date and authoritative. In general they give what the reader wants which is an overview of the current state of the art rather than a detailed breakdown of the authors' recent work. The book is nicely laid out, has some good figures, and a lot of references which are up to date. The book is a good investment for departments with interests ranging from basic biology of the airways to clinical pharmacology. - AET

ABC of Sleep Disorders. Colin M Shapiro. (Pp 90; £12.95.) London: BMJ Publishing Group, 1993. 0 7279 0794 8.

This book brings together 24 short chapters covering many aspects of sleep disorders, some of which are unfamiliar territory for the

respiratory physician with an interest in sleep. Many of the chapters were recently published in the *British Medical Journal*. The chapters are clear and concise, inevitably sacrificing some detail and speculation for the sake of clarity. They provide a broad framework, allowing quick and easy access, although the standard of writing is variable. Not all of the chapters sit easily together. Some deal with specific conditions – for example, obstructive sleep apnoea, the parasomnias, and nocturnal asthma. Others deal with the physiology, impact and epidemiology of sleep diseases and there is a useful series of chapters dealing with sleep and sleep problems in the elderly, in children, in psychiatric conditions, and in patients with medical illness, as well as a series dealing with drugs (psychotropic, recreational, illicit, and withdrawal) in relation to sleep. The double column presentation permits a large number of useful diagrams, graphs, and tables with an occasional whimsical picture. These lighten the text and provide easily accessible check lists and guidelines. For example, there are tables on medical causes of insomnia (p 48), causes of sleep problems in children (p 42), and how medical illness is reflected in dreams (p 64).

In my view this book can and should be read with benefit by students, specialist trainees, and consultants dealing with sleep disordered breathing. I enjoyed many aspects of the book, not least its brevity. It provides a useful reference for a busy clinician and is ideal for dipping into during brief spells of free time. Colin Shapiro and his colleagues are to be congratulated on producing an excellent short and wide ranging book which deserves a wide audience. – KP

Sleep. Rosemary Cooper. (Pp 702; £79.00.) London: Chapman and Hall, 1994. 0 412 39150 3.

Thorax readers will be familiar with the explosion of interest and research in sleep apnoea, but may be less aware of recent research and developments in the physiology of sleep and sleep medicine in general. The number of respiratory physicians investigating patients with possible sleep apnoea is increasing steadily, and all find inevitably that they are asked to see and investigate patients with other sleep disorders; consequently they need to be aware of the differential diagnoses of daytime sleepiness, sleep disturbance, parasomnias, etc.

This excellent multi-author text is therefore timely as it gives an up to date and comprehensive account of the subject. The first half of the book is devoted to physiology with useful reviews of areas such as the neurochemistry of sleep, circadian rhythms, dreams and, most elusive of all, the function of sleep. Although we are little further forward in elucidating the “purpose” of sleep, one would expect the mechanisms involved to be more amenable to scientific enquiry – yet it is salutary to see the number of putative natural sleep promoting substances which total no less than 36. The second half of the book includes detailed accounts of primary sleep disorders, parasomnias, and sleep disorders found in various medical and psychiatric conditions, followed by reviews of the

important social consequences of sleep disorders and, finally, detailed practical advice on sleep recording. Sleep apnoea is, of course, included but more detailed accounts can be found elsewhere; the increasingly recognised problems associated with non-apnoeic snoring receive little attention. The association of snoring and sleep apnoea with cardiovascular changes and ischaemic heart disease are well reviewed but, surprisingly, similar associations with stroke are not discussed. These are only minor quibbles and the book can be highly recommended to those with an established or burgeoning interest in sleep disorders. – GJG

Clinical and Physiological Applications of Electrical Impedance Tomography. David Holder. (Pp 310; £50.00.) London: UCL Press, 1993. 1 85728 164 0.

Electrical impedance tomography (EIT) is a new non-invasive tomographic imaging technique which is in the process of development. This book describes the state of the art of the technical aspects of EIT and its possible biomedical applications. The book includes excellent introductory reviews, recent technical developments, and applications to the gastrointestinal, nervous, and cardiopulmonary systems. Topics on the technical developments include the design and performance of an EIT system which produces images of the absolute impedance, a portable EIT system, a new reconstruction algorithm, and the specification of a practicable standard chest electrodes harness. The potential of EIT for measurement of gastrointestinal function has been demonstrated perhaps more clearly than in the other areas. The possible applications of EIT to the nervous system, monitoring hyperthermia, measurement of pelvic blood volume, and measurement of cardiopulmonary function have been discussed.

The material presented in this book should be of interest to those seeking an introduction to EIT and to those looking for a comprehensive survey of the subject. However, the clinical applications of this technique are still far away and there is a serious problem with the spatial resolution which needs to be improved before this method will be adopted clinically. The EIT may have interesting research applications, especially with regard to the functional assessment of various biological systems, but it is unlikely that such a method will be able to compete with the established medical imaging modalities such as CT, MRI, and PET in the near future. – RHM

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NOTICES

Lung Pathology

A course in lung pathology will be held at the National Heart and Lung Institute, London on 1–4 November 1994. For further information contact: Professor B Corrin, Histopathology, Royal Brompton National Heart and Lung Hospital, London SW3 6NP. Fax: (+44) 71 351 8435.

European Asthma School

A three day intensive course on experimental and clinical aspects of asthma will be held in Ghent, Belgium on 8–10 November 1994. Further information: Department of Respiratory Diseases, University Hospital, De Pintelaan 185, B 9000 Ghent, Belgium. Telephone: (+32)-9-2402611. Fax: (+32)-9-2402341.

Cuneo Lung Cancer Conference

The Cuneo Lung Cancer Study Group is organising a conference on non-small cell lung cancer in Alba, Cuneo, Italy on 7–8 October 1994. For further details contact the Organising Secretariat, Via Romita 15, 12012 Borgo S Dalmazzo, Cuneo, Italy. Telephone: (+39) 171 441770. Fax: (+39) 171 611597.

5th International Conference on Pulmonary Rehabilitation and Home Ventilation

The 5th International Conference on Pulmonary Rehabilitation and Home Ventilation will be held at the Hyatt Regency Hotel, Denver, Colorado on 12–15 March 1995. Deadline for receipt of abstracts for poster/oral presentations on original research/clinical observations 1 November, 1994. For information contact the National Jewish Office of Professional Education. Telephone: 303-398-1000.