

## 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 H<sub>2</sub>O 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.<sup>1</sup> In another,<sup>2</sup> 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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- 1 Miller RR, Müller NL, Vedral S, Morrison NJ, Staples CA. Limitations of computed tomography in the assessment of emphysema. *Am Rev Respir Dis* 1989;139:980-3.
- 2 Osborne S, Hogg JC, Wright JL, Coppin C, Paré PD. Exponential analysis of the pressure-volume curve: correlation with mean linear intercept and emphysema in human lungs. *Am Rev Respir Dis* 1988;137:1083-8.

## 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.<sup>1</sup> 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.<sup>2</sup> 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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- 1 Valle M, Fabrius A, Corrin B, Sheppard MN. Carcinoid tumours of the thymus: a study of eight cases. *Histopathology* 1994; (in press).
- 2 Klierer KE, Cochran AJ. A review of the histology, ultrastructure, immunohistology and molecular biology of extra-adrenal paragangliomas. *Arch Pathol Lab Med* 1989; 113: 1209-18.

## 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.<sup>1</sup>

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

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- 1 Shah AC, Dixit SD, Merchant HC, D'Souza DA, Dave KP, Dhawale KH, *et al*. A preliminary psychosocial study of bronchial asthma. *Curr Med Pract* 1982;26:133-8.
- 2 Barnes PJ, Chung KF. Difficult asthma, cause for concern. *BMJ* 1989;299:695-8.
- 3 Neild JE, Cameron IR. Bronchoconstriction in response to suggestion, its prevention by inhaled anticholinergic agents. *BMJ* 1985; 290:674.

## 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