

Medical audit

Audit in Action. Ed. by Richard Smith. Pp. xiv + 245. Illustrated. £10.95. London: British Medical Journal. 1992. Available from Librigger Book Distributors, Bloemfontein.

The subject of medical audit, in its many guises and varied nomenclatures, is very topical and the publication of this collection of articles from the *British Medical Journal* meets a long-felt need for a comprehensive manual on the subject. The first article appears to have been published in 1980 and the last in 1992. Appears, because the major flaw in this otherwise valuable book, is the omission of publication data for the individual articles. The requisite information can only be found, for some of the papers but not all, after a diligent and frustrating search, through the references in subsequent articles.

This irritant apart, the book effectively covers the developments in medical audit from simple clinical review procedures in the early chapters, through to the sophisticated application of total quality management in the final chapter. This progression clearly indicates the growth and changes that have taken place in the concepts, the practice of and the attitudes to medical audit, since its introduction almost three decades ago, and enhances the reader's understanding of the development of the subject and its importance. Descriptions of medical audit programmes in the USA, The Netherlands and the UK are included.

The articles are grouped under chapter headings ranging from 'Early perspectives' and 'Establishing a frame-

work' to 'Making audit happen', 'Learning and audit' and 'Towards achieving quality'. This structure is helpful since each section provides an overview of the various important aspects of audit and the gradual shift, from emphasis purely on educational objectives, to the current comprehensive aims which encompass total quality management (TQM). This latest development encourages greater efficiency, cost-effectiveness and improvement in the process and outcome of health care delivery. The final chapters indicate that TQM demands leadership, commitment, multidisciplinary 'seamless' teamwork, patient involvement in decision-making and assessment of outcome — and resources. This is an ideal which must be pursued but is probably not achievable in the South African context in the short term.

Other articles, however, describe clearly and concisely a variety of concepts and techniques, some of which can be applied effectively with minimal resources, whereas others are more sophisticated and resource-consuming. Several essential definitions are provided. The text is well illustrated with informative tables and diagrams and each article is fully referenced (apart from the problem which was identified previously).

Medical audit has matured over time into a comprehensive total quality management approach, a process successfully presented in this book. It is essential reading for all health care professionals and administrators who wish to improve the quality and cost-effectiveness of health care in their hospitals and practices.

J. KANE-BERMAN

Rheumatology

Baillière's Clinical Rheumatology: Giant Cell Arteritis and Polymyalgia Rheumatica. Guest eds B. L. Hazleman and B.-A. Bengtsson. Pp. xi + 507. Illustrated. £27,50. London: Baillière Tindall. 1991.

This issue in the Baillière's *Clinical Immunology* series is concerned with a disorder whose features have yet to be defined by unequivocal consensus or by objective pathological criteria. Two syndromes are involved: polymyalgia rheumatica, that presents typically with severe, symmetrical, proximal muscle pain and stiffness; and temporal arteritis that presents with symptoms of acute inflammation of the arteries of the face and scalp complicated, in severe cases, by occlusion that is particularly likely to affect the ophthalmic artery.

These diverse clinical pictures may be associated or follow each other in the same patient and are inconsistently accompanied by a distinctive granulomatous arteritis in which giant cells are prominent. The precise relationship between the syndromes and the pathology is undecided since one may have one without the other, the pathogenesis is unknown and there is no clear aetiology to provide a definitive basis for the disease. Although the ESR is usually considerably raised, this is not invariably so, and no diagnostic test is available that is confirmatory.

In the face of all these vague uncertainties, it is nevertheless very important to make the diagnosis since steroid therapy, if given in time, will suppress the inflammatory component and prevent blindness — the most dreaded complication of the disease. In its prodromal stages, the disorder may present with no more than general malaise, 'aches and pains' and depression, so that in a high index of diagnostic suspicion and an awareness of the complex nature of the condition are required.

This book commendably reflects and accommodates these needs. It is very well written and edited and it provides an excellent and comprehensive account of a complex and important subject. The sections dealing with the pathological and clinical features are particularly informative. The chapter dealing with immunological studies is less so — largely because no convincing reason for ascribing an autoimmune basis to the disease has been discovered.

Ophthalmologists, neurologists, geriatricians and rheumatologists will find an hour of rewarding reading in this exceptional collection of review papers.

E. B. DOWDLE

AIDS, drugs and sexual risk

AIDS, Drugs and Sexual Risk. By N. McKeganey and M. Barnard. Johannesburg: Random Century. 1992.

It was Lord Melbourne, one of Queen Victoria's less flamboyant prime ministers, who commented that compulsory education was a waste of time and money because the unintelligent were ineducable and the intelligent would educate themselves. The depressing message of this book is that Lord Melbourne may well have been right, judging by the Neanderthal-like utterings with which this book is liberally splattered, the results of interviews in Glasgow with young people that illustrate a horrific ignorance not only about AIDS, but also traditional societal norms of social and sexual behaviour and life in general. The main area of study concerns injecting drug abusers and the risk of HIV infection in that group, but the sociological net is cast wider to include not only drug abuse but prostitution and the sexual behaviour of those, especially young people, who may be most at risk. The foreword to the book comments that simple documentation of the facts about drug injecting or sexual behaviour is not enough, but that a true understanding of the lifestyles and the problems of the people concerned is crucial.

Having made an effort to understand them, where does one go from there? I must confess that until I read

this book, I really believed that campaigns of health education could have an impact on the spread of AIDS. Now, I am not so sure. How can you educate people who appear to be hell-bent on destroying not only themselves but everything and everybody around them? How can you start to cross that immense gulf of ignorance? I suppose that we have to go on trying, but my confidence in obtaining any positive results by health education has taken a hard knock.

N. C. LEE

Radiation

When is a Dose Not a Dose? By Victor P. Bond. Pp. 39. Illustrated. Bethesda: National Council on Radiation Protection and Measurements. 1992.

This 15th Lauriston S. Taylor lecture is sponsored annually by NCRP, which has a mandate similar to the South African Forum for Radiation Protection.¹ Dr Bond is a medical doctor as well as Ph.D. in medical physics, and has been an outstanding researcher at Brookhaven National Laboratory since 1954, where he led the study and treatment of atomic bomb casualties.

Radiation protection and the associated risk assessment² have been dominated by the linear, non-threshold hypothesis with widespread interpretation that the smallest exposure can cause an excess incidence of cancer. A different interpretation is presented using existing cancer data from the studies of atomic bomb survivors, but recalculated in terms of collective energy, $\epsilon = \text{mD in kg.Gy}$ (or joules) instead of absorbed dose, D in Gy.

It is concluded that '... the minimal amount of collective energy required for one attributable cancer is 3,5 kJ delivered to the population' (average mass 70 kg). However, it is not intended to prove zero probability at low D , but rather to emphasise that cell-associated quantal responses (cancer) will be observed only if the irradiated mass and thus the resulting ϵ are relatively large.

Although a minute amount of radiation energy is required to initiate the transformation of a single cell, the collateral energy to inert biological substances that are not related to an attributable cancer, is calculated as about 10^{21} higher. Hence 3,5 kJ is required for cancer induction, as determined radio-epidemiologically.

Furthermore, substantive differences exist between conventional risks in the context of familiar accidents. Exposure to radiation affects every individual but exposure to conventional hazards (e.g. mechanical, electrical) concerns only those actually affected. Consequently, the comparison with the rates of accidental death in industries not associated with radiation are not altogether satisfactory.³

It is unfortunate that no final conclusions are presented, especially as regards radiation protection standards,^{2,3} but the concluding remarks deserve attention. An important conclusion is that low-level exposure associated with radiation protection is solely a public health and epidemiological problem, and only high-level exposure from radiotherapy and accidental overexposure constitute individual-orientated problems. Consequently, the emphasis in radiation protection should shift from attempting to determine individual 'risk' to estimation of the number of attributable effects (cancers) in a particular population.

Vic Bond presents a thought-provoking lecture which deserves serious consideration by NCRP as well as ICRP³ and the SA Forum for Radiation Protection.¹ This publication is, however, not intended for the generalist who only has a passing interest in radiation protection.

J. K. BASSON

1. *South African Forum for Radiation Protection: Third Annual Report 1990*. Tygerberg: Medical Research Council. 1991.
2. D. C. Kocher. Perspective on the historical development of radiation standards. *Health Physics* 1991; **61**: 519 - 527.
3. *1990 Recommendations of the International Commission on Radiological Protection*. ICRP Publication 60. Oxford: Pergamon. 1991.

BOOKS / BOEKE

Autoimmune disease

Clinical and Molecular Aspects of Autoimmune Diseases. Vol. 8. Ed. by J. M. Cruse and R. E. Lewis. Pp. x + 258. Illustrated. SFr. 248. Basel: Karger. 1992.

The immune system, as we know it, is designed to recognise foreign organisms. To do so, it generates of the order of 10^{11} different immunological receptors to anticipate the future form that any foreign invader might take. The wonder is that, in doing so, it preserves the ability to distinguish between molecules that exist within the organism and those that come from without, despite barely distinguishable differences between the two. How this self versus non-self recognition is achieved and ensured is still poorly understood in molecular detail but, as this book shows so clearly, advances in molecular biology, genetic engineering, cell biology, experimental embryology and synthetic organic chemistry have done much to unravel the mystery.

There is, at present, a general consensus that normal individuals contain, in their peripheral lymphocyte pool, self-reactive B cells. The fact that these do not normally proliferate and differentiate to produce auto-antibodies is due to the lack of regulatory T cells to provide the necessary help. Self-tolerance is, therefore, largely under T-cell control with self-reactive T-cell clones being eliminated during their maturation in the thymus or 'silenced' or rendered 'anergic' by exposure to self-antigens in the periphery.

The many imaginative experimental approaches to the study of autoimmune disease that have brought us to this point of understanding are well described and provide stimulating reading for those with an interest in the basic aspects of self-recognition.

There are also a number of excellent chapters that deal with important autoimmune diseases such as systemic lupus erythematosus, Sjögrens syndrome, autoimmune endocrine disease and the spondyloarthropathies. Although much of the work in these areas is still in the descriptive phase, with many correlations between clinical features and laboratory findings yet to be established, one is left with a compelling sense of imminent diagnostic and therapeutic development.

The characterisation, for example, of the short 'self-peptides' that bind to major histocompatibility molecules and so induce responses against self suggests the administration of similar peptides to compete with self-peptide binding and so prevent antigen presentation to a potentially self-reactive clone. Similarly, knowledge in the way in which cytokines contribute to the pathogenesis of autoimmune disorders suggests diagnostic procedures for the monitoring of autoimmune disease or the specific control of certain manifestations of the disease by inhibitors of these peptide mediators.

Although the recent seminal experiments of Le Douarin and her French collaborators on thymic regulation of tolerance in avian chimaeras and studies that have shown that transforming growth factor beta is a potent endogenous immunosuppressive cytokine are not mentioned, the book is generally comprehensive and can be confidently recommended as indispensable for those with a serious interest in autoimmune disease.

E. B. DOWDLE

Biochemical toxicology

Principles of Biochemical Toxicology. 2nd ed. By J. A. Timbrell. Illustrated. Pp. 415. R153,73. London: Taylor & Francis. 1991.

The second edition of this book retains the format of the first but is considerably larger, which is perhaps indicative of the many advances that have taken place in toxicology during the last decade.

As the title suggests, the book deals with the mechanisms underlying toxicity, particularly the events at the molecular level and the factors that determine and affect toxicity. Through the various chapters the author compre-

hensively covers dose-response relationships, factors affecting toxic responses, factors affecting metabolism and disposition, toxic responses to foreign compounds and biochemical mechanisms of toxicity. The author makes use of examples throughout the book. Included are many illustrations, all of which help to make the book extremely interesting reading, especially the last chapter, which deals with specific examples.

I would recommend this book to all students studying toxicology both at the undergraduate and postgraduate levels.

T. R. SCOTT

Advances in pineal research

Advances in Pineal Research. Vol. 6. Ed. by Andrew Foldes and R. J. Reiter. Pp. viii + 286. Illustrated. £32,50. London: John Libbey. 1991.

This is a collection of papers presented at the International Symposium on Pineal Hormones, (Bowral) Australia, in 1991. New electrophysiological techniques have demonstrated the multiplicity of fibres innervating the pineal gland. The identification of the melatonin receptor, its characterisation, and the sites of action of melatonin have been the emphasis of recent research. Multineuronal input to the mammalian pineal gland is both sympathetic (noradrenergic and neuropeptide Y fibres from the superior cervical ganglia) and parasympathetic (acetylcholine and VIP neurones from the pterygopalatine ganglia). Pineal cells embryologically are neural in origin, and respond to multiple neurotransmitters. Direct central nervous influence is less well understood, but must be present. Complete removal of the light source in animals, and even removal of eyes, will reset but not abolish circadian rhythms. Pinelectomy, however, completely abolishes melatonin production. *In vivo* dialysis showed norepinephrine to be the most important classic neurotransmitter but dopamine, serotonin, acetylcholine, and GABA also influence melatonin production. Of the neuropeptides, histamine, substance P, neuropeptide Y, and VIP show diverse effects. Somatostatin, in contrast, potentiated norepinephrine effects. Of the pituitary release hormones only LH-RH had modest influence.

There are 5 avenues to investigate pineal function: (i) pinelectomy, then study effects and biochemical parameters of diminished melatonin; (ii) denervate the pineal gland, then study the effects of treatment; (iii) administer melatonin in physiological or pharmacological doses, then study physiological events day and night; (iv) isolate and culture pinealocytes, then study the actions of drugs in culture systems; (v) isolate pineal gland tissue extracts, then physiologically study receptor sites and events.

Collectively, the pineal synthesises melatonin and other indolamines, which physiologically and photoperiodically regulate reproduction, hibernation, mood, affect, sleep-wake cycles, and target almost every cell in the body. Hence, target organ studies are more difficult and depend on where serotonin and melatonin are concentrated. Species-to-species differences are also great.

Visible light constitutes a small portion of the electromagnetic spectrum, and of that the blue range (500 - 520 nanometres) is most inhibitory to pineal melatonin production. Rhodopsin may be the photopigment in the retina that mediates this effect. Low electric and magnetic fields may influence pineal function, distressing for people exposed to high-power electric cables, microwave ovens, television and radios. The price our pineals pay to live in the 20th century!

The latter half of the books deal with melatonin receptors in multiple tissues, the most important being the brain, retina and pituitary.

Libraries with a neuroscience interest will purchase this volume to complement previous editions. The volume highlights the knife edge of pineal research, and is not recommended as an introduction to the basics of pineal physiology.

J. A. TEMLETT

BOOKS / BOEKE

Asthma

Asthma. 3rd ed. Ed. by T. J. H. Clark, S. Godfrey and T. H. Lee. Pp. xiii + 622. Illustrated. London: Chapman and Hall. 1991.

Few personal libraries can afford the luxury of a large reference work on a single disease. It is thus impractical to advise everyone to purchase this book. It is, however, certainly a book worth having ready access to since it ranks as one of the most practical and authoritative on this disorder.

The book has grown to more than 600 pages, mirroring the great interest occasioned both by the commonness of asthma and by emerging concerns about its relationship to environmental factors such as urban and industrial pollution and smoking. It also reflects the explosion in research on the cellular biology and pharmacology of asthma.

The first nine chapters dealing with the scientific foundations of knowledge about asthma may prove heavy going for some clinicians. Their patience is rewarded by a series of reviews containing much of practical value: evaluations of the usefulness of different classes of drugs and delivery systems, and a particularly useful chapter by G. M. Cochrane on management plans for different categories of asthma. His advice is largely in line with the consensus statements for the treatment of asthma which have been developed in several countries to improve the general standard of care through promoting uniformity in treatment.

The section on self-management plans should be viewed as essential reading for all general practitioners and specialists who manage asthmatics since it highlights an obvious area of deficiency in the care afforded to asthmatics in South Africa, and suggests what can be achieved at little additional cost.

E. D. BATEMAN

Health care for the future

The Future of Health Care. Pp. 83. Illustrated. London: British Medical Journal. 1992.

One might well ask whether a book dealing with the future of health care in the UK is of any relevance to health planners and decision makers in South Africa. The reality, however, is that the authors outline many striking similarities as well as important differences that are worthy of study during this period of health transition. From the opening line of the book, 'health services everywhere are in turmoil'; through chapters that examine the need to review the fundamental principles of the national health system; the need to set a strategy for health; a well-argued discussion about the best models required to deliver care and achieve accountability; the need for rationing in all health services; and more specialised chapters dealing with management and information, research audit and education and manpower development are several key issues of direct relevance to us in South Africa.

A few of these are highlighted. In discussing strategies to reduce the spiralling cost of health care, the need to focus on efficiency and effectiveness is emphasised. There is a special plea for applying management principles to the use of resources by clinicians. This requires a willing partnership between professionals and management. At a time when South Africa is edging towards a 'health CODESA' that would devise a future health strategy, a question addressed in the book relates to determining the best weight to give to economic growth, education and transport when deciding on the best overall strategies for health. An explicit realisation that funding given in 'non-health' areas could well have a more marked effect on public health than financing health care systems needs to be considered locally.

In the chapter on accountability, important comments are made about a need for vibrant local government. With

devolution of control over health resources to the local authorities in South Africa, this issue will emerge as being of paramount political importance. As this happens, we need to heed the words contained in the text that 'it is not the fact of election itself which is the guarantee to all effective accountability, but the combination of election and control over policy priorities and the services provided through the contracting process'.

It was interesting to note that many of the disciplines in short supply in South Africa are also in shortage in the UK namely statisticians, economists and sociologists trained in health services research methods. The authors recommend that specialised research centres, including those with a methodological focus, are essential to ensure that core groups can address health care evaluation issues of national importance. Also in the section on research, they emphasise the need to focus on the dissemination of results in a more active format. Finally, in the section on manpower they mention that internationally there is no consensus on what constitutes appropriate work for doctors, nurses or social workers. They recommend that the best mixture will vary according to different settings but that the accepted roles of doctors and nurses, being largely a result of tradition, require constant re-examination.

Overall, the book thoughtfully outlines many issues of concern in industrialised countries, which have at least strong indirect implications for South Africa. The book will be of use to those involved in health service planning at the national, regional and local level.

D. YACH

STDs and AIDS

School Health Education to Prevent AIDS and Sexually Transmitted Disease. Pp. 79. SFr. 18. Geneva: World Health Organisation. 1992.

This guide has been produced by the World Health Organisation (WHO) in collaboration with the United Nations Educational, Scientific and Cultural Organisation (UNESCO). It received substantial inputs from major international teaching organisations, and is primarily intended for senior educational authorities, programme developers and health education policy makers. It is the tenth book in a WHO AIDS series.

The book is useful in that it links HIV infection prevention with sexually transmitted disease prevention. Furthermore, it targets an audience still developing attitudes and behaviour — young people. Because most young people can be easily reached in schools, the book discusses techniques, programme development, curriculum development, teaching approaches for use in the classroom.

With only 79 pages, little detail is provided and the book concentrates on general principles. Important aspects such as ethical issues related to classroom HIV- and STD-prevention strategies, the related moral, cultural, religious and philosophical issues are given scanty attention. The section on appropriate teaching style for AIDS/STD education is dealt with only superficially.

However, the book does deal with some very important aspects and provides useful insights and practical suggestions. The whole issue of the content of the AIDS/STD curricula and, more important, the need to integrate the AIDS/STD education in the school curriculum is soundly addressed and excellent guidelines are provided.

The book goes into some detail on the role of parents and the community in the programme development and delivery, and the reasons for programme failure and continuing concerns about AIDS/STD education of schools. The issues raised in this section together with the guidelines on evaluation of the programme are by far the best chapters in the book.

This is an important book for those involved in AIDS work, and a useful guide for senior educationists involved in curriculum development at schools.

N. PADAYACHEE