

## Book reviews

<b>Recent advances in anaesthesia and analgesia</b>	453
Edited by R.S. ATKINSON AND A.P. ADAMS	
<b>Pharmacokinetics for anaesthesia</b>	453
C.J. HULL	
<b>The pediatric anesthesia handbook</b>	454
Edited by C. BELL, C.W. HUGHES AND T.H. OH	

<b>Anaesthesia, analgesia and intensive care</b>	454
Edited by A.P. ADAMS AND J.N. CASHMAN	
<b>Conduction blockade for postoperative analgesia</b>	455
Edited by J.H. MCCLURE AND J.A.W. WILDSMITH	

### Recent advances in anaesthesia and analgesia

Edited by R.S. ATKINSON AND A.P. ADAMS. Pp. ix + 202. Churchill Livingstone, 1992. £19.95.

It is 3 years since the 16th volume of *Recent advances in anaesthesia and analgesia* was published and the same editors have produced another excellent edition. Patient safety, the theme of the book, is introduced comprehensively by one of the editors. Standards of monitoring, machine checks and product liability, of training, education and competence are related to international and national practice and the role of the Anaesthesia Patient Safety Foundation commended. Audit can help to identify human error and maintain safe practice, but the real difficulties faced are seen to be in funding and establishing recognition that only professionally qualified anaesthetists should practice unsupervised.

An American team present the evolution of the new specialty of trauma anaesthesia. Helicopters raise you from the basic Level III trauma centre to Level II or I which treats 600 cases or more annually. Road accidents are twice as common in the USA than in the UK and perhaps after trauma the patient is safer in the helicopter. Strict resuscitation protocols are stated. The initial description of the resuscitation of traumatic shock resembles peri-operative preparations made to combat surgical trauma in our own operating theatre, but the progression to hypertonic saline and intra-osseous infusions, especially for children, is not based on the authors' own published experience. This is a thought-provoking chapter. A 'key point' that many aspects of the American trauma system could be exported successfully to the UK makes one hope that the level of trauma is not exported as well.

The chapter on anaesthesia for the repair of abdominal aortic aneurysms is a well balanced review of risk identification, peri-operative techniques and the modification of changes associated with aortic clamping. Airway catastrophes predominate in many series of anaesthetic deaths. A simple clinical test is needed to recognise cases of difficult intubation, but the only help suggested is a classification based on the visibility of oropharyngeal structures. Detection of oesophageal intubation and manipulations of the airway required for training in fiberoptic intubation are clearly stated. The chapter on acute arrhythmias concludes with the statement that some understanding of basic electrophysiology is extremely helpful. If this hint came at the beginning, the wealth of information contained in this short chapter may be more accessible.

Postoperative hypoxaemia is briefly reviewed and at times is repetitive. Physiological symbols are not presented accurately. Recent advances in postoperative pain relief follows the safety theme of the volume. Physiology, pharmacology, techniques, clinical management and comparisons of risk are succinctly presented and the argument

builds up to the need for a specialist in pain relief to be responsible for an acute pain service. The parting comment is that if the surgeons do not demand aggressive analgesia with minimal risks, consumers should.

Management of severe pre-eclampsia covers the use of magnesium sulphate which may not be a familiar agent in UK practice. More familiar may be antagonists which allow other drugs to be reversed safely or they may have themselves a potential for serious complications. The clinical significance of the side effects of benzodiazepine and opioid antagonists is discussed. Severity scoring is explained in the final chapter which ends with a series of questions, one of which is: at what point in a patient's illness can we be certain about the outcome? Perhaps mathematicians with a knowledge of chaos theory should answer this. A reply is suggested—that such systems are not substitutes for clinical judgement.

There is no doubt that by reading this book the clinical judgement of any anaesthetist will be improved. It should be read and discussed by every anaesthetist.

A. HOLDCROFT

### Pharmacokinetics for anaesthesia

C.J. HULL. Pp. xiv + 421. Butterworth, Heinemann, 1991. £60.00

The author of this truly remarkable book told a number of individuals about it during its gestation and indicated that it would be just right for us, that is, those who acknowledge their bafflement with pharmacokinetics. The question now is, was he correct in his forecast? One can certainly 'hear' him as one reads, particularly in the enthusiastic and polemic parts; his individual emphases and phrases which appear naturally serve to reinforce the fact that this is a single-author book.

There are five sections which lead on from one another in a logical fashion. 'Basic essentials' is quite a demanding section, to the extent that it will cause the fainthearted to falter. It consists of a revision of some essential mathematics and molecular activity in relation to drugs together with a few of the strange terms which pharmacokineticists use. The subject of the fates of drugs in the body is closer to everyone's understanding and does not pose too many problems. Both these sections are clear and relatively straightforward.

'Pharmacokinetic analysis' is strong stuff indeed, and multicompartmental analysis involves some pretty advanced mathematics. It is perhaps worth reiteration to state that, whatever difficulties an individual reader may encounter, persistence will be rewarded with an improved understanding of the subject. Meanwhile, the author tries

to be 'on the reader's side' and to encourage comprehension of the complexities of algebra and differential equations by a number of devices (models, graphs, clinical examples, homely illustrations and a few jokes). He succeeds in this more often than not but sometimes may appear to be guilty of a little condescension. Many of the chapters are quite short so fatigue is discouraged.

The section on pharmacokinetics of some anaesthetic drugs is really an extended and critical review of a large number of articles. Each group of drugs is considered in relation to what is published about their pharmacokinetics and well known effects are explained in kinetic terms. Inhalational, intravenous, opioid and neuromuscular drugs are considered in separate chapters. This is a very interesting section of the book and the ease of reference to the more basic descriptions is convenient.

The final section, 'putting pharmacokinetics to work', is the end-point of the entire exercise: the application of pharmacokinetics to the design of programs and operation of computers to control analgesia and muscular relaxation during anaesthesia. Hull emphasises the requirement to accept pragmatically the equations on which the designs are based and then to test their validity rigorously. One such program, Project, (for an extra £30) 'accompanies' the book and it is claimed that simultaneous use of both would be rewarding. My experience with the program is limited to a few attempts which were not very informative: the requirement to tell the computer, for example, the target concentration of a drug presumed that the therapeutic level was already known! However, the computer did demonstrate how the blood level would change in response to what one believed to be a reasonable dose of drug; but not yet being sufficiently conversant with pharmacokinetics this user remains a little sceptical about the value of this facility.

Some years ago I tried to understand this topic but I was hindered at the start of my endeavours because so much of the basic physicochemistry was described in relation to drugs which were not at all familiar: the search for information, for example about pH and pKa of some anaesthetic drugs, was so frustrating that this quest for knowledge was abandoned. There would be no such flimsy excuse for such sloth now. This book is not for an idle read; it is a textbook for study and for reference: as such it amply rewards the diligent.

J.N. LUNN

### **The pediatric anesthesia handbook**

Edited by C. BELL, C.W. HUGHES AND T.H. OH. Pp. 626. Mosby Year Book Publishers, 1991. £34.95.

This spiral bound paperback handbook has been written by the team that developed the Yale Paediatric teaching programme. It was conceived as a means to assist junior anaesthetists to assimilate quickly the necessary details of paediatric anaesthetic practice.

The book is divided into 23 chapters written by various combinations of 27 authors. Despite this multi-author contribution there is little repetition and the three editors have performed their editorial task well. There are four appendices, one of which is a 53 page drug table. The main anaesthetic techniques have been described by physiological system (e.g. anaesthesia of gastro-intestinal disorders, anaesthetic management of paediatric neurological disorders) rather than by the more usual anatomical surgical classification. Although this works overall it does lead to some strange 'bedfellows' and as a result it is difficult to find quickly reference points and to assimilate a global view of a particular surgical or anaesthetic problem.

Chapters are included on pain management, equipment and monitoring, anaesthesia in remote locations and transplant surgery, all specifically orientated to the paediatric patient. Each section is well written, easy to read and its short sentence format makes learning or revision for a multiple choice question examination a simple task. Each chapter is referenced or concludes with a bibliography and some have both. Although the bibliography lists are extensive they are not selective and I found myself looking at a long list of books rather than specific items within them.

The chapters include a large quantity of basic physiology and pharmacology. Although some of this is specifically relevant to paediatric practice, the vast majority is no more than basic knowledge which could be gleaned more easily from a standard physiology or pharmacology text. The quantity of this basic knowledge included in overall terms is excessive and it would be hoped that any anaesthetist in training wishing to embark on paediatric anaesthesia would already have this wisdom.

The text sets out to provide a series of valid alternative methods of management. Unfortunately, it does not provide sufficient guidelines as to which alternative to use and why this particular choice was made. Thus at the end of a chapter I found myself saturated in basic physiology and pharmacology, instructed, albeit briefly, in various management techniques, but none the wiser as to how to actually perform a technique or deal with a particular situation.

As a handbook, I found this text disappointing. There were plenty of tables, but instead of simplifying the text, they made it more difficult to find a specific subject. Bleeding tonsils for example is dealt with in half a column of a table on common problems in the postanesthetic recovery room. I could find little to describe how to anaesthetise a routine inguinal hernia, umbilical hernia or circumcision, probably amongst the commonest procedures encountered by most anaesthetists. There were 40 pages on anaesthesia for children with congenital heart disease, 30 pages on anaesthesia for paediatric transplant surgery but only five pages on paediatric outpatient anaesthesia. This may reflect the practice as seen by the authors and anaesthetic staff at Yale, but I doubt it, as North America is reporting 60% day care paediatric anaesthetic practice. One omission I found strange was the lack of any text on paediatric cardiopulmonary resuscitation, yet there were 30 pages on neonatal resuscitation.

I find it hard to recommend this book. It has some very good basic physiology and pharmacology and includes useful information on the more specialised paediatric anaesthetic techniques. Unfortunately, it has completely omitted routine practice and does not provide a logical guide to the problems of paediatric anaesthesia. This I consider unforgivable in a handbook of paediatric anaesthesia.

D.A. ZIDEMAN

### **Anaesthesia, analgesia and intensive care**

Edited by A.P. ADAMS AND J.N. CASHMAN. Pp. vi + 313. Edward Arnold, 1991. £14.95.

There is nothing on either cover of this book to indicate its intended readership. Thus, I awaited with anticipation the arrival of this 550 g, 313 page paperback, the back cover of which modestly claimed 'concise coverage of every aspect of the anaesthetist's required expertise'. The preface produced the first surprise. This is, in fact, an undergraduate book, written because the authors considered that the medical student 'was not comprehensively served by the existing range of textbooks'.

There are 17 authors, representing most of the Teaching Centres in London; several are experienced writers, well known in their particular fields. Nineteen chapters cover a wide range of topics which include anaesthesia, physiology, fluid, electrolyte and acid base balance, monitoring, apparatus, obstetrics, paediatrics, cardiopulmonary resuscitation, head injury, brain death, pain management and intensive care. There are 34 figures and 41 tables. Each chapter begins with a summary of its contents and further reading material is suggested at the end of most chapters. The text is well laid out, it is readable, despite the large amount of information contained within, and the material is up to date.

My initial thoughts were that the contents appeared to be greatly in excess of medical students' requirements. This impression was echoed by some of our anaesthetic trainees who leafed through the pages; significantly, however, several of them thought that there was much in it which would have been of benefit to them in their first year of anaesthetic training.

My second surprise was that the medical students to whom I showed the book, instead of being overwhelmed by its size and scope, were extremely enthusiastic about it. Particular mention was made of its readability, beautiful layout and the summary of contents at the beginning of each chapter. The physiology was considered to be sufficiently clear and self-contained that recourse to other texts was not necessary. The pharmacology chapter scored particularly well with one student, whose memory of a previous lecture on the subject had 'put her off for life'. The detailed descriptions of practical procedures were welcomed, although I thought personally that the diagrams showing tracheal intubation were not particularly clear. One student commented that, on the next visit to the operating theatre after reading the book, 'things actually started to make more sense'.

I believe that this book will serve more than one function. Several chapters are essential reading for final year students, whether or not they have any interest in anaesthetics. There is a temptation for some undergraduates to ignore specialities which do not feature prominently in examinations. However, subjects such as fluid, electrolyte and acid base balance, cardiopulmonary resuscitation, respiratory assessment, oxygen therapy, postoperative pain relief, practical procedures and the indications for intensive care are essential to the undergraduate curriculum, since they form the basis of their first year in hospital practice. The teaching of these subjects should certainly be given priority over many of the more esoteric aspects of medicine with which the student is often regaled. This book should be read by all doctors contemplating a career in anaesthetics, and trainees in their first year will find much of interest. I also think that, from time to time, it should be read by anaesthetists involved in the training of a new senior house officers. For those consultants who feel themselves becoming stale and repetitive, this book will serve as a useful framework for initial teaching, as a reminder of the scope of anaesthetic practice and a means of answering some of the awkward questions posed by beginners.

Undoubtedly, this book brings to life both anaesthesia and the practical aspects of acute medicine. It should be compulsory reading for all medical students.

R. MASON

### **Conduction blockade for postoperative analgesia**

Edited by J.H. McCLURE AND J.A.W. WILDSMITH.  
Pp. xiv + 230. Edward Arnold, 1991. £24.50.

The report of the joint working party of the College of Anaesthetists and the Royal College of Surgeons on Pain after Surgery made many suggestions on how to improve postoperative pain management. Included amongst the recommendations was encouragement for the increased use of local anaesthetic techniques to provide continuing analgesia into the postoperative period. The problem is knowing which block should be used for a particular operation and how to manage it. Scanning the section of the library dealing with local anaesthesia one encounters many excellent books on regional block techniques, but when one seeks information as to how such described blocks might be used in the postoperative period, sadly, there is very little guidance. Thus it was with interest and anticipation that this book was received.

On first opening the book and quickly browsing through the pages one begins to wonder where the diagrams are; surely a book on conduction blockade must have illustrated descriptions of how to perform all the various nerve blocks that might be of use! However, it soon becomes apparent that this is not the case in this volume as its objective is to concentrate more on the theoretical rather than practical aspects of the subject and therefore might be better entitled 'Mechanisms of Conduction Blockade with Reference to Postoperative Analgesia'. Thus, with a degree of disappointment at not having found the practical Holy Grail your reviewer settled down to give the book a closer look.

The first third of the text, dealing with the physiology of pain transmission and the action of local anaesthetics, is a very full and well written review of current knowledge and is the equal of, and considerably more readable than, many standard textbooks on the subject. The middle third concentrates on spinal and epidural opioids and local anaesthetics; the aspects covered being both of theoretical and clinical value. There are excellent chapters on the spread of drugs in the neuro-axis and the mechanism of action and the use of spinal opioids, the latter containing sound practical advice on their use in clinical practice. It is not until p. 175 that one encounters information on peripheral nerve blocks that might be of value in the postoperative period, but sadly such descriptions often lack diagrams which when dealing with such techniques are so important in clarifying details of landmarks, needle insertion points and angle of approach.

Overall, despite early disappointment over the content, your reviewer enjoyed reading this book and felt that as a text on local anaesthesia it had much to offer in some of its excellent chapters but, if one is looking for a 'do-it-yourself' guide to local anaesthetic blocks for the postoperative period, this may not satisfy the appetite. As a 'carry with you' aid this book misses the target but by condensing together so much current information in such a small manageable size, it should be of interest to all anaesthetists and of particular value to those studying for their Fellowship.

M. HARMER