Book Reviews

B. Raymond Fink, M.D., Editor

The Aged and High Risk Surgical Patient: Medical, Surgical, and Anesthetic Management. EDITED BY J.H. SIEGEL AND P. CHODOFF. New York, Grune and Stratton, 1976. Pages: 920. Price: $65.00.

This surgically oriented text was written to give the reader detailed information regarding the physiology of aging and some of its manifestations, and then provide guidelines for the medical, surgical, and anesthetic management. The former objective is accomplished; the latter is not. The first few chapters, dealing with the general considerations, assessment of cardiac function, renal function, and oxygen transport, are excellent, and supply the reader with good, solid information about the general problems of the aged or high-risk surgical patient. The remainder of the book, dealing with management, is quite different, however.

From the title of the book, it would appear that anesthetic management is to be a substantial portion of the contents, but the reader is surprised to find that this is not the case. At best, only a few anesthetic considerations are discussed, and then with no detail. In terms of organization, there is little continuity regarding the cardiac patient; postoperative considerations are in Chapter 23, followed six chapters later by the operative discussion of cardiac surgery. The early chapters contain techniques for sophisticated bedside computerized measurement of cardiovascular function; however, in later management chapters, only crude evaluations of cardiovascular function are mentioned. (The only blood pressure monitoring suggested for the immediate postoperative cardiac patient during ICU transport is palpation of an artery by the surgeon!) Chapters stated to be "management of . . ." contain information of a general nature, but are virtually devoid of detailed, practical, clinical plans, ideas, or discussions for the actual management of patients. While the renal function chapter is excellent, the same author fails considerably in two succeeding chapters. In dealing with the hypertensive patient, the only monitoring he suggests is "close electrocardiographic monitoring"; no mention is made of intra-arterial pressure measurement, balloon-occluded pulmonary arterial pressure measurement, V_4 to V_5 ECG lead evaluation, cardiac output, etc. This author also clearly does not appreciate the wide variety of cardiovascular effects associated with multiple anesthetic techniques. In my view, the chapters on intraoperative management of the critically ill should have been written by a skilled anesthesiologist.

The only chapter containing any specific information about anesthetic management (Chapter 21) is, for the anesthesiologist, a disappointing one. There is no mention of modern monitoring techniques and little discussion of muscle relaxants, even though these drugs are cornerstones of modern anesthesia. There is only a perfunctory discussion of the various anesthetic agents, and some of the more common ones are totally missing (*i.e.* meperidine and nitrous oxide). Also missing is any reference to, or discussion of, the excellent work by Eger, demonstrating the effects of age on anesthetic dose requirements. Most puzzling is the statement that "monitoring the patient during the procedure and changing techniques and anesthetic agents to fit the current physiologic status of the patients is more important than using any particular agent" (I heartily agree), followed by "since few men can be more than a 'jack of all trades' of anesthesia, it is wisest to choose to be the master of a few" (techniques). I find it difficult to reconcile these two attitudes.

The chapter on postoperative care of the cardiac patient is out of date, and incomplete. There is no mention of the use of the activated coagulation time for appropriate heparin and protamine administration, no discussion of modern routine cardiovascular monitoring techniques, no realization of the common use of percutaneous radial-artery catheterization (cut-downs are suggested), no apparent appreciation of the variety of modes of mechanical ventilation, and the specific indications and contraindications for each. The discussion of postoperative renal insufficiency is perfunctory. While it is stated that the transportation of the patient from the preoperative room to the operating room is a period of "great hazard," and the period of transport from surgery to the ICU is the "most hazardous phase," there is absolutely no mention of the role of the cardiac anesthesiologist during these periods.

The chapter on cardiac surgery is a good discussion of the preoperative information, and a review of disease categories. However, there is no information concerning hemodynamic monitoring or care, anesthetic considerations, or coagulation problems. There is no mention of pediatric cardiac surgery, even though many of these patients are decidedly "high risk." Again, the management section is of little help in planning for the care of patients. In such a rapidly developing field, only 27 of the 281 references are newer than 1972, and many of the others are 15 to 30 years old.

While the chapter on peripheral vascular surgery is quite good initially, there are large areas of void (*e.g.*, carotid-artery disease). There is no mention of the use of pharmacologic interventions for patients with acute arterial embolic or thrombotic events (*i.e.*, sympathetic nerve blocks). There is no appreciation or discussion of the known high incidence of coronary-artery disease in patients with peripheral vascular disease. Again, dogmatic statements are presented without discussion or references.

Three of the chapters by Dr. Siegel are so different from the rest of the book that they deserve special comment. "Patterns and Process in Evolution of the Recovering from Shock" and the succeeding chapter on "Management of the Acute Respiratory Distress Syndrome," along with "Computer-based Clinical Assessment Research and Education," are excellent. Obviously, there are favorite research interests, but the many diagrams of "recovery time-course trajectories in physiological state hyperspace" are out of tune with the other topics, and do not serve the author's stated purpose of focusing on areas "of direct interest to the practitioner of surgery."

Common topics one might expect to find in the index of a surgical text on the aged and critically ill (such as cholecystectomy, craniotomy, cataracts, cerebral aneurysm, prostatectomy, cystoscopy, hysterectomy) cannot be located. Coagulation defects in the cardiac patient are said to be on page 366, but are not found there. Carotid-artery occlusion in the index refers the reader to a portion of one paragraph in the psychiatry chapter (and no further discussion of this important lesion is to be found).

Many of the illustrations are well done. However, some are misleading (Chapter 21), or exotic and confusing (Chapters 24 and 25).

The anesthesiologist seeking readily available information to assist in designing optimum anesthetic care for the aged and high-risk patient will not find this book a reliable, authoritative source.

RICHARD P. FOGDALL, M.D.
Cardiovascular Anesthesia Service
Stanford University School of Medicine
Stanford, California 94305

Respiratory Failure. Second edition. BY M. K. SYKES, M. W. MCNICOL, AND E. J. M. CAMPBELL. Oxford, England, Blackwell Scientific Publications, 1976. Pages: 461. Price: $34.00.

This second edition of a popular text is very worthwhile and is probably the single most complete compilation of information relevant to respiratory failure. To a large extent, the authors have succeeded in their stated objectives of adopting a more international viewpoint than was the case with the first edition. Major sections are devoted to the Pathophysiology of Respiratory Failure, General Principles of Treatment, and the Treatment of Specific Conditions. Information is provided on such topics as the measurement of blood-gas values, conversion tables to SI units, equations for the derivation of data, and standardized sizes for endotracheal tubes and connectors. The various chapters are well referenced.

The authors have elected to provide broad coverage of their topic, and it is refreshing to see excellent sections on basic physiology and topics not directly related to the adult respiratory distress syndrome. In fact, the de-emphasis of this entity is probably taken too far, and the authors discuss it only in terms of "shock lung," a somewhat outmoded term in the United States. The section on the management of patients with chronic obstructive pulmonary disease is outstanding and, as one would expect, the conservative management of this condition is covered by one of the best descriptions currently available.

With respect to overall format, the book is extremely readable. It will be confusing to many American readers with respect to the use of SI units, although their more usual equivalent values are also given. Further, the type used is small, and this is particularly difficult in the case of the captions for figures and the bibliography. This is probably a false economy.

This reviewer noted a few aspects of respiratory failure in which current North American thinking would be at variance with that of the authors. For example, the flow-directed balloon-tipped catheter is widely recommended in the United States for the evaluation of left heart function and the collection of mixed venous blood. The authors indicate they believe that because this item has sufficient complications associated with its use it should be left in place only for a few hours! A table is presented with the purpose of demonstrating the effect of changes in mixed venous oxygen tension on arterial oxygen tension, in the presence of a right-to-left shunt. The figures are theoretically derived and the assumption is made that shunt fraction stays constant while mixed venous oxygen tension changes due to cardiac output change. It is now recognized that shunt fraction changes directly with cardiac output on many occasions, and that this assumption is therefore invalid.

Significant among the omissions in a generally comprehensive text was any reference to the effects of pulmonary elasticity on closing capacity and arterial oxygen tension at ages up to adolescence, or the effect of position on pulmonary blood flow distribution, particularly changes from side-to-side in patients who have unilateral pulmonary disease, and any reference to the very difficult problem of when to withdraw respiratory support. The problems of prognostication are not addressed.

I strongly recommend this volume to all those with any involvement in intensive respiratory care.

H. BARRIE FAIRLEY, M.B.
Department of Anesthesiology
San Francisco General Hospital
San Francisco, California 94110

Basic and Clinical Immunology. EDITED BY H. H. FUDENBERG, D. P. STITES, J. L. CALDWELL, AND J. V. WELLS. Los Altos, Lange Medical Publications, 1976. Pages: 653. Price: $12.50.

This book is an attempt to present material that will bridge the areas of basic and clinical immunology. As outlined in the foreword, the aim of the book is to serve as a text for medical students, house officers, graduate students, practicing physicians, and others interested in learning more about immunology.

The text has 40 chapters arranged into four main sections. The first describes adequately basic immunologic concepts, immunochemistry, and cellular immunology. The first chapter, dealing with historical background, is thorough and very informative, and thus a pleasant surprise, and should be particularly interesting for the student in immunology. The second section consists of a rather good discussion in the area of immunobiology. Of particular value is the third section, on laboratory methods, which is outstanding. It is written in a comprehensible style with numerous illustrations, helpful to both the novice and the serious student in immunology. In contrast, the fourth section, on clinical immunology, which could be intended for house officers and practicing physicians, is mostly descriptive and thus the weakest section of the book. As the editors caution, the latter section is not intended to serve as a manual of clinical treatment.

The editors have succeeded in avoiding the pitfalls inherent in multiauthored texts. In general, the chapters are coherent and easy to read. The style is pleasant and there is very little overlapping of information, which in a text of this size is commendable. In the majority of chapters, the illustrations are especially enlightening and very useful. The appendix has a fairly complete list of terms and abbreviations commonly used in immunology, certainly a great help to the uninitiated in the field. In contrast, a persistent flaw in the majority of chapters is the rather sparse bibliographies, which lead one to believe that controversies are presented according to the individual author's bias.

However, the book is not specifically written for anesthesiologists, particularly those whose background is totally lacking in immunology. Anesthesiologists interested in a concise introduction to basic immunology might refer to simpler texts, such as Roitt's *Essential Immunology*, published by Blackwell Scientific Publications, or, for topics directly related to the fields of anesthesia and surgery, to Matheiu and Kahan's *Immunologic Aspects of Anesthetic and Surgical Practice*, published by Grune and Stratton, New York. Fudenberg *et al.* make no attempt to relate immunology to surgical and anesthetic practice, but overall, their book is a worthy undertaking, and the editors are to be congratulated.

MARCELLE MATHIEU, PH.D.
Department of Immunology
Tufts University
ALIX MATHIEU, M.D.
Department of Anesthesia
Harvard Medical School and
Massachusetts General Hospital
Boston, Massachusetts 02114