

chapters into sections, including general background information, history, physical, and laboratory findings, anatomy, pathophysiology, and management, with an emphasis on anesthetic implications. The depth of discussion progresses from basic principles in some of the earlier sections to more detailed outlines of anesthetic management, which include salient information from recent related literature.

The beginner should benefit from the clear presentations of very complicated pathophysiology. In this regard, the chapters on coronary artery disease, valvular heart disease, and diseases of the nervous system are exemplary. The expert will appreciate concise reviews of the basic disease states and will be attracted by the division of information into discrete areas, allowing quick access for reference use.

The text contains 36 chapters, beginning with 13 chapters on cardiovascular disorders, proceeding through all the major systems, and concluding with chapters on substance abuse, pregnancy, pediatrics, and geriatrics. New sections on AIDS, organ transplantation, lithotripsy, toxic shock syndrome, Lyme disease, and Alzheimers help maintain the second edition's status as a current reference source. As in the first edition, excellent illustrations, figures, and tables further clarify the written word. Despite the encyclopedic nature of this effort, the editors have assured easy readability with consistently lucid and flowing prose.

The initial chapter on coronary artery disease has been updated, with a more developed discussion of cholesterol and lipoproteins, factors influencing reinfarction, and the concept of coronary steal. The section on noninvasive cardiac imaging is not as complete as one might desire, failing to discuss gated blood pool scanning, differences in echocardiographic modes, and dipyridamole stress tests. A brief section on percutaneous transluminal angioplasty has been added, unfortunately without reference to streptokinase or tissue plasminogen activator. A useful addition on heart transplantation closes the chapter.

"Valvular Heart Disease" is essentially unchanged from the excellent presentation in the first edition, with the exception of a more detailed and current look at mitral valve prolapse. "Abnormalities of Conduction and Rhythm" includes expanded discussions of pre-excitation and prolonged QT syndromes with significant additions from recent literature. There is no update on treatment of ventricular premature beats, and the recommendations of therapy are somewhat misleading, since no reference is made to the controversial nature of this subject. Likewise, the recommendation to treat paroxysmal atrial tachycardia with carotid sinus massage does not include a caveat on the consequences of this maneuver in those with atherosclerotic plaques. "Artificial cardiac pacemakers" is an up-to-date, succinct, and extremely useful chapter.

Major chapters like "Obstructive Airways Disease," "Recognition and Management of Respiratory Failure," and "Diseases of the Nervous System" cover extensive ground, yet manage to provide sufficient detail concerning diagnosis and therapy, making them valuable adjuncts to perioperative care.

"Metabolism and Nutrition" contains an excellent discussion on obesity. The coverage of diabetes mellitus is deficient in some respects: there is no mention of the possibility of continued need for insulin in ketoacidosis once normal glucose levels are attained, and there are insufficient warnings against iatrogenic hypoglycemia and rapid declines in plasma osmolality.

Disappointingly, there are several areas which have not been revised to any extent in the second edition. "Aneurysms of the Thoracic and Abdominal Aorta" contains significant changes only in the section on myocardial contusions. Topics like congestive heart failure, septic shock, and the metabolic effects of surgical stress have received a fair amount of recent press and yet are minimally revised.

Despite spotty deficiencies, the overall product is a superbly written text. The second edition of *Anesthesia and CoExisting Disease* accomplishes its goal to serve as a reference for problems in anesthesia related to complicated diseases, and to be accessible to both neophyte and professor. In many situations, it can provide sufficient information to serve as a solitary source. Even where the cursory coverage of certain

rare diseases makes supplementary materials essential, it functions as a reference for relevant data in the anesthesia literature.

Undoubtedly, the second edition of *Anesthesia and CoExisting Disease*, like the first, will become a well-worn mainstay in the anesthesia libraries of practicing anesthesiologists and residents. It should also be valuable to any physician participating in the perioperative care of patients with disease.

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Effective Hemostasis in Cardiac Surgery. EDITED BY NORIG ELLISON AND DAVID R. JOBES. Philadelphia, W. B. Saunders Company, 1988. Pages: 220. Price: \$47.00.

Effective Hemostasis in Cardiac Surgery is a clear and concise account of the perceived problems and proposed solutions pertaining to the coagulation abnormalities associated with cardiopulmonary bypass. This Society of Cardiovascular Anesthesiologists monograph contains the contributions of 20 authors in 13 chapters.

The chosen topics deal with the methods and problems of heparin and protamine usage, divergent opinions as to the primary coagulopathy induced by cardiopulmonary bypass, and the various rationales for using either blood products or pharmacological means to ameliorate persistent bleeding. Other subjects include strategies for monitoring anticoagulation and assessing coagulopathies, the significance for anesthetic care of fibrinolytic therapy preoperatively, and an assessment of the major problems of perioperative hemostasis needing solution in the near term. Altogether, this book does an admirable job of succinctly reviewing the problems and therapies of coagulopathies in the perioperative period of cardiopulmonary bypass.

The first two chapters deal with heparin and protamine usage, respectively. Both go beyond merely describing dosage regimens. Ellison *et al.* deal with the questions of how much heparin is needed for safe cardiopulmonary bypass, the pitfalls and limitations of various common tests of coagulation, the interplay of heparin with the components of the coagulation cascade/network, and caveats regarding resistance to heparin efficacy, as well as heparin rebound.

Horrow provides a most interesting chapter on protamine usage. Starting with the history of its discovery and eventual implementation, he then discusses the significance of its anticoagulant properties, as well as its role in reversing the action of heparin. Undesired reactions to protamine and various strategies for avoiding them receive attention. Those include arterial *vs.* venous administration, priming pretreatment, and a discussion of drugs not presently in clinical use which avoid the need for either heparin or protamine.

Two chapters answer differently the question of the most prevalent etiology for postcardiopulmonary bypass bleeding. Marengo-Rowe and Leveson ascribe the most common cause to fibrinolysis, arguing that many laboratory tests are misused or misinterpreted for the patient population at interest. In contradistinction, Campbell and Addonizio contend that platelet dysfunction constitutes the most common coagulation lesion, citing multiple changes in its anatomy and physiology when activated during extracorporeal circulation. Both accounts, with their divergent but overlapping therapeutic approaches, are read with profit.

With new developments of thrombolytic therapy for the treatment of acute myocardial infarction, there is a chapter appropriately included on their ramifications for anesthetic management. The fibrinolytic enzyme system, along with its activators and inhibitors, is described. The published clinical experience of these agents—mainly streptokinase

when this chapter was written—is explored for evidence of complications of increased perioperative bleeding associated with their use.

Therapy for postcardiopulmonary bypass persistent bleeding receives attention in three chapters documenting, respectively, the descriptions and usages of blood plasma products, platelets, and desmopressin acetate. Infection risk receives scrutiny, as do those urgent circumstances necessitating “shotgun” therapy.

Three chapters focus on better ways to monitor anticoagulation and to analyze coagulopathies. Separate treatment goes to the use of the activated clotting time (ACT), thromboelastography (TEG), and the Sonoclot. As all these tests measure a global function of coagulation rather than specific parameters, they tend to be more sensitive rather than specific in their correlations with bleeding problems. Nevertheless, they all enjoy a real time utility of some degree and experienced proponents of each modality describe their experiences, methods, and rationales.

The final chapter, by the editors, summarizes the problems in evaluating and understanding states of altered hemostasis in the cardiac surgical patient. They described the state of the art in terms of consensual and divergent conclusions, stress the need for improved real-time analysis of coagulopathies, and suggest directions in which future developments may go.

This monograph serves well as either an introduction to, or a concise review of, the salient points of disordered coagulation associated with cardiopulmonary bypass. The evening or two spent reading it will be time productively spent.

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