BOOK REVIEWS

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International Anesthesiology Clinics: Perioperative Myocardial Ischemia and Infarction. Volume 30, number 1 (Winter 1992). Edited by Charles Beattie and Lee A. Fleisher. Boston, Little, Brown and Company, 1992. Pages: 258. Price: $81.00 (annual subscription of four issues).

This issue of *International Anesthesiology Clinics* examines both clinical and investigative aspects of the detection, pathophysiology, and current treatment of myocardial ischemia and infarction. The editors and authors of this monograph are well recognized experts in anesthesiology and cardiology who have chosen topics that are timely and important for all practicing anesthesiologists who care for patients with known or probable coronary artery disease. The multidisciplinary approach to the detection of myocardial ischemia, preoperative risk assessment, understanding of mechanisms and potential etiologies of perioperative myocardial ischemia and infarction, as well as management of perioperative ischemia and infarction is evident in the well written, up-to-date, and thought-provoking articles in this text. The individual articles are of a reasonable length with more than adequate current reference lists that allow the reader to sort bias from scientific fact. Though some topics in this monograph easily could overlap, the editors have managed to produce a text that is rarely redundant. The strongest aspects of this volume are the articles that review the current understanding of perioperative risk assessment and examine those factors that have been identified as contributing to perioperative myocardial ischemia and infarction.

The introductory article by Fleisher on the relationship between perioperative myocardial ischemia and perioperative cardiac morbidity is representative of the overall quality of this monograph and lays the groundwork for the remainder of the text. It is followed by excellent summaries of the uses of electrocardiography, echocardiography, and dipyridamole-thallium scanning by Gottlieb, Clements, and Coriat, respectively, for detection of ischemia as well as their uses as screening tools to assess cardiac risk. If there is one reason to encourage reading of this book, it is contained in the next few contributions, which stress the key proischemic role of factors causing limitations in myocardial oxygen supply. The article by Leung on the topic of hemodynamics and ischemia is well written, presents the material in a straightforward, concise but thorough fashion, and emphasizes that the majority of episodes of perioperative ischemia are unrelated to gross hemodynamic changes. Subsequent articles on hyperdynamic conditions caused by perioperative stress responses (Breslow), the effects of anemia on the development of myocardial ischemia (Nyhan and Schultheis), the circadian nature of changes in circulating catecholamines and platelet-derived substances that increase coronary vasomotion (Panza and Quyyumi), and the perioperative changes that cause a hypercoagulable state that may contribute to an increased incidence of unstable ischemic syndromes or coronary thrombus formation (Rosenfeld) all present new and important information supported with up-to-date references so that the reader can explore these subjects in greater depth. The latter contributions to this book suggest that the conventional approach to prevention of perioperative ischemia (hemodynamic concerns) must be supplemented by interventions that control stress-mediated alterations in catecholamines, coagulation state, and coronary vasomotion, especially during the postoperative period. With this information as a background, the article by Buffington and Perez reviews the evidence for alternative etiologies of myocardial infarction and proposed theories for such an occurrence during the perioperative period. Though atherosclerotic plaque rupture with subsequent thrombus formation is recognized as the etiology of a majority of myocardial infarctions in the nonsurgical setting, after studying these selections the reader is left pondering whether the stress of the perioperative period is sufficient in some patients to cause necrosis in an area of myocardium supplied by a nonoccluded coronary artery. The later hypothesis certainly is consistent with the knowledge that most perioperative myocardial infarctions are non-Q wave, suggesting that many involve a subendocardial pathology.

This monograph concludes with articles that bring into focus the preceding material and summarize the efficacy and indications for the use of direct-acting cardiovascular agents for the prophylaxis and treatment of myocardial ischemia (Leone and Spahn) as well as the effects of anesthesia with respect to resolution or exacerbation of myocardial ischemia and the emerging data from clinical studies that suggest an important role of regional anesthesia and analgesia in the perioperative management of patients with ischemic heart disease (Beattie and Oken). The remaining two articles in this text address the diagnosis (Jain, Fleisher, and Zaret) and management (Bates) of the final outcome: perioperative myocardial infarction. Both summarize their topics succinctly but contain information that can be found readily in other current texts. It would appear that the article on treatment of acute myocardial infarction is written from the perspective that the majority of practicing anesthesiologists do not manage patients postoperatively who have suffered such an event. This would explain the brevity of the latter contribution, which appears to contain primarily the type of information typically found in handbooks of clinical care. Additional discussion of the usefulness of adjuvant therapy such as intravenous diltiazem or magnesium for the therapy of arrhythmias is one example of the type of information that would have been helpful to include for the anesthesiologist managing a patient with a recent myocardial infarction in the operating room or recovery room.

Perioperative Myocardial Ischemia and Infarction is a worthy monograph that presents an excellent overview of the current knowledge on this subject. The editors are to be commended for producing a well written, clinically relevant text that not only accomplishes the goal of providing insight into the pathophysiology and management of perioperative myocardial ischemia and infarction but does so in a scholarly yet very readable manner. This book will be of value for any clinician involved in the perioperative care of patients with ischemic heart disease.

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