

## Book Review

### **CARDIAC AND VASCULAR ANESTHESIA: THE REQUISITES IN ANESTHESIOLOGY**

**Jacqueline M. Leung**

**Published by Mosby, An affiliate of Elsevier, 11830  
Westline Industrial Drive, St. Louis, MO, 63146**

**13 Chapters, 210 Pages**

**Reviewed by Nadia C. Azuero, BS, CCP,  
Emory University Hospital, Atlanta, GA**

The timeline of anesthesia stems back to 1540, when “Sweet Oil” or ether was first discovered by Valerius Cordus. The first recorded use of anesthesia in a surgical operation was on March 30, 1842, by Crawford W. Long. Crawford was the first physician to use ether to relieve pain in a surgical procedure by dripping the ether on a cloth and placing it on the patient’s nose. Since that time, techniques and methods have been perfected to make anesthesia a standard.

The latest contribution to the anesthesia community is *Cardiac and Vascular Anesthesia: The Requisites in Anesthesiology*, which consists of 13 chapters, 210 pages, and 15 contributing authors. The authors comprise departments of anesthesia, a clinical professor, a professor of anesthesiology, and associate professors, all of whom are respected educators and whose research and clinical applications have enhanced the field of anesthesiology. The book conveniently reads like a textbook, with topics like cardiac anatomy and physiology, cardiac pharmacology, and congenital heart disease, just to name a few.

The book opens with a very thorough review of cardiac anatomy and physiology, covering areas such as cellular composition, Franklin-Starling’s Law, coronary circulation, and receptor mechanisms. It is a very concise overview for anyone and serves as a great reference book. Even the chapters that do not involve the practice of perfusion still fulfill a context of knowledge that can be applied in the operating room. It must be noted that although the content is written for anesthesiologists in practice, it is flexible enough to be used by perfusionists in practice. The only area that is covered in which we, as a community, would have some difficulty understanding is the topic concerning transesophageal echocardiography (TEE) and its application and use in the operating room. On the flip side, the images provided regarding TEE are excellent and serve as great practice to observe the different structures inside the heart.

The third chapter, on cardiovascular drugs by Anil de Silva, is one of the most concise chapters I have read when

it comes to cardiovascular pharmacology. All of the key agents, such as andrenergics, non-andrenergics, vasodilators, and antiarrhythmics, are discussed in detail. Each of the agents are separately analyzed and summarized for quick reference. However, diuretics, neuromuscular blocking agents, and benzodiazepines were not covered but rather mentioned in chapters 5 through 13 as premedication and anesthetic management. Information such as, half-life, along with cardiovascular effects, dosages, and management, are not described in detail.

Chapters 4, 5, and 6 are short, easy readings and cover topics such as pacemakers, balloon pumps, and ventricular assist devices; techniques for patients undergoing cardiopulmonary bypass and ischemic heart disease; and anesthetic concerns for myocardial revascularization, respectively. All three chapters were very well written and summarized; they also include excellent charts and diagrams.

Chapters 7 and 8 discuss valvular heart disease and congenital heart disease. Every valvular anomaly is described with great detail, along with anesthetic management, pathophysiology, and surgical management. Congenital heart disease covers area such as fetal anatomy and physiology and lesion specific disorders with great detail and accuracy. Particularly, with these two chapters, the benefit is that they include case studies and clinical caveats that help the reader apply the information just read as well as summarize it for quick reference.

Continuing on to chapters 10, 12, and 13, they could possibly be categorized as the bigger chapters with more detail and content to be discussed. Topics such as anesthetic management of adults with congenital heart disease; anesthesia for patients with thoracic aortic disease; and anesthesia for vascular surgery, respectively, are described. Of all the three chapters, chapter 12, on aortic disease, would be the most applicable to our practice. The descriptions on the different classifications on aortic dissections are explained in great detail accompanied by diagrams and tables. There also is mention of spinal cord protection, which covers spinal cord anatomy and circulation and it gives foresight into potential roles with perfusion regarding this surgical concern. The chapter is very well written and further discusses other topics pertaining to aortic disease that makes it well rounded.

Despite its title and the profession it pertains to, the educational and reference material contained in the book are excellent for any professional involved in the cardiovascular field. However, one topic that could have been covered is the history of anesthesiology—not a necessity,

but it would have been a nice tidbit. Also, there is no mention of the heart–lung machine, which is always insightful for anesthesiologists and which can be found in other textbooks. Some other minor things were some misspellings and mislabeling, but these were not grave enough to suffer loss of information.

Assets of the book are the diagrams, pictures in black and white and color, case studies, clinical caveats, charts, and summary boxes. The information provided is insight-

ful in any profession regarding the cardiovascular field, especially towards perfusion and where our profession is headed. The sections are efficiently divided and reading does not become tiresome. The material can be absorbed and processed before continuing on a new chapter. I definitely recommend this book to any practicing perfusionist and highly advise that this textbook be available in each perfusion department as a reference guide for their practice.