Book Review

Advances in Cardiac Surgery, Volume 5

Edited by Robert B. Karp, Hillel Laks and Andrew S. Wechsler
Mosby-Year Book Inc.
11830 Westline Industrial Drive
St. Louis, Missouri 63146
(800) 426-4545

Price: $69.95
254 Pages
11 Chapters
98 Illustrations
23 Contributing Authors

Each volume in Mosby's Advances in Cardiac Surgery series is a treatise dedicated to the most germane and relevant issues of the time. Since 1989, five volumes have been published (though volumes 1 through 3 are out of print). Invited experts write original, comprehensive chapters intended to examine the most crucial and "cutting edge" topics. Volume 6 will be available in early 1995, and volumes 7 and 8 are already in the works.

The first chapter of Volume 5 summarizes myocardial edema and its effect on left ventricular function and geometry. Measurement of left ventricular mass (two-dimensional echocardiography) and myocardial water content is covered at length. Of particular importance is the section on perfusion-induced edema and cardioplegic solution composition.

Chapter 2 explains the history, rationale and results of using arterial (internal thoracic, radial, gastroepiploic, inferior epigastric and splenic) conduits for bypass grafting. Though none are needed, it is the only chapter with no tables or figures. It is a thorough review and the writing is particularly superb.

Chapter 3 is a futuristic look at cardiac surgery and extracorporeal circulation in the fetus. Following extensive review of the fetal circulation, issues including circuit design and fetal stress response are covered. The remarkable question of whether or not to include the placenta as the "oxygenator" is raised, but not answered. Chapters 4, 5 and 6 outline surgical management techniques to correct pulmonary atresia, interrupted aortic arch and univentricular heart in children. From a surgeon's standpoint, the figures and illustrations are fantastic. Perfusion considerations, on the other hand, are scarcely mentioned. Chapter 7 highlights the recent advances in immunosuppressive therapy.

Chapter 8, "Percutaneous Extracorporeal Membrane Oxygenation," looks closely at the expanding role of cardiopulmonary support for resuscitation, hypothermia, pulmonary insufficiency and supported high-risk angioplasty. Sections on commercially available equipment, cannulation techniques, complications and future prospects are included. Reference is also made to the national Cardiopulmonary Support Registry for Emergent Applications, a database developed to identify patient groups most likely to be successfully treated. Somewhat disturbing is the authors' admission of using "...trained nurses in the hospital to bring equipment to the bedside, prime the circuit and initiate and continue CPB until more experienced personnel arrive."

Chapters 9 and 10 are procedural descriptions for implantation of pacemakers and cardioverter defibrillators. Both chapters are thorough in content and well referenced. Chapter 11, the shortest in the book, proposes that cross-species grafting (xenotransplantation) no longer be viewed as experimental.

In conclusion, I found several of the chapters in Advances in Cardiac Surgery, Volume 5 informative; it serves its purpose well. However, its use as a reference text for perfusionists would be limited.

Kelly D. Hedlund, MS, CCP
Perfusion Technology Department
St. Francis Hospital and Medical Center
Topeka, Kansas