

Beating Heart Coronary Artery Surgery

Edited by Tomas Salerno, Marco Ricci, Hratch L. Karamanoukian, and Jacob Bersland. Armonk, NY: Editorial Futura Publishing Company, Inc., 2001; 296 pages, 54 figures, 42 tables. ISBN: 0-87993-473-5.

This book has two important qualities that make it worthy of a place in any cardiological library. On the one hand, it is the first book to compile detailed new technical information about coronary surgery on the heart in movement. On the other, it has been edited by one of the most active pioneering groups in this technique in the United States. Moreover, the most experienced surgeons in this field in the world have contributed as authors of the different chapters of this book.

The text is organized into four sections. The first, single-chapter section is dedicated to a historical review of the problem. The second section consists of eight purely technical chapters on innovative and salient aspects of coronary surgery without extracorporeal circulation. The reader, with the sufficient (but not brilliant) aid of the illustrations can obtain a clear idea about the principles of the exposure and stabilization of the coronary arteries, hemodynamic management of the patient, and verification of anastomotic patency. The third section dedicates six chapters to analyzing different approaches to surgery on the beating heart in order to select the one most suitable for each patient. The last section, as could be expected, consists of seven chapters that analyze the overall results and complications of this technique and subgroups like high-risk patients and the elderly. The results are presented, for the most part, in tables that compare «beating heart» surgery to conventional surgery with extracorporeal circulation as a way of analyzing its benefits.

Myocardial revascularization on the beating heart was introduced in the 1950s by the Russian surgeon V. Kolesov, then was abandoned in the 60s, 70s and 80s as a consequence of the development of extracorporeal circulation techniques. The ability to perform coronary surgery on a quiet, bloodless field has made it a highly reproducible technique that provides excellent short and long-term results.

Various circumstances, for the most part socioeconomic, lead a group of surgeons to not completely discontinue «beating heart» surgical revascularization. The pioneering efforts of Dr. Enio Buffolo, of Brasil, and Dr. Benetti, of Argentina to develop new coronary surgery techniques on the heart in movement, described in the first chapter of this book, were the spark that made this «surgical evolution» possible. The trend toward «reducing aggressiveness» that invaded surgery in general, and cardiac surgery in particular, in the 1990s, brought these techniques to the forefront because they eliminated the noxious effects of extracorporeal circulation and myocardial ischemia. In its later development, technological support is determinant for the creation of devices that facilitate and improve cardiac exposure and immobilization without producing hemodynamic deterioration in patients. This qualitative jump is indispensable for guaranteeing patency results that are comparable to those achieved with traditional coronary surgery.

In light of these considerations, this book is important because it offers a clear and detailed compilation of all the aspects that make «this coronary surgery» different. It stimulates the interest of cardiac surgeons who wish to incorporate this technique in their surgical *armamentarium*, as well as that of cardiologists, anesthesiologists, and intensive medicine specialists especially interested in coronary surgery. It gives them an opportunity to understand a surgical technique for performing coronary surgery in a very different way and opens the door to the treatment of patients now considered inoperable or very high risk.

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