

Preface

Cardiovascular Intensive Care



Umesh K. Gidwani,
MD, FCCP, FCCM



Samin K. Sharma, MD,
FSCAI, FACC



Annapoorna S. Kini,
MD, MRCP, FACC

Editors

This monograph on cardiac intensive care arrives six years after the last such endeavor in a sister publication, *Critical Care Clinics*. The timing is propitious; in the intervening period a lot has changed, and there is much new material to review.

The nomenclature, epidemiology, and philosophy of the critical care of cardiac patients have undergone a radical transformation. This accelerated evolution is reviewed in the article that opens this issue. The interventional management of structural heart disease has undergone an even more abbreviated growth phase and learning curve. What only five years ago was undergoing trials has now become widespread practice not only in tertiary university centers but also in regional community hospitals. Our protocols for the CICU management of transcatheter aortic valve replacement (TAVR) patients are reviewed herein. Similarly, as we become more successful in reducing mortality from acute myocardial infarction, we see a growing population of patients living with a significant heart failure burden. While the number of patients with heart transplants has not increased dramatically, the number of patients on mechanical circulatory support has. A state-of-the-art review of the management of heart failure, including circulatory support devices, is presented here. Similar advances in the management of cardiogenic shock ventricular arrhythmias, and hypertensive and acute aortic syndromes are reported comprehensively. The

past decade has seen a proliferation of new oral antiplatelet and anticoagulant agents. Even as we continually refine indications for these agents and characterize their behavior, their development continues apace. We not only focus on such newfangled advances but also review the old enemies that continue to bedevil our ICUs such as pulmonary embolism and respiratory failure requiring mechanical ventilation. These topics as well as an update on mechanical complications of acute myocardial infarction are addressed by our British colleagues.

It is a personal honor to serve as a coauthor with Dr Kanu Chatterjee in our review of the pulmonary artery catheter (PAC) and its place in the modern firmament. Dr Chatterjee is a legend who was “present at the creation” around the development of PACs and who was recruited by Dr Swan in 1971, a few short months after having described his first-generation PAC in the *New England Journal of Medicine*. Dr Chatterjee arrived from England to run the Myocardial Infarction Research Unit at the Cedars-Sinai Hospital and to improve and modify the PAC. The PAC has described a trajectory of unbridled overutilization followed by the inevitable backlash and its near-extinction. It seems to have settled into its niche in cardiac and transplantation critical care, which now serve as the repository of knowledge about and expertise with the PAC.

Five decades after Dr Peter Safar presciently recommended in 1964 that “hypothermia should be started within 30 minutes if there is no sign of CNS recovery” after CPR, the first two randomized controlled trials in 2002 confirmed the value of hypothermia for neuroprotection after resuscitation for cardiac arrest. Dr Safar wrote the accompanying editorial comment on these landmark trials. A review of this topic is presented by our Cleveland Clinic colleagues. Finally, the Mayo team reviews the treacherous landscape of advanced heart failure and palliative approaches to the worsening symptoms and the myriad technologies used to support such patients as they approach the end of life. These ethical quandaries will surely multiply as will the number of patients and complexity of interventions with advanced heart failure.

The goal of this monograph was never intended to be comprehensive. In fact, the subspecialty has developed so vastly that it would be impossible to discuss all but a few brief topics. We hope that our selection of topics spans the most relevant of these areas and begins to unravel the complexity of modern cardiovascular intensive care. We would like to thank the accomplished authors for this contemporary overview of a rapidly evolving area. We would also like to thank Barbara Cohen-Kligerman and Elsevier for their support of this work and Dr Valentin Fuster and Dr Jagat Narula for their encouragement and inspiration.

Umesh K. Gidwani, MD, FCCP, FCCM
The Zena and Michael A. Weiner
Cardiovascular Institute
Mount Sinai Hospital
Icahn School of Medicine at Mount Sinai
Box 1030
One Gustave L. Levy Place
New York, NY 10029-6754, USA

Samin K. Sharma, MD, FSCAI, FACC
The Zena and Michael A. Weiner
Cardiovascular Institute
Mount Sinai Hospital
Icahn School of Medicine at Mount Sinai
Box 1030
One Gustave L. Levy Place
New York, NY 10029-6754, USA

Annapoorna S. Kini, MD, MRCP, FACC
The Zena and Michael A. Weiner
Cardiovascular Institute
Mount Sinai Hospital
Icahn School of Medicine at Mount Sinai
Box 1030
One Gustave L. Levy Place
New York, NY 10029-6754, USA

E-mail addresses:

Umesh.Gidwani@mountsinai.org (U.K. Gidwani)

Samin.Sharma@mountsinai.org (S.K. Sharma)

Annapoorna.Kini@mountsinai.org (A.S. Kini)