Therapeutic Strategies in Heart Failure
Clyde W. Yancy and James B. Young, eds

The sobering statistics on heart failure in the United States are often repeated: the incidence approaches 10 per 1000 population after 65 years of age; the lifetime risk for both men and women over age 40 is 1 in 5; 1.1 million hospital discharges occur per year, with estimated costs of $35 billion.1 To address this major health problem and optimize patient care, the American College of Cardiology and American Heart Association have published extensive evidenced-based guidelines that are readily available to cardiologists and primary care providers.2 In addition, these guidelines have been abbreviated in executive statements, major textbooks, and online support tools for rapid clinical application.3 So is there really a need for another textbook on heart failure? The answer, according to the editors of Therapeutic Strategies in Heart Failure, is definitely yes but with an acknowledgement of what their book is and what it is not. As noted in the preface, Therapeutic Strategies is not meant to be an in-depth review of heart failure pathophysiology or a recapitulation of published guidelines; rather, the aim is to provide "topical, contemporary and relevant reviews" of selected treatments. Toward this end, Therapeutic Strategies succeeds in providing clinicians with renewed and practical perspectives on current and emerging therapies for heart failure.

The book is a concise multiauthored text written and edited by senior clinicians and thought leaders in the field of heart failure management, although several chapters are coauthored by cardiovascular fellows. It consists of 5 sections, divided into 16 chapters, covering disease prevention, established, emerging, and future pharmacological therapies, and special topics such as devices and end-of-life care. Limited figures and tables are included in each chapter, as well as a final treatment algorithm or boxed summary to support the text. Section I focuses on prevention of heart failure with special consideration of hypertension (Chapter 1) and insulin resistance from metabolic syndrome to diabetes mellitus (Chapter 2). Rather than address the entire spectrum of hypertensive heart disease, the authors appropriately focus their remarks on treatment of hypertension in selected populations at high risk for heart failure, including blacks and the elderly. Unfortunately, the discussion of insulin resistance overemphasizes emerging concepts in myocardial biology at the expense of a more practical discussion of diabetes management in patients with or at risk for heart failure.

Sections II and III comprise the "heart of Therapeutic Strategies," with chapters on US Food and Drug Administration–approved neurohormonal antagonists such as angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, and β-blockers, as well as adjuvant therapies for advanced heart failure including digoxin, aldosterone antagonists, and hydralazine and nitrates. The discussions of digoxin (Chapter 3) and spironolactone (Chapter 7), in particular, offer practical suggestions for real-world patient care and cautions on drug toxicity, whereas clinical trials data are overemphasized in the discussion of angiotensin receptor blockers (Chapter 5) and β-blockers (Chapter 6). Because of the paucity of randomized controlled studies in patients with heart failure and normal ejection fraction (also known as diastolic heart failure), discussion on how to treat this major patient subgroup is limited. Other notable oversights include a treatment algorithm for patients with asymptomatic left ventricular dysfunction and discussion of angiotensin-converting enzyme inhibitor and β-blocker intolerance in patients with severe heart failure.4 Diuretics and ultrafiltration are not reviewed. Although nesiritide (Chapter 9) is highlighted as an emerging treatment for heart failure, it has been approved since 2001 and because of safety concerns has been relegated to niche therapy in patients with acute decompensated heart failure who remain symptomatic despite standard volume-management strategies.

Given the statistics cited above, clear recognition exists of the need for more effective treatments for heart failure, especially in patients who are at high risk for adverse outcomes due to the presence of comorbidities such as diabetes mellitus, chronic kidney disease, secondary pulmonary hypertension, and anemia. Novel neurohormonal antagonists (eg, vasopressin antagonists) and biological treatments (eg, matrix metalloproteinase inhibitors and erythropoietic agents) are discussed in Section IV, which offers insights into the opportunities for, and major hurdles facing, new drug development. The story of erythropoietin as a treatment for anemia in heart failure illustrates a common problem5 whereby early phase-2 studies looked promising vis-à-vis short-term functional or symptomatic end points, but pivotal phase-3 studies have been difficult to design, harder to enroll, and challenged by new toxicities noted in related disease states. Because of space limitations, additional promising therapies for heart failure such as adenosine receptor antagonists, designer natriuretic peptides and cell-based therapies are not covered in this text. Also, newer proposed management strategies (eg, serial testing of B-type natriuretic peptide to guide therapy) are notably absent.

For the cardiologist with a focused interest in heart failure, the final section on special topics offers perhaps the most enlightening reading. Chapter 13, entitled “Applying data from registries to improve outcomes in heart failure,” describes the notable gap between published guidelines and application of life-prolonging therapies in patients with heart failure. National and international registries, in both ambulatory and hospital settings, document underutilization of angiotensin-converting enzyme inhibitors, β-blockers and implantable cardioverter-defibrillators.6 In addition, registry data provide a critical window on other healthcare performance data such as assessment of left ventricular function and smoking cessation education. The important role played by disease management programs is highlighted, including recent meta-analyses demonstrating a reduction in heart failure morbidity and mortality.7

Chapter 14 presents a provocative discussion of medical and device interactions in patients with advanced heart failure, pointing out how implantable devices interact with medical therapies (eg, cardiac resynchronization allowing β-blocker titration or decreasing the need for diuretic therapy) or how medical management can interact with novel device informatics such as intrathoracic impedance or direct measures of intracardiac pressures. This final section also offers an excellent overview of ventricular assist devices for patients with end-stage heart failure (Chapter 15) and for patients who are not candidates for advanced therapies, discusses the indications and resources available for palliative care (Chapter 16). In the end, heart failure is a terminal disease for the majority of patients, and strategies...
for improving quality of care at the end of life are equally or perhaps more important than life-prolonging treatments.

As with any multiauthored textbook, some inconsistency can be found in the writing, along with minor misinformation (eg, cough in 40% to 50% of patients treated with angiotensin-converting enzyme inhibitor), variable citation of older references or abstracts, and use of undefined abbreviations (eg, “IMGU” for insulin-mediated glucose uptake) or outdated terms and abbreviations (eg, congestive heart failure and CHF). The editors’ postscript, however, is a nice addition because it updates preliminary findings from important studies that were in progress at the time of initial chapter submissions. Overall, this textbook succeeds in presenting focused and practical summaries on treatments and treatment strategies that should be of interest to the practicing clinician.

**Disclosures**

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**References**

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