

Foreword

Ventricular assist devices and the artificial heart



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The current approach to chronic heart failure management is to pharmacologically block every neurohormonal compensatory mechanism for which a drug is available. Although this approach has significantly reduced morbidity and mortality, the gains have been modest. Also, this treatment paradigm has led to a growing polypharmacy approach as blocking agents for every cytokine are developed. In addition, it has become almost impossible to determine if a new agent is superior to older agents, because clinical studies can only be ethically designed to include all known beneficial agents in the comparison group. Thus, many believe that the current approach has peaked.

Although cardiac transplantation has been viewed as a better solution, much as it has dominated the management of end stage renal disease, it has never reached its potential because of a variety of factors: lack of organs, long-term complications of immunosuppression, and the debilitating effects of cardiac denervation. The new therapeutic approach to heart failure involves surgical device therapy. Cardiac resynchronization therapy with biventricular pacing is taking off. Automatic implantable cardioverter-defibrillators are markedly reducing the mortality associ-

ated with ventricular arrhythmias. Also, surgical approaches including revascularization, ventricular reshaping, and valve repair and replacement are gaining in popularity.

In this issue of the *Cardiology Clinics*, Drs. Samuels and Narula, a cardiothoracic surgeon and cardiologist, respectively, team up to guest edit a collection of articles on mechanical ventricular assist devices and the artificial heart. They have assembled a stellar group of experts to discuss every aspect of mechanical support/replacement of the heart. How much such device therapy on top of pharmacologic therapy will impact the morbidity and mortality of heart failure is unknown, but could be considerable. In the future gene-based therapy may supersede current therapies, but the full realization of the approach is a long way off. In the meantime, cardiologists need to be kept up-to-date on the latest devices, largely because patients frequently hear about them in the press. This issue will answer any questions physicians and patients have about these devices.

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