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INSIDE THIS ISSUE

STATE-OF-THE-ART PAPER

"Targeting the Heart" in Heart Failure: Myocardial Recovery in Heart Failure With Reduced Ejection Fraction

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Jane E. Wilcox, Gregg C. Fonarow, Hossein Ardehali, Robert O. Bonow, Javed Butler,
Andrew J. Sauer, Stephen E. Epstein, Sadiya S. Khan, Raymond J. Kim, Hani N. Sabbah,
Javier Díez, Mihai Gheorghiade

Patients with HF and reduced ejection fraction have varied trajectories, which may represent the interplay of heterogeneous causality, genetic predeterminants, and disease phenotypes. Myocardial recovery in HF is possible, but its determinants are not fully defined. At least partial functional improvement is possible with current evidence-based therapies. Enhanced phenotypic description with cardiac MRI, molecular imaging, and circulating biomarkers of the heterogeneous HF population may provide insights regarding specific biological targets amenable to existing and novel therapeutic strategies. Wilcox et al. discuss the current understanding of the potential for myocardial recovery, with an emphasis on identification of dysfunctional, viable myocardium and its diverse pathophysiological causes.

CLINICAL RESEARCH

Validation of a Simple Score to Determine Risk of Early Rejection After Pediatric Heart Transplantation

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Ryan J. Butts, Andrew J. Savage, Andrew M. Atz, Elisabeth M. Heal, Ali L. Burnette,
Minoo M. Kavarana, Scott M. Bradley, Shahryar M. Chowdhury

The United Network for Organ Sharing database was queried for all pediatric (age <18 years) isolated heart transplantations from 2000 to 2012. Independent risk factors for rejection in the first post-transplant year were identified, and on the basis of a relative odds ratio, a risk score was derived. The risk score was then tested on an independent validation cohort and showed good correlation with observed rejection rates ($R^2 = 0.86$; $p < 0.01$). The risk score can be used by clinicians to help assess the risk of early rejection in pediatric heart transplantation recipients.

■ EDITORIAL COMMENT

Taking First Steps Toward Modeling Risk of Rejection in Children

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Scott R. Auerbach



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<http://heartfailure.onlinejacc.org>
to participate.

**Physical Activity and Heart Failure Risk in a Prospective Study of Men****681**

Iffat Rahman, Andrea Bellavia, Alicja Wolk, Nicola Orsini

In a 15-year follow-up study of 33,012 men, Rahman et al. investigated whether total physical activity (PA) was associated with heart failure (HF) risk. The overall association was U-shaped. Men who had the lowest and the highest levels of total PA had, respectively, a 47% and 51% higher risk of HF than men with median level total PA. The most beneficial type of PA was walking/bicycling more than 20 min/day, which was associated with 21% lower risk of HF. In conclusion, this study suggests that only moderate PA, especially walking/bicycling, might prevent HF.

■ EDITORIAL COMMENT**Green Means Go ... Physical Activity and the Prevention of Heart Failure****688**

Steven J. Keteyian, Clinton A. Brawner

Long-Term Extrapolation of Clinical Benefits Among Patients With Mild Heart Failure Receiving Cardiac Resynchronization Therapy: Analysis of the 5-Year Follow-Up From the REVERSE Study **CME****691**

Michael R. Gold, Amie Padhiar, Stuart Mealing, Manpreet K. Sidhu, Stelios I. Tsintzos, William T. Abraham

Randomized clinical trials have shown benefits with cardiac resynchronization therapy (CRT) in mild heart failure (HF), but little is known about its long-term impact. Using data from the 5-year follow-up of the REVERSE (Resynchronization Reverses Remodeling in Systolic Left Ventricular Dysfunction) study, we extrapolated clinical outcomes to patient lifetime. CRT-ON was predicted to increase survival 22.8% (CRT-ON 52.5% vs. CRT-OFF 29.7%; hazard ratio [HR]: 0.45; $p = 0.21$), leading to expected survival of 9.76 years. CRT defibrillators significantly improved survival versus CRT pacemakers (HR: 0.47; 95% CI: 0.25 to 0.88; $p = 0.02$), offering patients 2.77 additional life-years. Class II patients had higher HF hospitalization risk than class I patients (I vs. II incident rate ratio [IRR]: 0.69; 95% CI: 0.57 to 0.85; $p < 0.001$) and substantially lower than class III patients (III vs. II IRR: 2.98; 95% CI: 2.29 to 3.87; $p < 0.001$).

 [SEE ADDITIONAL CONTENT ONLINE](#)**■ EDITORIAL COMMENT****Cardiac Resynchronization Therapy for Mild Heart Failure: Compelling Evidence of Long-Term Benefits****701**

N.A. Mark Estes III

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