CHARACTERISTICS AND OUTCOMES OF PATIENTS RECEIVING NEW AND REPLACEMENT IMPLANTABLE CARDIOVERTER-DEFIBRILLATORS: RESULTS FROM THE NCDR

Poster Contributions
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Authors: Daniel Bruce Kramer, Kevin Kennedy, Peter Noseworthy, Alfred Buxton, Mark Josephson, Sharon-Lise Normand, John Spertus, Peter Zimetbaum, Matthew Reynolds, Susan L. Mitchell, Beth Israel Deaconess Medical Center, Boston, MA, USA, Hebrew SeniorLife Institute for Aging Research, Boston, MA, USA

Background: Little is known regarding the clinical features or survival of patients receiving replacement versus new ICDs.

Methods: Entries in the National Cardiovascular Data Registry (NCDR®) ICD Registry™ from 2005 through 2010 were eligible for (N=463,978). Baseline demographic, clinical, and procedural variables were compared between new (N = 359,993; 77.6%) and replacement (N = 103,985; 22.4%) ICD patients, and entered into a multivariate model to determine adjusted survival rates.

Results: Replacement ICD patients were older (70.7 versus 67.5 years) and more likely to have AF (41.8% vs. 31.4%, P<0.001) and VT (60.5% vs. 33.9%, P<0.001) compared with new ICD patients. Median battery life was only 4.6 years (25-75% IQR 3.7-5.8) for all replaced devices, 5.8 (25-75% IQR 4.2-7.5) for single-chamber, 5.1 (25-75% IQR 4.1-6.1) for dual-chamber, and 3.9 (25-75% IQR 3.2-4.6) years for biventricular devices. Replacement ICD patients had lower rates of index admission complications (0.9% vs 3.2%, P<0.001) but greater risk for death compared with new ICD patients after multivariate adjustment (adjusted hazard ratio= 1.34, 95% CI 1.32 -1.37, P<0.0001).

Conclusions: Patients receiving replacement ICDs are older and are at greater risk for death compared to those receiving initial ICD implants after multivariate adjustment. The battery life of initial ICDs is shorter than previously reported. This information may be helpful to cardiologists when selecting and counseling patients for ICD replacement.