Cardiologists suggest patient-centered approach to replacing implantable cardioverter-defibrillators

January 25 2012

More than 100,000 implantable cardioverter-defibrillators (ICDs) are implanted in the United States annually, fully a quarter of those are generator replacements simply because the battery is depleted. But are all those replacements necessary and should they actually be performed?

Writing in the Jan. 26 issue of the New England Journal of Medicine, doctors at the CardioVascular Institute at Beth Israel Deaconess Medical Center suggest the answer is surely no.

Similar to a pacemaker, an ICD is implanted in the chest with a wire running to the heart of patients at risk for sudden cardiac death. The device delivers a shock of electricity to the heart when it detects an abnormal and potentially life threatening heart rhythm.

"Though ICDs are lifesaving for some patients, evaluation of the clinical and ethical aspects of ICD replacement is long overdue," writes lead author Daniel B. Kramer, MD, a Cardiac Electrophysiology Fellow at BIDMC and Clinical Fellow in Medicine at Harvard Medical School, who believes patients and doctors must move beyond the view that this type of therapy as a lifelong treatment.

"Some patients may elect to keep these devices for the rest of their lives," says Kramer. "But for others, the risks associated with replacing the device may outweigh any expected benefit. We really need to make

decisions on an individual basis."

Kramer suggests that patients be assessed carefully before replacement, just as they were when the ICD was initially implanted.

Patient experiences with the device should also be factored in, such as inappropriate shocks, the patient's value system and personal preferences for end of life care. "A more concrete expression of a patient's wishes might emerge through an advance directive." The medical system itself also plays a significant role in clouding decisions around ICD replacement.

"There are often several doctors and several specialties consulting on one person's care," says Kramer, . "with ambiguity about who is ultimately responsible. Who makes the decision to avoid the possibly unnecessary and certainly very costly procedure?" he asks, adding that the current fee-for-service system offers little to no incentive for doctors to decline the procedure.

More challenging for doctors, may be the moral objection from doctors and patients to stopping a potentially life-saving or life-prolonging device.

"Indeed, some patients or physicians might consider non-replacement equivalent to either physician-assisted suicide or euthanasia, despite consensus statements that clearly reject this view."

"What we really need are clinical trials focusing on ICD replacement," says Kramer. "Doctors and patients need data evaluating outcomes to better inform the decision making process."

While awaiting studies that can help inform evidence-based guidelines, Kramer suggests doctors who implant ICDs should take the lead in

educating "primary care physicians, general cardiologists, and other specialists regarding the appropriateness of ICD replacement for individual patients."

And conversations with patients and family members about down-the-line replacement should start early, ideally at the time of the initial placement.

"Patients should not find themselves committed to a lifelong therapy or trapped by misconceptions about clinical, ethical, and legal aspects of choosing not to replace a device."

Provided by Beth Israel Deaconess Medical Center