

Insufficient Compliance with ICD Guidelines is Associated with Increased Mortality

Pertzov, Barak¹; Zahger, Doron¹; Katz, Amos²; Amit, Guy¹

¹Soroka University Medical Center, Beer-Sheva, Israel; ²Barzilai Hospital, Ashkelon, Israel

Survivors of an acute myocardial infarction (AMI) who are left with reduced left ventricular ejection fraction (LVEF) are at risk for life threatening ventricular arrhythmias. Following recent landmark trials, current guidelines advocate implantable cardioverter defibrillator (ICD) therapy for the prevention of sudden cardiac death among specific patient populations at risk. However, there are scarce data regarding compliance with the guidelines and utilization of this life-saving treatment. Specifically, we aimed to assess the rate of ICD utilization in Israel among post AMI patients with LVEF<35%. Methods: we identified all patients admitted with a ST-elevation AMI at a single tertiary care medical center from 2005 to 2009. The study cohort included those patients whose pre-discharge echocardiogram showed significantly decreased LVEF (LVEF<35%). The rate of ICD utilization among those surviving 40 days was analyzed. Patients who were implanted with an ICD earlier and those whose residence was outside the hospital's area of coverage were excluded. Results: of the 285 subjects, 26 (9%) received an ICD at a median of 610 days after their acute admission (range: 94-1834 days). Repeat echo study was performed in only 183 patients (64%) at a median of 147 days from the first study. Of those, LVEF improved in 48% and remained severely impaired in the rest. Among those whose LVEF did not improve, 20% were implanted with an ICD. Patients treated with an ICD were less likely to be insured by Clalit health services. During follow up, 4% of the ICD group died vs. 22% of those not implanted (p=0.02 by the log rank test). Conclusions: ICDs are underutilized in post AMI patients and compliance with current guidelines is insufficient. Failure to implant an ICD among unselected post MI patients with depressed LVEF is associated with a markedly increased mortality. Barriers for this life-saving treatment should be further explored.