The mortality analysis of primary prevention patients receiving a cardiac resynchronization defibrillator (CRT-D) or implantable cardioverter defibrillator (ICD) according to guideline indications in the Improve SCA Study.

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Abstract

Background: Despite a proven mortality benefit in primary prevention (PP) patients, the utilization of implantable cardioverter-defibrillators (ICD) and cardiac resynchronization therapy-defibrillators (CRT-D) remains low in many geographies. Purpose: The objective of this analysis was to examine the mortality benefit in PP patients by guideline-indicated device type: implantable cardioverter-defibrillator (ICD) and cardiac resynchronization therapy-defibrillator (CRT-D). Methods: Improve SCA was a prospective, non-randomized, non-blinded multicenter trial that enrolled patients from regions where ICD utilization is low. PP patient's CRT-D or ICD eligibility was based upon the 2008 ACC/AHA/HRS and 2006 ESC guidelines. Mortality was assessed according to guideline-indicated device type comparing implanted and non-implanted patients. Cox proportional hazards methods were used, adjusting for known factors affecting mortality risk. Results: Among 2,618 PP patients followed for a mean of 20.8 ± 10.8 months, 1,073 were indicated for a CRT-D, and 1,545 were indicated for an ICD. PP CRT-D-indicated patients who received CRT-D therapy had a 58% risk reduction in mortality compared to those without implant (adjusted HR 0.42, 95% CI: 0.28-0.61, P<0.0001). PP patients with an ICD indication had a 43% risk reduction in mortality with an ICD implant compared with no implant (adjusted HR 0.57, 95% CI: 0.41-0.81, P=0.002). Conclusions: This analysis confirms the mortality benefit of adherence to guideline-indicated implantable defibrillation therapy for PP patients in geographies where ICD therapy

was underutilized. These results affirm that medical practice should follow clinical guidelines when choosing therapy for PP patients who meet the respective defibrillator device implant indication.

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JCE MS file. Device by guideline indication results.pdf available at https://authorea.com/users/409419/articles/519117-the-mortality-analysis-of-primary-prevention-patients-receiving-a-cardiac-resynchronization-defibrillator-crt-d-or-implantable-cardioverter-defibrillator-icd-according-to-guideline-indications-in-the-improve-sca-study