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EDITORIAL COMMENT

Improving Primary Prevention of SCD With ICDs in Asia

One Size Does Not Fit All!*

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Sudden cardiac death (SCD) in patients with post-acute myocardial infarction (AMI) and systolic heart failure is a well-known risk with the highest risk being in the first 2 years post AMI at 1.4% per month.[1] Prior trials of implantation of cardiac implantable cardioverter-defibrillators (ICDs)/cardiac resynchronization therapy-defibrillators (CRT-Ds) as a primary prevention and management in this patient population showed a significant reduction in SCD ranging from 23% to 31%.[2-4] The American Heart Association/American College of Cardiology/Heart Rhythm Society and European Heart Rhythm Association guidelines have detailed indications for ICD implantation as primary prevention in these patients.[5] However, the utility of ICD in this patient population remains suboptimal in many countries ranging from 20% to 30% in Europe and from 30% to 50% in the United States.[6,7]

In this issue of *JACC: Asia*, Zhang et al[8] present results from a prospective, nonrandomized, observational study of the ICD use in patients post AMI with systolic heart failure meeting indication for ICD implantation, as well as potential barriers to obtaining optimal care in Asian patients. This is a multinational study including a majority of countries in Asia (Mainland China, South Korean, Taiwan, Middle East, Africa, Central Asia, Turkey, and Southeast Asia), and enrolling 1,491 patients with AMI <30 days and left ventricular ejection fraction <50% at 14 days post MI. From the study, approximately 40% of patients meeting criteria for further SCD stratification were not referred to the appropriate providers for risk stratification and management in the first year. Furthermore, among the 60% of patients who were evaluated and recommend for ICD implant, a staggering percentage (85%) did not receive an ICD/CRT-D.

The barriers to receiving optimal care were extremely complex including patients' socioeconomic status, beliefs, lack of understanding of heart disease, risks and benefits of ICD/CRT-D implantation, health care reimbursement and financing system, lack of awareness of ICD/CRT-D indications, and guideline among health care providers. Surprisingly, despite being performed during the coronavirus disease 2019 pandemic with possible closure or shifting focus of many health care facilities in Asia, the study did not show a significant impact when comparing SCD risk stratification rates before and during the pandemic.

Zhang et al[8] should be applauded for their important contribution, which raises awareness of the significant underuse of SCD risk stratifications and ICD/CRT-D implantation in patients post AMI with chronic systolic heart failure in Asia. They also highlighted multilevel barriers and complexities that health care policy for each nation can tackle on starting from increasing provider awareness to patient education, reimbursement, and financial supports. Prior studies have shown positive cost effectiveness in ICD implants in these patients, including Taiwan.[9] It is clear from this study that there is no easy solution to the problem of underuse. One size does not fit all in Asia as the barriers are complex and vary significantly from country to country. However, the study from Zhang et al[8] lays out the framework to identify these barriers and possible strategies to break them down. If implemented, Asian health care systems can improve the survival rate in many of these patients.

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