

What is the conclusion from the DECODE CRT-D study?

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Abstract

Comment on: 'Appropriate implantable cardioverter-defibrillator interventions in cardiac resynchronization therapy-defibrillator (CRT-D) patients undergoing device replacement: time to downgrade from CRT-D to CRT-pacemaker? Insights

The recently published paper by Narducci et al. is focused on the ventricular tachyarrhythmia rate after cardiac resynchronization therapy defibrillator (CRT-D) replacement and an important clinical dilemma: is it rational to downgrade a CRT-D to a CRT pacemaker (CRT-P) [1]? To answer this question the authors analyzed data from the DECODE registry, which was a prospective, single-arm multicenter cohort study designed to assess the long-term follow-up in CRT-D recipients.

During device replacement, about 20% of patients no longer had an indication for the defibrillation function in CRT devices, which is a considerable number. This population might be

from real-world clinical practice in the DECODE CRT-D analysis'.

considered as a group which could benefit from downgrading the CRT-D to a CRT-P. During only one-year follow-up after replacement, appropriate device therapy occurred in 7% of patients with ejection fraction (EF) >35%, which is similar to the appropriate implantable cardioverter-defibrillator (ICD) therapy rate in patients with a primary prevention indication for an ICD.

The paper by Narducci et al. raises more questions than answers. First, which population of CRT-D recipients could be downgraded to a CRT-P? Second, which patients with EF >35% require the defibrillation function? We do not have the answers yet, but ongoing studies might help us to find them.

One of the most important studies in this area is MADIT S-ICD [2], which was designed to test the hypothesis that post-infarction patients with EF of 36-50% and diabetes will have benefits from a subcutaneous ICD.

Also, the imperfections of primary prevention ICD implantation guidelines are highlighted by the results of the DECODE study [3]. Ejection fraction <35% defines the treatment population in our daily clinical practice and trials. However, we should keep in mind that the majority of sudden cardiac deaths (SCD) occur in subjects with EF >35%. Moreover, the risk of SCD is declining across major heart failure studies over time.

To sum up, Narducci et al. in the DECODE study emphasize that the risk of appropriate ICD therapy in patients who no longer meet the ICD implantation criteria is not negligible. Sudden cardiac death risk stratification is needed not only in the population of patients with EF >35% but also in those with EF <35%.

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