

# Benefit of ICD attenuated in CKD patients receiving cardiac resynchronization

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For patients with advanced chronic kidney disease (CKD) receiving

cardiac resynchronization therapy (CRT), the benefit of an implantable cardioverter defibrillator (ICD) may be attenuated, according to a study published online Aug. 23 in *Frontiers in Cardiovascular Medicine*.

Ido Goldenberg, M.D., from the University of Rochester Medical Center in New York, and colleagues examined whether [patients](#) with CKD who are CRT recipients derive less benefit from an ICD due to the competing risk of dying prior to experiencing an arrhythmia. The study population included 1,015 patients receiving CRT with a defibrillator device for primary prevention of sudden cardiac death. The [cohort](#) was divided based on CKD stage: stage 1 to 3a KD ([S1-S3a]KD) and stage 3b to 5 KD ([S3b-S5]KD).

The researchers found that the cumulative incidence of the primary end point of any ventricular tachycardia (VT) or [ventricular fibrillation](#) (VF) was 23.5 and 12.6 percent in those with (S1-S3a)KD and (S3b-S5)KD, respectively. The incidence of death without any VT/VF was 6.6 and 21.6 percent in patients with (S1-S3a)KD and (S3b-S5)KD, respectively.

Compared with those with (S1-S3a)KD, patients with (S3b-S5)KD had a significantly lower risk for experiencing any VT/VF (hazard ratio, 0.56). Patients with (S3b-S5)KD had a significantly higher risk for death without any VT/VF compared with those with (S1-S3a)KD after two years of follow-up (hazard ratio, 4.63).

"The results of this study suggest that due to their comparatively high nonarrhythmic mortality rate and lower rate of ventricular arrhythmias, CRT recipients with advanced CKD do not appear to attain the same benefit from a primary prevention ICD as those patients without advanced CKD," the authors write.

**More information:** Ido Goldenberg et al, Primary prevention implantable cardioverter defibrillator in cardiac resynchronization

therapy recipients with advanced chronic kidney disease, *Frontiers in Cardiovascular Medicine* (2023). [DOI: 10.3389/fcvm.2023.1237118](https://doi.org/10.3389/fcvm.2023.1237118)

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