

Wearable Cardioverter Defibrillator to Fight Against Transient Risk of Sudden Cardiac Death in the Setting of Coronary Artery Disease

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In a recent issue of *EP Europace*, Kalarus and colleagues have published a consensus opinion titled “Cardiac arrhythmias in the emergency settings of acute coronary syndrome and revascularization: a European Heart Rhythm Association (EHRA) consensus document.” This opinion was endorsed by the European Association of Percutaneous Cardiovascular Interventions (EAPCI), and European Acute Cardiovascular Care Association (ACCA).¹

However, the authors’ recommendation regarding the use of the wearable cardioverter defibrillator (WCD) post MI (myocardial infarction) is “non indicated”, which contradicts established guidelines. The most recent 2015 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death (SCD) for instance gave a Class IIb recommendation for primary prevention post MI,² similar to the 2017 American guidelines’ recommendation.

It seems that Kalarus et al. mostly considered the non-significant primary endpoint (arrhythmic death) of the VEST trial to justify their recommendation on the use of a WCD, which is the only randomized controlled trial with WCD to date.³ Even though the primary endpoint in the VEST trial did not reach statistical significance, the primary endpoint of this trial must be interpreted with caution for several reasons that include: major lack of power (64% of patients assigned to the WCD group did not wear the ICD at the time of death, which obviously preclude any defibrillation therapy; furthermore, the primary endpoint was a suboptimal, clinically adjudicated, surrogate for arrhythmic death that included many non-arrhythmic deaths not amenable to defibrillation therapy by WCD); a nominal statistically significant

reduction of all-cause mortality with the WCD, a hard endpoint non subject to misclassifications; an on-treatment analysis that demonstrated a statistically significant reduction in SCD, non-sudden cardiac mortality and total mortality.³ In addition, the evaluation of the safety and efficacy of any therapy should take into account all available evidence, which included several other WCD studies demonstrating the WCD's efficacy in SCD reduction in real life.⁴ These data, albeit limited by their non-randomized nature, have the major advantage of not being subject to the clinical equipoise of the VEST trial, and probably accounted for a much higher wear time of the WCD than in the VEST trial (22-23h a day compared to <15 hours daily in VEST).⁵ Proper patient education seems of paramount importance to ensure optimal efficacy of the device, in addition to a close follow-up through the LifeVest Network remote monitoring (not provided in VEST). Finally, there are currently no alternative to the WCD in reducing the transient risk of sudden arrhythmic death after MI.

In the editorial that accompanied the VEST trial, the last sentence reads as follows: "In the context of a particularly motivated patient who is at high risk, we would still offer the wearable cardioverter–defibrillator." Overall, we feel that the authors should at least be more cautious in making their recommendation of "non indicated" for the use of WCD post MI.

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