Abstract

Real-world Experience with a Novel Wearable Cardioverter Defibrillator in a Community Setting: Advanced Practice Provider-Driven Care Model

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BACKGROUND

The wearable cardioverter defibrillator (WCD) is indicated to prevent sudden cardiac death (SCD), but effectiveness requires wear compliance.

OBJECTIVE

Evaluate ventricular arrhythmia (VA) occurrence, use and shock effectiveness of a novel WCD prescribed to patients at our institution.

METHODS

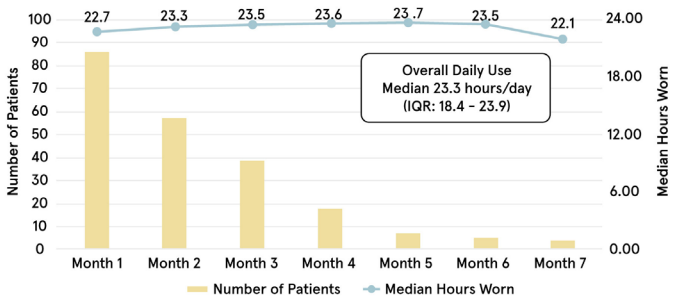
Retrospective analysis of patients prescribed the ASSURE® WCD [Kestra Medical Technologies] at a non-profit, community medical center. The initiative was led by advanced practice providers (APPs), who identified eligible patients and initiated discussions regarding WCD therapy, including clinical indications and the importance of wear compliance. Clinical data was obtained from medical history. Usage and tachyarrhythmia events were obtained from WCD.

RESULTS

Of 123 consecutive patients prescribed the WCD between 2/2023 – 11/2024, 30% were female. Mean age was 65 ± 13 years. Majority of patients had a WCD indication of primary prevention (84%), secondary prevention (9%) and ICD explant (7%). 90 patients had completed wear at time of this report with a median 49 (IQR 22 - 89) days of use. Overall median daily use was 23.3 (IQR 18.4 – 23.9) hours/day and remained high beyond 3 months of use.(Figure)

Five (4%) patients experienced VA events. Of those, 4 patients had successful termination by a single WCD shock and one patient had salvos of nonsustained ventricular tachycardia lasting ~30 minutes.(Table) One (0.8%) patient received a shock for atrial fibrillation with rapid, aberrant conduction (>180bpm). All patients survived to device implant or hospitalization.

WCD Hours Worn per Day by Month of Use (excluding day of fitting and removal)



Ventricular Arrhythmia Events

Patient	Age / Sex	WCD Indication	Ventricular Arrhythmia Event	Rhythm and WCD Therapy	Days after WCD fitting	Time of day (hours:minutes)	Outcome
1	62/F	NICM, EF 20%	1	VT, 1 shock conversion	18	08:55	Passed away 5 days after event while hospitalized.
2	45/M	ICM/post-MI, EF 30%	1	VF, 1 shock conversion	1	22:03	CRT-D implanted
3	71/M	NICM, EF 10%	1	VF, 1 shock conversion	26	01:08	ICD implanted
			2	VT self-terminated (15 sec), no shock	26	01:15	
4	59/M	NICM, EF 15%	1	VF, 1 shock conversion	29	01:00	CRT-D implanted
5	75/M	ICM, EF 17%	1	Salvos of nonsustained VT, no shock	44	01:09	CRT-D implanted
			2	Salvos of nonsustained VT, no shock	44	01:10	
			3	Salvos of nonsustained VT, no shock	44	01:13	
			4	Salvos of nonsustained VT, no shock	44	01:14	
			5	Salvos of nonsustained VT, no shock	44	01:36	

VT=ventricular tachycardia; VF=ventricular fibrillation; MI=myocardial infarction; ICM=ischemic cardiomyopathy; NICM=Nonischemic cardiomyopathy; ICD=Implantable Cardioverter Defibrillator; CRT-D=Cardiac resynchronization therapy device; EF=Ejection Fraction

CONCLUSIONS

In a community setting, high WCD wear compliance was achieved through an APP-led care model. Advanced practice providers identified at-risk patients, provided targeted education, and ensured close follow-up. This approach contributed to the detection of a high rate of ventricular arrhythmias in patients with both ischemic and non-ischemic cardiomyopathy. The device demonstrated 100% first-shock efficacy.

Affiliations and References

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Disclosures

Pamela Breske and Laura Gustavson: Employees and stockholders of Kestra Medical Technologies, Inc.

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