increase in average annual adherence. This effect was robust over different periods of study. Efforts to improve patients' adherence to OACs could significantly reduce their risk of these devastating clinical events.

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SURVIVAL, VENTRICULAR ARRHYTHMIA, AND IMPLANTABLE CARDIOVERTER-DEFIBRILLATOR USEFULNESS IN A COHORT OF PATIENTS WITH TOXIC DILATED CARDIOMYOPATHY

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BACKGROUND: Toxic dilated cardiomyopathy (T-DCM) is now recognized as a potential cause of severe left ventricular dysfunction. Abuse of substances such as amphetamines, methamphetamines, cocaine, anabolic steroids, and energy drinks can cause various cardiovascular effects, repolarization perturbation, ventricular arrhythmias, and sudden cardiac death due to many mechanisms. The burden of ventricular arrhythmias (VA) and the role of a prophylactic implantable cardioverter-defibrillator (ICD) are not well documented in this population. We aim to assess the value of ICD implantation in a cohort of T-DCM.

METHODS AND RESULTS: Patients younger than 65 years old with a left ventricular ejection fraction (LVEF) < 35% followed at a tertiary center heart failure clinic between January 2003 and August 2019 were screened for inclusion. The diagnosis of T-DCM was confirmed after excluding other etiologies, and substance abuse was established according to the DSM-5 criteria. The composite primary endpoints were arrhythmic syncope, sudden cardiac death, or death of unknown cause. The secondary endpoint was the occurrence of sustained VAs and/or appropriate therapies in ICD carriers. The proportion of patients qualifying for an ICD in primary prevention at 12 months was assessed as an exploratory endpoint. Thirty-eight patients were identified, and an ICD was implanted in 19 (50%) of these patients. In the 19 other patients, no ICD was implanted for the following reasons: early LVEF recovery ≥35% during the first six months (n=13), noncompliance to treatment (n=5), and early heart transplantation (n=1). Six deaths occurred, with no significant differences between the 2 groups (ICD vs. non-ICD; p=0.14). After a mean follow-up of 33±36 months, only two VA episodes were reported in the ICD group. Three patients received inappropriate ICD therapies. One ICD implantation was complicated with cardiac tamponade. Twenty-three patients (61%) had an LVEF ≥35% at 12 months.

CONCLUSION: VAs are rare in the T-DCM population and the benefit of prophylactic ICD insertion was not seen in our small cohort. Since LVEF recovery is observed up to 12 months after the initial diagnosis, with few appropriate therapies after ICD implantation, it could be reasonable to assess the ICD indication later in the management of these patients, potentially between 6 and 12 months.

TABLE - Toxic cardiomyopathy cohort follow-up.

Characteristics	ICD population n=19 (50%)	Non-ICD population n=19 (50%)	*p*-value
Follow-up (months)	33±36	23±21	0.30
Time to ICD (months)	5±7	NA	NA
ICD follow-up (months)	39±30	NA	NA
Primary prevention ICD	18 (95)	NA	NA
Single-chamber	7(37)	NA	NA
Dual-chamber	2(11)	NA	NA
CRT	9(47)	NA	NA
S-ICD	1(5)	NA	NA
Ventricular arrhythmia	2 (10)	NA	NA
Appropriate shock	1(5)	NA	NA
Appropriate ATP	1(5)	NA	NA
Inappropriate shock	2(11)	NA	NA
Inappropriate ATP	2(11)	NA	NA
ICD complications			
Tamponade	1(5)	NA	NA
Infection	0	NA	NA
Device revision	0	NA	NA
Pneumothorax	0	NA	NA
NYHA	2±1	2±1	0.80
Syncope	1 (5)	0	0.30
Death (all causes)	3 (16)	3 (16)	1.00
Terminal HF	2 (10)	1 (5)	0.10
Unknown	1 (5)	2 (10)	0.10
Echocardiography			
Baseline LVEF (%)	15±6	18±8	0.25
3M LVEF (%)	22±10	31±17	<0.05
6M LVEF (%)	29±11	39±12	<0.05
12M LVEF (%)	34±15	41±11	0.10
30M LVEF (%)	38±13	39±13	0.68
30M LVEDD (mm)	60±10	60±10	1.00
30M LVESD (mm)	47±11	47±12	1.00
30M LVEDV (mL/m^2)	89±40	79±44	0.50
30M LVESV (mL/m^2)	62±45	55±39	0.64

Continuous data were expressed as mean±standard deviation. Qualitative variables were presented with numbers and percentages. **Acronyms**: 3M: 3 months; 6M: 6 months; 12M: 12 months; 30M: 30 months; ATP: antitachycardia pacing; CRT: cardiac resynchronization therapy; HF: heart failure; ICD: implantable cardioverter-defibrillator; LVEDD: left ventricular end-diastolic diameter; LVEDV: left ventricular end-diastolic volume; LVEF: left ventricular ejection fraction; LVESD: left ventricular end-diastolic diameter; LVESV: left ventricular end-systolic volume; S-ICD: subcutaneous implantable cardioverter-defibrillator.