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BACKGROUND:

Asymptomatic non-sustained ventricular tachycardia (NSVT) is a common finding in Heart Failure (HF) patients with cardiovascular implantable electronic devices (CIEDs). In ischemic cardiomyopathy (ICM) NSVT has a well-known prognosis impact but, in nonischemic cardiomyopathy (NICM) its clinical importance and prognosis impact is less well established.

PURPOSE:

To determine the prognostic impact of NSVT detection in nonischemic cardiomyopathy patients.

METHODS:

We retrospectively enrolled 70 consecutive NICM patients with systolic left ventricle dysfunction and CIEDs (biventricular pacemakers with or without cardiac defibrillators). Patients were evaluated through CIEDs interrogation and clinical evaluations and divided into NSVT positive (Group 1) and negative groups (Group 2). Mean follow-up period was $59,3 \pm 44,1$ months.

RESULTS:

Table 1 - Baseline characteristics and outcomes

Baseline	All patients (n=70)
Mean age, mean \pm SD	68,9 \pm 13,1
Aetiology (%)	
• Idiopathic	64,3
• Alcoholic	17,1
• Familial dilated	4,3
• Valvular	2,9
Death by all causes, n (%)	8 (11,4)
Sudden cardiac death, n (%)	2 (2,9)
Non sudden cardiovascular death, n (%)	5 (7,1)

Table 2 – Comparison of both groups

Variables	Group 1 (n=26)	Group 2 (n=44)	p
Gender male, n (%)	26 (59,0)	14 (53,8)	ns
Age, mean \pm SD	68,4 \pm 14,4	69,2 \pm 12,4	ns
LVEF, mean \pm SD	33,0 \pm 9,6 %	31,0 \pm 7,1 %	ns
Usual NYHA ¹ III-IV, n (%)	6 (14,0)	6 (23,1)	ns
Aetiology, n (%)			ns
• Idiopathic	14 (53,8)	31 (70,5)	
• Alcoholic	5 (19,2)	7 (15,9)	
• Familial dilated	1 (3,8)	2 (4,5)	
• Valvular	2 (7,7)	0 (0,0)	
Atrial fibrillation, n (%)	8 (30,8)	21 (47,7)	ns

NYHA¹: New York Heart Association functional class

Table 2 – Non-sustained ventricular tachycardia and related outcomes

Outcome	Hazard ratio (HR)	95% Confidence interval (CI)	p
CIEDs ¹ treatments	5,295	1,432 – 19,569	0,012
VF ²	0,360	0,213 – 0,607	0,026
VT ³	20,235	2,349 – 174,301	0,001
Composite outcome ⁴	3,252	1,182-8,948	0,020

CIEDs¹: cardiovascular implantable electronic devices; VF²: Ventricular fibrillation, VT³: Sustained ventricular tachycardia; Composite outcome⁴: VT, VF, HF re-admissions and related admissions to emergency department (ED) and death by all causes

CONCLUSIONS:

NSVT was significantly associated with adverse outcome, arrhythmic events and CIEDs treatments in NICM, which enhances the potential benefits of ICD in these patients and could be used as a potentially predictor of arrhythmic events.