

Retrospective Analysis of Patients with Chagas Heart Disease and Implantable Cardioverter Defibrillator

Atilio Abud¹, Adrián Carlessi², Leandro Tomas², Raúl Goyeneche¹, Martín Arceluz¹, David Folonier², Ricardo Fernandez²
¹ San Gerónimo clinic, Santa fe, Argentina; ² J.M. Cullen Hospital, Santa fe, Argentina

The goal of the study was to analyze the evolution of chagasic patients in whom automatic implantable cardioverter defibrillator (ICD) was implanted as secondary prevention for sudden cardiac death, and to evaluate the relationship between the different selected variables with overall mortality (OM) and readmissions by heart failure (HF)

Material and Methods

There were 37 patients included with Chagas heart disease in whom ICD was implanted as secondary prevention for sudden cardiac death with coronary angiography that showed absence of coronary artery disease. The average follow-up was 72 months.

Results

At the time of implantation, 49.1% were males and the average age of the population was 55 years. Average EF was 41%. Fifty three percent of patients presented intraventricular conduction disorder (IVCD), 35% right bundle branch block and 18% left bundle branch block (Table 1).

In 75.7% of patients electrical therapy was applied, 26 (70.2%) received antitachycardia pacing, and 25 (68.6%) received appropriate shocks.

The average time interval between the implantation of the device and the first appropriate electrical therapy was 178.6 days.

In 19 patients (51.9%) electrical storms were observed.

Mortality was 26% (3.25% yearly) and readmissions by HF occurred in 7 patients (18.9%). In univariate analysis, EF <40% (p=0.05), IVCD (p=0.05), electrical storm (p=0.025), appropriate shock (p=0.045) and ventricular pacing percentage (VPP) greater than 40% (p=0.004), were the variables associated to overall mortality, with IVCD persisting as the single independent predictor in multivariate analysis.(Figura1)

In univariate analysis, the parameters predicting readmission by HF were: EF < 40% (p=0.002) and VPP greater than 40 % (p=0.018) and in multivariate analysis only EF < 40%. (Figure 2)

Figure 1. Overall mortality. Univariate analysis.

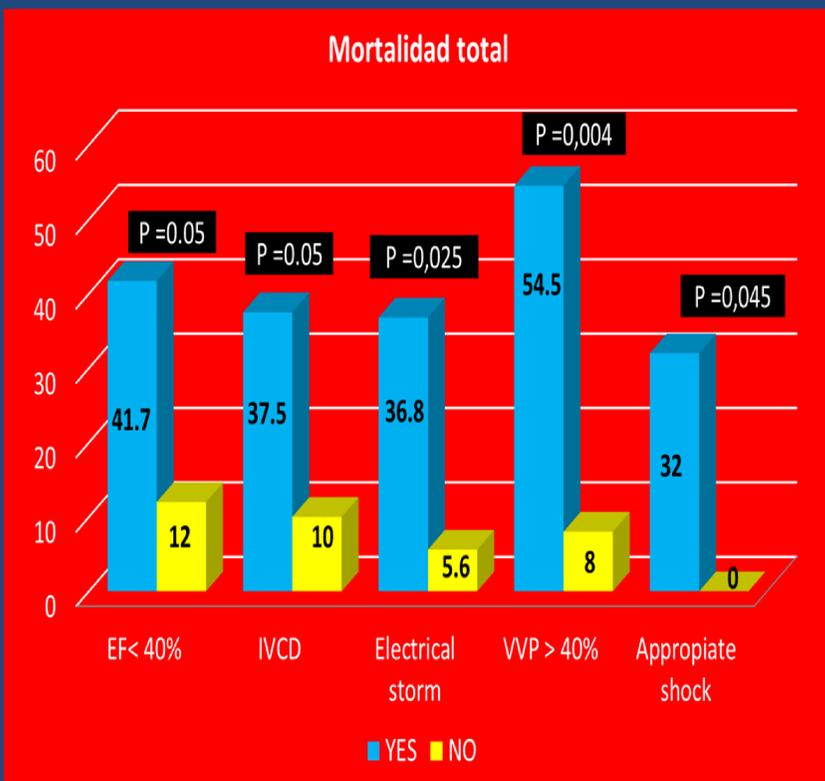


Figure 2. Hospitalization for heart failure. Univariate analysis.

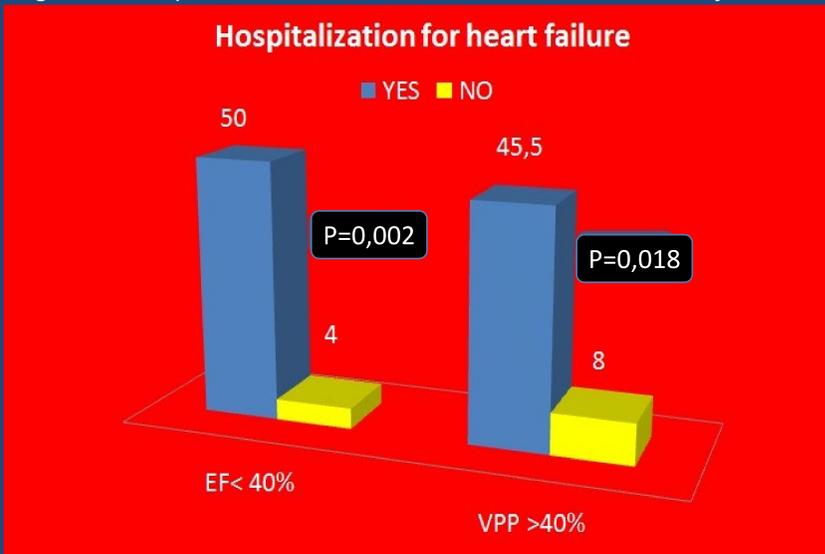


Table 1. Baseline clinical characteristics

CHARACTERISTICS AT IMPLANTATION	VALUE
AGE	55,37 ± 5
FOLLOW UP (MONTHS)	72 ± 60
MALE GENDER (%)	45,9
EF (%)	41 ± 9
LVDD (mm)	57 ± 9
ATRIAL FIBRILLATION (%)	16.2
NEW YORK HEART ASSOCIATION FUNCTIONAL CLASS	
I (%)	67,6
II (%)	29,7
III (%)	2,7
IV (%)	0
ICD INDICATION	
VENTRICULAR TACHYCARDIA (%)	29.7
VENTRICULAR TACHYCARDIA WITH HEMODYNAMIC COMPROMISE (%)	27
SYNCOPE (%)	37.8
RESUSCITATED CARDIAC ARREST (%)	5.4
INTRAVENTRICULAR CONDUCTION DISORDER	
NO (%)	47
CRBBB (%)	35
CLBBB (%)	18
TREATMENT	
AMIODARONA (%)	91.4
BETA BLOCKER (%)	100
ANGIOTENSIN-CONVERTING ENZYME INHIBITORS (%)	89,7
ANGIOTENSIN RECEPTOR ANTAGONIST (%)	2.7
SPIRONOLACTONE (%)	43
SINGLE CHAMBER ICD (%)	
VPP (%)	29,3 ± 34

Conclusion

EF < 40%, IVCD, the presence of electrical storms and VPP greater than 40% were the variables significantly associated to OM; while EF <40% and VPP greater than 40% were the variables significantly associated to readmissions by HF.