Clinical Results of Scar Related Ventricular Tachycardia Ablation Performed in a South America School Hospital

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NO CONFLICT OF INTEREST TO DECLARE

Introduction

- Ventricular Tachycardia (VT) ablation is indicated in patients with recurrent episodes of VT or ICD shocks despite the use of antiarrhytmic drugs.

Author	Year	Strategy	Etiology	N	Recurrence	Follow-up
Marchlinsky	2000	Linear ablation across scar border	Ischemic and non-ischemic	16	25%	8 months (median)
Soejima	2001	Linear ablation guided by VT isthmus or scar map	Ischemic	40	Isthmus identified: 28% No isthmus identified: 53%	Isth: 228±224d NoIsth: 349±246d
Arenal	2003	Isolated late potentials during V pacing	Ischemic, non-ischemic	24	20.8%	9±4 months
Arenal	2004	Channel identification (dechanneling)	Ischemic	26	23%	17±11 months
Reddy	2007	"Prophylactic" ablationLinear ablation across scar border (pace map)Late potentials	Ischemic	128 (64 abl+ICD/ 64 ICD)	Abl+ICD: 12% ICD: 33%	22.5±5.5 months
Stevenson	2008	VT mapping (mappable) or "substrate" (unmap)	Ischemic	231 (unmap 69%)	47%	6 months
Volkmer	2006	VT mapping (mappable) or "substrate" (unmap)	Ischemic	VT: 22pts Subs: 25	VT: 40% Substrate: 46% (NS)	VT: 24±12m Subs: 26±14m
Bunch	2012	VT mapping under hemodynamic support or "substrate" mapping (epic map: 29%)	Ischemic and non-ischemic unstable VT	31	Hemodynamic support: 45% Substrate: 52% (NS)	9±3 months
Tanner	2010	VT mapping (mappable) or "substrate" (unmap) – 22% only unmap	Ischemic	63	49%	12±3 months
Paolo Della Bella	2011	Epicardial Ablation - Registry	Ischemic: 39% Non-ischemic: 30,7% ARVC: 6% Idiopathic VT: 22%	267	31.4%	17±18mo
Jais	2013	LAVA – Abnormal Electrograms	Ischemic:	31	29%	11mo
Jais	2014	LAVA – Abdormal Electrograms	Ischemic: 18 Non-ischemic: 13 ARVC: 15	46	Elimination: 22% No-Elimination: 57%	11 months
Hindricks	2014	Substrate and VT mapping (Epi 30% non-isch 1,2% Ischemic	Ischemic: 72,2% Non-ischemic: 27,8%	227	Isch: 57% Non-isch: 77%	Isch: 27months Nisch: 20months

Objective:

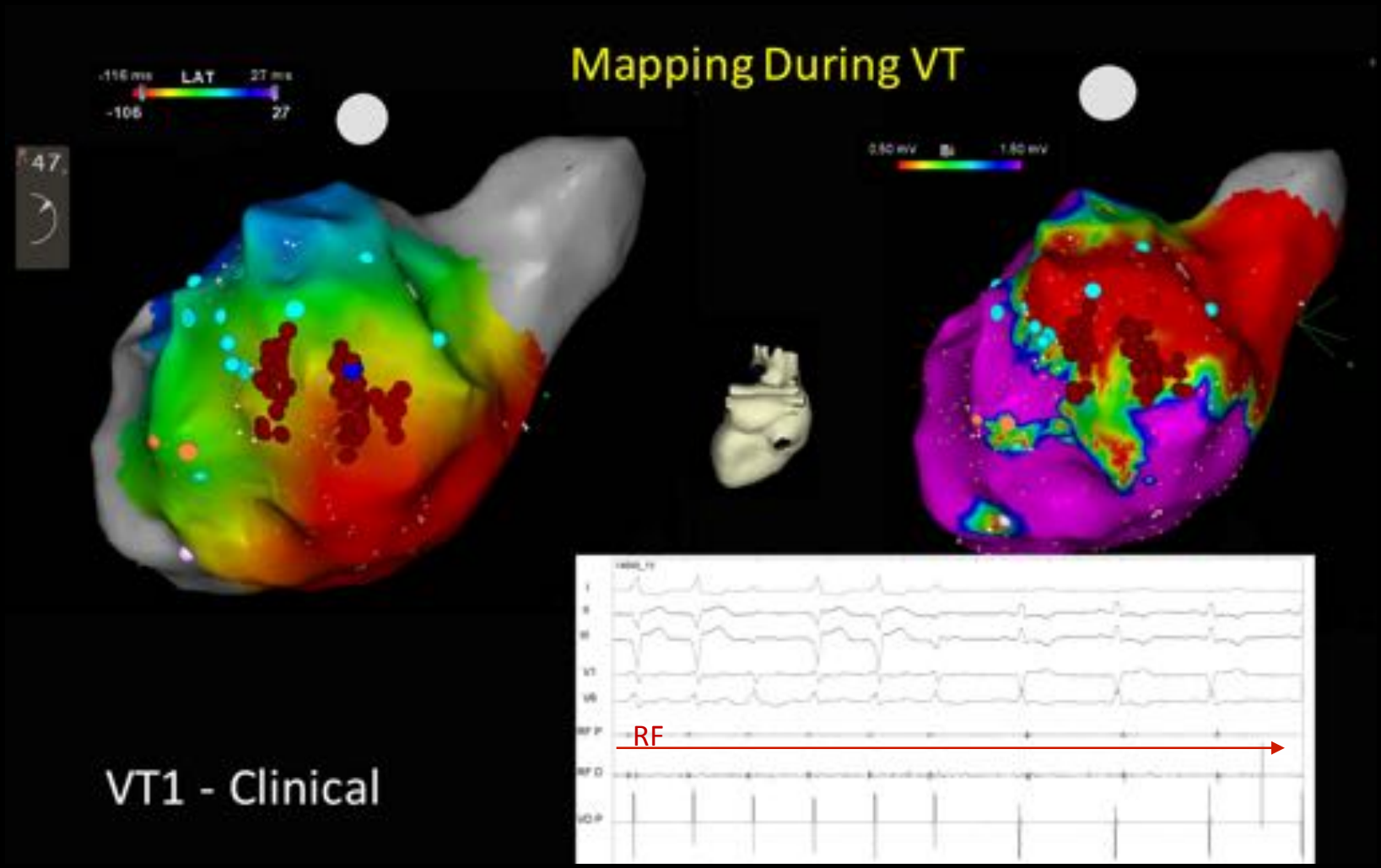
- We aim to evaluate the clinical characteristics and follow-up of patients that underwent scar related VT ablation in a school hospital in South America..

Methods:

- We selected all ablation procedures of scar related VT ablation performed at InCor between January 2013 and December 2014.
- Follow-up data collected by electronic medical records analysis that consisted in Admissions and outpatient consultations (Arrhythmia, Pacemaker and Cardiac transplantation group)
- Ablation Technique decided by operator (Substrate modification or VT Ablation)

Hemodynamic Stable Sustained Monomorphic VT → Mapping During VT

Hemodynamic Unstable or Non-Sustained Monomorphic VT → Substrate Modification



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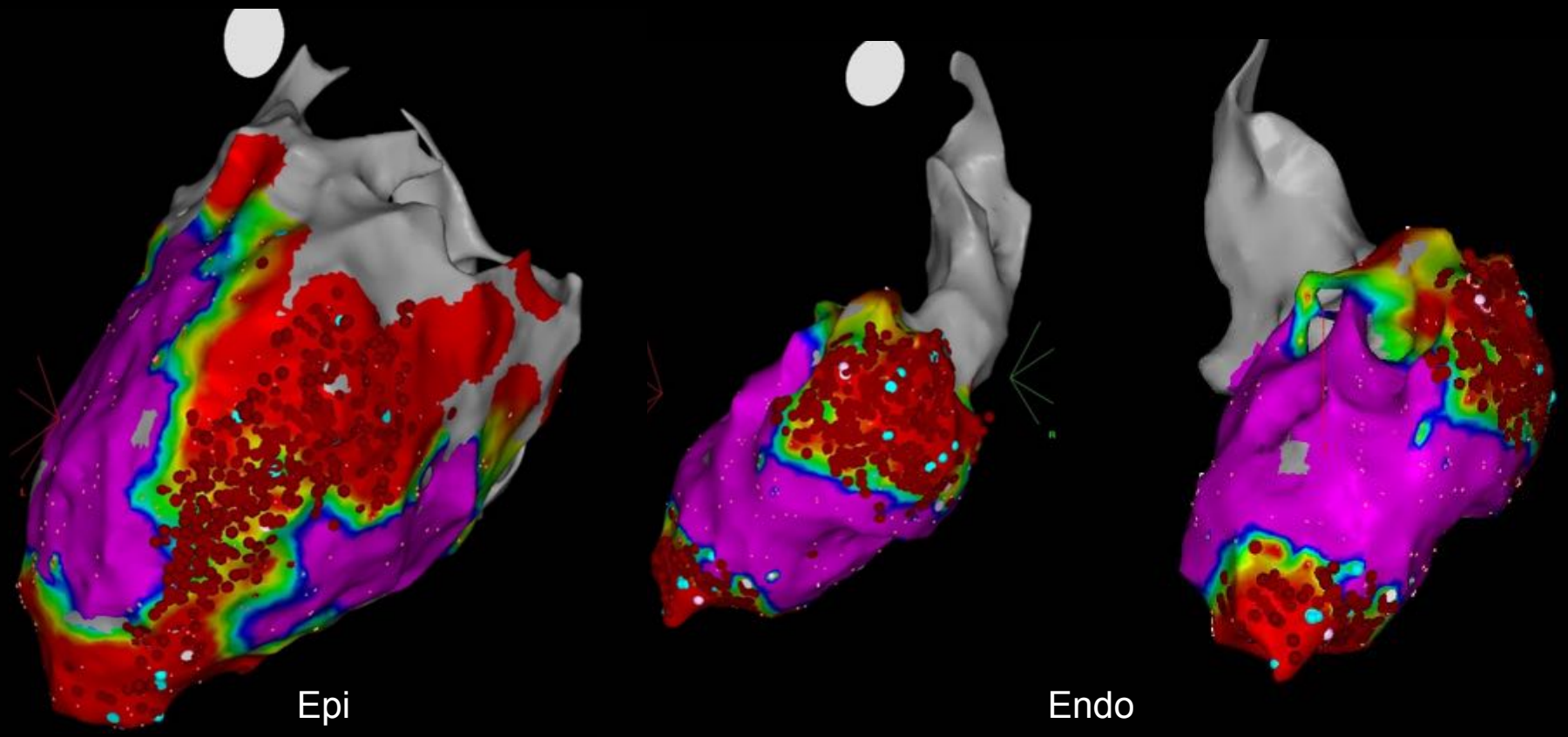
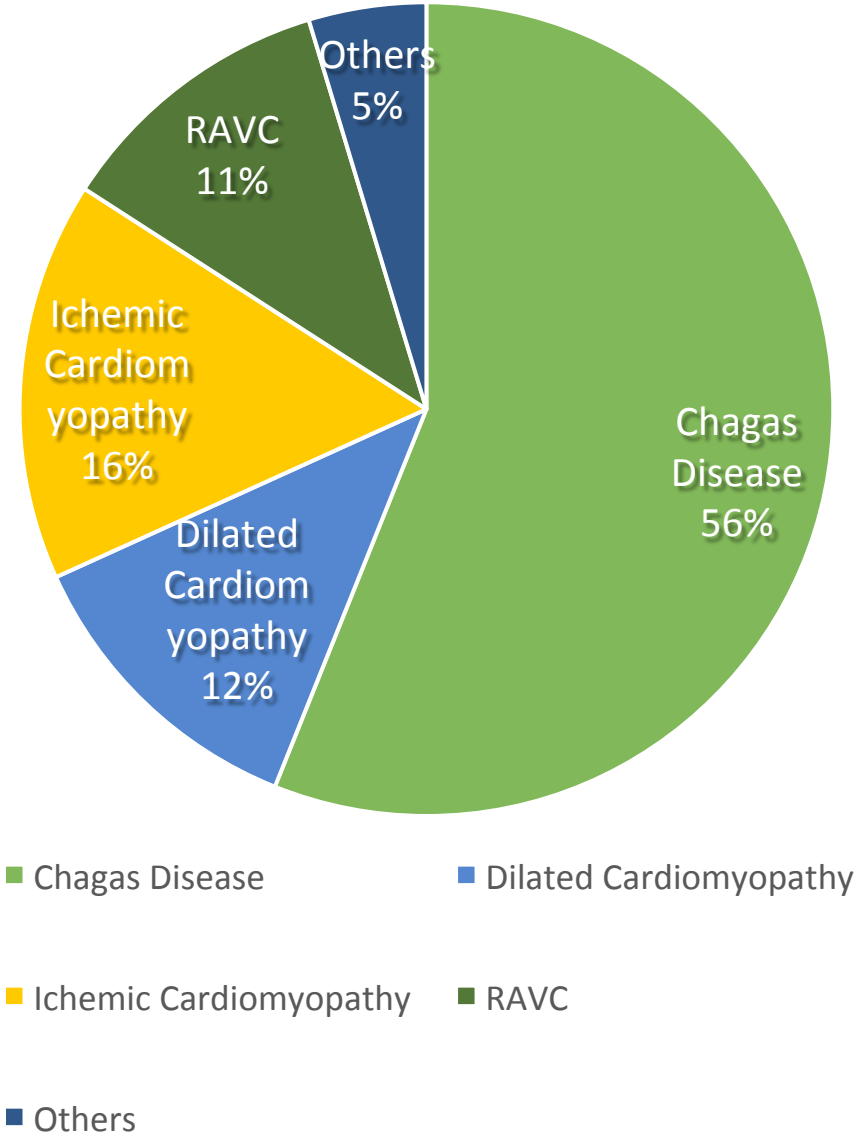
Substrate Modification



Results:

- 107 Procedures
  - 86 Patients
    - Age: 56,7±14 years-old
    - Male: 61 (70,9%)
    - LVEF: Mean - 36,9±12,4%
    - Two Ablations: 13 (14,8) patients
    - Three Ablations: 2 (2,3%) patients
    - Four Ablations: 1 (1,1%) patient (Chagas)
- Epicardium Ablation: 65 (60,7%)
- Ablation Idication:
  - Recurrent VT: 56,4%
  - Incessant VT – Electrical Storm: 41%
  - Slow VT: 2,5%
  - Amiodarone Dosage Before Ablation: Median 600mg
  - Lidocaine: 27%



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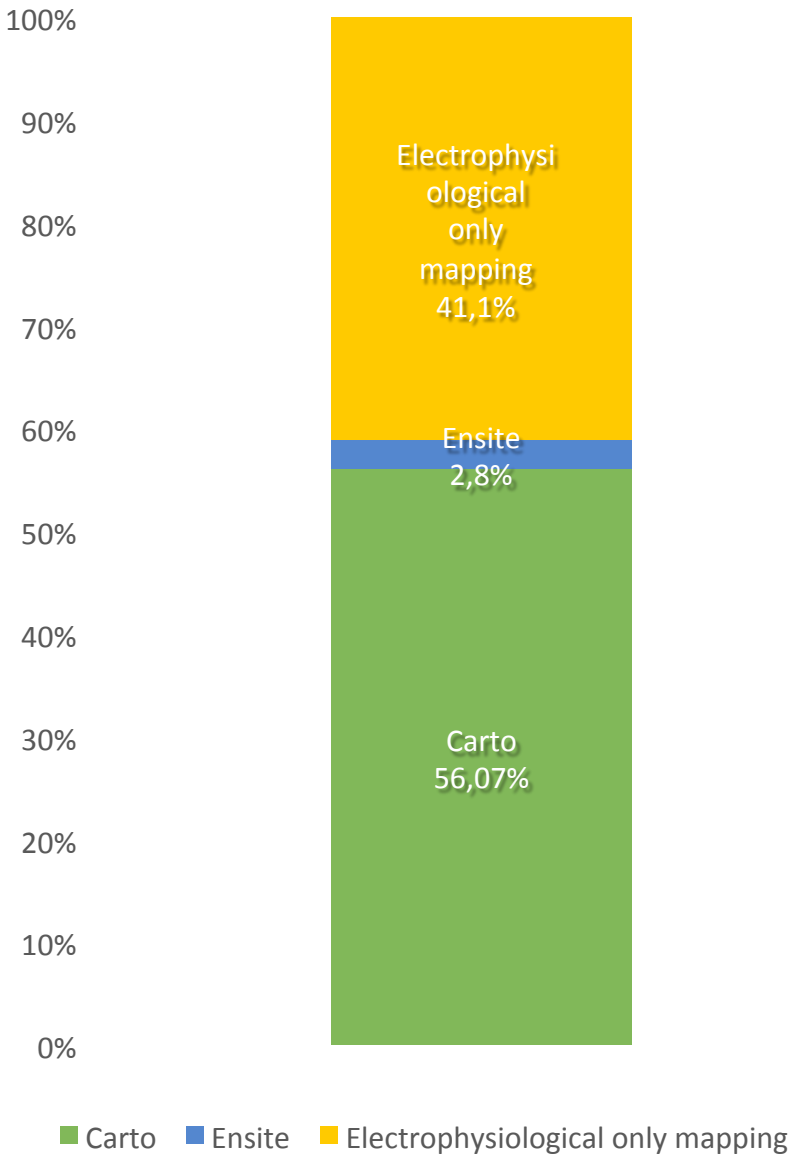
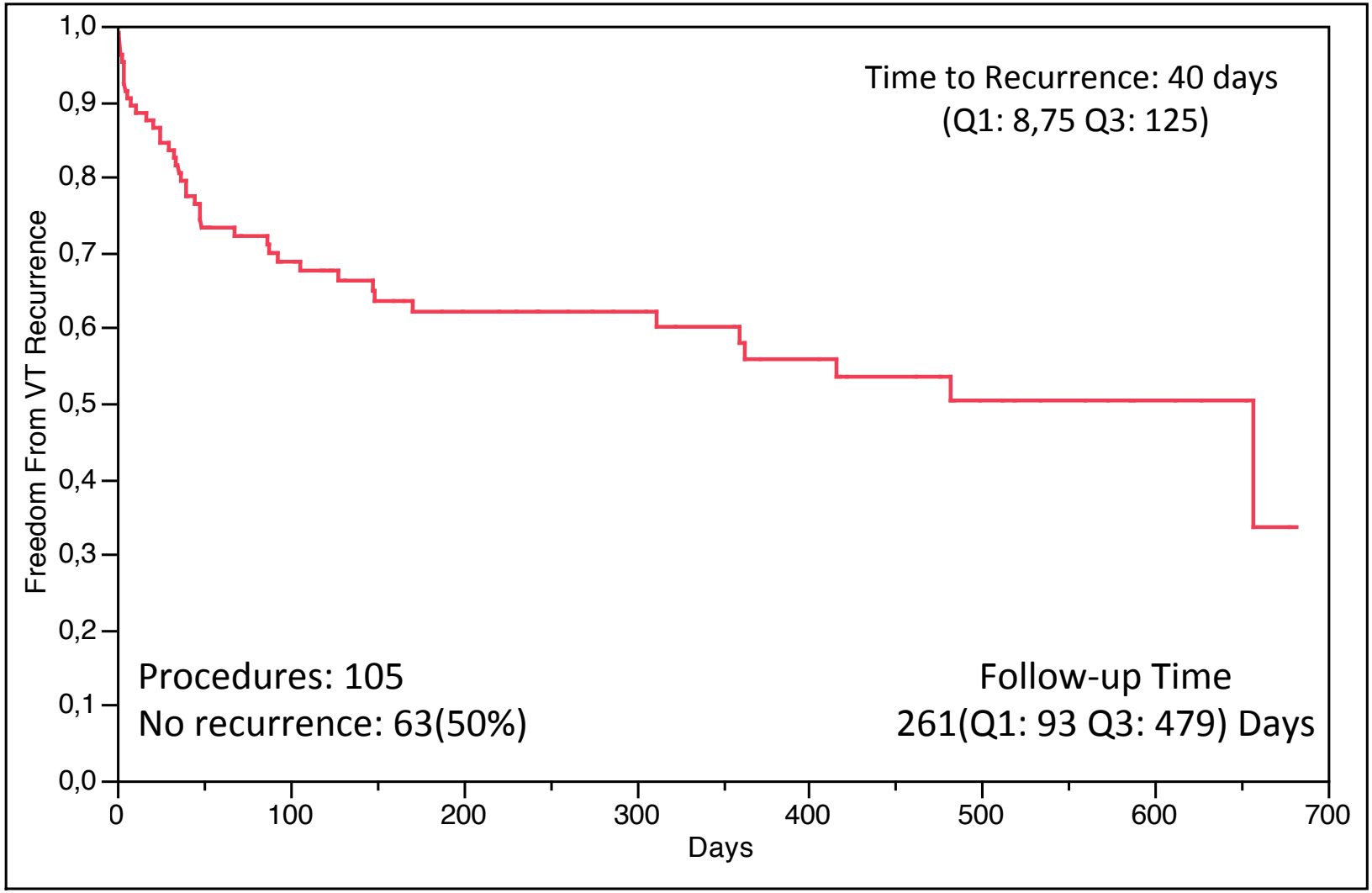
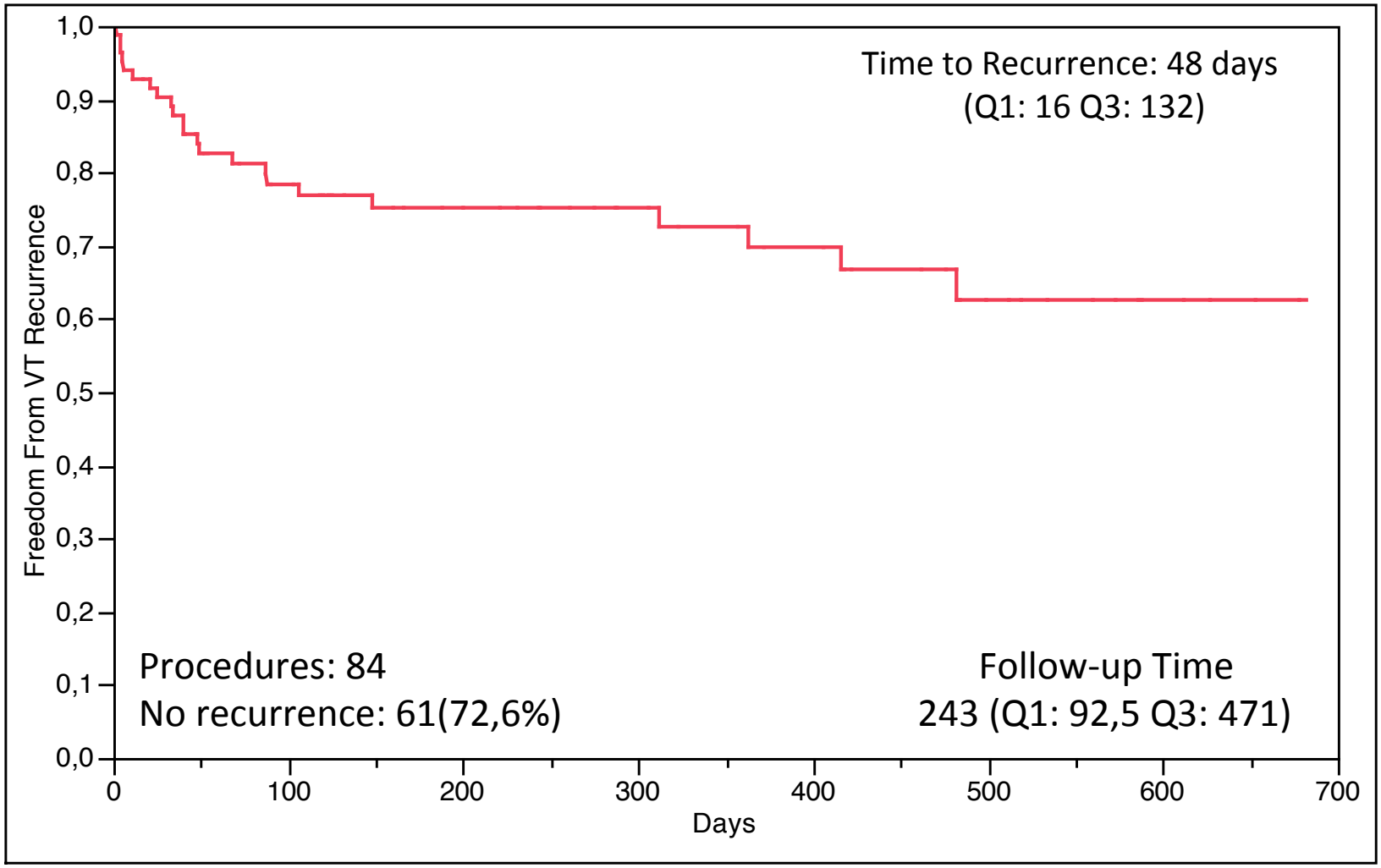


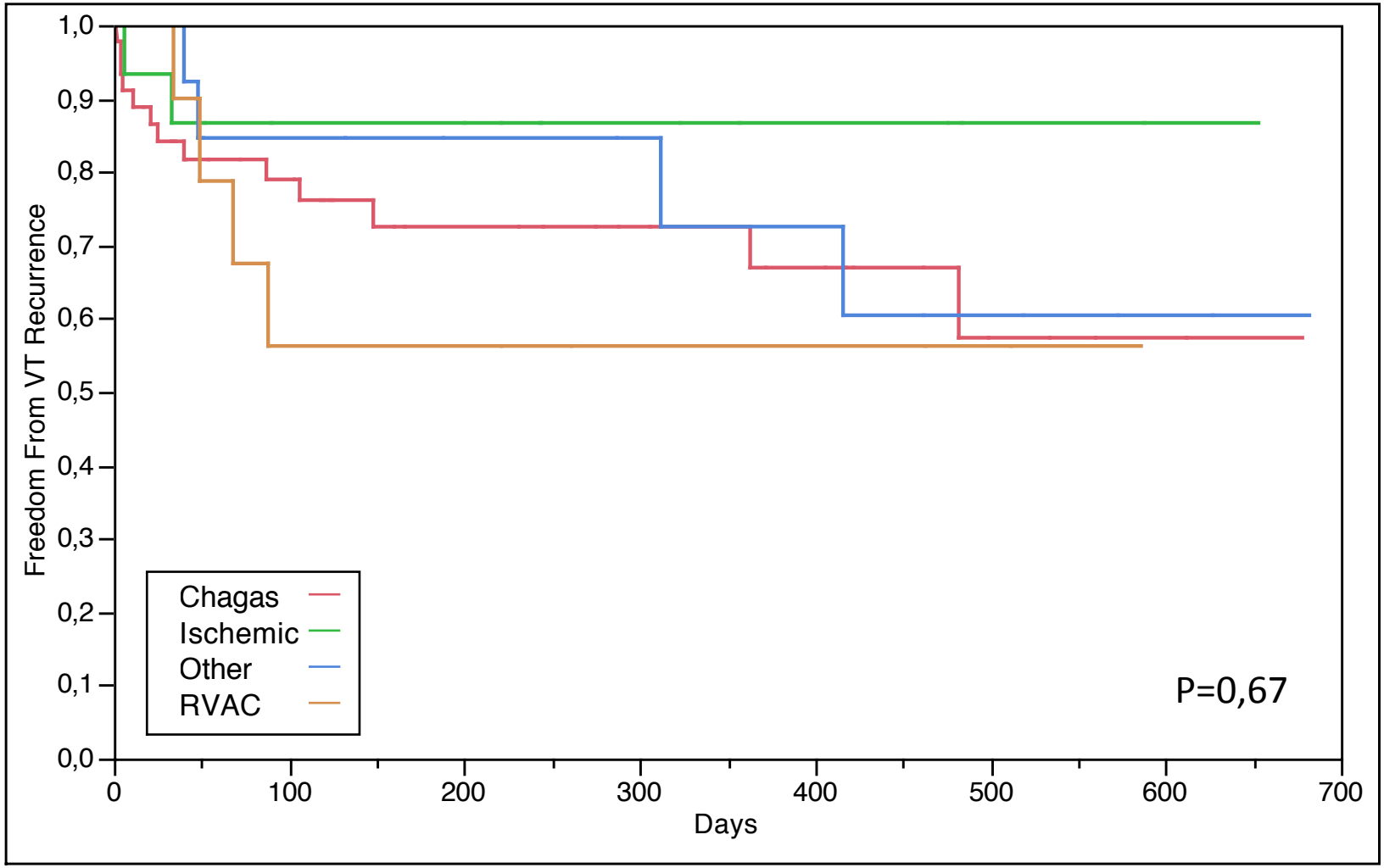
Freedom from VT Recurrence After Any Ablation



Freedom from VT Recurrence After Last Ablation



Freedom from VT Recurrence After Last Ablation



Results:

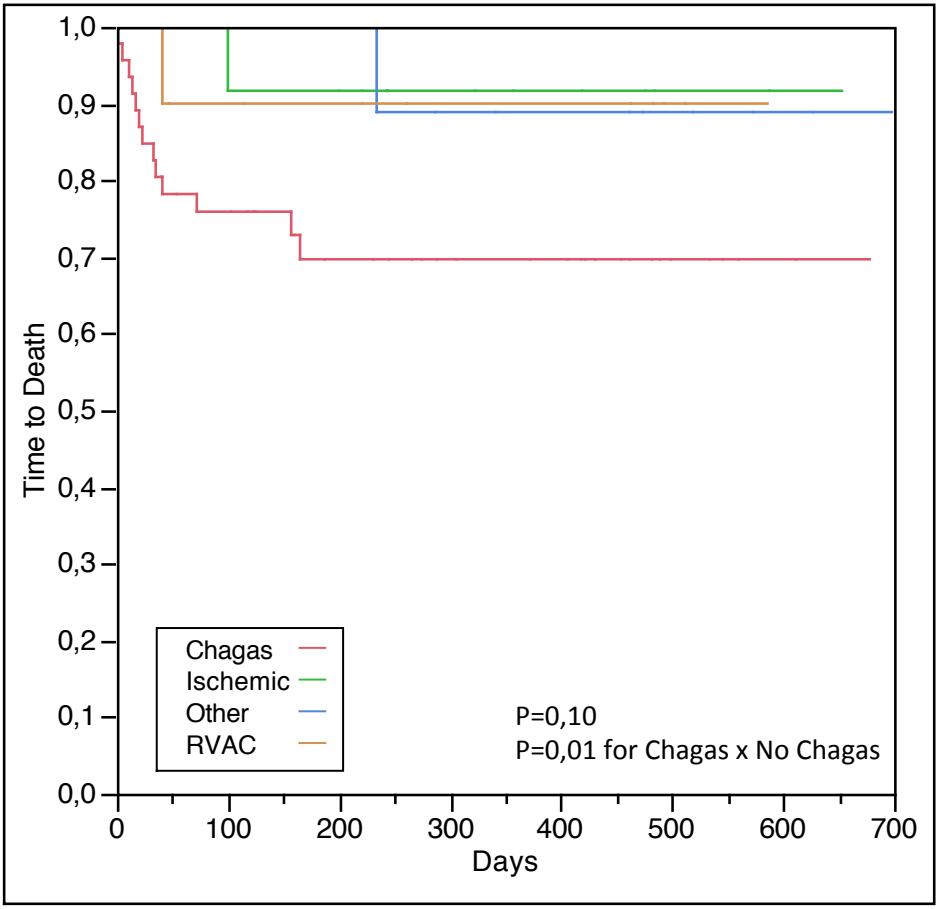
- Complications: 6 procedures (5,6%)
  - Hemopericardium with the need of open-chest surgery: 1 procedure
  - Iliac Artery Dissection: 2 procedures
  - Third Degree AV Block: 1 procedure
  - Late Tamponade with the need of surgical drainage: 1 procedure
  - Severe hypotension with the need of IABP: 1 procedure
  - No death during ablation

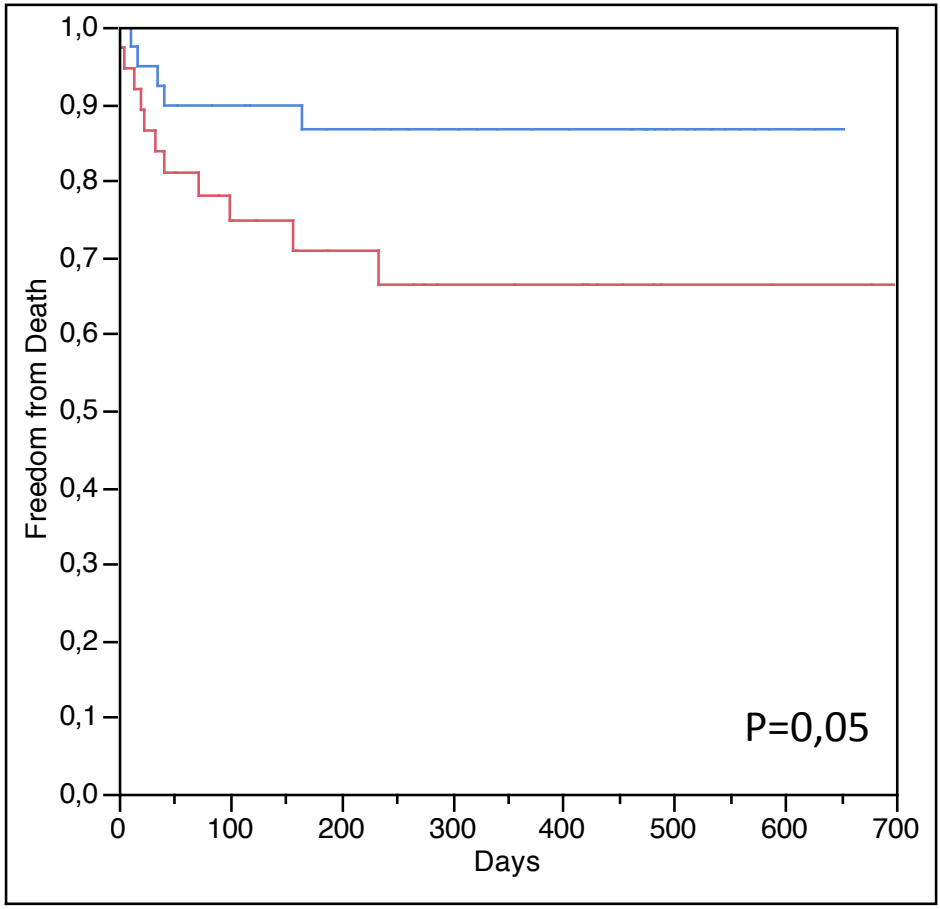
Results:

- Mortality in the Follow-up:
  - 16 Patients: 19,7%
    - 50,1±10,9 years-old (P=NS)
    - LVEF: 30,4±12,1 (P=0,02)
    - Chagas: 13 patients (p=0.02)
  - Mortality in the same admission: 13 (81,2%)
  - Time to death: Median: 34 (Q1: 14,75 Q3: 93)
- Cardiac Transplantation: 4 Patients

Mortality

N=16





Conclusions:

- Chagas disease was the most common cardiopathy in this population, where epicardial approach was frequently performed.
- After the last procedure, the majority of patients remained free of VT recurrence.