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Implantable Loop Recorder: from indication to diagnosis

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INTRODUCTION

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- Symptoms like syncope or palpitations are common reasons for cardiology consultations;
- Significant impact in quality of life;
- Given their paroxysmal and unpredictable nature, they frequently present a diagnostic challenge;
- A long-term monitoring through an implantable loop recorder (ILR) is an important aid in the management of these patients.

METHODS

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- **Study Design**: Observational, longitudinal, retrospective, single-center study.

- **Study population:** Sample of **62 consecutive** patients that underwent ILR implantation in a **7 years period**, from November 2007 to 2014.

- For each patient we evaluated: the implantation reason, baseline characteristics, previous study, complications, monitoring recorders and interventions.

Results

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A total of 62 patients were included

Baseline caracteristics	
Age (years old)	**62,5 ± 18,8**
Male gender	50 %
Hypertension	64,5%
Dyslipidemia	37,1%
Diabetes	16,1%
Structural heart disease	19,4%

RESULTS

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PREVIOUS STUDY TO ILR IMPLANTATION

- **ECG**
- **TRANSTHORACIC ECHOCARDIOGRAM**

Normal left ventricular ejection fracion 88,7%

BASELINE ECG	**95,2% Sinus Rhythm (19,4% sinus bradycardia)**		
	First degree AV Block 12,9%		**63,1% Normal**
	RBBB 4,8%	RBBB+ LAFB 8,0%	
	LAFB 1,6%	LAFB + First degree BAV 3,2%	
	LBBB 4,8%	LBBB + First degree BAV 1,6%	

Results

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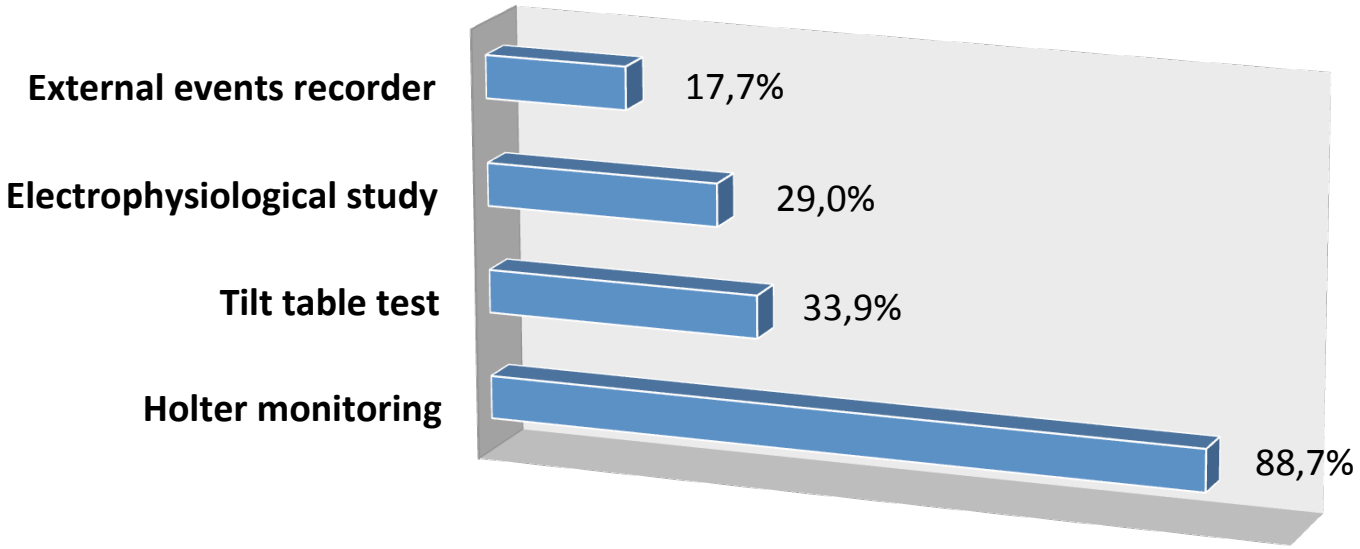
Previous study to ILR implantation



Different exame types previous to implantation:

2 Types of exams: 32,3%

≥ 3 Types of exams: 17,7%

RESULTS

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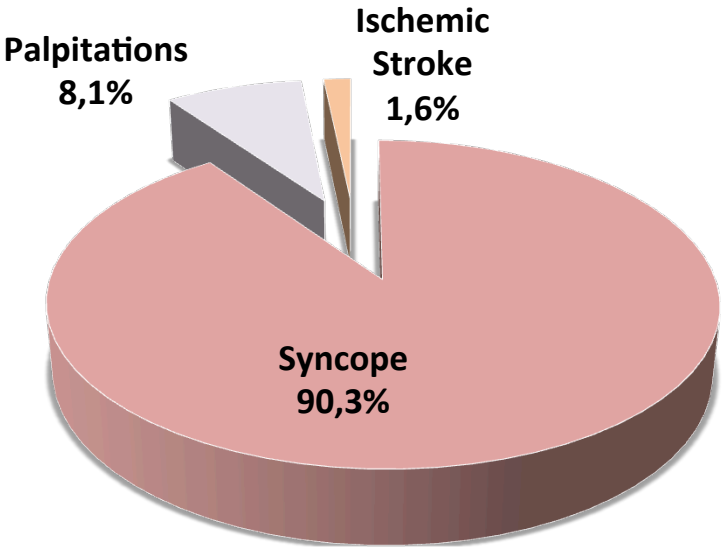
IMPLANTATION REASONS:



MEAN FOLLOW-UP TIME	**17,1 ± 16,3 months (IQR 4-30)**
SYMPTOMS	**66,1% (n= 41)**
DIAGNOSTIC FINDING	**46,8% (n= 29)** Mean follow-up 12,8 ± 14,4 months (IQR 1,5 -21,5)

RESULTS

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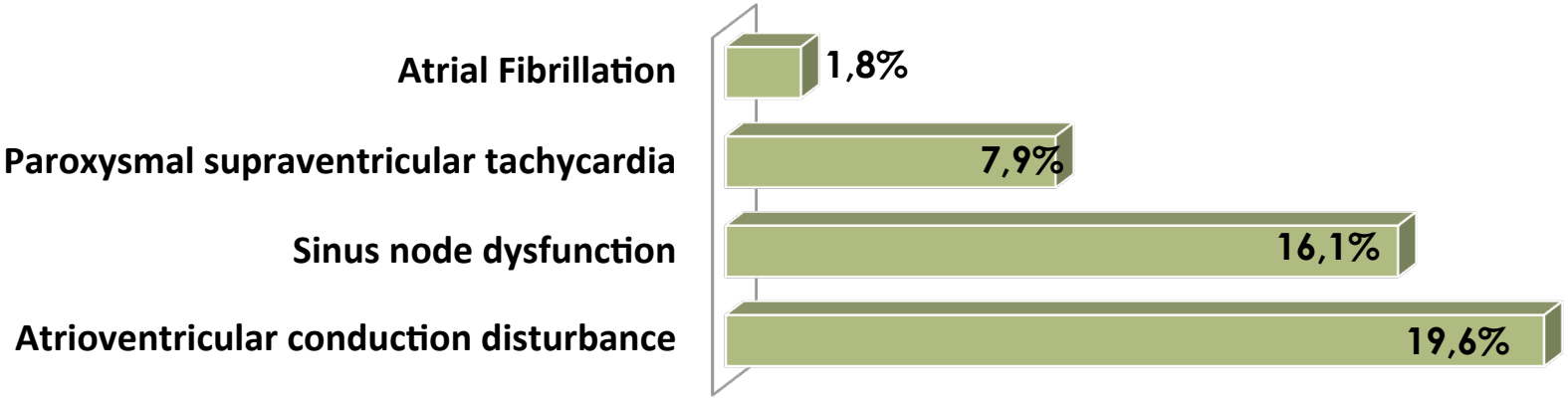
DIAGNOSTIC FINDINGS ACCORDING TO SYMPTOMS:

- **PALPITATIONS**: Atrial fibrillation with ventricular rapid response
- **ISCHEMIC STROKE**: Atrial fibrillation
- **SYNCOPE:**



RESULTS

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When compared the group in which was obtained a **Diagnosis** VS **No Diagnosis:**

≠

ECG characteristics

(rhythm disorders, intraventricular or AV conduction disturbance)

Findings in previous study

RESULTS

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THERAPEUTIC MEASURES:

- PERMANENT PACEMAKER: 19
- CRT-D : 1
- ABLATION OF AN ACCESSORY PATHWAY : 1
- THERAPEUTIC MODIFICATION

There were no major complications.

The mortality rate was 4,8% (n = 3) - non cardiac causes.

CONCLUSION

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- The ILR proved to be a safe and useful complementary diagnostic method, with a **significant additional efficiency** compared to other electrocardiographic monitoring methods.

- In our study, **ILR has enabled to identify or exclude serious rhythm disturbances in more than half of patients and provided a targeted therapeutic intervention.**

- It should be used early on investigation of symptoms with suspected arrhythmic basis.